

August 24, 2018

VIA ELECTRONIC FILING

Ms. Kimberly D. Bose
Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426

**Re: North American Electric Reliability Corporation
Docket No. RR18-____-000
Request for Acceptance of 2019 Business Plans and Budgets of NERC and
Regional Entities and for Approval of Proposed Assessments to Fund Budgets**

Dear Ms. Bose:

The North American Electric Reliability Corporation (NERC) hereby submits this filing in accordance with 18 C.F.R. §39.4, requesting acceptance of the 2019 Business Plans and Budgets of NERC, the eight Regional Entities and the Western Interconnection Regional Advisory Body, and approval of the proposed assessments to fund the 2019 budgets.

NERC's filing consists of: (1) this transmittal letter, (2) the narrative text of this filing which follows this transmittal letter, and (3) Attachments 1 through 15, all of which are being transmitted in a single pdf file. Pages ii and iii in the Table of Contents to the narrative text list the 15 attachments.

Please contact the undersigned if you have any questions concerning this filing.

Respectfully submitted,

/s/ Owen E. MacBride
Owen E. MacBride

Attorney for North American Electric
Reliability Corporation

I.	INTRODUCTION	1
II.	NOTICES AND COMMUNICATIONS.....	3
III.	OVERVIEW OF PROPOSED BUDGETS AND FUNDING REQUIREMENTS.....	3
A.	Development of the 2019 Business Plans and Budgets.....	3
B.	NERC’s 2019 Business Plan and Budget.....	7
1.	Organization of NERC’s 2019 Business Plan and Budget.....	7
2.	Summary of NERC’s Proposed 2019 Budget and Funding Requirement.....	15
C.	Regional Entity Proposed 2019 Business Plans and Budgets.....	19
D.	Allocation of Statutory Assessments.....	22
IV.	DISCUSSION OF NERC BUSINESS PLAN AND BUDGET.....	27
A.	2019 Business Plan and Budget by Program.....	27
1.	Reliability Standards Program.....	29
2.	Compliance Assurance, Compliance Analysis, Organization Registration and Certification, and Compliance Enforcement.....	29
a.	Compliance Assurance.....	30
b.	Compliance Analysis, Organization Registration and Certification.....	30
c.	Compliance Enforcement.....	30
3.	Reliability Assessment and System Analysis (RASA).....	31
4.	Reliability Risk Management (RRM).....	31
a.	Situation Awareness.....	31
b.	Event Analysis.....	32
c.	Performance Analysis (PA).....	32
5.	Electricity Information Sharing and Analysis Center (E-ISAC).....	32
6.	Training, Education, and Personnel Certification Program.....	34
7.	Administrative Services.....	35
B.	Working Capital and Operating Reserves.....	38
C.	Proposed Assessment Stabilization Reserve Transactions.....	40
D.	Capital Expenditures Financing.....	41
V.	REGIONAL ENTITY BUSINESS PLANS AND BUDGETS.....	42
A.	Development of the Regional Entity Business Plans and Budgets.....	42
B.	Organization of the Regional Entity Business Plans and Budgets.....	45

C.	Provision for Working Capital Reserves in Regional Entity Budgets.....	48
D.	Discussion of Individual Regional Entity Business Plans and Budgets.....	49
1.	FRCC.....	49
2.	MRO.....	51
3.	NPCC.....	52
4.	ReliabilityFirst.....	54
5.	SERC.....	56
6.	Texas RE.....	58
7.	WECC.....	59
VI.	WESTERN INTERCONNECTION REGIONAL ADVISORY BODY FUNDING REQUEST.....	61
VII.	METRICS RELATING TO NERC AND REGIONAL ENTITY BUDGETS.....	62
VIII.	CONCLUSION.....	63

ATTACHMENTS

Attachment 1: Summary tables showing NERC’s proposed 2019 budget; the proposed 2019 budget for statutory activities of each Regional Entity; and the 2019 U.S. ERO statutory assessments of NERC and the Regional Entities

Attachment 2: NERC Proposed 2019 Business Plan and Budget

Attachment 3: Florida Reliability Coordinating Council Proposed 2019 Business Plan and Budget

Attachment 4: Midwest Reliability Organization Proposed 2019 Business Plan and Budget

Attachment 5: Northeast Power Coordinating Council, Inc. Proposed 2019 Business Plan and Budget

Attachment 6: ReliabilityFirst Corporation Proposed 2019 Business Plan and Budget

Attachment 7: SERC Reliability Corporation Proposed 2019 Business Plan and Budget

Attachment 8: Texas Reliability Entity Proposed 2019 Business Plan and Budget

Attachment 9: Western Electricity Coordinating Council Proposed 2019 Business Plan and Budget

Attachment 10: Western Interconnection Regional Advisory Body Proposed 2019 Business Plan and Budget

Attachment 11: NERC Management’s Responses to Stakeholder Comments Submitted on Draft #1 and Draft #2 of NERC’s 2019 Business Plan and Budget

Attachment 12: Calculation of Adjustments to the AESO 2019 NERC Assessment, the IESO 2019 NERC Assessment, the New Brunswick 2019 NERC Assessment and the Québec 2019 NERC Assessment

Attachment 13: Metrics Comparing Regional Entity Operations Based on the 2019 Budgets

Attachment 14: Metrics on NERC and Regional Entity Administrative (Indirect) Costs Based on the 2018 and 2019 Budgets

Attachment 15: Report of Board of Trustees Remuneration Review – July 2018, prepared by Willis Towers Watson

I. INTRODUCTION

In accordance with 18 C.F.R. §39.4, the North American Electric Reliability Corporation (NERC) submits for the Commission's acceptance and approval:

- (1) NERC's proposed Business Plan and Budget as the electric reliability organization (ERO), for the year ending December 31, 2019;
- (2) the proposed Business Plans and Budgets for the year ending December 31, 2019, for the seven Regional Entities: (i) Florida Reliability Coordinating Council (FRCC), (ii) Midwest Reliability Organization (MRO), (iii) Northeast Power Coordinating Council, Inc. (NPCC), (iv) ReliabilityFirst Corporation (ReliabilityFirst), (v) SERC Reliability Corporation (SERC), (vi) Texas Reliability Entity (Texas RE), and (vii) Western Electricity Coordinating Council (WECC);
- (3) the proposed Business Plan and Budget of the Western Interconnection Regional Advisory Body (WIRAB) for activities under §215(j) of the Federal Power Act (FPA) for the year ending December 31, 2019; and
- (4) NERC's proposed allocation of the proposed ERO statutory assessment of NERC, the Regional Entities, and WIRAB by country and among the Regional footprints, and the proposed assessments to the load-serving entities (LSE) within each Region to collect the allocated statutory funding requirements.

This filing includes the following attachments:

Attachment 1 is a set of summary tables showing (i) NERC's proposed 2019 budget by program, (ii) the proposed 2019 budget for statutory activities of each Regional Entity, and (iii) the aggregate ERO statutory assessment of NERC and the Regional Entities allocated to the U.S., for which approval is requested.

Attachment 2 contains NERC's detailed 2019 Business Plan and Budget and the allocation of assessments by Region and LSE to recover the resulting statutory funding requirements for 2019 (as well as the assessments to recover the statutory funding requirements of the Regional Entities and WIRAB).

Attachments 3 through 10 contain the detailed 2019 Business Plans and Budgets of, respectively, FRCC, MRO, NPCC, ReliabilityFirst, SERC, Texas RE, WECC, and WIRAB.

Attachment 11 contains copies of NERC management's responses to stakeholder comments submitted on the posted Draft #1 and Draft #2 of NERC's 2019 Business Plan and Budget during the budget development process.

Attachment 12 contains the calculation of the adjustment to the Alberta Electric System Operator (AESO) 2019 NERC assessment, the adjustment to the Ontario Independent Electric System Operator (IESO) 2019 NERC assessment, the adjustment to the New Brunswick 2019 NERC assessment, and the adjustment to the Québec 2019 NERC

assessment, for credits for certain NERC Compliance Program and Event Analysis and Situation Awareness Program costs.

Attachment 13 provides metrics, based on the 2019 budgets, comparing Regional Entity operations.

Attachment 14 contains metrics, based on the 2018 and 2019 budgets, on NERC and Regional Entity administrative (indirect) costs.

Attachment 15 is the report on the Board of Trustees Remuneration Review, dated July 2018, prepared by Willis Towers Watson.¹

The Commission's regulations require the ERO to file its proposed entire annual budget for statutory and non-statutory activities with the Commission at least 130 days before the beginning of the ERO's fiscal year. NERC's 2019 fiscal year will begin January 1, 2019. The filing must also contain the entire annual budget of each Regional Entity for statutory and non-statutory activities and include supporting materials, including the ERO's and each Regional Entity's complete business plan and organization chart, and explanation of the proposed collection of all dues, fees and charges and the proposed expenditure of funds collected. 18 C.F.R. §39.4(b). The information required by 18 C.F.R. §39.4(b) is included in this filing. In accordance with 18 C.F.R. §39.4(c), NERC requests issuance of an order by November 2, 2018, accepting the proposed Business Plans and Budgets and approving the assessments submitted in this filing.² Entry of the Commission's order by November 2, 2018 will enable billings to be issued to the LSEs or their designees for assessments with initial payment dates commencing on or about January 1, 2019, to support the activities of NERC, the Regional Entities, and WIRAB.

¹ **Attachment 15** is provided with this Business Plan and Budget filing in accordance with Paragraph 12(a) of the Settlement Agreement for the Commission's 2011 financial performance audit of NERC (Docket No. FA11-21-000).

²18 C.F.R. §39.4(c) states: "The Commission, after public notice and opportunity for hearing, shall issue an order either accepting, rejecting, remanding or modifying the proposed Electric Reliability Organization budget and business plan no later than sixty (60) days in advance of the beginning of the Electric Reliability Organization's fiscal year."

II. NOTICES AND COMMUNICATIONS

Notices and communications concerning this filing may be addressed to:

James B. Robb
President and Chief Executive Officer
Scott Jones
Senior Vice President, Chief Financial
and Administrative Officer, and
Treasurer
North American Electric Reliability
Corporation
3353 Peachtree Road
Suite 600, North Tower
Atlanta, GA 30326
(404) 446-2560
(404) 446-9765 – facsimile

*Persons to be included on the
Commission’s official service list are
identified by an asterisk.

Charles A. Berardesco*
Senior Vice President, General Counsel and
Corporate Secretary
North American Electric Reliability Corporation
1325 G Street, N.W., Suite 600
Washington, D.C. 20005
(202) 400-3000
(202) 644-8099 – facsimile
charles.berardesco@nerc.net

Owen E. MacBride*
Schiff Hardin LLP
233 South Wacker Drive, Suite 7100
Chicago, IL 60606
(312) 258-5680
(312) 258-5700 – facsimile
omacbride@schiffhardin.com

III. OVERVIEW OF PROPOSED BUDGETS AND FUNDING REQUIREMENTS

A. **Development of the 2019 Business Plans and Budgets**

NERC prepared its 2019 Business Plan and Budget, and worked with the Regional Entities in the development of their business plans and budgets, through a rigorous process that provided ample opportunity for review and input by the Finance and Audit Committee (FAC) of the NERC Board, as well as by stakeholders. The process began with the collaborative development by NERC and Regional Entity executive staff of (i) the *ERO Enterprise Long-Term Strategy*, approved by the NERC Board on November 9, 2017, which discusses key challenges and strategic focus areas for the ERO Enterprise over the next five to seven years; and (ii) the *ERO Enterprise Operating Plan*, also approved by the Board on November 9, 2017, which identifies the ERO Enterprise’s vision, mission, core principles, and goals, and lists key contributing activities by the combined ERO Enterprise, NERC, and the Regional Entities, as applicable, to inform a rolling three-year operational planning horizon. (NERC uses the term

“ERO Enterprise” to refer to NERC and the Regional Entities.) During the business plan and budget development process, successive versions of the 2019 NERC and Regional Entity business plans and budgets were discussed in public meetings and conference calls of the FAC and of the full NERC Board, with opportunities for stakeholders to provide comments. Throughout the development of its 2019 Business Plan and Budget, NERC management also held a number of meetings and conference calls with a Business Plan and Budget Input Group formed by the NERC Member Representatives Committee (MRC).³ The following list highlights important steps in the preparation of the NERC and Regional Entity 2019 Business Plans and Budgets. Activities relating to review of the WIRAB 2019 Business Plan and Budget are also noted.

- On October 18, 2017, a conference call was held with the MRC Business Plan and Budget Input Group to initiate discussions relating to development of the 2019 business plan and budget.
- On November 9, 2017, the NERC Board approved the *ERO Enterprise Long-Term Strategy*, the *ERO Enterprise Operating Plan*, and the *2018 ERO Enterprise Metrics*.
- During the fourth quarter of 2017 the ERO Finance Group, comprised of senior Finance and Accounting management personnel of NERC and the Regional Entities, met to review strategic goals and objectives for 2019 and discuss how they would be translated into the NERC and Regional Entity 2019 business plans and budgets.
- On January 24, 2018, pursuant to a previously-issued request, the MRC provided policy input to the NERC Board concerning opportunities to improve effectiveness and efficiency of stakeholder engagement.
- On January 26, 2018, a conference call was held with the MRC Business Plan and Budget Input Group.
- During March and April 2018, the NERC program areas provided input to the NERC Finance and Accounting department on business plans and budget requirements for 2019.
- On March 13, 2018, a conference call was held with the MRC Business Plan and Budget

³ The MRC Business Plan and Budget Input Group is a subgroup of MRC members who are tasked with providing input specifically on the business plans and budgets.

Input Group.

- On April 17, 2018, NERC's initial 2019 budget and assessment numbers and contributing factors were discussed during NERC's quarterly meeting with interested trade associations, which also included the MRC Business Plan and Budget Input Group.
- On April 17, 2018, the FAC and the Corporate Governance and Human Resources Committee (CGHRC) of the NERC Board met in closed session to review assumptions for the NERC 2019 Business Plan and Budget.
- On April 24, 2018, a conference call was held with the MRC Business Plan and Budget Input Group.
- On April 25, 2018, NERC received policy input from the MRC on the initial budget and assessment numbers for the NERC 2019 Business Plan and Budget.
- In late April and early May, 2018, the Regional Entities submitted first drafts of their 2019 Business Plans and Budgets to NERC. NERC reviewed these drafts and provided feedback to the Regional Entities as needed prior to the submission of each Regional Entity's final business plan and budget to its Board or other governing body.
- The May 9, 2018 FAC meeting included previews of the first drafts of the NERC and Regional Entity 2019 business plans and budgets and the combined ERO Enterprise 2019 budgets and assessments.
- On May 18, 2018, Draft #1 of the NERC 2019 Business Plan and Budget, along with overviews of the NERC Business Plan and Budget and the consolidated ERO Enterprise 2019 budgets and assessments, were posted on the NERC Website for stakeholder review and comment. Notification of the posting (and of all subsequent postings) was sent by e-mail to a broad distribution list of interested persons and entities. Comments were requested by June 29, 2018. Six sets of written stakeholder comments were received and were posted on the NERC website.⁴
- Also on May 18, 2018, drafts of the Regional Entities' and WIRAB's 2019 Business Plans and Budgets, along with an overview document for each business plan and budget, were posted on the NERC website.
- On May 18, 2018, another conference call was held with the MRC Business Plan and Budget Input Group.
- On May 22, 2018, the ERO Finance Group and representatives of WIRAB met with

⁴ Comments were submitted by: (1) American Public Power Association (APPA), (2) Canadian Electricity Association, (3) Edison Electric Institute, (4) the E-ISAC Member Executive Committee, (5) the Independent Electricity System Operator, and (6) National Rural Electric Cooperative Association. The comments are posted at: <https://www.nerc.com/gov/bot/FINANCE/Pages/2019-NERC-Business-Plan-and-Budget.aspx>.

Commission staff to provide an overview of the drafts of the NERC, Regional Entity, and WIRAB 2019 business plans and budgets.

- On May 30, 2018, the FAC held a conference call and webinar to review the first drafts of the NERC and Regional Entity 2019 Business Plans and Budgets and the combined ERO Enterprise 2019 budgets and assessments.
- Beginning in late April, 2018, and continuing into June, 2018, the Regional Entities posted drafts of their 2019 Business Plans and Budgets on their respective websites for various time periods for review and comment by their stakeholders, in accordance with each Regional Entity's public review process. (See §V.A below for further information on the stakeholder review opportunities provided by each Regional Entity for its 2019 Business Plan and Budget.)
- At various dates from late May to late June 2018, the Boards or other governing bodies of the Regional Entities and of WIRAB approved their respective proposed 2019 Business Plans and Budgets. The approved Regional Entity and WIRAB Business Plans and Budgets were submitted to NERC in late June and early July.
- On June 25, 2018, another conference call was held with the MRC Business Plan and Budget Input Group.
- On July 10, 2018, NERC's responses to comments submitted on Draft #1 of the NERC 2019 Business Plan and Budget were discussed during its quarterly meeting with interested trade associations, which also included the MRC Business Plan and Budget Input Group.
- Also on July 10, 2018, a closed meeting was held with the FAC to review assumptions for Draft #2 of NERC's 2019 Business Plan and Budget.
- On July 13, 2018, the final versions of the Regional Entity and WIRAB 2019 Business Plans and Budgets and Draft #2 of the NERC 2019 Business Plan and Budget, along with an overview of the combined 2019 ERO Enterprise budgets and assessments, were posted on the NERC website. Any additional stakeholder comments on Draft #2 of the NERC 2019 Business Plan and Budget were requested by July 31, 2018. Two sets of stakeholder comments were submitted and were posted on the NERC website.⁵
- Also on July 13, 2018, NERC posted on its website management's responses to the comments that were submitted on Draft #1 of the 2019 Business Plan and Budget. **Attachment 11** to this filing provides the text of the responses.
- On July 17, 2018, another conference call was held with the MRC Business Plan and Budget Input Group to discuss Draft #2 of the NERC 2019 Business Plan and Budget.

⁵ Comments were submitted by APPA and Bonneville Power Administration. The comments are posted at: <https://www.nerc.com/gov/bot/FINANCE/Pages/2019-NERC-Business-Plan-and-Budget.aspx>. NERC management's responses to these comments are included in **Attachment 11**.

- On July 19, 2018, a conference call and webinar was held with the FAC to review Draft #2 of NERC's 2019 Business Plan and Budget, the final Regional Entity and WIRAB 2019 business plans and budgets, and the combined ERO Enterprise 2019 budgets and assessments.
- On August 1, 2018, NERC received additional policy input from the MRC on the 2019 Business Plan and Budget.
- On August 8, 2018, another conference call was held with the MRC Business Plan and Budget Input Group.
- Also on August 8, 2018, NERC posted on its website the final version of the NERC 2019 Business Plan and Budget and the proposed NERC and Regional Entity 2019 assessments, for the upcoming MRC, FAC and NERC Board meetings.
- During the August 15, 2018 meeting of the MRC, an additional opportunity was provided to stakeholders for input and questions regarding the final 2019 business plans and budgets of NERC and the Regional Entities.
- At the August 15, 2018 open meeting of the FAC, NERC management presented the final version of the 2019 Business Plan and Budget and proposed assessments and discussed responses to the comments received on Draft #2 and the MRC policy input (these responses are included in **Attachment 11** to this filing). The FAC recommended NERC Board approval of the 2019 business plans and budgets and associated statutory assessments for NERC, the Regional Entities and WIRAB.
- At its August 16, 2018 meeting, the NERC Board approved the 2019 business plans and budgets and the proposed 2019 statutory assessments for NERC, the Regional Entities and WIRAB.

In summary, the processes followed by NERC and the Regional Entities to develop the proposed 2019 business plans and budgets were thorough, comprehensive, open and inclusive, involved significant input from NERC and Regional Entity management and financial and program area staffs, as well as iterative review and comment by the FAC, and provided numerous opportunities for stakeholder input and comment, including in particular from the MRC Business Plan and Budget Input Group, the full MRC, and trade associations.

B. NERC's 2019 Business Plan and Budget

1. Organization of NERC's Business Plan and Budget

NERC's Business Plan and Budget is organized based on its statutory program areas:

- Reliability Standards
- Compliance Assurance, Compliance Analysis, Organization Registration and Certification, and Compliance Enforcement, which is comprised of three areas:
 - Compliance Assurance
 - Compliance Analysis, Organization Registration and Certification
 - Compliance Enforcement
- Reliability Assessment and System Analysis (RASA)
- Reliability Risk Management (RRM), which includes:
 - Situation Awareness
 - Event Analysis
 - Performance Analysis (PA)
- Electricity Information Sharing and Analysis Center (E-ISAC), including the Cyber Risk Information Sharing Program (CRISP)
- Training, Education, and Personnel Certification

Each of these program areas carries out or supports implementation of one or more of the statutory activities of the ERO as specified in §215 of the FPA and the Commission’s regulations and orders. NERC’s statutory, or “direct,” programs are supported by its Administrative Services, or “indirect,” programs: Technical Committees and Member Forums, General & Administrative, Legal and Regulatory, Information Technology (IT), Human Resources (HR) & Administration, and Finance and Accounting. The functions and activities of each statutory program and Administrative Services program are described in the individual sections on each program area in Section A and Exhibit A of **Attachment 2**.⁶

The information required by 18 C.F.R. §39.4(b) is contained in NERC’s 2019 Business Plan and Budget. The initial section of **Attachment 2**, About NERC, provides an overview of NERC’s organization and responsibilities including its international (Canada and Mexico)

⁶ Exhibit A to the 2019 Business Plan and Budget (**Attachment 2**) describes how the major activities in the 2019 Business Plan and Budget meet the Commission-approved criteria for determining whether a reliability activity is eligible to be funded under FPA §215. The Commission approved the FPA §215 criteria (with modifications to the criteria originally proposed by NERC) in *North American Electric Reliability Corporation, Order on Compliance*, 143 FERC ¶ 61,052 (2013) (*FPA §215 Criteria Order*).

responsibilities, membership and governance, scope of oversight responsibilities, delegated authorities to Regional Entities, the ERO Enterprise operating model, statutory and regulatory background, and source of funding.

The Introduction and Executive Summary summarizes NERC's total resource requirements for 2019 including total full-time equivalent employees (FTEs), statutory expenses, and required ERO funding assessments. It highlights the ERO Enterprise's strategic and operational planning process and its strategic goals, the principal evolving reliability risks on which it is focused, and the allocation of NERC's and the ERO Enterprise's resources to its operating planning goals. The Introduction and Executive Summary describes the ongoing focus of NERC and the Regional Entities on controlling costs and making improvements to systems and processes to continue to improve the effectiveness and efficiency of operations, including thorough collaborative development of ERO Enterprise IT investments by NERC and the Regional Entities, streamlining of compliance enforcement processes and mechanisms, and reallocation of resources from areas requiring reduced attention (such as standards development) to areas requiring greater attention (such as cyber security and analytical capabilities). It then describes the key 2019 business planning assumptions, including the principal assumptions used in developing NERC's 2019 budget.

The Introduction and Executive Summary describes NERC's 2019 Fixed Asset (capital spending budget) including the principal capital projects. It also describes the categories of NERC's Working Capital and Operating Reserves and the 2019 budgeted amounts for each category of reserves. It provides a comparison of budgeted expenditures and FTEs in the 2019 budget versus the 2018 budget, for each department. The table on page 14 of **Attachment 2** shows the change in the 2019 total budget (including allocated Indirect Expenses) from the 2018

total budget for each NERC statutory department. The table on page 15 of **Attachment 2** shows budgeted 2019 staffing (FTEs) and the change from the 2018 budget for each statutory program and the Administrative programs. The Introduction and Executive Summary then presents NERC's overall Statement of Activities and Fixed Asset Expenditures (on page 16), showing information from the 2018 budget, the 2018 projection (NERC's projection of 2018 year-end results), and the 2019 budget, and the variances between the 2018 projection and 2018 budget and between the 2019 budget and 2018 budget, for the major line item categories for Funding, Expenses and Fixed Assets expenditures and in total for NERC.

The Introduction and Executive Summary discusses two additional topics with possible future resource and budget implications: (1) the development of a research work plan for Geomagnetic Disturbance research as required by Order No. 830,⁷ and (2) the long-term strategic plan for expanding the technical and analytical capabilities of the E-ISAC. Finally, the Introduction and Executive Summary presents NERC's budget and assessment projections for 2020 and 2021.

Section A of **Attachment 2** is NERC's detailed 2019 Business Plan and Budget. It addresses the requirements of 18 C.F.R. §39.4(b), the Commission's Order certifying NERC as the ERO,⁸ and applicable directives in subsequent Commission orders. Section A provides program background and scope, descriptions of key efforts under way in the current year, the 2019 goals and deliverables, and explanations of increases or decreases in budgeted Personnel Expenses and Consultants & Contracts expense (and, where applicable, significant increases in other budget categories) for 2019 over the 2018 budget, for each of NERC's statutory programs

⁷ *Reliability Standard for Transmission System Planned Performance for Geomagnetic Disturbance Events*, 156 FERC ¶ 61,215 (2016).

⁸ *Order Certifying North American Electric Reliability Corporation as the Electric Reliability Corporation and Ordering Compliance Filing*, 116 FERC ¶ 61,062 (2006) (*ERO Certification Order*).

and for the Administrative Services functions. Section A includes a table at the start of the subsection on each statutory program or department, showing total FTEs, total direct expenses, total indirect expenses, other non-operating expenses, increase or decrease in Fixed Assets, and total budget for the statutory program or department for the 2019 budget, with the comparable data from the 2018 budget and the increase or decrease from the 2018 budget. For Administrative Services, this table shows, for each Administrative Services function and in total, the 2018 budget amount, 2019 budget amount, and the change from the 2018 budget to the 2019 budget, as well as budgeted 2018 FTEs, budgeted 2019 FTEs, and change in FTEs from the 2018 budget to the 2019 budget. A detailed Statement of Activities and Fixed Asset Expenditures is provided for each statutory program or department, and for the Administrative Services functions in the aggregate. The Statements of Activities show funding and expenditure information from the 2018 budget, the 2018 projection and the 2019 budget, as well as the variances from the 2018 budget to the 2018 projection and from the 2018 budget to the 2019 budget.

In the Statements of Activities for each program or department, Funding is shown from the NERC Assessments and, as applicable, from other anticipated sources, including Penalty collections released from the Assessment Stabilization Reserve,⁹ System Operator Certification Testing Fees, fees from Services & Software, fees from Workshop attendance, Interest income, Third-Party Funding, and Miscellaneous Funding.¹⁰ Expenses are shown by the major categories (and sub-categories) of Personnel Expenses (Salaries, Payroll Taxes, Benefits, Retirement Costs); Meeting Expenses (Meetings, Travel, Conference Calls); Operating Expenses

⁹ See §IV.C below for NERC's proposal to (i) deposit the \$500,000 of Penalty collections from July 1, 2017 through June 30, 2018, into the Assessment Stabilization Reserve, and (ii) release \$550,000 from the Assessment Stabilization Reserve to reduce the 2019 assessments.

¹⁰ Some of these other sources of Funding are anticipated only for some of the statutory programs. For example, Third-Party Funding is budgeted only for the E-ISAC. Income from Testing Fees is budgeted only for the Training, Education, and Personnel Certification Program.

(Consultants & Contracts, Office Rent, Office Costs, Professional Services, Miscellaneous, Depreciation); and Other Non-Operating Expenses. In the Statements of Activities for the statutory programs, the Indirect Expenses allocated from the Administrative Services departments are also shown. Finally, the Statements of Activities show Fixed Assets activity, comprised of Depreciation (an equal and offsetting amount to the Depreciation included in Operating Expenses), Computer & Software CapEx, Furniture & Fixtures CapEx, Equipment CapEx, Leasehold Improvements, and the Allocation of Fixed Assets activity from the Administrative Services programs.¹¹

Section B of **Attachment 2** provides Supplemental Financial Information comprised of tables detailing the components of certain Funding and Expense categories and explanations of variances from the 2018 budget, including analysis of the Working Capital and Operating Reserves balances and assessments to meet reserves targets (Table B-1), Penalties collected (Table B-2), Outside Funding (Table B-3), Personnel Expenses (Table B-4), Meetings Expenses (Table B-5), Rent (Table B-7), Office Costs (Table B-8), Professional Services (Table B-9), Miscellaneous Expenses (Table B-10), Other Non-Operating Expenses (Table B-11), and Fixed Assets expenditures (Table B-12).¹² The last page of Section B is NERC's 2019 Consolidated Statement of Activities, showing 2019 budgeted line-item Funding sources, Expenses, and Fixed Asset activity, in total and by statutory program and the Administrative Services functions, as well as the direct and indirect expenses for each statutory program.

Section C, Non-Statutory Activity, of **Attachment 2** is empty for NERC, as NERC has

¹¹ As a result of the offset for Depreciation expense in Fixed Assets expenditures, the Funding requirement does not include funding for Depreciation.

¹² Table B-6 in the ERO Business Plan and Budget template is reserved for Consultants & Contracts expenses, but NERC's Business Plan and Budget provides a more detailed breakdown of these expenses in Exhibit B. Additionally, Table B-13 in the template is reserved for 2020-2021 Budget Projections, but NERC has included its 2020-2021 budget projections in the Introduction and Executive Summary.

no non-statutory activities. In the business plans and budgets of those Regional Entities that have non-statutory activities, Section C includes business plan and budget information on their non-statutory activities.

The 2019 Business Plan and Budget includes the following Exhibits and Appendices:

Exhibit A – Application of NERC Section 215 Criteria, describes how the major activities included in the 2019 Business Plan and Budget for NERC’s direct function programs and Administrative Services functions meet the NERC written criteria for eligibility for FPA §215 funding as approved by the Commission in the *FPA §215 Criteria Order*.

Exhibit B – Contractor and Consulting Costs, contains a detailed list of NERC’s budgeted 2019 Consultants & Contracts expenses, by program area and by major activity or project. Exhibit B also shows the 2018 budget amounts for Consultants & Contracts expense and the change in the 2019 budget from the 2018 budget for each line item (where applicable).

Exhibit C – Capital Financing, describes proposed borrowing and repayment activity under NERC’s capital financing program for certain capital expenditures. Exhibit C shows the proposed 2019 capital expenditure budget, by major category, the 2018 budgeted capital expenditures, and the change from the 2018 capital budget to the 2019 capital budget. Exhibit C also shows projected 2018, budgeted 2019, and projected 2020 and 2021 year-end outstanding debt balances, and projected 2018, budgeted 2019, and projected 2020 and 2021 annual payments for debt service, broken out by annual principal repayment and interest expense.

Exhibit D – Working Capital and Operating Reserve Amounts, provides the budgeted 2019 amounts for Working Capital and Operating Reserves pursuant to NERC’s Working Capital and Operating Reserve Policy (WCOR Policy) adopted in 2012 and amended in 2013 and 2015. The WCOR Policy provides for the separate budgeting and tracking of working

capital and operating reserves.¹³ Section IV.B below provides further discussion of the 2019 budgeted amounts for working capital and each category of operating reserves, and §IV.C below describes the proposed Assessment Stabilization Reserve transactions for 2019.

Exhibit E – E-ISAC Long-Term Strategy, provides the long-term strategic plan developed by executive management of the E-ISAC, at the request of the NERC Board and under the guidance of the Electricity Subsector Coordinating Council (ESCC) and the ESCC Member Executive Committee, for expanding the role, capabilities and functionality of the E-ISAC with respect to collecting and analyzing security information for the electricity industry. Exhibit E discusses the changing threat landscape, potential increased capabilities and services of the E-ISAC, potential additional resource requirements including cost projections, and potential funding alternatives. It includes an attachment discussing expansion of the E-ISAC operations to 24 hours a day/7 days a week onsite operations, including the estimated costs and potential value of this expansion.

Exhibit F – CMEP [Compliance Monitoring and Enforcement Program] Technology Project, provides a description of the need and development process for the CMEP Technology Project. This is a multi-year (2017-2020) project to develop a single, comprehensive ERO Enterprise automated system and database integrating all compliance functions for NERC and the Regional Entities on a single platform, thereby enhancing efficiency and effectiveness of CMEP processes for the ERO Enterprise and registered entities. Reliability Standards and

¹³ The most recently amended version of the WCOR Policy was filed with the Commission on March 6, 2015, in Docket No. RR15-8-000, and was conditionally approved in an order issued June 18, 2015. *North American Electric Reliability Corporation, Order Conditionally Accepting Revisions to Working Capital and Operating Reserve Policy*, 151 FERC ¶ 61,225 (2015). NERC submitted the compliance filing required by that order on August 14, 2015, in Docket No. RR15-8-001 (*Compliance Filing of the North American Electric Reliability Corporation in Response to Paragraph 18 of June 18, 2015 Order Concerning Amendments to NERC's Working Capital and Operating Reserve Policy*), and it was accepted by the Commission in a letter order dated September 18, 2015.

registration data will also be integrated with this tool.

Exhibit G – Situation Awareness for FERC, NERC, and the Regional Entities (SAFNR), describes NERC’s planning and development process to upgrade and enhance the SAFNR tool to improve its usefulness and efficiency.

Appendix 1 contains NERC’s organization chart, as required by 18 C.F.R. §39.4(b).

Appendix 2 contains the calculation of the net energy for load (NEL)-based allocation factors for each LSE and designee and the allocation of the NERC, Regional Entity and WIRAB statutory assessments, by allocation method, to each LSE and designee, for 2019. Development of the assessments presented in Appendix 2 is discussed in §III.D below.

The detailed information in the Introduction and Executive Summary and Sections A and B and the exhibits of **Attachment 2** demonstrates that the programs included in NERC’s 2019 Business Plan and Budget are necessary and appropriate to carry out NERC’s responsibilities as the ERO and that the specific resource requirements budgeted meet the Commission’s objectives for affordability, sustainability and efficiency and effectiveness of the ERO’s expenditures. (*ERO Certification Order*, P 202 (budget principle (5).) The discussion in the text and exhibits of **Attachment 2**, as well as in this narrative, demonstrates how the activities and expenditures included in NERC’s 2019 Business Plan and Budget lend themselves to accomplishment of NERC's statutory responsibilities and objectives as the ERO. (*Id.* (budget principle (2).)

2. Summary of NERC’s Proposed 2019 Budget and Funding Requirement

NERC is proposing an overall 2019 budget of \$80,049,655, which is an increase of 9.5% over the 2018 Budget. This comparison includes the 2018 and 2019 budgeted expenditures for CRISP (which are included in the budget for the E-ISAC). The proposed 2019 budget for the E-ISAC (CRISP plus non-CRISP costs) is \$27,395,627, which constitutes 34.2% of the total 2019

budget. NERC's 2019 budget excluding E-ISAC of \$52,654,028 is 2.7% higher than its 2018 budget excluding E-ISAC.

NERC's proposed 2019 total Funding requirement is \$79,130,349, encompassing U.S., Canadian and Mexican activities. The proposed 2019 total Funding requirement represents an increase of 8.4% over the 2018 total Funding requirement. The 2019 total Funding requirement reflects an addition to assessments for Working Capital and Operating Reserve funding of \$148,674, as well as (due to NERC's capital financing plan) proceeds from financing activities of \$2,178,667 and debt service of \$1,110,687,¹⁴ whereas the Funding requirement in the 2018 budget included provision for Working Capital and Operating Reserve Funding of \$77,748, proceeds from financing activities of \$1,432,000, and debt service of \$1,200,607.

NERC's budgeted non-assessment sources of Funding are \$10,246,354 in total, comprised of the following sources and amounts:

- \$550,000 of Penalty payments to be released, with Commission approval, from the balance in NERC's Assessment Stabilization Reserve (this is \$50,000 less than the amount of Penalty payments released from the Assessment Stabilization Reserve in the 2018 budget) (*see* §IV.B and IV.C below for discussion of this proposal);
- \$7,486,353 of Third-Party Funding for CRISP (an increase of \$162,101 from the CRISP Third-Party Funding provided in the 2018 budget);
- \$1,790,000 of Testing Fees charged to participants in certain NERC programs, including the System Operator Certification Program and Continuing Education Program (the same as in the 2018 budget); this amount includes fees for certification renewals and from continuing education providers to review their courses;
- \$40,000 of revenues from Services & Software (\$10,000 less than the amount budgeted in the 2018 budget);
- \$195,000 in attendance fees for Workshops (a \$10,000 increase from the amount in the 2018 budget); and
- \$185,000 in Interest income (a \$90,000 increase over the amount in the 2018 budget).

¹⁴ *See* Table B-1 and Exhibit C in **Attachment 2**.

In the aggregate, the non-assessment Funding sources in the 2019 budget (including the proposed release of funds from the Assessment Stabilization Reserve) are \$202,101 higher than in the 2018 budget. NERC's only sources of funding for its planned programs and operations will be the assessments to users, owners, and operators of the bulk power system provided for in 18 C.F.R. §39.4(e) and comparable collections from entities in Canada and Mexico, the other sources listed as "Funding" on its Statements of Activities and described above, and proceeds from the 2019 capital financing.

Application of the non-assessment funding sources totaling \$10,246,354 to the total statutory Funding requirement of \$79,130,349 results in a 2019 net Funding requirement of \$68,883,995 to be funded by assessments to LSEs, which is 9.5%, higher than the 2018 assessments. Due to the proposed release of \$550,000 from the Assessment Stabilization Reserve to reduce the 2019 assessments, the percentage increase in assessments of 9.5% from the 2018 budget is the same as the percentage increase in total budgeted expenditures.

As shown on page 15 of **Attachment 2**, the 2019 budget includes an overall increase of 5.64 FTEs in staffing from the 2018 budget, which reflects (i) an increase of 8.46 FTEs in the E-ISAC and (ii) a decrease of 2.82 FTEs in the other statutory programs and administrative departments combined. There are increases or decreases in budgeted FTEs for individual programs due principally to the reallocation of staffing from some program areas to other program areas to match program area staffing with current workloads and resource requirements. The budgeted FTEs for each program area reflect an assumed average 6.0% vacancy rate, *i.e.*, an adjustment for such factors as personnel attrition, delays in hiring or start date delays. Total budgeted staffing for the statutory programs is increased by 5.41 FTEs, and budgeted staffing for the administrative programs is increased by 0.23 FTE, from the 2018 budget.

As compared to the 2018 budget, the 2019 budget reflects an increase of 7.3% in Personnel Expenses; a decrease of 0.4% in Meeting Expenses; and an increase of 18.3% in Operating Expenses. The principal contributors to the increase in Operating Expenses are increases in Consultants & Contracts expense and Office Costs. Of the total budgeted Consultants & Contracts expense, 42.9% is attributable to CRISP. The largest increase in Consultants & Contracts expense among individual programs is for the E-ISAC (\$886,206 increase from the 2018 budget, of which \$408,000 is for the biennial GridEx cybersecurity exercise (not conducted in 2018), \$462,500 is for E-ISAC portal improvements, and \$165,906 is for CRISP). Of the increase in Office Costs, \$1,185,892 is for Software Licenses and Support, including \$459,000 for the CMEP Technology Project. NERC is budgeting total capital expenditure of \$4,778,000 for 2019, an increase of 23.3% from the 2018 budget. The principal components of the capital expenditures budget are \$3,448,000 for Computer & Software CapEx, including approximately \$1.8 million for the CMEP Technology Project and \$600,000 for the SAFNR upgrades and enhancements; \$890,000 for Equipment CapEx (a decrease of \$285,000 from the 2018 budget); and \$400,000 for Leasehold Improvements, which is a \$250,000 increase from the 2018 budget to accommodate the growth in E-ISAC staffing.

CRISP expenditures budgeted for 2019 are increased by 3.7% from the 2018 budget. The budgeted CRISP expenditures, totaling \$9,043,707, will be primarily funded (\$7,486,353 (82.8%)) by participating utilities. The remaining funding for CRISP will come from assessments, an allocation of the Penalty collections released from the Asset Stabilization Reserve, and an allocation of NERC's Interest income.

The following table shows NERC's 2018 and 2019 budgets for each of its statutory programs and, where applicable, departments within each program:

<u>Program</u>	<u>2018 Budget</u>	<u>2019 Budget</u>
Reliability Standards	\$ 6,821,893	\$ 6,736,078
<u>Compliance Assurance, Compliance Analysis, Organization Registration and Certification, and Compliance Enforcement</u>		
Compliance Assurance	\$ 8,904,105	\$ 8,922,937
Compliance Analysis, Organization Reg. and Cert.	\$ 4,887,082	\$ 5,021,479
Compliance Enforcement	\$ 6,673,939	\$ 6,857,235
Reliability Assessment and System Analysis	\$ 7,312,956	\$ 8,029,587
<u>Reliability Risk Management</u>		
Situation Awareness	\$ 3,846,648	\$ 4,296,209
Event Analysis	\$ 5,161,490	\$ 5,339,268
Performance Analysis	\$ 4,633,422	\$ 5,227,610
E-ISAC (including CRISP)	\$21,850,597	\$27,395,627
Training, Education and Personnel Certification	<u>\$ 3,043,024</u>	\$ 2,223,625
	<u>\$73,135,156</u>	<u>\$80,049,655</u>

The 2019 budgeted amounts for the statutory programs incorporate a budget for Administrative Services of \$31,346,363 (increase of 4.5% from the 2018 budget). The Administrative Services expenses and Fixed Assets additions are allocated to the statutory program budgets based on the proportion of the numbers of FTEs budgeted for each statutory program to the total FTEs budgeted for the statutory programs.

C. Regional Entity Proposed 2019 Business Plans and Budgets - Overview

Section 39.4(b) of the Commission’s regulations requires that the ERO’s annual budget submission include “the entire annual budget for statutory and non-statutory activities for each Regional Entity, with supporting materials, including . . . each Regional Entity’s complete business plan and organization chart, explaining . . . the proposed expenditure of funds collected in sufficient detail to justify the requested funding collection and budget expenditures”

Section 39.4(b) further states that the ERO’s annual budget submission “shall include the line item budgets for the activities of each Regional Entity that are delegated or assigned to each

Regional Entity pursuant to §39.8.” This information for 2019 is provided in the individual Regional Entity Business Plans and Budgets in **Attachments 3 through 9**.¹⁵

The Regional Entity budgets for statutory activities that are to be funded through NERC are the budgets for the functions and activities relating to development of reliability standards; compliance monitoring and enforcement and organization registration and certification; training, education and operator certification; reliability assessment and performance analysis (including necessary data gathering activities); and situation awareness and infrastructure security, encompassed by the Commission-approved delegation agreements, as well as each Regional Entity’s budgeted costs for administrative services supporting these functions and activities. Funding the Regional Entities in accordance with their proposed business plans and budgets will enable them to carry out the activities necessary in 2019 to meet their responsibilities under the Commission-approved delegation agreements.

In *Order No. 672*, the Commission stated that “The ERO must determine, at a minimum, whether each Regional Entity’s proposed budget is adequate to carry out the functions delegated to it.”¹⁶ As described above in §III.A, NERC staff worked collaboratively with the Regional Entities in developing the *ERO Enterprise Operating Plan*, and subsequently provided input to the Regional Entities on the development of their 2019 business plan and budget submissions.

The Regional Entities’ proposed business plans and budgets were also reviewed by the NERC

¹⁵ As authorized by the Commission in an order issued on May 4, 2018, effective July 1, 2018, regional entity responsibilities for registered entities located within the Southwest Power Pool Regional Entity (SPP RE) footprint were transferred to MRO and SERC, and the SPP RE will cease operations on August 31, 2018, pursuant to a regional delegation agreement Termination Agreement. *North American Electric Reliability Corporation, Midwest Reliability Organization, and SERC Reliability Corporation, Order Granting Approvals in Connection with the Dissolution of the Southwest Power Pool Regional Entity*, 163 FERC ¶ 61,094 (2018) (*SPP RE Termination Order*). Accordingly, no 2019 business plan and budget is submitted for SPP RE.

¹⁶*Rules Concerning Certification of the Electric Reliability Organization; Procedures for the Establishment, Approval and Enforcement of Electric Reliability Standards*, Order No. 672, FERC Stats. & Regs. ¶ 31,204 (2006) (*Order No. 672*), at P 229.

FAC. Further, the Regional Entities prepared their 2019 business plans and budgets using a common format. The use of the common format facilitates comparisons among the Regional Entities' budgets. Additionally, in developing their 2019 budgets, NERC and the Regional Entities continued to use the set of consistent accounting principles for presentation of the budgets and the common definition of administrative (indirect) costs that were originally developed in connection with preparation of the 2010 business plans and budgets.

The table below shows the budgets for statutory and (where applicable) non-statutory functions for each Regional Entity as presented in their respective 2019 business plans and budgets (**Attachments 3-9**).¹⁷ For all Regional Entities, the total budget amount for statutory functions includes total Expenses and Fixed Asset activity. Because each Regional Entity has one or more other sources of income (*e.g.*, attendance fees for workshops and Penalty payments received from registered entities) that will be used to offset the costs of performing delegated functions, the requested assessment for each Regional Entity is less than its budget for statutory activities. The fourth column of the table shows the total (*i.e.*, for all jurisdictions) statutory assessment required for each Regional Entity, after taking into account other sources of income including application of Penalty payments. The statutory assessment amounts include amounts (which for some Regional Entities are reductions to the Funding requirement) to achieve the Regional Entity's target Working Capital Reserve at December 31, 2019, as determined to be appropriate by each Regional Entity.

¹⁷ MRO, ReliabilityFirst and SERC do not plan to perform any non-statutory activities in 2019.

Regional Entity	Total Budget for Statutory Functions	Budget for Non-Statutory Functions	Statutory Funding Assessment
FRCC	\$ 6,695,787	\$12,652,008	\$ 5,827,925
MRO	\$15,980,354	-----	\$15,471,669 ¹⁸
NPCC	\$15,803,891	\$ 1,108,574	\$15,003,411 ¹⁹
ReliabilityFirst	\$22,648,458	-----	\$21,255,831
SERC	\$18,144,949	-----	\$17,372,215
Texas RE	\$13,069,599	\$ 1,124,495	\$13,248,000
WECC	\$26,950,566	\$ 1,775,445	\$25,282,000 ²⁰

D. Allocation of Statutory Assessments

The total ERO statutory funding requirement for 2019, net of other NERC and Regional Entity income sources, to be funded by assessments is \$183,095,046, consisting of \$68,883,995 for funding of NERC’s programs and \$114,211,051 for funding of Regional Entity statutory activities and the WIRAB.

NERC’s proposed 2019 assessment amount of \$68,883,995 is allocated as follows: \$62,466,508 to the U.S., \$6,205,577 to Canadian provinces (in the aggregate), and \$211,910 to Mexico. Based on the aggregate NEL of the United States for 2017 on which the allocation of assessments is based, the proposed U.S. assessment for NERC represents approximately \$0.0000157 per end-user kilowatt-hour.²¹

NERC proposes an allocation of its 2019 assessment of \$68,883,995 to the Regional

¹⁸ The statutory assessment for MRO of \$15,471,669 consists of \$13,914,273 allocated to the U.S. and \$1,557,396 allocated to Canadian provinces.

¹⁹ The statutory assessment for NPCC of \$15,003,411 consists of \$9,169,256 allocated to the U.S. and \$5,834,155 allocated to Canadian provinces.

²⁰ The statutory assessment for WECC of \$25,282,000 consists of \$22,060,867 allocated to the U.S., \$2,809,647 allocated to Canadian provinces and \$411,486 allocated to Mexico. The \$25,282,000 amount does not include the WIRAB assessment.

²¹ The NEL-based allocation factors are calculated using NEL data for 2017, which is the most current actual NEL data available as of August 2018. As has been the case in allocating the NERC and Regional Entity statutory assessments by country and by Regional footprint and calculating the assessments to LSEs or their designees for prior years’ budgets, the allocation and calculation of assessments for the 2019 Budget is based on actual NEL data for the second preceding calendar year, 2017.

footprints as follows:

•	FRCC	\$ 3,694,330
•	MRO	\$ 7,712,036 ²²
•	NPCC	\$ 8,152,751 ²³
•	ReliabilityFirst	\$13,839,321
•	SERC	\$16,332,381
•	Texas RE	\$ 5,699,337
•	WECC	\$13,453,838 ²⁴

Appendix 2 to **Attachment 2** contains tables showing (i) 2017 NEL data for the U.S., Canada and Mexico, by Region and by LSE or designee, (ii) the development of the NEL-based allocation factors used to allocate the NERC and Regional Entity statutory assessments by country and among the Regional footprints (Appendix 2-A), and (iii) the allocation of the NERC and Regional Entity statutory assessments by country and by Region (Appendices 2-B, 2-C and 2-D). Appendix 2 shows the allocation of the NERC and Regional Entity assessments to the individual LSEs or designees within the footprint of each Regional Entity.

NERC has allocated its statutory assessment of \$68,883,995 to the LSEs within each Regional footprint primarily on the basis of NEL, with certain adjustments, as described below.

First, in accordance with NERC's *Expanded Policy on Allocation of Certain Compliance and Enforcement Costs*, **Attachment 12** shows the calculations of adjustments (credits) to the calculated NEL assessments for AESO, IESO, New Brunswick and Québec for certain CMEP, Event Analysis and Situation Awareness (specifically, SAFNR) costs. These adjustments

²² The allocation to MRO consists of \$6,932,574 allocated to the U.S. and \$779,462 allocated to Canadian provinces.

²³ The allocation to NPCC consists of \$4,406,633 allocated to the U.S. and \$3,746,117 allocated to Canadian provinces.

²⁴ The allocation to WECC consists of \$11,561,930 allocated to the U.S., \$1,679,998 allocated to Canadian provinces and \$211,910 allocated to Mexico.

recognize that entities in Ontario, Alberta and New Brunswick expend resources to perform compliance and enforcement activities that otherwise would be performed by NERC or a Regional Entity, and that the compliance and enforcement resources NERC needs for Alberta and Québec are reduced due to the very small number of entities subject to compliance and enforcement activities in those provinces. These adjustments also recognize that certain NERC activities related to the Event Analysis program and SAFNR tool either overlap with Canadian regulatory programs or are not used by these Canadian provinces, and therefore these provinces were not allocated a share of these costs. These credits, which total \$1,682,255, are reflected in Appendix 2-C of **Attachment 2**. The total credit amount is reallocated to all other LSEs (Balancing Authorities) on the basis of NEL.

Second, an allocation of \$550,000 of Penalty payments to be released (with Commission approval) from the Assessment Stabilization reserve was made to U.S. LSEs. Because the Penalty payments are collected solely from U.S. Registered Entities, the Penalty payments are allocated solely to offset statutory assessments to U.S. LSEs.

Third, an allocation based on NEL was used to allocate NERC statutory assessment of \$69,433,995 (*i.e.*, the \$68,883,995 NERC assessment before application of the \$550,000 to be released from the Assessment Stabilization Reserve). The NEL-based allocations to the seven Regional footprints are shown in Appendix 2-C of **Attachment 2**.

NEL has also been used to allocate the Regional Entity assessments, with these exceptions: First, 21.31% of NPCC's Compliance Monitoring and Enforcement and Organization Registration and Certification (CORC) Program costs, representing CORC program fundamentals, has been allocated among the six Balancing Authority Areas in NPCC on the basis of NEL; 59.85% of the CORC costs has been allocated between the U.S. and Canadian

Balancing Authority Areas in NPCC using a compliance audit-based methodology; and the remaining 18.84% of the CORC costs has been allocated between the U.S. and Canadian Balancing Authority Areas using an enforcement activity-based methodology. As directed by the Commission in a previous order,²⁵ the portion of NPCC CORC costs allocated to the U.S. using the compliance audit-based methodology and the portion of NPCC CORC costs allocated to the U.S. using the enforcement activity-based methodology has then been re-allocated between the New England and New York Balancing Authority Areas based on NEL.²⁶

Second, WECC's allocation of its assessment to the AESO for the Province of Alberta has been reduced by \$1,033,069, representing WECC CMEP costs that are duplicative of programs of the AESO.²⁷ The AESO credit amount was allocated to the remainder of the LSEs (Balancing Authorities) in the WECC Region on the basis of NEL.

After allocating the appropriate portions of the NERC, Regional Entity and WIRAB funding requirements to Canadian provinces and Mexico (taking into account the NEL-based allocations, the adjustments to the NERC allocations to the AESO, the IESO, New Brunswick and Québec, the adjustments to the NPCC allocations to Canadian provinces, and the adjustment to the WECC assessment to the AESO), the total ERO statutory assessment for 2019 allocable to U.S. LSEs for which Commission approval is sought is \$165,944,381, comprised of:

NERC Assessment:	\$ 62,466,508
Regional Entity Assessments:	\$103,477,873 (includes the WIRAB assessment)

²⁵ *North American Electric Reliability Corp.*, 128 FERC ¶ 61,025 (2009) (*July 16, 2009 Budget Compliance Order*).

²⁶ The allocation of NPCC CORC Program costs is described in greater detail at pages 52-54 of the NPCC 2019 Business Plan and Budget, **Attachment 5**.

²⁷ See Appendix C of the WECC 2019 Business Plan and Budget, **Attachment 9** to this filing, which shows the calculation of the \$1,033,069 adjustment to the WECC assessment to the AESO. The adjustment to the WECC assessment to the AESO is provided for in a memorandum of understanding entered into effective July 15, 2010 among NERC, WECC and the AESO.

The funding requirement of each Regional Entity for statutory activities is allocated 100% to that Region. The funding requirement for the WIRAB is allocated 100% to the WECC Region. The following table shows the allocation to each Region of the total 2019 ERO statutory assessment of \$165,944,381 for the U.S. statutory activities of NERC, the Regional Entities, and WIRAB. The table also shows the statutory assessments per kWh based on the 2017 U.S. NEL of each Region.

Regional Entity	NERC U.S. Assessment	Regional Entity U.S. Assessment	Total U.S. Assessment	Assessment per kWh (2017 NEL)
FRCC	\$ 3,694,330	\$ 5,827,925	\$ 9,522,255	\$0.0000409
MRO	\$ 6,932,574	\$ 13,914,246	\$ 20,846,820	\$0.0000477
NPCC	\$ 4,406,633	\$ 9,169,256	\$ 13,575,889	\$0.0000489
ReliabilityFirst	\$ 13,839,321	\$ 21,255,831	\$ 35,095,152	\$0.0000403
SERC	\$ 16,332,381	\$ 17,372,215	\$ 33,704,596	\$0.0000328
Texas RE	\$ 5,699,337	\$ 13,248,000	\$ 18,947,337	\$0.0000528
WECC	\$ 11,561,930	\$ 22,060,867	\$ 33,622,798	\$0.0000462
WIRAB	---	\$ 629,532	\$ 629,532	\$0.0000009
Total	\$ 62,466,508	\$ 103,477,873	\$ 165,944,381	\$0.0000417

NERC obtained from each Regional Entity a listing of the LSEs or their designees in the Region and a breakdown of the Region’s 2017 NEL by LSE or designee.²⁸ NERC used this information to allocate the total ERO statutory assessment allocated to each Region among the LSEs, their designees or the other entities to be billed the assessments within that Region. The amount of the NERC and Regional Entity statutory assessments allocated to each LSE or designee or other entity to be billed in each Region is shown in Appendix 2-B of **Attachment**

²⁸ For the NPCC Region, assessments are allocated on the basis of NEL in each Balancing Authority Area (New York, New England, Ontario, Québec, Nova Scotia and New Brunswick). The assessments for the NPCC Region will be billed to ISO New England and the New York ISO (and to similar entities in Ontario, Québec, New Brunswick and Nova Scotia), each of which will be responsible for billing and collecting assessments from the LSEs within their respective footprints. For Texas RE, assessments are allocated on the basis of the NEL for ERCOT, which acts as the billing agent for the Texas RE Region. The assessments for the Texas RE region will be billed to the Electric Reliability Council of Texas (ERCOT), which will bill and collect assessments from the LSEs in ERCOT.

2.²⁹ NERC requests that the Commission approve the statutory assessment amounts for NERC and the Regional Entities allocated to each LSE or designee, as shown in Appendix 2-B of **Attachment 2**, so that the LSEs and their designees or other entities may be billed for these assessments in accordance with 18 C.F.R. §39.4(e).³⁰ (As approved by the Commission in the *ERO Certification Order* at P 218, for reasons of administrative convenience, billing and payment by LSEs of annual assessments less than \$100 will not be required.)

As provided for in Exhibit E to the delegation agreement with each Regional Entity, NERC will directly invoice the approved assessments to LSEs or designees, or to the other entities to be billed, in all Regions except WECC. WECC will invoice LSEs or Balancing Authorities or their designees within the WECC footprint, collect the assessments, and remit the funds collected for the NERC, WECC and WIRAB assessments to NERC.

IV. DISCUSSION OF NERC BUSINESS PLAN AND BUDGET

A. 2019 Business Plan and Budget by Program

This section summarizes NERC's proposed 2019 Business Plan and Budget by statutory program and Administrative Services department. The proposed 2019 staffing and expenditure

²⁹ Certain LSEs in MRO and WECC serve end users only in Canada or Mexico and not in the U.S. These LSEs were not allocated any portion of the ERO funding requirement allocated to U.S. end users, but were allocated appropriate portions, based on NEL (except as noted above), of the ERO funding requirement allocated to Canadian provinces or Mexico, as applicable.

³⁰ NERC will calculate and bill the assessments to certain entities, referred to as "designees," based on NEL values that include the NEL for other LSEs served by the designee, or for which the designee is otherwise responsible for assessments. The calculation and billing of assessments to designees is not a departure from the principle that the ERO funding requirement should be recovered through assessments to LSEs based on NEL, but rather is a matter of administrative convenience and efficiency (e.g., a generation and transmission (G&T) cooperative and its member distribution cooperatives may find it more efficient for the assessment to be calculated and billed to the G&T cooperative rather than to the individual distribution cooperatives). The lists of LSEs and designees for which assessments will be calculated and billed have been provided to NERC by the Regional Entities. NERC has had no involvement in developing the lists of LSEs or in arrangements between LSEs and designees pursuant to which a designee agrees to accept responsibility for an assessment that would otherwise be billed to the LSE and the LSE agrees to be financially responsible to reimburse the designee for the assessment.

budgets for the individual NERC departments and programs are described in the subsections below. However, several factors impact the budgets for all programs and departments.

First, in developing budgeted staffing (FTEs) and related Personnel Expenses for 2019, all NERC programs and departments applied a 6% average vacancy rate reduction to FTEs to account for attrition and hiring delays. The vacancy rate adjustment reflects that actual staffing is typically less than budgeted staffing due to factors such as employees leaving NERC for other jobs and new positions being filled at a later date than was assumed in preparing the budget.³¹ The vacancy rate adjustment is reviewed each year, based on historical attrition and the time it takes to recruit and onboard new staff, and is adjusted if appropriate. The 6% vacancy rate adjustment is the same value used in the 2018 and 2017 NERC budgets.

Second, in the development of Personnel Expense in the 2019 budget, market-based compensation and benefits were assumed, based on guidelines established by the NERC CGHRC and market compensation and benefits studies most recently completed in 2017.

Third, budgeted Benefits Expense for all programs reflects anticipated market increases in medical and dental plan premiums from the 2018 budget, based on market data provided by NERC's benefits consultants.

Fourth, budgeted Meetings Expenses and Travel Expenses are slightly decreased in the 2019 budget from the 2018 budget (decrease of \$35,000), reflecting the significant actions NERC has taken (and continues to take) over the past several years to reduce these expenses, including by working with Regional Entities to share meeting space where possible. Going forward, NERC anticipates further savings in Meetings Expense due to the ability to use the expanded facilities in the Atlanta office.

³¹ Thus, for example, a budgeted increase of 0.94 FTE represents an increase of one full-time position adjusted by the 6% vacancy rate.

Fifth, there are increases in budgeted staffing for some of the statutory programs and decreases in budgeted staffing for other statutory programs, compared to the 2018 budget. The overall change in budgeted staffing for the statutory programs is an increase of 5.41 FTEs from the 2018 budget. The budgeted expenses and Fixed Assets expenditures for the Administrative Services programs (Indirect Expenses) are allocated to the statutory direct programs on the basis of the ratio of the budgeted FTEs in each statutory program to the total budgeted statutory program FTEs. Therefore, the changes in the numbers of FTEs budgeted for each statutory direct program for 2019 as compared to the 2018 budget impact the allocation of the Administrative Services costs among the statutory direct programs.

1. Reliability Standards Program

In **Attachment 2**, the major activities of the Reliability Standards Program are described at pages 20-22. The total budget for the Reliability Standards Program for 2019 decreased 1.3% from the 2018 budget, which includes a slight decrease in FTEs from the 2018 budget resulting from a realignment of staffing among programs and departments to match current needs. Consultants & Contracts expenses were added for standards development support, and computer and software capital expenditures increased for the standards database solution that will integrate with the new CMEP technology solution.

2. Compliance Assurance, Compliance Analysis, Organization Registration and Certification, and Compliance Enforcement

The Compliance Assurance, Compliance Analysis, Organization Registration and Certification, and Compliance Enforcement Program is comprised of three operational groups: Compliance Assurance; Compliance Analysis, Organization Registration and Certification; and Compliance Enforcement.

a. Compliance Assurance

In **Attachment 2**, the major activities of Compliance Assurance are described at pages 24-27. The total budget for Compliance Assurance for 2019 increased 0.2% from the 2018 budget. The budgeted staffing for Compliance Assurance for 2019 is 16.45 FTEs, a decrease of 2.82 FTEs from the 2018 budget, reflecting the maturation of NERC's risk based CMEP and related risk analysis and feedback processes. The most significant sources of increases in the 2019 Compliance Assurance budget are in (i) Computer & Software CapEx, representing approximately one-half of the capital costs for the CMEP Technology Project, and (ii) Office Costs, primarily for software licenses and hosting costs for the new CMEP tool. These costs are shared between Compliance Assurance and Compliance Enforcement.

b. Compliance Analysis, Organization Registration and Certification

In **Attachment 2**, the major activities of the Compliance Analysis, Organization Registration and Certification group are described at pages 29-31. The total budget for the Compliance Analysis, Organization Registration and Certification group for 2019 increased 2.8% from the 2018 budget. The increase in the total budget is less than the increase in budgeted direct expenses due to a reduction in Fixed Asset expenditures from the 2018 budget. Budgeted staffing for Compliance Analysis, Organization Registration and Certification is 9.40 FTEs, the same staffing as budgeted in the 2018 budget.

c. Compliance Enforcement

In **Attachment 2**, the major activities of the Compliance Enforcement Group are described at pages 33-37. The total budget for the Compliance Enforcement group for 2019 increased 2.7% over the 2018 budget. Budgeted staffing for Compliance Enforcement is 13.16 FTEs, an increase of 0.94 FTE from the 2018 Budget, reflecting the overall effort to realign

staffing among the departments to match current needs. Consultants & Contracts expense of \$161,000 is budgeted for 2019 (versus zero budgeted in 2018), reflecting reclassification of expenses for the Compliance Reporting and Tracking System from the IT department to Compliance Enforcement. Budgeted Office Costs for 2019 are higher than in the 2018 budget, principally due to software licensing and hosting costs for the new CMEP tool (as noted in §IV.B.2.a above, this expense is shared between Compliance Assurance and Compliance Enforcement). The 2019 Compliance Enforcement budget includes an increase in Computer & Software CapEx for the CMEP Technology Project, the cost for which is evenly shared with the Compliance Assurance budget. Since all costs for the CMEP Technology Project were budgeted in Compliance Enforcement in 2018, this change significantly contributes to lower total Fixed Asset activity for this group in the 2019 budget than in its 2018 budget.

3. Reliability Assessment and System Analysis (RASA)

In **Attachment 2**, the major activities of the Reliability Assessment and System Analysis Program are described at pages 39-44. The total budget for the RASA Program for 2019 increased 9.8% from the 2018 budget. The budgeted staffing for the RASA Program increased slightly from the 2018 budget, reflecting the reallocation of staff among programs to meet current resource needs. The Consultants & Contracts expense increase for 2019 is for research concerning reliability effects of geo-magnetic disturbances.

4. Reliability Risk Management (RRM)

The Reliability Risk Management (RRM) group has three groups: Situation Awareness, Event Analysis, and Performance Analysis (PA).

a. Situation Awareness

In **Attachment 2**, the major activities of the Situation Awareness Department are described at pages 47-49. The total budget for Situation Awareness increased 11.7% from the

2018 budget. The budgeted staffing for Situation Awareness for 2019 is the same as in the 2017 and 2018 budgets. The 2019 Consultants & Contracts budget for Situation Awareness decreased slightly from the 2018 budget, and continues to include support costs for a number of reliability tools as shown in Exhibit B of **Attachment 2**. The 2019 Situation Awareness budget includes an increase to Computer & Software CapEx expenses for the SAFNR upgrades and enhancements (costs of this project are shared by Situation Awareness and E-ISAC).

b. Event Analysis

In **Attachment 2**, the major activities of the Event Analysis Department are described at pages 51-52. The total budget for the Event Analysis Department for 2019 increased 3.4% from the 2018 budget. The budgeted staffing for Event Analysis for 2019 is the same staffing provided for in the 2017 and 2018 budgets.

c. Performance Analysis (PA)

In **Attachment 2**, the major activities of the Performance Analysis Program are described at pages 54-58. The total budget for PA for 2019 increased 12.8% from the 2018 budget. The budgeted staffing for PA for 2019 increased slightly from the 2018 budget, reflecting the reallocation of staffing among departments based on current resource needs. The increase in Consultants & Contracts expenses for PA in 2019 is primarily for support for the Transmission Availability Data System, Generator Availability Data System, and Demand Response Availability Data System.

5. Electricity Information Sharing and Analysis Center (E-ISAC)

In **Attachment 2**, the major activities of the E-ISAC are described at pages 60-65. The E-ISAC Long-Term Strategy is also provided as Exhibit E. In addition to operating the E-ISAC, this program performs the management role for CRISP, a public-private partnership whose

purpose is to facilitate the sharing of cyber threat information and develop situation awareness tools that enhance the Electricity Subsector's ability to identify, prioritize, and coordinate the protection of its critical infrastructure. CRISP provides critical infrastructure owners and operators the capability to voluntarily share cyber threat data, analyze this data, and receive machine-to-machine mitigation measures.

The total budget for the E-ISAC increases 25.4% over the 2018 budget. This includes the budget for CRISP, which comprises 33.0% of the total E-ISAC budget. The budgeted staffing for the E-ISAC for 2019 increased by 8.46 FTEs from the 2018 budget. The increased staffing will address the need for increased analytical capabilities consistent with implementation of the long-term strategy for the E-ISAC described at pages 61-64 and in Exhibit E of **Attachment 2**. As shown in Exhibit B of **Attachment 2**, the budgeted 2019 expense for Consultants & Contracts for E-ISAC is increased by \$886,206 (12.0%) from the 2018 budget. Of this total, \$6,457,500 (78%) is budgeted for CRISP, which is an increase of 2.6% over the amount budgeted for CRISP for 2018. In 2019, NERC anticipates continuing to subcontract to Pacific Northwest National Laboratory for the majority of the resource requirements and associated costs to operate and maintain CRISP. In the non-CRISP portion of E-ISAC's Consultants & Contracts expenses, there are increases for the biennial GridEx cybersecurity exercise (not held in 2018 but will be held in 2019) and improvements to the E-ISAC portal.

The 2019 E-ISAC budget includes increases for Computer & Software CapEx and Leasehold Improvements. The increased Computer & Software CapEx costs are for upgrades to SAFNR, for which the costs are split between Situation Awareness and E-ISAC. The increased Leasehold Improvements expenditures are for facility costs at the E-ISAC facility to accommodate the growth, including staffing growth, of the E-ISAC.

Under the CRISP master services agreement, the E-ISAC budget for 2019 is supported by \$7,486,353 of Third-Party Funding (an increase of \$162,101 from the 2018 budget), which is the funding being provided by participating utilities and other entities to support NERC's participation and activities as program manager for CRISP. The Third-Party Funding is equal to 82.7% of the 2019 CRISP budget. Third-Party Funding for CRISP is deposited in a separate account. Any underrun in the CRISP budget which is allocated to and funded by CRISP participants will be applied as a credit against future CRISP participant funding requirements, pursuant to the terms of the CRISP agreements.

6. Training, Education, and Personnel Certification Program

In **Attachment 2**, the major activities of the Training, Education, and Personnel Certification Program are described at pages 67-69. The total budget for Training, Education, and Personnel Certification for 2019 decreased 26.9% from the 2018 budget. The decrease in budgeted staffing for Training, Education, and Personnel Certification from the 2018 budget reflects the elimination of one open position as well as the ongoing effort to reallocate staffing among the programs to match current resource needs. The budgeted Consultants & Contracts expenses for 2019 decreased from the 2018 budget primarily due to a reduction in costs to support the Continuing Education Program, partially offset by an increase over the 2018 budget for course development work for the ERO Enterprise and industry.

The System Operator Certification Program generates revenues from fees charged for system operator certification examinations, which are intended to recover the costs (including an allocation of indirect expenses) of the program, and for certification renewals. In addition, fees charged to continuing education providers offset costs associated with the review of courses taken by certified operators to maintain their certification. The 2019 budget includes projected

revenues from these sources (line item of Testing Fees on the Statement of Activities), reducing the amount of assessment funding needed.

7. Administrative Services

The Administrative Services departments support the NERC statutory programs. Administrative Services comprises the following functions: (i) Technical Committees and Members' Forums (which has no budgeted resources for 2019); (ii) General & Administrative (which includes office rent, senior executive and administration and Board functions, and communications and external affairs activities); (iii) Legal and Regulatory; (iv) Information Technology (IT); (v) HR & Administration; and (vi) Finance and Accounting. Descriptions of the responsibilities of the functions included in Administrative Services are provided at pages 72-81 of **Attachment 2**.

The total amount budgeted for expenses and Fixed Assets in Administrative Services for 2019 (before provision for Working Capital and Operating Reserves) increased 4.5% from the 2018 budget. The total budgeted staffing for the Administrative Services departments for 2019 increased slightly from the 2018 budget, with increases and decreases in each individual department. The increases and decreases in total budget and staffing among the Administrative Services departments reflect some shifting of responsibilities among these departments: the internal audit and corporate risk management functions have been moved from Finance and Accounting to Legal and Regulatory; and the facilities management and meeting and event planning functions have been moved from Finance and Accounting to HR & Administration. One position is being added in IT and one position is being added to Finance and Accounting to support the E-ISAC long-term strategy.

Major areas of change in budgeted Consultants & Contracts expenses from the 2018

budget include an increase in General & Administrative to support the E-ISAC and effectiveness and efficiency initiatives and a decrease for the ERO Enterprise effectiveness survey (a survey was conducted in 2018 with no survey planned in 2019); a decrease in IT for applications enhancements, consulting, and help desk support; an increase in HR & Administration for compensation consulting; and an increase in Finance and Accounting for internal controls and outside auditor consulting support.

Budgeted 2019 Office Rent (budgeted in General & Administrative) increased 7.9% from the 2018 budget due to increased rent for an expansion of the meeting space in the Atlanta office, partially offset by a reduction in budgeted maintenance expense based on historical experience. Budgeted 2019 Office Costs for Administrative Services programs is increased over the 2018 budget, due primarily to increases for computer supplies, software licenses and support, and lease costs for audio/visual equipment and other hardware (*e.g.*, computers, laptops, servers, and switches), partially offset by decreases for telephone and internet costs. Budgeted 2019 Professional Services expense for Administrative Services increased over the 2018 budget, primarily due to an increase in budgeted compensation for the independent Trustees, as described below. The aggregate budgeted 2019 Computer & Software CapEx and Equipment CapEx for Administrative Services are lower than in the 2018 budget.

The budgeted amount for Independent Trustee expenses for 2019 (included in General & Administrative) increased 10.4% from the 2018 budget, reflecting (i) a recommendation by the CGHRC, approved by the Board, to increase annual trustee compensation by \$5,000 per trustee each year for the years 2019 through 2021 (*i.e.*, total increase of \$15,000 as of 2021); and (ii) the decision to add a trustee in 2018 instead of in 2019 (when the terms of two incumbent trustees

will expire).³² The decision to increase annual trustee compensation resulted from NERC's 2018 annual review of trustee compensation and the periodic independent consultant study of trustee compensation completed in 2018, which recommended this increase.³³ The consultant's study and the CGHRC's analysis and recommendation to the Board take into account trends in trustee/director compensation; comparative market data; the NERC trustee workload (including those of the Chair, Vice Chair, and committee chairs); overall budget impact; and the need to continue to recruit qualified trustees, taking into account the constraints on NERC trustee candidates (such as conflict of interest requirements) that limit the pool of candidates. In accordance with Paragraph 12(a) of the Settlement Agreement for the Commission's 2011 financial performance audit of NERC, which requires the NERC Board to review trustee compensation on an annual basis,³⁴ the CGHRC, at meetings in June and July 2018, reviewed and discussed the independent consultant's study of trustee compensation, and at its August 15, 2018 meeting, recommended that the Board approve the proposed increase in annual trustee compensation. At its August 16, 2018 meeting, the Board adopted this recommendation as part of its approval of the 2019 Business Plan and Budget.

The budgeted expense for the quarterly Board meetings and trustee travel expenses for 2019 is unchanged from the 2018 budget. Budgeted trustee search fees are the same as the 2018 budget, due to the Board's decision to conduct a search for one new independent trustee in 2018, rather than search for two trustees in 2019.

³² See the table on page 73 of **Attachment 2** for a comparison of budgeted Board of Trustees expenses for 2019 versus 2018.

³³ A copy of the independent consultant compensation study, performed by the Willis Towers Watson consulting firm (*Board of Trustee Remuneration Review*, July 2018) is provided as **Attachment 15** to this Business Plan and Budget filing.

³⁴ Annual review of trustee compensation is also required by the CGHRC's mandate and by NERC's Governance Guidelines.

All expenses and Fixed Asset additions budgeted in Administrative Services are allocated to the statutory programs on the basis of the proportion of the number of budgeted FTEs in each statutory program to the total FTEs budgeted for the statutory programs.

B. Working Capital and Operating Reserves

NERC's WCOR Policy, adopted by the NERC Board in 2012 and amended in 2013 and in 2015, provides for separation of Working Capital from Operating Reserves, establishes criteria and authorities for funding and access to Working Capital and Operating Reserves and transfers of funds between the reserve accounts, establishes controls and authorities regarding the reallocation of budgeted funds to other uses, and establishes transparent reporting requirements. The 2015 amendments to the WCOR Policy established the categories of Operating Reserves maintained by NERC: Future Obligations Reserve, Operating Contingency Reserve, System Operator Certification Program Reserve, and CRISP Reserve, as well as the Assessment Stabilization Reserve. Table B-1 and Exhibit D in **Attachment 2** show and explain the amounts of Working Capital and Operating Reserves proposed to be budgeted in each category of reserves, and reflected in the setting of NERC's assessments, for 2019, as well as the proposed transactions in the Assessment Stabilization Reserve (see §IV.C below).

The amounts budgeted for 2019 for each Working Capital and Operating Reserve category (target balances at December 31, 2019) are as follows:

Working Capital: \$0

NERC maintains a \$4,000,000 line of credit with a major financial institution, and based on its cash flow projections and the timing by which the NERC assessments are billed and paid, does not anticipate a need to access working capital in 2019 to meet monthly cash flow needs.

Operating Reserves: \$7,050,237

Future Obligations Reserve: \$2,039,114

The target level for the Future Obligations Reserve at December 31, 2018, as presented in NERC's 2018 Business Plan and Budget, was \$1,752,468; therefore, the

target level for this reserve is being increased by \$286,646 to reach the target level for this reserve at December 31, 2019. The projected amount in this reserve at December 31, 2018 is \$2,519,571.

Operating Contingency Reserve: \$3,835,307

The WCOR Policy specifies that except as otherwise approved by the NERC Board, the budgeted Operating Contingency Reserve level is to be between 3.5% - 7.0% of NERC's total expenses and Fixed Assets budget excluding the budgets for the System Operator Certification Program and CRISP, which have their own reserves. Based on the budgeted 2019 expenses and Fixed Assets, the target amount for the Operating Contingency Reserve at December 31, 2019 of \$3,835,307 is within this range at 5.5%, and is also the projected balance at December 31, 2018.

System Operator Certification Program Reserve: \$675,816

The projected December 31, 2018 reserve balance of the System Operator Certification Program is \$527,142; therefore, an increase to the 2019 assessment of \$148,674 is included to reach the target balance for the System Operator Certification Program Reserve at December 31, 2019.

CRISP: \$500,000

The CRISP Operating Reserve is used solely for certain contingencies in connection with CRISP. The target level is equal to the original CRISP reserve, established in 2015, which was funded by the participating utilities in CRISP.

Assessment Stabilization Reserve: \$1,521,000

NERC proposes, with Commission approval, to (1) deposit the \$500,000 of Penalty revenues received during the period July 1, 2017 – June 30, 2018, into the Assessment Stabilization Reserve, and (2) release \$550,000 of funds in the Assessment Stabilization Reserve to reduce 2019 assessments. These actions will leave a balance of \$1,521,000 in the Assessment Stabilization Reserve at December 31, 2019 for use to offset and stabilize assessments in future years' budgets.

Total Desired Working Capital, Operating Reserve and Assessment Stabilization Reserve at 12/31/2019: \$8,571,237.

Based on the beginning Working Capital and Operating Reserve balances at January 1, 2018, the projected funding and expenditures for 2018, the budgeted funding and expenditures for 2019, implementation of the proposed transactions in the Assessment Stabilization Reserve, the impacts of the capital financing program for 2019 (*see* §IV.D below) and the desired Working Capital and Operating Reserve balances at December 31, 2019, Table B-1 on page 83 of **Attachment 2** shows the calculation of the resulting adjustment (increase) of \$148,674 to NERC's 2019 statutory assessment. To the extent NERC's actual year-end 2018 Working

Capital and Operating Reserves balances are higher than the projected amounts shown on Table B-1, the excess funds will be included in the Operating Contingency Reserve account, System Operator Certification Program Reserve account, or CRISP Reserve account, as applicable, and subject to the limitations and authorities regarding their use as set forth in the WCOR Policy.

C. Proposed Assessment Stabilization Reserve Transactions

The NERC policy, *Accounting, Financial Statement and Budgetary Treatment of Penalties Imposed and Received for Violations of Reliability Standards*, and §1107.2 of the NERC ROP, specify that Penalty payments received by NERC or a Regional Entity during the period from July 1 of the second year preceding the budget year through June 30 of the year preceding the budget year are used to offset assessments to LSEs in the U.S. for the budget year, unless an alternative treatment is approved by the Commission. For the period July 1, 2017 through June 30, 2018, NERC received \$500,000 of Penalty collections. NERC proposes to deposit the \$500,000 of Penalty collections into the Assessment Stabilization Reserve created by the amended WCOR Policy. NERC also proposes to use \$550,000 of accumulated Penalty sanctions revenues in the Assessment Stabilization Reserve to reduce 2019 assessments, as shown on Table B-1 of **Attachment 2**. The use of \$550,000 from the Assessment Stabilization Reserve to reduce assessments will result in the percentage increase in assessments from the 2018 budget and the percentage increase in the total budget from the 2018 budget being the same, at 9.5%. Therefore, in accordance with ¶19 of the Commission's June 18, 2015 Order in Docket No. RR15-8-000, and pursuant to §1107.4 of the NERC ROP, NERC requests an exception to §1107.2 of the ROP to permit it to place \$500,000 of Penalty collections received during the 12 months ended June 30, 2018 into the Assessment Stabilization Reserve. NERC also requests the Commission's approval to use \$550,000 of accumulated Penalty collections in the Assessment Stabilization Reserve to reduce 2019 assessments to U.S. LSEs.

D. Capital Expenditures Financing

As described in Exhibit D to NERC's 2014 Business Plan and Budget (Docket No. RR13-9-000), NERC is financing the development costs of certain software applications and IT hardware and amortizing these investments over a multi-year period. As described in Exhibit C to **Attachment 2** of this 2019 Business Plan and Budget filing, NERC initiated the capital financing program in January 2014, establishing a \$7,500,000 non-revolving credit facility; and closed a similar non-revolving credit facility in November 2016 totaling \$5,000,000. The November 2016 credit facility is available to finance certain capital expenditures made from January 2017 to December 2019. Annual borrowings under the credit facilities are limited to the amounts authorized by the NERC Board and the Commission in each year's Business Plan and Budget. Borrowings are amortized over a three-year period and can be prepaid without penalty.

The outstanding debt balance at December 31, 2018 is projected to be \$2,575,578. For 2019, NERC's proposed capital expenditures budget is \$4,778,000, of which NERC is proposing to finance approximately \$3,268,000. The capital expenditure categories in the 2019 budget are listed on page 117 of **Attachment 2**, in Exhibit C, and include \$3,268,000 for ERO Application Development; \$565,000 for Hardware such as data storage and servers; \$425,000 for other equipment; \$120,000 for Software licenses; and \$400,000 for Leasehold Improvements.

The tables included in Exhibit C of **Attachment 2** show the projected year-end outstanding debt balances and annual payments for debt service for 2018, 2019, 2020 and 2021 under the capital financing program. Both the annual principal repayment and annual interest expense comprising the total annual debt service for each year are shown. The interest rate under the credit facilities is floating at LIBOR plus 275 basis points; NERC projects the average interest rate during 2019 will be 4.5%. The actual interest expense (based on actual interest

rates) will be reflected in the quarterly budget-to-actual variance reports that NERC posts on its website, reviews in open session with the NERC FAC and files with the Commission. Any savings in actual interest expense compared to the budgeted expense will be captured and reported as a contribution to NERC's Operating Reserves, the expenditures from which are subject to the terms of the WCOR Policy.

V. REGIONAL ENTITY BUSINESS PLANS AND BUDGETS

A. Development of the Regional Entity Business Plans and Budgets

As described in §III.A above, NERC management and staff worked collaboratively with the Regional Entities on the development of the *ERO Enterprise Operating Plan*, which informed development of the Regional Entity 2019 Business Plans and Budgets. Drafts of each Regional Entity's 2019 Business Plan and Budget were submitted to NERC for posting on the NERC website on May 18, 2018 for stakeholder comment. NERC also reviewed and provided feedback on these drafts. The draft Regional Entity Business Plans and Budgets were also the subject of presentations and discussion at meetings of the NERC FAC.

Additionally, each Regional Entity posted one or more drafts of its 2019 Business Plan and Budget on its own website for comment by its stakeholders, and/or provided other opportunities for stakeholder input, as follows:

FRCC: FRCC posts its proposed budget to the FRCC website and sends a copy (along with all presentation materials that will be presented to the FRCC Board) to each Board Member, Corporate Compliance Finance and Audit Committee Member, Alternate Board Member, all Standing Committee Chairs, and all Voting Members from the Supplier, Non-Investor-Owned Utility Wholesale, Load Serving Entity, Generating Load Serving Entity, Investor Owned Utility, and General Sectors of the membership, approximately 45 days prior to the expected FRCC Board vote date. The recipients are encouraged to contact FRCC with any comments or questions, so they can be resolved prior to the Board meeting date. Ten days prior to the Board meeting at which the vote on the budget will take place, another distribution is made to the same recipients, and posted to the FRCC website with any changes from the first version. After approval is finalized, the process is repeated with a copy marked as Final with the Approval Date. The FRCC Board approved FRCC's 2019 Business Plan and Budget on June 19, 2018.

MRO: MRO posted its draft 2019 Business Plan and Budget for comments on May 1, 2018. MRO's 2019 Business Plan and Budget was presented in multiple meetings of the MRO Board and its stakeholders. There were no written or oral challenges to the 2019 Business Plan and Budget. On June 21, 2018, MRO's Board of Directors approved a resolution that approved the 2019 budget, approved MRO's reserves policy, and affirmed that the budget is sufficient to complete MRO's delegated responsibilities.

NPCC: On April 23, 2018, a preliminary 2019 total NPCC Expense Budget was presented to NPCC's Finance and Audit Committee (NPCC FAC) for review and discussion. Draft #1 of the NPCC 2019 Business Plan and Budget was presented to NPCC's Board of Directors on May 2, 2018. NPCC posted Draft #1 on its website for stakeholder review and comment on May 2, 2018, with a request for comments by May 31. Draft #1 was presented to the NPCC Reliability Coordinating Committee for comment following this posting. NPCC did not receive any formal comments from either the posting or various presentations to the stakeholders on its 2019 Business Plan and Budget. The NPCC FAC unanimously endorsed the "Draft for Approval" as presented and on June 27, 2018, the "Draft for Approval" was presented to the NPCC Board, and was unanimously approved.

ReliabilityFirst: On April 26, 2018, the ReliabilityFirst Board of Directors approved the first draft of its 2019 Business Plan and Budget, after which it was posted to the ReliabilityFirst website for a 30-day industry review and comment period. ReliabilityFirst did not receive any comments. The final 2019 Business Plan and Budget was approved by the ReliabilityFirst Board on May 24, 2018.

SERC: On April 23, 2018, a draft of SERC's 2019 Business Plan and Budget was presented to SERC's Finance and Audit Committee. On April 25, 2018, the draft 2019 Business Plan and Budget was presented to, and approved by, SERC's Board of Directors. The draft budget was then posted on the SERC public website for a 30-day comment period beginning May 4, 2018. No comments were received from registered entities. The final 2019 Business Plan and Budget was approved for submittal to NERC by the Board Executive Committee at its June 27, 2018 meeting.

Texas RE: Texas RE's 2019 Business Plan and Budget was presented in multiple meetings of the Texas RE Board and Member Representatives Committee. Texas RE posted the draft 2019 Business Plan and Budget on May 4, 2018, for comment. There were no written or oral challenges to the 2019 Business Plan and Budget. The Board of Directors approved Texas RE's 2019 Business Plan and Budget on May 23, 2018.

WECC: WECC's draft 2019 Business Plan and Budget was posted on its website on April 30, 2018, for a sixteen business day comment period. The WECC Board of Directors and WECC Members were notified of the posting. Three sets of comments were received from stakeholders on the draft 2019 Business Plan and Budget. WECC's Board approved WECC's 2019 Business Plan and Budget on June 20, 2018.

NERC's review of the draft Regional Entity business plans and budgets focused on:

1. Adequacy of the resources and activities to perform delegated functions;
2. Alignment of the Regional Entity's goals, objectives and major activities to the *ERO Enterprise Operating Plan*;
3. Description of efforts to improve efficiency and control costs;
4. Quality and completeness of the financial information presented, including:
 - a. Conformance with Commission budget reporting requirements and with the common presentation format,
 - b. Separation of statutory and non-statutory activities,
 - c. Supporting detail for projections, including explanations for significant changes from the entity's 2018 budget,
 - d. Working capital and operating reserve budgets, policies and controls, and
 - e. Compliance with any budget or audit related orders from the Commission, if applicable.

Through the processes described above and in §III.A, NERC has been able to satisfy itself that each Regional Entity's 2019 Business Plan and Budget provides necessary and adequate resources to carry out the Regional Entity's delegated functions in 2019.³⁵

The Regional Entities submitted their final 2019 Business Plans and Budgets, as approved by their respective governing bodies, to NERC in late June and early July 2018. These Business Plans and Budgets were submitted to the NERC FAC and Board and were reviewed at the FAC's meetings held on July 19 and August 15, 2018, and at the Board's August 16, 2018 meeting. The Regional Entities' 2019 Business Plans and Budgets were approved by the NERC Board at the August 16, 2018 meeting, for submission to the Commission.

In developing the 2019 Regional Entity Business Plans and Budgets, NERC and the

³⁵ In reviewing the Regional Entity Business Plans and Budgets, and in accordance with the Commission's directive in the *ERO Certification Order*, NERC afforded the proposed Regional Entity Business Plans and Budgets no presumption of reasonableness due to having been approved by the Regional Entities' governing bodies. *See ERO Certification Order* at P 203.

Regional Entities continued the substantial efforts they devoted to achieving consistency of format and presentation of information in the business plans and budgets for the years 2008 through 2018. NERC and the Regional Entities: (i) used a common and consistent format for the 2019 Business Plan and Budget documents, (ii) continued to use the consistent accounting methodologies that were developed in connection with the 2010 Business Plans and Budgets, (iii) continued to use the common definition of administrative (indirect) costs that was originally developed in connection with the 2010 Business Plans and Budgets, and (iv) planned their activities to support the objectives of the *ERO Enterprise Long-Term Strategy* and *ERO Enterprise Operating Plan*, as well as their responsibilities under the delegation agreements. Each Regional Entity has highlighted entity-specific assumptions in its business plan and budget.

B. Organization of the Regional Entity Business Plans and Budgets

The Regional Entity Business Plans and Budgets follow a similar format to that used for the NERC Business Plan and Budget. Each Regional Entity Business Plan and Budget begins with an Introduction section that presents a table showing the Regional Entity's budgeted Total Resources for 2019 including statutory and (where applicable) non-statutory FTEs and expenses; the proposed increases or decreases in statutory and non-statutory Fixed Assets and Working Capital Requirement; the total statutory and non-statutory Funding Requirement; and the proposed Assessments to recover the Regional Entity's statutory Funding Requirement, allocated (where applicable) among the U.S., Canadian provinces and Mexico. The Introduction also provides general information on the Regional Entity, including information on its organization, membership and governance; provides the Regional Entity's key assumptions and its goals and key deliverables for 2019; and provides an overview of the primary cost impacts to the Regional Entity's 2019 budget. The Introduction section includes a table showing the Regional Entity's

2018 budget, 2018 projection, 2019 budget, and variance between the 2018 budget and 2019 budget, for each of the statutory programs. It also contains a chart comparing the Regional Entity's 2018 to 2019 budgeted expenditures by statutory program, and a table showing the Regional Entity's FTEs, by statutory program and administrative department, for its 2018 budget, 2018 projection, and 2019 budget. Finally, the Introduction section includes the Regional Entity's overall statutory Statement of Activities, with information presented for its 2018 budget, 2018 projection, variance between its 2018 budget and 2018 projection, 2019 budget, and variance between its 2019 budget and 2018 budget.

The Regional Entity Business Plans and Budgets next contain, in Section A – Statutory Programs, separate subsections on each statutory program and on the administrative services functions of the Regional Entity. These sections are presented in similar format to Section A of the NERC Business Plan and Budget, including: (i) a table for each statutory program showing total FTEs, total Direct Expenses, total Indirect Expenses, increase or decrease in Fixed Assets, and total Funding Requirement, for the 2018 budget and 2019 budget and the Increase or Decrease; (ii) a table for Administrative Services showing the 2018 and 2019 budgeted Expenses and Fixed Assets and budgeted FTEs and the changes in budgeted expenditures and FTEs, for each Administrative Services function; and (iii) a Statement of Activities for the statutory program or for Administrative Services showing Funding, Expenses and Fixed Asset activity by major line item categories, Total Budget and Total Change in Working Capital. Information is presented in each of the Statements of Activities for the 2018 budget, the 2018 projection and the 2019 budget, and the variances between the 2018 budget and 2018 projection and between the 2019 budget and 2018 budget. The text of these sections for each statutory program includes discussion of the program scope and functional description, 2019 key assumptions, and goals and

deliverables for 2019. Reasons for significant increases or decreases in funding sources and costs in the 2019 budget for the program are provided in the narrative discussion and/or in the notes to the applicable table in Section B of the Regional Entity's Business Plan and Budget.

Section B of the Regional Entity Business Plans and Budgets presents additional financial information supporting the Regional Entity's 2019 statutory budget. Section B contains tables detailing the development of the adjustment to the Regional Entity's 2019 assessment to achieve its target Working Capital Reserve at December 31, 2019 (Table B-1); Penalty payments received in the 12 months ended June 30, 2018, to be used as an offset to the Regional Entity's funding requirement (Table B-2); budgeted Supplemental Funding (*e.g.*, Workshop fees and Interest income) (Table B-3); budgeted Personnel Expenses (Table B-4); budgeted Meeting Expense (Table B-5); budgeted Consultants & Contracts expense (Table B-6); budgeted Office Rent (Table B-7); budgeted Office Costs (Table B-8); budgeted Professional Services expense (Table B-9); budgeted Miscellaneous Expense (Table B-10);³⁶ budgeted Other Non-Operating Expenses (Table B-11); and budgeted Fixed Assets additions (Table B-12). Tables B-3 through B-12 are followed, where applicable, by explanations of significant variances between the Regional Entity's 2018 and 2019 budgets for the funding or cost category. Finally, Table B-13 provides the Regional Entity's projections of its statutory budget for 2020 and 2021.

Section C – Non-Statutory Activities of each Regional Entity Business Plan and Budget provides (where applicable) information on the Regional Entity's non-statutory activities for 2019, including program descriptions and objectives, budget information, and FTEs.³⁷

³⁶ WECC has no Miscellaneous Expenses and has not included a separate table for Miscellaneous Expense. Additionally, WECC has included its budget projections for 2020 and 2021 in Appendix B to its 2019 Business Plan and Budget, rather than in Table B-13 of Section B.

³⁷ MRO, ReliabilityFirst and SERC do not plan to have, and have not budgeted for, any non-statutory activities in 2019.

Each Regional Entity Business Plan and Budget provides, in Section D – Additional Consolidated Financial Statements: (1) a 2019 Consolidated Statement of Activities, Fixed Asset Expenditures and Changes in Working Capital showing the Regional Entity’s 2019 budgeted line-item funding sources, expenses, and Fixed Asset activity, in total, by statutory and (if applicable) non-statutory program and for Administrative Services, as well as the Direct Expenses and Indirect Expenses for each statutory program; (2) a combined (statutory and, where applicable, non-statutory) Statement of Financial Position at (i) December 31, 2017, based on 2017 actual audited results;³⁸ (ii) December 31, 2018, based on the Regional Entity’s 2018 projection; and (iii) December 31, 2019, based on the Regional Entity’s 2019 budget; and (3) the Regional Entity’s organization chart(s) for 2018 and 2019 (presented either as two separate charts or a combined chart displaying staffing numbers for each year), showing staffing comparisons for 2018 and 2019.

C. Provision for Working Capital Reserves in Regional Entity Budgets

In developing their 2019 Business Plans and Budgets and proposed assessment amounts to LSEs, the Regional Entities have taken into account the need to maintain appropriate amounts of working capital and operating reserves. The process takes into account each Regional Entity’s actual Working Capital Reserve at December 31, 2017 and projected Working Capital Reserve at December 31, 2018, resulting from its accumulated prior years’ surpluses and deficits, and results in an incremental or decremental adjustment to each Regional Entity’s proposed 2019 statutory assessment amount, in order to arrive at its target Working Capital Reserve at December 31, 2019. Table B-1, Reserve Balance (Working Capital Reserve Balance), in Section

³⁸ The audited financial statements of each Regional Entity for 2017 were filed with the Commission on May 30, 2018, in NERC’s *Report of Comparisons of Budgeted to Actual Costs for 2017 for NERC and the Regional Entities* (Docket No. RR18-6-000).

B of each Regional Entity's 2019 Business Plan and Budget, shows the calculation of the increase or decrease to the Regional Entity's requested 2019 assessment to achieve the Regional Entity's desired Working Capital Reserve at December 31, 2019. The calculations shown on Table B-1 take into account: (1) the Regional Entity's actual Working Capital Reserve at December 31, 2017, (2) assessment Funding, projected other Funding, and projected Expenses and Capital Expenditures for 2018, resulting in (3) a projected Working Capital Reserve at December 31, 2018, (4) the desired (target) Working Capital Reserve at December 31, 2019, (5) the budgeted Expenses and Capital Expenditures, and projected other funding sources (including Penalties collected from registered entities during the 12 months ended June 30, 2018), for 2019, resulting in (6) the increase or decrease to the Regional Entity's requested 2019 assessments in order to achieve the target Working Capital Reserve at December 31, 2019. The basis for each entity's target Working Capital Reserve for 2019 is stated on its Table B-1 or explained elsewhere in the text of its 2019 Business Plan and Budget.

D. Discussion of Individual Regional Entity Business Plans and Budgets

1. FRCC

Attachment 3 is FRCC's proposed 2019 Business Plan and Budget. FRCC's total statutory budget for 2019 is \$6,695,787, a decrease of \$818,325 (10.9%) from its 2018 budget. FRCC's proposed 2019 assessment amount of \$5,827,925 is \$832,593 (12.5%) lower than its 2018 assessment, reflecting the net effect of (i) the decreased budget; (ii) zero offset from Penalty payments received from registered entities (as compared to \$253,145 of Penalty payment offsets in the 2018 budget, *i.e.*, a decrease of \$253,145 in this Funding source); and (iii) a reduction of \$775,862 to its 2019 assessment, based on the difference between its projected Working Capital Reserve at December 31, 2018 and its target Working Capital Reserve at December 31, 2019 (as compared to a reduction to its 2018 assessment of \$508,449 relating to

Working Capital Reserve, *i.e.*, the adjustment for Working Capital Reserve provides a larger offset to ERO Assessments, by \$267,413, in FRCC's 2019 budget than was the case in its 2018 budget).

FRCC is budgeting for reduced staffing of 9.64 FTEs in its five operational (statutory) programs for 2019 and a slight decrease in staffing of 0.24 FTE in its General and Administrative programs, resulting in a budgeted overall staffing decrease of 9.88 FTEs. However, the 9.88 FTEs decrease in staff is overstated due to FRCC adopting a change in methodology for the FTE calculation to now include attrition assumptions whereas in 2018 it did not. The principal areas of staffing reduction are in the Compliance Monitoring & Enforcement and Organization Registration Program (CMEP), from 19.65 FTEs to 12.18 FTEs; and in the RAPA program, from 4.31 FTEs to 2.92 FTEs. FRCC plans to make greater use of consultants in its CMEP; its budgeted expense for Consultants & Contracts in its CMEP for 2019 is \$751,034, an increase of \$408,000 over the 2018 budget. FRCC's budgeted General and Administrative Expenses for 2019 are \$1,061,691, a 5.4% increase from the 2018 budget, due primarily to increased Personnel Expense.

FRCC's desired Working Capital Reserve at December 31, 2019 is \$557,982, based on one month of the total annual budget, as approved by the FRCC Board of Directors. (FRCC also maintains a \$1.5 million line of credit.) Table B-1 in FRCC's Business Plan and Budget shows a projected Working Capital Reserve at December 31, 2018, of \$1,333,844; therefore, FRCC's requested 2019 assessment amount is reduced by \$775,862 to reach its desired Working Capital Reserve at December 31, 2019.

FRCC's 2019 budget for its non-statutory (Member Services Division) activities is \$12,652,008.

2. MRO

Attachment 4 is MRO's proposed 2019 Business Plan and Budget. MRO's total statutory budget for 2019 is \$15,980,354, an increase of \$4,253,618 (36.3%) from its 2018 budget, and reflects the transfer of responsibility for 98 registered entities from SPP RE to MRO as the result of the SPP RE dissolution. These transfers will approximately double, to 211, the number of registered entities in MRO. MRO's proposed assessment for 2019 of \$15,471,669 is \$4,741,565 (44.2%) higher than its 2018 assessment, reflecting (i) the increased budget; (ii) a decrease of \$82,747 in Penalty payment offsets from its 2018 budget; and (iii) a reduction to its assessments of \$449,432 for Working Capital Reserve, as compared to a reduction of \$854,632 for this purpose in its 2018 budget, *i.e.*, the adjustment for Working Capital Reserve reduces the assessment by \$405,200 less in MRO's 2019 budget than in its 2018 budget. Although MRO's total statutory assessment for 2019 is substantially increased over its total assessment for 2018, the total NEL against which the assessment is assessed is also substantially increased, due to the transfer of registered entities and associated LSEs from SPP RE to MRO. As a result, MRO's statutory assessment per MWh of NEL is decreasing from approximately \$0.037091 in 2018 to approximately \$0.031875 in 2019.

MRO is budgeting increased staffing for 2019 of 14.19 FTEs in its statutory programs (including an increase of 9.33 FTEs in its CMEP, again reflecting the substantial increase in number of registered entities) and decreased staffing of 0.19 FTE in its administrative programs. The overall increase in staffing from the 2018 budget is 14.00 FTEs. The 2019 budget for Administrative Services, which is allocated to the statutory programs on the basis of numbers of FTEs, is \$5,012,792, which is an increase of 12.5% from the 2018 budget.

MRO's desired Working Capital Reserve at December 31, 2019, is \$1,313,454, representing 30 days of cash requirements for the 2019 budget. MRO's Table B-1 shows a

projected Working Capital Reserve of \$1,762,886 at December 31, 2018, resulting in a reduction of \$449,432 to MRO's 2019 assessments to reach its target Working Capital Reserve amount at December 31, 2019.

MRO plans no non-statutory activities in 2019 and therefore has no 2019 budget for non-statutory activities.

3. NPCC

Attachment 5 is NPCC's proposed 2019 Business Plan and Budget. NPCC's statutory budget for 2019 is \$15,803,891, an increase of \$696,924 (4.6%) from its 2018 budget. NPCC's 2019 assessment is \$15,003,411, an increase of \$661,624 (4.6%) from its 2018 budget. The increase in assessments is the net result of (i) the increased budget, (ii) a decrease in Penalty collections from \$75,000 in the 2018 budget to zero in the 2019 budget, (iii) slightly increased revenue from Workshops, by \$3,500, from the 2018 budget, and (iv) a reduction for reserves of \$732,980 versus a reduction of \$626,180 in the 2018 budget (*i.e.*, the adjustment to assessments for reserves reduces the 2019 assessment by \$106,800 more than in the 2018 budget).

NPCC's 2019 budget reflects a staffing increase of 2.00 FTEs from its 2018 budget, comprised of a 1.00 FTE increase in its CMEP (to 17.00 FTEs for this program) and a 1.00 FTE increase in Accounting and Finance. Budgeted staffing for all other statutory and administrative programs is unchanged from the 2018 budget. Budgeted total staffing is 38.86 FTEs, comprised of 29.86 FTEs for the statutory programs and 9.00 FTEs for the administrative programs. NPCC's budgeted 2019 Administrative Services expenditures (expenses plus Fixed Asset activity) are \$5,717,027, an increase of 5.4% from its 2018 budget.³⁹

³⁹ NPCC budgets Office Rent, Office Costs, Professional Services, Miscellaneous Operating Expense, and Depreciation as Indirect Expenses, rather than budgeting these costs individually in the statutory program budgets, and allocates them to the statutory programs on the basis of the proportion of direct statutory FTEs in each program.

NPCC's target Working Capital and Operating Reserve at December 31, 2019 is \$3,720,590, comprised of \$1,463,652 for Operating Reserve, \$1,316,938 for Working Capital, and \$940,000 for Business Continuity Reserve. As approved by the NPCC Board of Directors, the Operating Reserve target is 9.26% of 2019 budgeted expenditures and is within the range of 8.33% to 25.00% of budgeted expenditures;⁴⁰ the Working Capital target is 30 days 8.33% of budgeted expenditures; and the Business Continuity Reserve is based on succession planning requirements associated with planned or sudden retirements or other suddenly changing workforce staffing requirements.⁴¹ NPCC's Table B-1 shows a projected total Working Capital, Operating and Business Continuity Reserve at December 31, 2018 of \$4,453,571 (Operating Reserve - \$2,254,707; Working Capital - \$1,258,864; Business Continuity - \$940,000); thus, NPCC's 2019 assessment amount is reduced by \$732,980 to reach its desired Working Capital, Operating Reserve and Business Continuity Reserve at December 31, 2019.⁴²

For purposes of determining the assessments to recover NPCC's statutory funding requirement, the statutory funding requirement is allocated among the Balancing Authority Areas within NPCC in the U.S. (New York and New England), Ontario, Québec, New Brunswick and Nova Scotia. A portion (21.31%) of NPCC's statutory costs for the Compliance and Organization Registration Program (CORC) is allocated between the U.S. and Canadian Balancing Authority Areas on the basis of NEL; a portion (59.85%) of the CORC costs is allocated between the U.S. and the Canadian provinces using a compliance audit-based methodology; and the remaining portion (18.84%) of the CORC costs, representing mitigation

⁴⁰ 8.33% represents approximately 30 days of budgeted expenditures; 25% represents approximately 90 days of budgeted expenditure.

⁴¹ The total Business Continuity Reserve is \$1,000,000, allocated between the NPCC Regional Entity Division (\$940,000) and the Criteria Service Division (\$60,000).

⁴² The \$732,980 assessment reduction represents a decrease of \$791,055 in Operating Reserve to reach the desired target and an increase of \$58,075 in Working Capital Reserve to reach the desired target.

and enforcement-related costs, is allocated between the U.S. and Canadian Balancing Authority Areas using an enforcement activity-based methodology.⁴³ The portion of the costs allocated to the U.S using the audit-based methodology and the enforcement activity-based methodology is then re-allocated between the New York and New England Balancing Authority Areas on the basis of NEL, as required by PP 40-41 of the *July 16, 2009 Budget Compliance Order*. In addition, any NPCC sub-regional reliability assessment costs that will be incurred in response to U.S.-only regulatory initiatives will be considered for allocation to U.S.-only Balancing Authority Areas, consistent with §1102 of the NERC ROP. The narrative discussion on pages 52-53, and the table on page 54, of NPCC's Business Plan and Budget (**Attachment 5**), explain and show the development of the 2019 assessments by Balancing Authority Area within NPCC to recover NPCC's statutory funding requirement. Appropriate adjustments to the costs to be allocated are made for Penalty payments received by NPCC from U.S. registered entities (used solely to offset costs to be charged to U.S. Balancing Authority Areas).

NPCC's total non-statutory (Criteria Services Division) budget for 2019 is \$1,108,574 and its non-statutory Funding Requirement for 2019 is \$1,058,866.

4. ReliabilityFirst

Attachment 6 is ReliabilityFirst's proposed 2019 Business Plan and Budget. ReliabilityFirst has a total statutory budget for 2019 of \$22,648,458, an increase of \$1,254,559 (5.9%) over its 2018 budget. ReliabilityFirst's proposed assessment for 2019 is \$21,255,831, an increase of \$1,108,123 (5.5%) over the 2018 assessment. The increase in ReliabilityFirst's 2019 assessment is due to the net effect of (i) the increased budget; (ii) a decrease in Penalty Sanctions

⁴³ These allocation percentages reflect the respective scopes of work to be performed by NPCC and the relevant provincial governmental and/or regulatory authorities in the Compliance area, as negotiated between NPCC and the relevant authorities in each of the provinces and reflected in the Memorandum of Understanding between NPCC and the relevant authorities for each province.

offsets of \$1,585,662 from the 2018 budget; and (iii) a reduction for Working Capital Reserve of \$1,015,412, as compared to an increase for Working Capital Reserve of \$716,686 in the 2018 budget (*i.e.*, a decrease to assessments of \$1,732,098 for Working Capital Reserve as compared to the 2018 budget).

ReliabilityFirst is budgeting an overall increase in staffing for 2019 of 2.00 FTEs, comprised of 1.00 net additional FTE in statutory programs and 1.00 net additional FTE in administrative programs. Total budgeted staffing for 2019 is 78.20 FTEs, including a total of 44.00 FTEs in Reliability Assurance and Compliance Monitoring and Enforcement. ReliabilityFirst's total budgeted 2019 Administrative Services expenditures (which are allocated to the statutory program budgets on the basis of total FTEs in each statutory program) are \$6,815,905, an increase of 9.8% over the 2018 budget, due primarily to increased Personnel Expense and Consultants & Contracts expense, partially offset by decreases in Office Costs and Fixed Assets expenditures.

ReliabilityFirst's target Working Capital and Operating Reserve balance at December 31, 2019 is \$3,144,752, comprised of \$0 for Working Capital, \$2,144,752 for Working Capital Reserve, and \$1,000,000 for Operating Reserve. The Working Capital and Operating Reserve targets are unchanged from the 2018 budget. The targeted Working Capital Reserve was substantially increased in ReliabilityFirst's 2018 budget, to \$3,348,147, to enable it to be used, in part, to better manage and stabilize future assessments. ReliabilityFirst's projected Working Capital and Operating Reserves balance at December 31, 2018 is \$4,318,238, comprised of a deficit of \$29,909 in Working Capital, \$3,348,147 in Working Capital Reserve, and \$1,000,000 in Operating Reserve. As a result, ReliabilityFirst's requested assessment amount for 2019 reflects a reduction of \$1,173,486, which, along with an adjustment to reserves of \$158,074 due

to transactions recorded on the Statement of Financial Position that do not impact the Statement of Activities (income statement) (*see* footnote 1 on Table B-1), is projected to enable ReliabilityFirst to attain the target combined Working Capital Reserve and Operating Reserve amount of \$3,144,752 at December 31, 2019.⁴⁴

ReliabilityFirst plans no non-statutory activities in 2019 and therefore has no 2019 budget for non-statutory activities.

5. SERC

Attachment 7 is SERC's proposed 2019 Business Plan and Budget. SERC's total statutory budget for 2019 is \$18,144,949, an increase of \$962,081 (5.6%) from its 2018 budget. SERC's proposed 2019 assessment of \$17,372,215 is an increase of \$167,079 (1.0%) from its 2018 assessment. The increased assessment is the net result of (i) the increased budget; (ii) a decrease in Penalty Sanctions offsets of \$644,978 from the 2018 budget; (iii) a reduction in revenue from Workshops of \$49,975 from the 2018 budget; (iv) a reduction in budgeted Miscellaneous Funding of \$51,500 from the 2018 budget, due primarily to the termination of SERC's role as the Compliance Enforcement Authority (CEA) for the SPP registered functions;⁴⁵ and (v) a reduction in assessments of \$528,184 to achieve SERC's targeted Working Capital Reserve amount as compared to an increase in assessments of \$1,013,271 for this purpose in the 2018 budget (*i.e.*, the adjustment for Working Capital Reserve decreases SERC's 2019 assessment by \$1,541,455 more than in its 2018 budget). Although SERC will no longer

⁴⁴ As stated in Table B-1 of ReliabilityFirst's Business Plan and Budget, \$1,173,486 of the projected balance in the Working Capital Reserve at December 31, 2018 is being used to minimize the variance in the 2019 assessment from the 2018 assessment.

⁴⁵ In connection with the termination of the SPP RE, and as approved by the Commission, NERC is assuming the CEA responsibilities for the SPP RTO registered functions for at least two years. *See SPP RE Termination Order*, ¶¶12 and 18. In SERC's 2019 budget, Miscellaneous Funding includes \$34,500 of payments from FRCC for performing the CEA responsibilities for the FRCC registered functions (which SERC will continue to do), which is an increase of \$4,500 from SERC's 2018 budget.

be performing the CEA responsibilities for the SPP registered functions, a number of registered entities are being transferred from SPP RE to SERC. SERC projects an increase in operating expenses of approximately \$459,000 attributable to the transferred registered entities.

SERC's budgeted total staffing for 2019 for statutory programs and administrative functions is 78.00 FTEs, an increase of 3.00 FTEs from its 2018 budget, reflecting additional staffing required to administer the CMEP for the transferred SPP RE entities. Budgeted staffing for statutory programs is being increased by a net of 0.15 FTE from the 2018 budget and budgeted staffing for administrative programs is being increased by a net of 2.85 FTEs from the 2018 budget, with the increase in administrative program FTEs due to centralization of data analysts supporting the various statutory program areas. The budgeted 2019 staffing for SERC's CMEP is 34.0 FTEs, an increase of 1.44 FTEs over the 2018 budget. SERC's budgeted 2019 expenditures for the Administrative Services functions, which are allocated to the statutory programs on the basis of the number of FTEs in each statutory program, are \$9,507,508, an increase of 14.6% from its 2018 budget. The increase in budgeted Administrative Services expenses is due primarily to increased Personnel Expenses (reflecting the increased staffing), increased Office Rent (due to leasing additional office space beginning in late 2017), and increased Office Costs (due in part to reclassification of certain computer equipment purchases as Office Costs (expensed) rather than capital expenditures, which is in turn offset by a reduction in budgeted Computer & Software CapEx).

SERC's target Working Capital Reserve at December 31, 2019 is \$1,800,000. SERC's working capital policy, adopted by its Board, provides for a cash reserve of up to 10% of budgeted annual statutory operating costs; any excess income greater than two months of statutory operating costs is treated as a temporary increase in SERC's operating reserves.

SERC's projected Working Capital Reserve at December 31, 2018 is \$2,328,184, resulting in a reduction in SERC's 2019 assessments of \$528,184 to achieve the target Working Capital Reserve at December 31, 2019.

SERC plans no non-statutory activities in 2019 and therefore has no 2019 budget for non-statutory activities.

6. Texas RE

Attachment 8 is Texas RE's proposed 2019 Business Plan and Budget. Texas RE's total 2019 statutory budget is \$13,069,599, an increase of \$412,645 (3.3%) from its 2018 budget, with the principal area of increase being the Compliance Monitoring and Enforcement and Organization Registration and Certification Program (\$475,794 increase). Texas RE's proposed 2019 assessment amount is \$13,248,000, which is an increase of \$1,976,014 (17.5%) from its 2018 assessment amount. The increase in the 2019 assessment amount is the net result of (i) the increased budget, (ii) a decrease of \$160,551 in Penalty Sanctions offsets from the 2018 budget, (iii) an increase in budgeted Interest income of \$13,000, and (iv) an increase in assessments for Working Capital Reserve of \$307,850, as compared to a decrease for Working Capital Reserve in the 2018 budget of \$1,107,967 (*i.e.*, the adjustment for Working Capital Reserve increases assessments by \$1,415,818 more than in the 2018 budget).

Texas RE's budgeted total staffing for statutory and administrative programs for 2019 is 60 FTEs, the same as in its 2018 budget (and its 2017, 2016, 2015 and 2014 budgets). However, budgeted 2018 staffing is being reduced by 1.00 FTE for the statutory programs (through minor reductions in the Reliability Standards, CMEP and RAPA programs), and increased by 1.00 FTE in the Administrative Services programs (addition of 1.00 FTE in General & Administrative). Texas RE's budgeted 2019 Administrative Services expenditures are \$5,094,761, which is an increase of 9.6% from its 2018 budget, due primarily to increased Personnel Expense for

Administrative Services and increased Consultants & Contracts expense for IT.

Texas RE's desired Working Capital Reserve at December 31, 2019 is \$1,622,500. Texas RE's Board-approved Working Capital and Operating Reserve Policy calls for Texas RE to retain a \$2,000,000 cash reserve; however, for 2018, the Board approved a reduction in the Working Capital Reserve target to \$1,245,000 to reduce the amount of the increase in assessments, with the Working Capital reserve to be replenished in the 2019 and 2020 budgets. The Working Capital Reserve target of \$1,622,500 at December 31, 2019, represents an increase of one-half of the amount needed to return to a Working Capital Reserve of \$2,000,000. Texas RE's Table B-1 shows a projected Working Capital Reserve balance of \$1,314,649 at December 31, 2018. Based on the projected Working Capital Reserve amount at December 31, 2018, Texas RE's proposed 2019 statutory assessment is increased by \$307,850 to reach the Working Capital Reserve target of \$1,622,500 at December 31, 2019.

Texas RE's total non-statutory budget for 2019 is \$1,124,495.

7. WECC

Attachment 9 is WECC's proposed 2019 Business Plan and Budget. WECC's 2019 total statutory budget is \$26,950,566, a decrease of \$146,778 (0.5%) from its 2018 budget. WECC's proposed 2019 statutory assessment is \$25,282,000, which is the same amount as its 2018 and 2017 statutory assessments. WECC's 2019 assessment is the same as the 2018 assessment due to the net effect of (i) the decreased budget, (ii) a reduction of \$1,512,314 in Penalty Sanctions offsets from the 2018 budget, (iii) a reduction of \$115,550 in budgeted funding from Workshops in 2019, (iv) an increase of \$45,000 in budgeted Interest income from the 2018 budget, and (v) in an effort to stabilize assessments, a reduction in assessments for Working Capital Reserve of \$536,380 as compared to an increase for Working Capital Reserve of \$899,706 in the 2018 budget (*i.e.*, the adjustment for Working Capital Reserve in the 2019

budget decreases assessments by \$1,436,086 as compared to the 2018 budget).

WECC's budgeted total staffing for statutory and administrative programs for 2019 is 143.0 FTEs, which is the same as its budgeted 2018 staffing. The budgeted 2019 staffing is comprised of 105.0 FTEs (increase of 2.7 FTEs) in statutory programs and 38.0 FTEs (decrease of 2.7 FTEs) in Corporate Services (administrative functions). Staffing is being increased by 1.0 FTE in the CMEP program (to 60.0 FTEs), by 1.0 FTE in RAPA, and by 0.7 FTE in Training and Outreach as compared to the 2018 budget. These staffing changes are largely due to internal transfers among programs. WECC's total budgeted 2019 Corporate Services expenditures are \$9,219,755, a decrease of \$46,878 (0.5%) from its 2018 budget.

WECC's projected Working Capital Reserve at December 31, 2019 is \$5,302,021, based on a Board-approved Working Capital Reserve balance of one to three months of Personnel Expenses, Meeting Expenses and Operating Expenses. WECC projects a Working Capital Reserve balance of \$5,838,401 at December 31, 2018. Therefore, WECC's 2019 assessment is reduced by \$536,380 to achieve its projected Working Capital Reserve at December 31, 2019; this also results in no change in WECC's 2019 assessment from its 2018 budget, consistent with WECC's assessment stabilization initiative.

WECC's 2019 budget for non-statutory expenses is \$1,775,445.

WECC's allocation of its 2019 assessment to the AESO for the Province of Alberta has been reduced by \$1,033,069, representing WECC compliance costs (including allocated Indirect Costs and Fixed Assets) considered duplicative of the AESO's compliance and enforcement programs. The AESO credit amount is allocated to the remainder of the LSEs (Balancing Authorities) in the WECC region based on NEL. Appendix C to WECC's 2019 Business Plan and Budget (**Attachment 9**) shows the calculation of the adjustment to the AESO assessment.

VI. WESTERN INTERCONNECTION REGIONAL ADVISORY BODY FUNDING REQUEST

In its Order issued July 20, 2006, in Docket No. RR06-02-000,⁴⁶ the Commission concluded that reasonable costs incurred by the Western Interconnection Regional Advisory Body (WIRAB) for activities under §215(j) of the FPA can be funded through the ERO funding process. As specified in P 35 of the *WIRAB Order*, WIRAB submitted to NERC a proposed 2019 Business Plan and Budget for §215(j) activities, **Attachment 10** to this filing. NERC has reviewed WIRAB's submission and believes it complies with P 35 of the *WIRAB Order*.

WIRAB's proposed 2019 budget for expenses is \$1,162,700, a \$94,915 (8.9%) increase from its 2018 budget. WIRAB's budgeted staffing for 2019 is 5.00 FTEs, a reduction of 0.50 FTE from its 2018 budget. WIRAB's budgeted 2019 Personnel Expense is \$436,500, a 7.0% increase from its 2018 budget. Budgeted 2019 Meeting Expense of \$184,000 is a 9.5% increase from the 2018 budget. WIRAB's 2019 budget includes \$100,000 for Consultants & Contracts expense (the same amount as in its 2018 budget) to provide technical expertise to WIRAB on issues related to improved grid operating practices, Reliability Standards and compliance, and to support WIRAB in providing technically sound advice to WECC and to reliability coordinators in the Western Interconnection under §215(j) of the FPA.

WIRAB's proposed statutory assessment for 2019 is \$750,000, an increase of \$38,974 (5.5%) from its 2018 assessment. The increased assessment reflects (i) the \$94,915 budget increase, (ii) a small decrease in budgeted Interest income, and (iii) a \$412,100 reduction for Working Capital Reserve, as compared to a \$356,109 reduction for Working Capital Reserve in the 2018 budget (*i.e.*, the adjustment for Working Capital Reserve reduces the WIRAB

⁴⁶*Order on Petition to Establish a Regional Advisory Body for the Western Interconnection*, Docket No. RR06-2-000, 116 FERC ¶61,061 (2006) (*WIRAB Order*), PP 33-37.

assessment by \$55,991 more than in the 2018 budget). The \$412,100 reduction to the assessment is based on an assessment stabilization policy that targets a Working Capital Reserve of \$600,000 at December 31, 2019 (about 52% of budgeted expenses), as approved by WIRAB's members, and a projected Working Capital Reserve at December 31, 2018 of \$1,012,100. WIRAB's Business Plan and Budget states that its assessment request of \$750,000 is allocated \$629,550 to the U.S., \$109,050 to Canadian provinces, and \$11,400 to Mexico. Based on application of the detailed 2017 NEL data for the WECC region, NERC has allocated WIRAB's assessment \$629,532 to the U.S., \$109,030 to Canadian provinces, and \$11,438 to Mexico.

VII. METRICS RELATED TO NERC AND REGIONAL ENTITY BUDGETS

Consistent with NERC's February 18, 2015 *Request to Revise Certain "Metrics" Filing Components for its Annual Business Plan and Budget Filings and its Annual Actual Cost-to-Budget True-Up Filings* in Docket No. RR15-6-000, and the Commission's June 15, 2015 letter order approving NERC's request, NERC is providing the metrics information listed below in **Attachment 13** and **Attachment 14** to this filing.

Attachment 13 provides the following information relating to the Regional Entities' operations based on their 2019 Business Plans and Budgets:

1. Numbers of registered entities
2. Numbers of registered functions
3. Total NEL (GWh)
4. NEL (GWh) per registered entity
5. Total ERO Funding (sum of assessments plus Penalty sanctions collections)
6. ERO Funding per registered entity
7. ERO Funding per registered function
8. Total Budget (sum of Total Expenses plus Capital Expenditures)
9. Total Budget per registered entity
10. Total Budget per registered function

11. Total Statutory FTEs (FTEs are based on working 2,080 hours per year)
12. Registered entities per Statutory FTE
13. Registered functions per Statutory FTE
14. Total Compliance Budget (sum of Direct Expenses, Indirect Expenses allocated to the Compliance Program, and Capital Expenditures)
15. Compliance budget per registered entity
16. Compliance budget per registered function
17. Total Compliance FTEs
18. Registered entities per Compliance FTE
19. Registered functions per Compliance FTE

In addition, **Attachment 13** provides the following metrics and graphics based on the Regional Entities' 2019 Business Plans and Budgets:

20. Compliance Budget per Number of Registered Functions and per Number of Registered Entities
21. Number of Registered Functions per Registered Entity
22. Compliance Program Budget as a Function of Number of Registered Entities and Number of Registered Functions
23. Number of Registered Entities per Compliance Program FTE and Number of Registered Functions per Compliance Program FTE
24. Comparisons of Number of Registered Entities per Compliance program FTE and Number of Registered Functions per Compliance Program FTE for the current year (2018) and the budget year (2019)

Attachment 14 provides the following metrics on the budgeted Administrative Services costs of NERC and each Regional Entity, based on their budgets for 2018 and 2019:

1. Statutory Indirect (Administrative) Budget as a Percentage of Total Statutory Budget, for 2018 and 2019
2. Ratio of Statutory Direct Budget to Statutory Indirect Budget, for 2018 and 2019
3. Statutory Indirect FTEs as a Percentage of Total Statutory FTEs, for 2018 and 2019
4. Number of Direct Statutory FTEs per Indirect FTE, for 2018 and 2019

VIII. CONCLUSION

Based on the information in this filing, NERC requests that the Commission issue an

order pursuant to 18 C.F.R. §39.4, by November 2, 2018: (1) accepting NERC's proposed 2019 Business Plan and Budget (including the proposed Assessment Stabilization Reserve transactions described in §IV.C above) in **Attachment 2**; (2) accepting the proposed 2019 Business Plans and Budgets of the seven Regional Entities for statutory activities in **Attachments 3 through 9**; (3) accepting the proposed budget and funding requirement of WIRAB for 2019 in **Attachment 10**; and (4) approving the proposed assessments to each load-serving entity or designee or other entities to be billed within each Region, as set forth in Appendix 2 to **Attachment 2**, to be billed to and paid by each such LSE or designee or other entity to fund the portion of NERC's 2019 Funding requirement allocated to the United States and the 2019 Funding requirement for statutory activities of each Regional Entity and WIRAB allocated to the United States.

Respectfully submitted,

James B. Robb
President and Chief Executive Officer
Scott Jones
Senior Vice President, Chief Financial and
Administrative Officer, and Treasurer
North American Electric Reliability
Corporation
3353 Peachtree Road
Suite 600, North Tower
Atlanta, GA 30326
(404) 446-2560
(404) 446-9765 – facsimile

Charles A. Berardesco
Senior Vice President, General Counsel and
Corporate Secretary
North American Electric Reliability Corporation
1325 G Street, N.W., Suite 600
Washington, D.C. 20005
(202) 400-3000
(202) 644-8099 – facsimile
charles.berardesco@nerc.net

/s/ Owen E. MacBride
Owen E. MacBride
Schiff Hardin LLP
233 South Wacker Drive, Suite 7100
Chicago IL 60606
(312) 258-5680
(312) 258-5700 – facsimile
omacbride@schiffhardin.com

DOCKET NO. RR18-__-000

**NORTH AMERICAN ELECTRIC RELIABILITY
CORPORATION**

2019 BUSINESS PLAN AND BUDGET FILING

ATTACHMENT 1

SUMMARY TABLES FOR NERC AND REGIONAL ENTITY

PROPOSED 2019 BUDGETS AND ASSESSMENTS

NERC'S Proposed Budget by Program¹

NERC Program	2018 Budget for Statutory Functions	2019 Budget for Statutory Functions
Reliability Standards	\$ 6,821,893	\$ 6,736,078
<u>Compliance Monitoring and Enforcement</u>		
Compliance Assurance	8,904,105	8,922,937
Compliance Analysis, Organization Registration and Certification	4,887,082	5,021,479
Compliance Enforcement	6,673,939	6,857,235
Reliability Assessment and System Analysis	7,312,956	8,029,587
<u>Reliability Risk Management</u>		
Situation Awareness	3,846,648	4,296,209
Event Analysis	5,161,490	5,339,268
Performance Analysis	4,633,422	5,227,610
E-ISAC (including CRISP)	21,850,597	27,395,627
Training, Education and Personnel Certification	3,043,024	2,223,625
Total Budget	\$ 73,135,156	\$ 80,049,655

¹Does not include the proposed provision for Working Capital reserve funding

Proposed Budget for Statutory Activities of NERC, Each Regional Entity and WIRAB¹

	2018 Budget for Statutory Functions	2019 Budget for Statutory Functions
NERC	\$ 73,135,156	\$ 80,049,655
FRCC	7,514,112	6,695,787
MRO	11,726,736	15,980,354
NPCC	15,106,967	15,803,891
ReliabilityFirst	21,393,899	22,648,458
SERC	17,182,868	18,144,948
SPP RE	10,793,195	-
Texas RE	12,656,953	13,069,599
WECC	27,097,344	26,950,566
WIRAB	1,067,785	1,162,700
Total Budget	\$ 197,675,015	\$ 200,505,958

¹Does not include the proposed provision for Working Capital reserve funding

Proposed Assessments for Statutory Activities of NERC and Each Regional Entity and WIRAB

	Assessments for		Assessments for		Allocation to U.S.	
	Statutory	Allocation to	Statutory	Allocation to	2019 Budget v	% Over
	Functions 2018	U.S. 2018	Functions 2019	U.S. 2019	2018 Budget v	(Under)
					Over (Under)	(Under)
NERC	\$ 62,936,968	\$ 56,968,506	\$ 68,883,995	\$ 62,466,508	\$ 5,498,002	9.65%
Regional Entities	\$ 115,366,505	\$ 104,544,752	\$ 113,461,051	\$ 102,848,341	\$ (1,696,411)	-1.62%
FRCC	6,660,518	6,660,518	5,827,925	5,827,925		
MRO	10,730,106	8,940,887	15,471,669	13,914,246		
NPCC	14,341,787	8,749,460	15,003,411	9,169,256		
ReliabilityFirst	20,147,707	20,147,707	21,255,831	21,255,831		
SERC	17,205,136	17,205,136	17,372,215	17,372,215		
SPP RE	9,727,265	9,727,265	-	-		
Texas RE	11,271,986	11,271,986	13,248,000	13,248,000		
WECC	25,282,000	21,841,793	25,282,000	22,060,868		
WIRAB	\$ 711,026	\$ 598,873	\$ 750,000	\$ 629,532	\$ 30,659	5.12%
Total Budget	\$ 179,014,499	\$ 162,112,131	\$ 183,095,046	\$ 165,944,382	\$ 3,832,251	2.36%

DOCKET NO. RR18-__-000

**NORTH AMERICAN ELECTRIC RELIABILITY
CORPORATION**

2019 BUSINESS PLAN AND BUDGET FILING

ATTACHMENT 2

**NORTH AMERICAN ELECTRIC RELIABILITY
CORPORATION**

PROPOSED 2019 BUSINESS PLAN AND BUDGET

NERC

NORTH AMERICAN ELECTRIC
RELIABILITY CORPORATION

2019 Business Plan and Budget

Final

August 8, 2018

RELIABILITY | ACCOUNTABILITY



3353 Peachtree Road NE
Suite 600, North Tower
Atlanta, GA 30326
404-446-2560 | www.nerc.com

Table of Contents

- Table of Contents ii
- About NERC..... 1
 - Overview 1
 - Membership and Governance..... 1
 - Scope of Oversight 2
 - Statutory and Regulatory Background 3
 - Funding..... 3
- Introduction and Executive Summary..... 4
 - Strategic and Operational Planning 5
 - ERO Enterprise Goals..... 6
 - 2019 Key Business Planning Assumptions..... 9
- Section A – 2019 Business Plan and Budget Program Area and Department Detail 20
 - Reliability Standards 20
 - Compliance Assurance, Compliance Analysis, Organization Registration and Certification, and Compliance Enforcement..... 24
 - Compliance Assurance..... 24
 - Compliance Analysis, Organization Registration and Certification 29
 - Compliance Enforcement 33
 - Reliability Assessment and System Analysis 39
 - Reliability Risk Management 47
 - Situation Awareness 47
 - Event Analysis 51
 - Performance Analysis 54
 - Electricity Information Sharing and Analysis Center 60
 - Training, Education, and Personnel Certification..... 67
 - Administrative Programs..... 72
 - General & Administrative 72
 - Legal and Regulatory 73
 - Information Technology 74
 - Human Resources & Administration 79
 - Finance and Accounting..... 81
- Section B – Supplemental Financial Information 83
 - Table B-1 – Operating Reserve and Assessment Analysis..... 83

Table of Contents

Table B-2 – Penalties	84
Table B-3 – Outside Funding	85
Table B-4 – Personnel.....	86
Table B-5 – Meetings.....	87
Table B-6 – Consultants and Contracts	87
Table B-7 – Rent	87
Table B-8 – Office Costs.....	88
Table B-9 – Professional Services	89
Table B-10 – Miscellaneous.....	89
Table B-11 – Other Non-Operating Expenses	90
Table B-12 – Fixed Assets	90
Table B-13 – 2019–2020 Projections.....	90
Section C – Non-Statutory Activity.....	91
Exhibit A – Application of NERC Section 215 Criteria	92
Exhibit B – Consultant and Contract Costs.....	116
Exhibit C – Capital Financing	117
Exhibit D – Working Capital and Operating Reserve Amounts	118
Exhibit E – E-ISAC Long-Term Strategy.....	119
Exhibit F – CMEP Technology Project	133
Exhibit G – Situation Awareness for FERC, NERC, and the Regional Entities (SAFNR).....	136
Appendix 1 – NERC Staff Organization Chart.....	138

About NERC

Overview

The North American Electric Reliability Corporation (NERC) is a not-for-profit entity organized under the New Jersey Nonprofit Corporation Act. NERC's mission is to assure the effective and efficient reduction of risks to the reliability and security of the Bulk Power System (BPS)¹. NERC's area of responsibility spans the continental U.S. and portions of Canada and Mexico. Entities under NERC's jurisdiction are the users, owners, and operators of the BPS—a system that serves the needs of over 340 million people, includes installed electricity production capacity of approximately 1,200 gigawatts, operates 475,000 miles of high-voltage transmission (100 kV and above), and is comprised of assets worth more than one trillion dollars.

Electric Reliability Organization

The Federal Energy Regulatory Commission (FERC) certifies and has oversight of NERC as the electric reliability organization (ERO) within the U.S. to establish and enforce NERC Reliability Standards for the U.S. portion of the BPS, pursuant to Section 215 (§215) of the Federal Power Act (FPA). As of June 18, 2007, FERC granted NERC the legal authority to enforce Reliability Standards with all U.S. users, owners, and operators of the BPS and made compliance with those standards mandatory and enforceable. Section 215 also requires that the organization certified by FERC as the ERO seek recognition with relevant authorities in Canada and Mexico, and in 2005, the U.S. Department of Energy (DOE) and Canadian federal and provincial governments agreed to bilateral principles for a consistent, continent-wide reliability regulatory framework under a non-governmental institution (the ERO) designed to function on an international basis. To date, eight Canadian provinces² and the National Energy Board of Canada have adopted such a framework, and Mexico is in the process of implementing such a framework after a historic restructuring of Mexico's electricity industry and reforms of the country's regulatory framework were enacted in 2013 and 2014. NERC and WECC are working with the Mexican regulator, *Comisión Reguladora de Energía* (CRE) and the Mexican system and market operator, *CENACE*, under a memorandum of understanding (MOU) signed in 2017, to ensure that, as Mexico implements its new authorities, they will be consistent with the framework in Canada and the United States and support continent-wide reliability and security.

Membership and Governance

An 11-member Board, comprised of 10 independent trustees and NERC's president and chief executive officer (CEO) serving as the management trustee, governs NERC. The Board has formed several committees to facilitate oversight of the organization in the areas of finance and audit, governance and human resources, compliance, technology and security, nominations and enterprise-wide risk.

Membership in NERC is open to any person or entity that has an interest in the reliability of the North American BPS. Membership is voluntary and affords participants the opportunity to engage in the governance of the organization through election to the Member Representatives Committee (MRC).³ More than 600 entities and individuals are members of NERC.

¹ NERC's standards, compliance, and enforcement activities are focused on the [Bulk Electric System \(BES\)](#), which is comprised of certain BPS facilities.

² British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, Quebec, New Brunswick, and Nova Scotia.

³ The [MRC](#) comprises voting representatives elected from the 12 membership sectors. The MRC elects the independent trustees and, along with the Board, votes on amendments to the bylaws. The MRC also provides policy advice and recommendations to the Board on behalf of stakeholders with respect to annual budgets, business plans, and other matters pertinent to the purpose and operation of the organization.

Scope of Oversight

As the international, multijurisdictional ERO in North America, NERC:

- Proposes, supports the development of, monitors compliance with, and enforces mandatory Reliability Standards for the North American BES, subject to regulatory oversight and approvals from FERC in the U.S. and applicable authorities in Canada
- Conducts near-term and long-term reliability assessments of the North American BPS
- Certifies BPS operators as having and maintaining the necessary knowledge and skills to perform their reliability responsibilities
- Maintains situational awareness of events and conditions that may threaten BPS reliability
- Coordinates efforts to improve physical and cyber security for the BPS of North America
- Conducts detailed analyses and investigations of system disturbances and unusual events as well as measuring ongoing system trends to determine root causes, uncovering lessons learned, and issuing relevant findings as advisories, recommendations, guidelines, and essential actions to the industry to mitigate and control risks to reliability
- Identifies and prioritizes risks to reliability and uses a broad toolkit to mitigate and control risks to reliability, including the potential need for new or modified Reliability Standards, improved compliance monitoring and enforcement methods, or other initiatives

Delegated Authorities

In executing its responsibility, NERC delegates certain authorities to regional reliability entities (Regional Entities or the Regions) to perform aspects of the ERO functions described through delegation agreements. FERC has approved delegation agreements between NERC and seven Regional Entities: the Florida Reliability Coordinating Council (FRCC), Midwest Reliability Organization (MRO), Northeast Power Coordinating Council, Inc. (NPCC), ReliabilityFirst (RF), SERC Reliability Corporation (SERC), Texas Reliability Entity, Inc. (Texas RE), and Western Electricity Coordinating Council (WECC). These agreements describe the authorities delegated and responsibilities assigned to the Regional Entities in the U.S. to address, among other things: (1) developing regional Reliability Standards; (2) monitoring compliance with and enforcement of Reliability Standards (both North American-wide and regional); (3) registering owners, operators, and users of the BES and certifying reliability entities (Reliability Coordinators [RCs], Balancing Authorities [BAs], and Transmission Operators [TOPs]); (4) assessing reliability and analyzing performance; (5) training and education; (6) event analysis and reliability improvement; and (7) situational awareness and infrastructure security. NERC expects Regional Entities whose territories and geographic footprints extend into Canadian provinces and Mexico to perform equivalent functions in those jurisdictions.

ERO Enterprise Operating Model

The collective network of leadership, experience, judgment, skills, and technologies shared among NERC and the Regional Entities is referred to as the ERO Enterprise. In 2014, a common operating model, *Improving Coordinated Operations across the ERO Enterprise*,⁴ was developed to define how NERC and the Regional Entities achieve excellence in the oversight and execution of statutory functions by collaborating to mitigate reliability risks. The model also defines the division of the roles and responsibilities for NERC and the Regional Entities to efficiently and effectively execute services performed as the collective ERO Enterprise.

⁴ [Improving Coordinated Operations Across the ERO Enterprise](#)

NERC has unique responsibilities within the ERO Enterprise to design the oversight of program areas, develop operational oversight and leadership, set qualifications and expectations for the performance of delegated activities, and assess, train, and give feedback to corresponding Regional Entity programs. Implementation of the operating model progressed with NERC's finalization of documented oversight plans for all statutory program areas for which the Regional Entities' have delegated activities. Further, NERC and the Regional Entities have deepened their coordination activities to identify, prioritize, and address risks to reliability. NERC also reviews and provides input to the annual Regional Entity business plans and budgets (BP&Bs), including but not limited to review of resource allocations, staffing capacity assessments, and program performance assessments. NERC input and review occurs before Regional Entity board approval.

Similarly, the Regional Entities have a mirrored set of responsibilities that include being responsive to the design of the operational model, providing input into the overall development of each ERO program area, providing training and development to meet ERO qualifications, being receptive to feedback from the ERO, and making responsive adjustments. Regional Entities also have an obligation to meet professional standards of independence and objectivity and provide the best available expertise for addressing risks.

With due recognition and awareness of the distinction between individual roles, responsibilities, and corporate status, NERC and the Regional Entities are continually refining their individual and collective operating and governance practices in support of an agreed-upon set of strategic and operational goals and objectives that are designed to ensure the ERO fulfills its statutory obligations.

Statutory and Regulatory Background

NERC's authority as the ERO in the U.S. is based on §215 of the FPA, as added by the Energy Policy Act of 2005,⁵ and FERC's regulations and orders issued pursuant to §215. In Canada, NERC's authorities are established by the memoranda of understanding and regulations previously mentioned.

Funding

Section 215 of the FPA and FERC's regulations specify procedures for NERC's funding in the U.S. NERC's annual BP&B is subject to FERC approval in the U.S and, once approved, NERC's annual funding is provided primarily through assessments to load-serving entities. These assessments are allocated on a net-energy-for-load (NEL) basis. Equivalent funding mechanisms are provided in Canada, subject to the specific laws and regulations of each province.

The Regional Entities' funding requirements are addressed separately in their respective BP&Bs, which must be reviewed and approved by NERC and FERC. The U.S. assessments for the Regional Entity budgets are included in the overall NERC assessments to load-serving entities.

⁵ This was codified in §215 of the FPA, 16 United States C. 824o.

Introduction and Executive Summary

TOTAL RESOURCES (in whole dollars)				
	2019 Budget	U.S.	Canada	Mexico
Statutory FTEs	204.92			
Non-statutory FTEs	-			
Total FTEs	204.92			
Statutory Expenses	\$ 78,717,677			
Non-Statutory Expenses	\$ -			
Total Expenses	\$ 78,717,677			
Statutory Inc (Dec) in Fixed Assets	\$ 1,331,978			
Non-Statutory Inc (Dec) in Fixed Assets	\$ -			
Total Inc (Dec) in Fixed Assets	\$ 1,331,978			
Statutory Funding of Reserves	\$ 148,674			
Non-Statutory Funding of Reserves	\$ -			
Total Working Capital Requirement	\$ 148,674			
Net Proceeds from Financing Activities	\$ (1,067,980)			
Total Statutory Funding Requirement	\$ 79,130,349			
Total Non-Statutory Funding Requirement	\$ -			
Total Funding Requirement	\$ 79,130,349			
	TOTAL	US	CANADA	MEXICO
Statutory Funding Assessments	\$ 68,883,995	\$ 62,466,508	\$ 6,205,577	\$ 211,910
Non-Statutory Fees	\$ -	\$ -	\$ -	\$ -
NEL	4,506,897,694	3,981,131,801	512,670,827	13,095,066
NEL%	100.00%	88.33%	11.38%	0.29%

Strategic and Operational Planning

The ERO Enterprise's strategic and operational planning process is informed by ongoing activities to identify (1) BPS reliability risks, particularly informed by the Reliability Issues Steering Committee's (RISC's) biennial reliability leadership summit and *ERO Reliability Risk Priorities Report*⁶ (RISC report), and (2) opportunities to improve ERO Enterprise effectiveness and efficiency. The transparent and collaborative process includes input from stakeholders⁷, the Board, and Regional Entity boards. These inputs are used by ERO Enterprise leadership to inform the following strategic and operational planning components:

- **ERO Enterprise Long-Term Strategy**⁸ – The long-term strategy discusses key challenges and strategic focus areas for the ERO Enterprise over the next five to seven years. The long-term strategy is reviewed on a periodic basis to identify any needed adjustments.
- **ERO Enterprise Operating Plan**⁹ – Guided by the long-term strategy, the operating plan identifies the ERO Enterprise's vision, mission, core principals, and goals, and provides a list of key contributing activities¹⁰ by the combined ERO Enterprise, NERC, and the Regional Entities as applicable to inform a rolling three-year operational planning horizon. The operating plan is reviewed biennially¹¹ and updated as needed.
- **ERO Enterprise BP&Bs** – BP&Bs set the specific annual activities, resources, and resource allocation in support of the goals and objectives in the operating plan. BP&Bs are prepared, reviewed, and approved annually for NERC and each of the Regional Entities.
- **ERO Enterprise Metrics**¹² – The metrics include measures, thresholds, and targets to provide indicators of BPS reliability and security as well as ERO Enterprise effectiveness and efficiency. The metrics are reviewed annually and updated as needed to ensure they meaningfully inform near and long-term priorities.¹³

Evolving Reliability Risks

Over the past several years, NERC has transformed its activities towards being more risk-based, ensuring that the right activities are focused on the most pertinent risks to the reliable operation of the BPS. The RISC is an advisory committee to the Board, providing key insights, priorities, and high-level leadership for issues of strategic importance to BPS reliability. The latest RISC report, which was accepted by the Board on February 8, 2018, presents the results of its continued work to define and prioritize risks and to offer recommendations to the Board to inform the development of NERC's risk strategy. The RISC report recommendations are considered as the operating plan's goals and contributing activities are updated for the coming years. In the latest report, the RISC recommended a high level of focus and priority on the following areas that have been identified as having a higher likelihood of BPS-wide occurrence and higher impact to BPS reliability.

⁶ [ERO Reliability Risk Priorities Report \(Board Accepted February 8, 2018\)](#)

⁷ This includes input from the RISC, MRC, NERC standing and technical committees, trade associations and industry forums, as well as public comment periods.

⁸ [ERO Enterprise Long-Term Strategy \(Board Approved November 9, 2017\)](#)

⁹ [ERO Enterprise Operating Plan \(Board Approved November 9, 2017\)](#)

¹⁰ Activities that are recommendations from the RISC report are labeled accordingly.

¹¹ The operating plan is reviewed in the same year the RISC reviews and updates its report.

¹² [2018 ERO Enterprise Metrics \(Board Approved November 9, 2017\)](#)

¹³ Each ERO Enterprise entity establishes additional metrics to support performance-based compensation programs. These metrics typically measure achievement of specific objectives, tasks, and activities on a departmental or company-wide basis for the operating year.

Cybersecurity Vulnerabilities

Cyber threats are becoming more sophisticated and increasing in number. Exploitation of cybersecurity vulnerabilities can cause loss of control or damage to BPS-related voice communications, data, monitoring, protection and control systems, or tools. A cyber-attack can result in equipment damage, degradation of reliable operations, uncontrolled cascading of the BPS, and loss of load. Further, cybersecurity vulnerabilities can come from several sources, both internal and external, and in some instances the utility may have its cybersecurity fully tested.

Changing Resource Mix

The rapid rate at which fuel costs, subsidies, and federal, state, and provincial policies are affecting the resource mix are creating a new paradigm in which planners, balancing authorities, and system operators are reacting to resource additions and retirements. Further, the integration of new technologies and distributed energy resources are affecting the ability of operators to see and control resources within their area.

BPS Planning

BPS planning is a risk closely tied to the changing resource mix because planners currently lack the ability to update or create system models and scenarios of potential future states to identify system needs based on the dynamic nature of the system. This changing system makes it increasingly difficult to evaluate BPS stability, including inertia and frequency response, voltage support (adequate dynamic and static reactive compensation), and ramping constraints.

Resource Adequacy

Changes in the generation resource mix and new technologies are altering the operational characteristics of the grid and will challenge system planners and operators to maintain reliability in real time. Failure to take into account these changing characteristics and capabilities can lead to insufficient capacity and essential reliability services to meet customer demands.

ERO Enterprise Goals

As part of the *ERO Enterprise Operating Plan* discussed above, the ERO Enterprise has six goals enabling the ERO Enterprise to successfully carry out its mission. A description of each goal is provided below, followed by additional information about the allocation of NERC's and the full ERO Enterprise's resources toward achievement of each goal.

Goal 1: Risk-Responsive Reliability Standards

Reliability Standards establish threshold requirements for assuring the BES is planned, operated, and maintained to minimize risks of cascading failures, avoid damage to major equipment, or limit interruptions of the BPS. Reliability Standards are clear, timely, effective in mitigating risks to reliability, and consider cost-effectiveness/impact.

Goal 2: Objective, Risk-Informed Compliance Monitoring, Mitigation, Enforcement, and Entity Registration

The ERO Enterprise is a strong enforcement authority that is objective, fair, and promotes a culture of reliability excellence through risk-informed compliance monitoring, mitigation, enforcement, and registration.

Goal 3: Reduction of Known Reliability Risks

The ERO Enterprise recognizes significant known risks to reliability, assures those risks are reduced, and promotes a culture of reliability excellence.

Goal 4: Identification and Assessment of Emerging Reliability

The ERO Enterprise identifies, objectively assesses, and prioritizes emerging risks to reliability to inform stakeholders and enable effective actions to reduce these risks to reliability.

Goal 5: Identification and Reduction of Cyber and Physical Security Risks

The ERO Enterprise identifies and evaluates cyber and physical security risks to the BPS and assures those risks are reduced through active stakeholder engagement and information sharing of current threats and vulnerabilities, security workshops, and development of good industry practice guides. The ERO Enterprise supports the Electricity Information Sharing and Analysis Center (E-ISAC), the Cybersecurity Risk Information Sharing Program (CRISP), technical protective programs, and physical and cybersecurity preparedness exercises, and engages with government partners to de-classify sensitive security information needed to protect BPS devices and assets. The ERO Enterprise works with stakeholders to develop and share information to foster BPS resiliency in connection with both traditional and emerging risks.

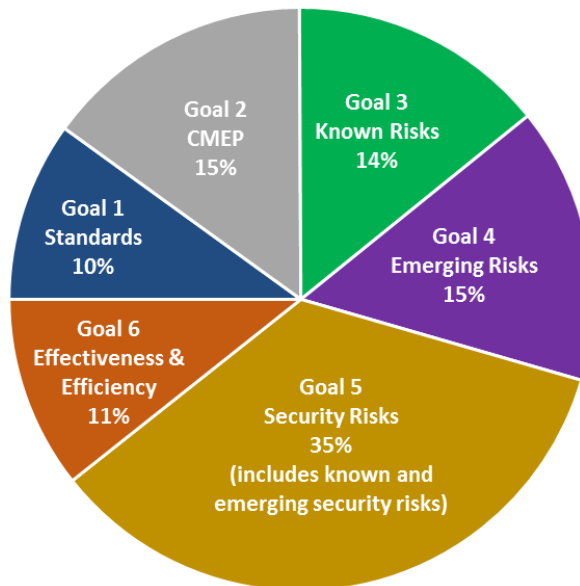
Goal 6: Effective and Efficient Operations

The ERO Enterprise embraces transparency, collaboration, consistency, quality, efficiency, and timeliness of results and operates as a coordinated and collaborative enterprise.

Allocation of NERC Resources to ERO Enterprise Goals and Risk Priorities

The charts below provide an overview of the allocation of both NERC and the ERO Enterprise’s 2019 resources associated with each goal in the *ERO Enterprise Operating Plan* and the related contributing activities discussed above. Using surveys, funding sources, and FTEs as a guide, the charts reflect the relative amount of total resources (people and dollars) focused on supporting each of the six goals noted above. Since many departments work on multiple activities that further multiple goals, forecasting all activities supporting each goal is not precise. However, these charts provide a general picture regarding how resources are allocated.

NERC Resource Allocation to Operating Plan Goals



ERO Enterprise Resource Allocation to Operating Plan Goals



Ongoing Focus on Effectiveness and Efficiency

NERC and the Regional Entities continue to collaborate to improve effectiveness and efficiency, evaluate resources, and leverage combined skillsets to improve ERO Enterprise activities and control costs. This collaboration and resulting efficiencies can be found in a number of areas, including but not limited to:

- **ERO Enterprise IT investments** – NERC and the Regional Entities, under the oversight of the Board Technology and Security Committee (TSC), have developed a long-term ERO Enterprise IT program resulting in a number of enterprise tools to enhance operations, improve efficiency, and reduce costs at the NERC, regional, and registered entity levels. For example, these tools will facilitate efficiency of data submittals, consistency in compliance resources, and overall reliability through information sharing related to event analysis, misoperations, and situational awareness.
- **Enforcement** – NERC has worked closely with Regional Entities to streamline enforcement processes, and therefore required resources, in connection with the development of more efficient and risk-based enforcement mechanisms.
- **Standards** – As standards development has matured, NERC management has reallocated Standards staff towards more critical activities like cyber security and analytical capabilities.
- **Forums** – As further described in the quarterly forum reports to the Board, NERC and the Regional Entities continue to leverage the transmission and generation forums to jointly address risks to reliability to mitigate their impacts on the reliable operation of the BES.
- **Industry** – The ERO Enterprise continues to collaborate with and rely on industry resources and expertise through the various standing and technical committees, working groups, and task forces that are critical to both identifying and supporting key initiatives and priorities.

Additional information on long-term and ongoing effectiveness and efficiency goals can be found in Focus Area 2 of the *ERO Enterprise Long-Term Strategy*, Goal 6 of the draft *ERO Enterprise Operating Plan*, and Metric 7d of the *2018 ERO Enterprise Metrics*. Current efforts in support of these goals are detailed in a draft framework for improving ERO Enterprise effectiveness and efficiency that was presented and discussed at the May 9, 2018 MRC meeting.¹⁴

¹⁴ [MRC Agenda Package – May 9, 2018 \(see agenda item 8\)](#)

2019 Key Business Planning Assumptions

NERC and the Regional Entities use the goals and contributing activities in the *ERO Enterprise Operating Plan* as a guide to support the development of their respective BP&Bs. NERC and the Regional Entities use this planning information to evaluate their projected workloads and determine resource levels and allocation required to complete necessary tasks and meet their statutory obligations.

Application of Section 215 Criteria

In its order approving NERC's 2013 *Business Plan and Budget*, FERC required NERC to establish criteria for determining whether its proposed activities are eligible for funding under §215. In an order dated April 19, 2013, FERC approved NERC's proposed criteria, with certain modifications.¹⁵ *Exhibit A – Application of NERC Section 215 Criteria* summarizes the major activities NERC proposes to undertake in 2019 and the approved §215 criteria applicable to such activities.

Overview of 2019 Budget and Funding Requirements

NERC's 2019 combined expense and fixed asset (capital) budget is approximately \$80.0M, which represents an increase of approximately \$6.9M (9.5%) from the 2018 budget. Total expenses are increasing approximately \$7.9M (11.1%) over 2018. The total fixed asset (capital) budget, excluding depreciation,¹⁶ is approximately \$4.8M, an increase of \$904k (23.3%) from 2018. Approximately \$9.0M (11.2%) of NERC's 2019 budget is related to CRISP, with the majority of the CRISP budget funded by participating utilities, with a small portion funded through assessments.

NERC's proposed 2019 assessment is approximately \$68.9M, which represents an increase of \$6.0M (9.5%) from 2018 and reflects the proposed release of \$550k of funds from the Assessment Stabilization Reserve to reduce 2019 assessments. Further, NERC proposes to deposit \$500k of penalty collections during the 12 months ended June 30, 2018 into the Assessment Stabilization Reserve. Without the proposed release of funds from the Assessment Stabilization Reserve to offset assessments (as further discussed below), NERC's total assessments would increase \$6.5M (10.3%) over 2018. Factors contributing to the difference between the proposed budget increase and the proposed assessment increase include debt (capital financing) assumptions and other funding from CRISP, workshop fees, etc.

In order to stabilize assessments and align budget and assessment increases more closely, NERC has undertaken a multi-year strategy to manage assessment increases. NERC's policy *Accounting, Financial Statement and Budgetary Treatment of Penalties Imposed and Received for Violations of Reliability Standards*¹⁷ and NERC Rules of Procedure (ROP) §1107.2 specify that penalties received during the period July 1 through the following June 30 are to be used in the subsequent budget period to offset U.S. assessment billings. However, ROP §1107.4 provides for exceptions or alternatives to this treatment if approved by FERC. In February 2015, the Board approved an amendment to the company's *Working Capital and Operating Reserve Policy*.¹⁸ Among the approved changes was the creation of an Assessment

¹⁵ North American Electric Reliability Corporation, Order on Compliance, 143 FERC ¶ 61,052 (2013).

¹⁶ NERC and the Regional Entities budget depreciation as an operating expense with an equal and offsetting credit against budgeted Fixed Asset (capital) additions. As a result, the budgets do not include depreciation in the funding requirements.

¹⁷ Accounting, Financial Statement and Budgetary Treatment of Penalties Imposed and Received for Violations of Reliability Standards, December 8, 2008 and as amended August 15, 2013.

¹⁸ [NERC's Working Capital and Operating Reserve Policy](#). NERC filed a petition with FERC on March 6, 2015 for approval of this policy; FERC conditionally approved the revised policy in an order issued June 18, 2015, in Docket No. RR15-8-000. *North American Electric Reliability Corporation, Order Conditionally Accepting Revisions to Working Capital and Operating Reserve Policy*, 151 FERC ¶ 61,225 (2015). On August 14, 2015, NERC submitted a compliance filing to the June 18, 2015 order with a modification to the policy, which FERC accepted by letter order dated September 18, 2015 (Docket No. RR15-8-001).

Stabilization Reserve.¹⁹ This reserve was established to implement the strategic goal of more closely aligning annual budget and U.S. assessment increases and to better manage year-to-year assessment increases. The eventual goal is to narrow the gap between annual percentage changes in NERC's budget and annual percentage changes in assessments that result from year-to-year variations in penalty collections.

Subject to FERC approval, NERC will deposit the \$500k of penalty funds collected during the period July 1, 2017–June 30, 2018 into the Assessment Stabilization Reserve and release \$550k from the Assessment Stabilization Reserve to reduce 2019 assessments, resulting in a matching 2019 budget and assessment increase of 9.5%. The allocation of assessments to Canadian entities will reflect the final determination and allocation of certain compliance and enforcement costs to Canadian entities pursuant to NERC's policy on the allocation of compliance costs.²⁰

The following table provides a high-level year-over-year comparison of the major categories of expenses, total budget, and full-time equivalents (FTEs).

Statement of Activities and Fixed Assets Expenditures 2018 and 2019 Budgets						
STATUTORY						
	2018 Budget	2018 Projection	Variance 2018 Projection v 2018 Budget Over(Under)	2019 Budget	Variance 2019 Budget v 2018 Budget Over(Under)	% Over (Under)
Funding						
ERO Funding						
NERC Assessments	\$ 62,936,968	\$ 62,936,968	\$ -	\$ 68,883,995	\$ 5,947,027	9.5%
Assessment Stabilization Reserve - Penalties	600,000	600,000	-	550,000	(50,000)	
Third-Party Funding (CRISP)	7,324,253	7,219,381	(104,872)	7,486,353	162,101	
Testing Fees	1,790,000	1,689,757	(100,243)	1,790,000	-	
Services & Software	50,000	50,000	-	40,000	(10,000)	
Workshops	185,000	301,380	116,380	195,000	10,000	
Interest	95,000	268,413	173,413	185,000	90,000	
Miscellaneous	-	-	-	-	-	
Total Funding	\$ 72,981,221	\$ 73,065,900	\$ 84,678	\$ 79,130,349	\$ 6,149,128	8.4%
Expenses						
Personnel Expenses	\$ 40,969,105	\$ 41,131,865	\$ 162,760	\$ 43,952,190	\$ 2,983,085	7.3%
Meeting Expenses	3,395,100	3,484,028	88,928	3,380,400	(14,700)	-0.4%
Operating Expenses	26,352,371	28,572,330	2,219,959	31,170,916	4,818,544	18.3%
Other Non-Operating	138,878	165,048	26,170	214,171	75,293	54.2%
Total Expenses	\$ 70,855,455	\$ 73,353,271	\$ 2,497,816	\$ 78,717,677	\$ 7,862,222	11.1%
Fixed Assets						
Depreciation	\$ (1,594,299)	\$ (3,042,075)	\$ (1,447,776)	\$ (3,446,022)	\$ (1,851,724)	
Computer & Software CapEx	2,549,000	2,549,000	-	3,488,000	939,000	
Equipment CapEx	1,175,000	565,559	(609,441)	890,000	(285,000)	
Leasehold Improvements	150,000	150,000	-	400,000	250,000	
Inc(Dec) in Fixed Assets	\$ 2,279,701	\$ 222,484	\$ (2,057,218)	\$ 1,331,978	\$ (947,724)	-41.6%
Total Budget	\$ 73,135,156	\$ 73,575,755	\$ 440,599	\$ 80,049,655	\$ 6,914,499	9.5%
FTEs	199.28	187.63	(11.65)	204.92	5.64	2.8%

¹⁹ In accordance with the approved *Working Capital and Operating Reserve Policy*, the Assessment Stabilization Reserve may be funded with penalty funds and surplus operating reserves. The actual amount of the contribution, as well as releases from the fund to reduce assessments, are determined annually as part of NERC's BP&B process, based on recommendation by the FAC and requiring both Board and FERC approval.

²⁰ Expanded Policy on Allocation of Certain Compliance and Enforcement Costs, July 29, 2008.

NERC's 2019 budget and funding requirements reflect the resources necessary to support achievement of the goals and objectives set forth in the *ERO Enterprise Operating Plan*. The 2019 budget is comprised of both operating and fixed asset (capital) costs. Operating costs generally include personnel, consulting, office space, software licensing, third-party data management, communications, and other customary services to support office operations. Fixed asset (capital) costs primarily reflect investments in equipment and software to support operations, including investments in the development of software applications and infrastructure to facilitate improved business processes and efficiency.

Key Budget Assumptions

Key assumptions used in the development of NERC's 2019 budget include the following:

- **A net increase to headcount by 6 (5.64 FTEs).** This reflects an increase of 11 positions (10.34 FTEs) in support of the long-term strategy for the E-ISAC, as outlined in the *Electricity Information Sharing and Analysis Center* section of Section A, and a decrease of 5 positions (4.70 FTEs) in the rest of NERC operations. A 6.0% reduction to FTEs (vacancy rate) is applied to account for attrition and hiring delays, which is the same as 2018.
- **Investment for the second year of the E-ISAC long-term strategy.** In addition to the headcount (FTE) increase for the E-ISAC discussed above, the strategy calls for investment in additional grid security exercise (GridEx) support, E-ISAC portal enhancements, and office facilities to support growth. Additional information can be found in *Exhibit E – E-ISAC Long-Term Strategy*.
- **Investments in technology and tools.** This includes a planned funding for the Compliance Monitoring and Enforcement Program (CMEP) tool, with investment in complementary solutions for entity registration and standards data, as described in *Exhibit F – CMEP Technology Project*, as well as an upgrade to the SAFNR situational awareness tool, as outlined in *Exhibit G – Situation Awareness for FERC, NERC, and the Regional Entities (SAFNR)*.
- **Market-based compensation for personnel.** Executive and staff compensation and benefits are established based on guidelines established by the Board's Corporate Governance and Human Resources Committee (CGHRC) and the results of market compensation and benefit studies, most recently completed in 2017.
- **Anticipated market increases in medical and dental benefit plan costs.** Medical and dental premium cost estimates are based on market data provided by the company's benefits consultant. No other changes to retirement or other benefit plans have been assumed for 2019.
- **Slight decrease to meeting and travel expenses.** The company has undertaken a number of significant efforts over the past several years to reduce travel and meeting expenses. For example, the company has worked closely with Regional Entities to share meeting space where possible, which has helped reduce meeting costs.

Fixed Asset (Capital) Budget and Capital Financing

NERC's 2019 capital budget is approximately \$4.8M (excluding depreciation), which represents an increase of \$904k from 2018. This increase is primarily due to additional ERO Enterprise software project spending and leasehold improvements for the E-ISAC. The table below provides a summary of the major capital budget components.

NERC Capital Budget	Budget 2018	Budget 2019	Variance 2019 Budget v 2018 Budget	
			Variance Budget	Variance %
ERO Application Development	\$ 2,148,000	\$ 3,268,000	\$ 1,120,000	52.1%
Hardware (storage, servers)	805,000	565,000	(240,000)	-29.8%
Other Equipment	370,000	425,000	55,000	14.9%
Disaster Recovery	100,000	-	(100,000)	-100.0%
NERC Software Licenses	301,000	120,000	(181,000)	-60.1%
Leasehold Improvements	150,000	400,000	250,000	166.7%
Total	\$ 3,874,000	\$ 4,778,000	\$ 904,000	23.3%

NERC has budgeted approximately \$4.6M (both operating expenses and capital expenditures) in 2019 for services related to the planning, design, and implementation of software applications supporting ERO Enterprise tools for common NERC and Regional Entity operations. These related costs include approximately \$3.3M in capital expenditures and \$1.3M in other IT operating costs. Additional information regarding the ERO Enterprise IT strategy, the current status of the development of ERO Enterprise IT applications, and projects that will be under development in 2019 can be found in the *Information Technology* section of Section A. The 2019 capital budget also includes ongoing funding for IT security, data storage, servers, hardware, and software license costs.

CMEP Technology Project and Standards Data and Entity Registration Solutions

Starting in 2017, NERC has been working closely with the Regional Entities to evaluate and implement strategic investments in tools that replace the current three CMEP applications used among NERC and the Regional Entities with a single, common CMEP application. The scope of the project includes how Reliability Standards and entity registration data will be integrated with the tool, as well as how best to support the various parts of the compliance and enforcement process (e.g., analysis of risk, development of implementation plans and audit schedules, actual compliance monitoring, and enforcement processing).

Of the \$3.3M in fixed asset (capital) expenditures for ERO Enterprise applications in 2019, approximately \$1.8M relates to the new CMEP tool. Additional investments include development of separate applications for entity registration (\$600k) and standards data (\$300k), which are planned projects that have been accelerated to 2019 to smoothly integrate with the new CMEP solution. The capital expenditure for the CMEP tool is expected to be approximately \$5.0–6.0M in total, with work spanning through 2020. Funding for this work will be subject to review and approval as part of the BP&B process each year. For additional information on the CMEP Technology Project and entity registration and standards solutions, please see the *Information Technology* section of Section A, as well as *Exhibit F – CMEP Technology Project*.

SAFNR

The remaining 2019 capital expenditure of \$600k for ERO Enterprise applications relates to enhancing the functionality of SAFNR to improve the ability to accurately understand current conditions on the BPS, and to incorporate functionality elements piloted during GridEx IV that will provide the E-ISAC with more timely and understandable common operating picture information. Because the tool benefits both the situation awareness and E-ISAC teams, approximately one-third of the costs for the SAFNR upgrade are budgeted to the E-ISAC with the rest under the Situation Awareness program. This allocation is subject to change as the benefits of the upgrade are realized. The SAFNR upgrade project will undergo the same business case and approval process as other enterprise IT investments. For additional information on

SAFNR, please see the *Situation Awareness* section of Section A and *Exhibit G – Situation Awareness for FERC, NERC, and the Regional Entities (SAFNR)*.

The 2019 budget assumes that approximately \$3.3M of the total \$4.6M capital budget for ERO Enterprise applications will be financed through the capital financing program described and put in place as part of NERC's *2014 Business Plan and Budget*. Further information regarding capital financing can be found in *Exhibit C – Capital Financing*.

Working Capital and Operating Reserves

Under the company's *Working Capital and Operating Reserve Policy*, NERC is proposing an overall reserve budget of \$8.6M for Working Capital (i.e., the amount of funds necessary to satisfy the company's projected cash flow needs during the budget year), the four categories of Operating Reserves, and the Assessment Stabilization Reserve. This represents an increase of \$1.1M (14.7%) from the total reserve amounts included in NERC's 2018 budget. The reserve categories are broken down as follows:

- **Future Obligation Reserve** – Includes funding that has been received to satisfy future obligations under lease, credit, loan, or other agreements to which the company is a party. This reserve is comprised primarily of existing funds and is budgeted to be \$2.0M for 2019.
- **System Operator Certification Reserve** – Includes surplus funding from operator certification and testing fees that are above incurred expenses and shall be used solely to support operator testing and certification needs. The 2019 System Operator Certification Reserve is budgeted at \$676k and comprised primarily of existing funds.
- **CRISP Reserve** – Represents funds dedicated to support CRISP. These reserves are established pursuant to a CRISP budget agreed to and funded entirely by utilities participating in CRISP. These reserves have no impact on assessments and they are segregated from other reserves pursuant to the terms of the CRISP agreements. The CRISP reserves are projected to be \$500k in the 2019 budget.
- **Operating Contingency Reserve** – Includes funds for contingencies that were not anticipated, assumed to be likely, or the timing of which was uncertain, at the time of preparation and approval of the company's BP&B. NERC's current policy on Operating Contingency Reserves requires a reserve target of 3.5–7.0%, except as otherwise approved by the Board after review and recommendation by the Board Finance and Audit Committee (FAC). This percentage is calculated against NERC's total budget for operating and capital expenditures, less those costs related to CRISP and System Operator Certification, each of which has a separate reserve category. For the 2019 budget, management is recommending an Operating Contingency Reserve of approximately \$3.8M, or 5.5% of total budgeted operating and fixed asset (capital) costs.
- **Assessment Stabilization Reserve** – To date, this reserve has been funded entirely by previously received penalties and is projected to have a balance of \$2.1M as of January 1, 2019. For purposes of the company's 2019 BP&B, NERC is proposing the release of \$550k of Assessment Stabilization Reserve funds to offset U.S. assessments. Assuming FERC approves the proposal, the remaining balance of \$1.5M in the Assessment Stabilization Reserve will be used to reduce U.S. assessments in one or more future periods, subject to review and approval by the Board and FERC in the applicable year's BP&B.

Department Budget and FTE Comparisons

The following table shows a 2019 versus 2018 total budget comparison by department. The amounts reflect all direct and indirect departmental costs, including fixed asset (capital) costs. Costs incurred for general and administrative and other overheads are considered indirect and are allocated to the statutory departments based on the ratio of that department's budgeted FTEs to total budgeted statutory FTEs.

2019 versus 2018 Total Budget by Department

Total Budget	2018 Budget	2019 Budget	Change	
			2019 Budget v 2018 Budget	% Change
Reliability Standards*	\$ 6,821,893	\$ 6,736,078	\$ (85,816)	-1.3%
Compliance Monitoring and Enforcement Programs*	20,465,126	20,801,651	336,525	1.6%
Reliability Assessments and System Analysis	7,312,956	8,029,587	716,631	9.8%
Reliability Risk Management*	13,641,560	14,863,087	1,221,527	9.0%
Training, Education, and Personnel Certification	3,043,024	2,223,625	(819,399)	-26.9%
NERC Budget, excluding E-ISAC	\$ 51,284,559	\$ 52,654,028	\$ 1,369,469	2.7%
E-ISAC (non-CRISP)	\$ 13,130,686	\$ 18,351,920	\$ 5,221,234	39.8%
E-ISAC (CRISP)*	8,719,912	9,043,707	323,795	3.7%
Total E-ISAC Budget	\$ 21,850,597	\$ 27,395,627	\$ 5,545,030	25.4%
Total Budget	\$ 73,135,156	\$ 80,049,655	\$ 6,914,499	9.5%

*Includes key technology application costs, including the CMEP Technology Project and complementary solutions for entity registration and standards data, as well as SAFNR, for which funding is shared by Reliability Risk Management and E-ISAC.

The primary areas of increase are in E-ISAC, Reliability Assessments and System Analysis (RASA), and Reliability Risk Management (RRM). The E-ISAC increase reflects additional staff related to the long-term strategy discussed in the *Electricity Information Sharing and Analysis Center* section of Section A and the attachment to Exhibit E, *Expanding E-ISAC Operations to Include 24x7 Onsite Operations*. The increase for 2019 due to the implementation of this strategy is approximately \$3.5M; most of the remaining increase is due to the allocation of general and administrative overhead costs based on the additional FTEs. The increases in RASA and RRM are due to reallocations of personnel to these programs from other programs to align with current resource needs, and, for RRM, the capital costs associated with the upgrade to SAFNR (see *Exhibit G – Situation Awareness for FERC, NERC, and the Regional Entities (SAFNR)*).

The capital costs associated with the CMEP Technology Project result in an increase in the CMEP areas, but the total increase for the CMEP is reduced by the elimination or reallocation of FTEs to other program areas, which also results in lower allocations of indirect costs and fixed assets from Administrative Services to these departments. Similarly, the decreases in the Reliability Standards and Training, Education, and Personnel Certification departments is largely the result of the elimination or reallocation of FTEs.

The following table presents a 2019 versus 2018 comparison of budgeted FTEs by department and reflects 2019 personnel additions, interdepartmental transfers of previously budgeted positions, and attrition assumptions. The number of FTEs represents the number of employees employed full time during the year, plus the number of employees employed part time (less than full schedule) or during a portion of the year, converted to a full-time basis. Headcount represents the total number of personnel employed during the year, regardless of the length of their employment or whether they are full-time or part-time employees. FTEs will be less than headcount, unless there are no part-time employees and no employees who are employed less than a full year. The company's 2019 personnel budget is based upon existing headcount and associated compensation and benefit costs, as well as assumptions on the number and cost of new hires and the assumed vacancy rate, all within an overall FTE budget. An average vacancy rate is applied to each position and its associated costs to arrive at an overall personnel cost budget. The vacancy rate represents an adjustment that is applied in the calculation of budgeted personnel costs to account for attrition and for variations from the budget assumptions on the timing of new hires.

2019 versus 2018 FTEs by Department

FTEs*	2018 Budget	2019 Budget	Change	
			2019 Budget v 2018 Budget	% Change
Reliability Standards	15.51	14.57	(0.94)	-6.1%
Compliance Monitoring and Enforcement Programs	40.89	39.01	(1.88)	-4.6%
Reliability Assessments and System Analysis	14.10	15.04	0.94	6.7%
Reliability Risk Management	26.32	27.26	0.94	3.6%
Training, Education, and Personnel Certification	5.88	3.76	(2.12)	-36.0%
Administrative Programs	67.45	67.68	0.23	0.3%
NERC FTEs, excluding E-ISAC	170.14	167.32	(2.82)	-1.7%
E-ISAC (non-CRISP)	25.38	33.84	8.46	33.3%
E-ISAC (CRISP)	3.76	3.76	-	0.0%
Total E-ISAC FTEs	29.14	37.60	8.46	29.0%
Total FTEs	199.28	204.92	5.64	2.8%

*Reflects 2019 additions and transfers between departments, anticipated timing of 2019 hires, and assumes 6% attrition in all programs

The Administrative Programs encompass a number of necessary support functions, including Information Technology, Legal and Regulatory, Finance and Accounting, Human Resources, Facilities and Meeting Planning, Communications, External Affairs, and Government Relations staff. It also includes General and Administrative functions, which include the CEO, the Chief Reliability Officer (CRO), and their support staff. For FERC and external reporting purposes, these programs are allocated as indirect expenses to the operating areas on a per FTE basis.

For 2019, NERC is budgeting an increase of 11 positions in support of the long-term strategy for the E-ISAC, which includes 9 positions in the E-ISAC and 2 in the Administrative Programs area (see the *Electricity Information and Analysis Center* section of Section A for details). There will also be a decrease of 5 open positions in the remaining NERC departments. This results in an increase of 9 positions (8.46 FTEs) in the E-ISAC, a net decrease of 3 positions (2.82 FTEs) in other NERC departments (decrease of 5 positions plus the 2 added support roles for E-ISAC), resulting in a total net increase of 6 positions (5.64 FTEs) for NERC in 2019. The table above reflects the elimination of 5 open positions and reallocations of staff among departments. Currently, the proposed position eliminations are in the Compliance Assurance, Training and Education, and RRM areas.

The 2019 organizational chart can be found in Appendix 1. The difference between the number of positions reflected in the organizational chart and total budgeted FTEs is due to assumptions regarding vacancy rates and timing of new hires.

The following table is a statement of activities and fixed asset expenditures comparing the 2018 budget, 2018 projection, and 2019 budget.

Introduction and Executive Summary

Statement of Activities and Fixed Assets Expenditures 2018 and 2019 Budgets

STATUTORY

	2018 Budget	2018 Projection	Variance 2018 Projection v 2018 Budget Over(Under)	2019 Budget	Variance 2019 Budget v 2018 Budget Over(Under)	% Inc 2019 over 2018
Funding						
ERO Funding						
NERC Assessments	\$ 62,936,968	\$ 62,936,968	\$ -	\$ 68,883,995	\$ 5,947,027	9.5%
Assessment Stabilization Reserve - Penalties	600,000	600,000	-	550,000	(50,000)	
Total NERC Funding	\$ 63,536,968	\$ 63,536,968	\$ -	\$ 69,433,995	\$ 5,897,027	
Third-Party Funding (CRISP)	\$ 7,324,253	\$ 7,219,381	\$ (104,872)	\$ 7,486,353	\$ 162,101	
Testing Fees	1,790,000	1,689,757	(100,243)	1,790,000	-	
Services & Software	50,000	50,000	-	40,000	(10,000)	
Workshops	185,000	301,380	116,380	195,000	10,000	
Interest	95,000	268,413	173,413	185,000	90,000	
Miscellaneous	-	-	-	-	-	
Total Funding (A)	\$ 72,981,221	\$ 73,065,900	\$ 84,678	\$ 79,130,349	\$ 6,149,128	8.4%
Expenses						
Personnel Expenses						
Salaries	\$ 31,791,098	\$ 31,931,961	\$ 140,863	\$ 33,810,276	\$ 2,019,179	
Payroll Taxes	1,949,557	1,864,208	(85,349)	2,044,880	95,324	
Benefits	3,988,886	4,251,518	262,632	4,673,208	684,322	
Retirement Costs	3,239,565	3,084,178	(155,386)	3,423,826	184,261	
Total Personnel Expenses	\$ 40,969,105	\$ 41,131,865	\$ 162,760	\$ 43,952,190	\$ 2,983,085	7.3%
Meeting Expenses						
Meetings	\$ 1,071,500	\$ 1,177,447	\$ 105,947	\$ 1,056,500	\$ (15,000)	
Travel	2,204,000	2,147,202	(56,798)	2,184,000	(20,000)	
Conference Calls	119,600	159,378	39,778	139,900	20,300	
Total Meeting Expenses	\$ 3,395,100	\$ 3,484,028	\$ 88,928	\$ 3,380,400	\$ (14,700)	-0.4%
Operating Expenses						
Consultants & Contracts	\$ 13,724,185	\$ 14,308,501	\$ 584,316	\$ 15,043,318	\$ 1,319,133	
Office Rent	3,091,804	3,087,919	(3,885)	3,335,058	243,254	
Office Costs	5,365,084	5,640,947	275,863	6,506,917	1,141,833	
Professional Services	2,537,500	2,453,388	(84,112)	2,757,600	220,100	
Miscellaneous	39,500	39,500	-	82,000	42,500	
Depreciation	1,594,299	3,042,075	1,447,776	3,446,022	1,851,724	
Total Operating Expenses	\$ 26,352,371	\$ 28,572,330	\$ 2,219,959	\$ 31,170,916	\$ 4,818,544	18.3%
Total Direct Expenses	\$ 70,716,577	\$ 73,188,223	\$ 2,471,647	\$ 78,503,506	\$ 7,786,929	11.0%
Indirect Expenses	\$ 0	\$ 0	\$ (0)	\$ -	\$ (0)	
Other Non-Operating Expenses	\$ 138,878	\$ 165,048	\$ 26,170	\$ 214,171	\$ 75,293	54.2%
Total Expenses (B)	\$ 70,855,455	\$ 73,353,271	\$ 2,497,816	\$ 78,717,677	\$ 7,862,222	11.1%
Change in Assets	\$ 2,125,766	\$ (287,372)	\$ (2,413,138)	\$ 412,672	\$ (1,713,095)	
Fixed Assets						
Depreciation	\$ (1,594,299)	\$ (3,042,075)	\$ (1,447,776)	\$ (3,446,022)	\$ (1,851,724)	
Computer & Software CapEx	2,549,000	2,549,000	-	3,488,000	939,000	
Furniture & Fixtures CapEx	-	-	-	-	-	
Equipment CapEx	1,175,000	565,559	(609,441)	890,000	(285,000)	
Leasehold Improvements	150,000	150,000	-	400,000	250,000	
Allocation of Fixed Assets	0	(0)	(0)	(0)	(0)	
Inc(Dec) in Fixed Assets (C)	\$ 2,279,701	\$ 222,484	\$ (2,057,218)	\$ 1,331,978	\$ (947,724)	-41.6%
TOTAL BUDGET (=B+C)	\$ 73,135,156	\$ 73,575,755	\$ 440,599	\$ 80,049,655	\$ 6,914,499	9.5%
TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)*	\$ (153,935)	\$ (509,855)	\$ (355,920)	\$ (919,306)	\$ 1,086,353	
FTEs	199.28	187.63	(11.65)	204.92	5.64	2.8%

* Refer to Table B-1 for a complete analysis of the Working Capital and Operating Reserve balance.

FERC Order 830 – Geomagnetic Disturbance

In FERC’s Order No. 830 approving Reliability Standard TPL-007-1 (*Transmission System Planned Performance for Geomagnetic Disturbance Events*),²¹ FERC directed NERC to file a research work plan describing how NERC will conduct research into the specific geomagnetic disturbance (GMD)-related topics identified in the order. Since that time, NERC developed a preliminary GMD research work plan containing a set of GMD research activities, which was filed with FERC on May 30, 2017 in accordance with the Order No. 830 directive. The research activities identified in the preliminary plan are expected to advance the understanding of GMD events and the risks these high-impact, low-frequency events pose to the reliability of the BPS. In October 2017, FERC issued an order accepting NERC’s preliminary work plan.

NERC developed a research plan²² with the Electric Power Research Institute (EPRI) and filed it with FERC on April 19, 2018²³. This \$3.4M research project is being co-funded by NERC (\$200k per year for three years, budgeted in RASA Consultants and Contracts expense) along with more than 20 owners and operators from the electric industry. Further, NERC continues to work with industry to collect information about geomagnetically induced current (GIC) and the potential impacts on power system reliability.

NERC has also worked with the technical committees to develop an ROP Section 1600 Data Request for the collection of GMD data, as directed by FERC in Order 830. The GMD Data Request was presented to and approved by the NERC Board on August 16, 2018. NERC has begun developing requirements for the necessary technology application to collect GMD data from reporting entities. These requirements will be used to determine future funding needs.

NERC continues to conduct outreach with representatives from governmental agencies in the U.S., Europe, and Canada, academia, vendors, and industry to identify the GMD-related work that is currently in progress and determine where opportunities exist for research synergies.

E-ISAC Long-Term Strategy

Over the past several years the E-ISAC has focused on improving its technical and analytical capabilities with a goal of becoming the electricity industry’s leading, trusted source for analysis and sharing of security information. Significant support from the Electricity Subsector Coordinating Council (ESCC), the ESCC Members Executive Committee (MEC)²⁴, the DOE, and other stakeholders have helped the E-ISAC provide the industry with unique insights, leadership, and coordination on security matters.

At the request of the NERC Board and under the guidance of the ESCC and MEC, executive leadership of the E-ISAC developed a long-term strategic plan, which is included as *Exhibit E – E-ISAC Long-Term Strategy*. The long-term strategic plan is to transform the E-ISAC into a world-class intelligence collecting and analytical capability for the electricity industry. The *E-ISAC Long-Term Strategy* was approved by the MEC on April 24, 2017 and accepted by the Board on May 11, 2017.

To implement this vision, the E-ISAC is planning a deliberate growth strategy over the next four years that increases both staff and technical resources. Based on industry and stakeholder feedback, the 2019 BP&B includes the second year’s recommended additions related to this strategy, primarily related to analytical capabilities, as further described in the *Electricity Information Sharing and Analysis Center* section of Section A and the attachment to Exhibit E, *Expanding E-ISAC Operations to Include 24x7 Onsite Operations*.

²¹ [FERC Order 830 - Reliability Standard for Transmission System Planned Performance for Geomagnetic Disturbance Events](#)

²² [Revised Geomagnetic Disturbance Research Work Plan of the North American Electric Reliability Corporation](#)

²³ Docket Nos. RM15-11-002 and RM15-11-003

²⁴ The ESCC formed the MEC in March 2016 to provide industry leadership and expertise to guide and support the E-ISAC, including but not limited to the development of strategic plans and budgets.

Projections for 2020–2021

NERC has developed preliminary operating and fixed asset (capital) projections for 2020 and 2021. Significant assumptions in these projections include:

- No increase in total FTEs over the 2019 budget (except for impacts of the long-term E-ISAC strategy discussed below).
- Personnel and benefit cost increases are consistent with 2019 assumptions.
- Debt service repayment obligations in connection with the company’s Capital Financing Program are consistent with the projected Enterprise IT Applications capital forecast. The Capital Financing Program is the primary funding source for the CMEP Technology Project, which is expected to continue through 2020 (see *Exhibit F – CMEP Technology Project* for more details).
- E-ISAC budget increases in 2020 and 2021 will represent the vast majority of projected increases in the total NERC budget. The current budget projections for E-ISAC, including CRISP, for 2020 and 2021 are \$29.8 and \$33.5 million, respectively. These projected budget increases will be funded in part by the CRISP participating utilities and are primarily driven by planned headcount additions and strategic program initiatives.

Currently, NERC projects a total budget increase versus the prior year of 9.5% in 2019, 3.2% in 2020, and 3.5% in 2021. Assessments are budgeted to increase 9.5% in 2019, and projected to increase 6.5% in 2020 and 5.4% in 2021, before the impact of any release of Assessment Stabilization Reserve funds. The assessment increase for 2019 includes the proposed release of \$550k from the Assessment Stabilization Reserve to achieve a matching budget and assessment increase of 9.5%. The budget and assessment increases for 2020 and 2021 are projections that will be refined as those budgets are finalized.

Introduction and Executive Summary

Statement of Activities and Fixed Assets Expenditures
2019 Budget & Projected 2020 and 2021 Budgets

	2019 Budget	2020 Projection	\$ Change 20 v 19	% Change 20 v 19	2021 Projection	\$ Change 21 v 20	% Change 21 v 20
Funding							
ERO Funding							
NERC Assessments	\$ 68,883,995	\$ 73,392,456	\$ 4,508,461	6.5%	\$ 77,383,032	\$ 3,990,576	5.4%
Assessment Stabilization Reserve - Penalties	550,000	-	(550,000)	0.0%	-	-	0.0%
Total NERC Funding	\$ 69,433,995	\$ 73,392,456	\$ 3,958,461	5.7%	\$ 77,383,032	\$ 3,990,576	5.4%
Third-Party Funding (CRISP)	\$ 7,486,353	\$ 7,544,926	\$ 58,573	0.8%	\$ 7,551,401	\$ 6,475	0.1%
Testing Fees	1,790,000	1,790,000	-	0.0%	1,790,000	-	0.0%
Services & Software	40,000	40,000	-	0.0%	40,000	-	0.0%
Workshops	195,000	275,000	80,000	41.0%	275,000	-	0.0%
Interest	185,000	185,000	-	0.0%	185,000	-	0.0%
Miscellaneous	-	-	-	0.0%	-	-	0.0%
Total Funding (A)	\$ 79,130,349	\$ 83,227,382	\$ 4,097,034	5.2%	\$ 87,224,433	\$ 3,997,051	4.8%
Expenses							
Personnel Expenses							
Salaries	\$ 33,810,276	\$ 35,491,859	\$ 1,681,583	5.0%	\$ 37,710,982	\$ 2,219,123	6.3%
Payroll Taxes	2,044,880	2,118,363	73,483	3.6%	2,227,488	109,125	5.2%
Benefits	4,673,208	5,047,742	374,534	8.0%	5,412,135	364,393	7.2%
Retirement Costs	3,423,826	3,601,527	177,701	5.2%	3,833,952	232,425	6.5%
Total Personnel Expenses	\$ 43,952,190	\$ 46,259,491	\$ 2,307,301	5.2%	\$ 49,184,557	\$ 2,925,066	6.3%
Meeting Expenses							
Meetings	\$ 1,056,500	\$ 1,146,500	\$ 90,000	8.5%	\$ 1,146,500	\$ -	0.0%
Travel	2,184,000	2,184,000	-	0.0%	2,184,000	-	0.0%
Conference Calls	139,900	139,900	-	0.0%	139,900	-	0.0%
Total Meeting Expenses	\$ 3,380,400	\$ 3,470,400	\$ 90,000	2.7%	\$ 3,470,400	\$ -	0.0%
Operating Expenses							
Consultants & Contracts	\$ 15,043,318	\$ 15,377,948	\$ 334,630	2.2%	\$ 15,732,644	\$ 354,696	2.3%
Office Rent	3,335,058	3,455,058	120,000	3.6%	3,575,058	120,000	3.5%
Office Costs	6,506,917	6,890,037	383,120	5.9%	7,146,610	256,573	3.7%
Professional Services	2,757,600	2,742,061	(15,539)	-0.6%	2,725,395	(16,666)	-0.6%
Miscellaneous	82,000	59,500	(22,500)	-27.4%	59,500	-	0.0%
Depreciation	3,446,022	3,506,873	60,851	1.8%	4,024,750	517,877	14.8%
Total Operating Expenses	\$ 31,170,916	\$ 32,031,478	\$ 860,562	2.8%	\$ 33,263,958	\$ 1,232,480	3.8%
Total Direct Expenses	\$ 78,503,506	\$ 81,761,369	\$ 3,257,863	4.1%	\$ 85,918,914	\$ 4,157,546	5.1%
Indirect Expenses	\$ -	\$ 0	\$ 0	0.0%	\$ 0	\$ (0)	0.0%
Other Non-Operating Expenses	\$ 214,171	\$ 297,203	\$ 83,032	38.8%	\$ 290,127	\$ (7,076)	-2.4%
Total Expenses (B)	\$ 78,717,677	\$ 82,058,572	\$ 3,340,895	4.2%	\$ 86,209,041	\$ 4,150,470	5.1%
Change in Assets	\$ 412,672	\$ 1,168,810	\$ 756,139	183.2%	\$ 1,015,392	\$ (153,419)	-13.1%
Fixed Assets							
Depreciation	\$ (3,446,022)	\$ (3,506,873)	\$ (60,851)	1.8%	\$ (4,024,750)	\$ (517,877)	14.8%
Computer & Software CapEx	3,488,000	2,408,000	(1,080,000)	-31.0%	1,701,000	(707,000)	-29.4%
Furniture & Fixtures CapEx	-	-	-	0.0%	-	-	0.0%
Equipment CapEx	890,000	1,530,000	640,000	71.9%	1,530,000	-	0.0%
Leasehold Improvements	400,000	100,000	(300,000)	-75.0%	100,000	-	0.0%
Allocation of Fixed Assets	(0)	(0)	0	0.0%	0	0	0.0%
Inc(Dec) in Fixed Assets (C)	\$ 1,331,978	\$ 531,127	\$ (800,851)	-60.1%	\$ (693,750)	\$ (1,224,877)	-230.6%
TOTAL BUDGET (=B+C)	\$ 80,049,655	\$ 82,589,698	\$ 2,540,044	3.2%	\$ 85,515,291	\$ 2,925,593	3.5%
FTEs	204.92	211.50	6.58	3.2%	219.96	8.46	4.0%

Section A – 2019 Business Plan and Budget Program Area and Department Detail

Reliability Standards

Reliability Standards Program (in whole dollars)			
	2018 Budget	2019 Budget	Increase (Decrease)
Total FTEs	15.51	14.57	(0.94)
Direct Expenses	\$ 3,332,944	\$ 3,377,356	\$ 44,412
Indirect Expenses	3,470,011	3,446,152	(23,859)
Other Non-Operating Expenses	-	-	-
Inc(Dec) in Fixed Assets	18,939	(87,430)	(106,369)
TOTAL BUDGET	\$ 6,821,893	\$ 6,736,078	\$ (85,816)

Background and Scope

The Reliability Standards program carries out the ERO's statutory responsibility to develop, adopt, obtain approval of, and modify (as and when appropriate) mandatory NERC Reliability Standards (both continent-wide standards and regional reliability standards) to assure the BES is planned, operated, maintained, and secured to minimize risks of cascading failures, avoid damage to major equipment, or limit interruptions of the BPS. The major activities undertaken by the Standards department include:

- Delivering high-quality, continent-wide reliability standards:** NERC standard developers and other standards staff provide project management and leadership to develop solutions necessary to address reliability risks identified through the Reliability Risk Management Process (RRMP). These may include the development of, or modifications to, Reliability Standards through standard development outreach activities, facilitation of drafting team activities, drafting support, assisting drafting teams in maintaining adherence to the development process as outlined in the *Standard Processes Manual*, and ensuring that the quality of documents produced is appropriate for approval by industry and the Board. Compliance Assurance continues to work closely with the standard development program to provide compliance information, statistics, technical input, and perspectives to drafting teams to clarify compliance risks.
- Facilitating continent-wide industry engagement:** NERC manages the work of over 200 industry contributors who serve on the Standards Committee, subgroups, and other project teams for the development of Reliability Standards through the standards development program.
- Conducting balloting, disseminating information, and supporting regulatory filings:** Through NERC's commenting and ANSI-accredited balloting process, industry consensus is built by engaging thousands of industry volunteers within hundreds of registered entities throughout North America who review, comment on, and approve the standards created by the standard drafting teams. The department also supports the filing of standards with applicable regulatory authorities and provides support with regulatory proceedings.

The Reliability Standards program provides a mechanism for the Regional Entities to process regional standards when unique regional reliability gaps are detected, or incorporate regional variances into continent-wide standards. The NERC Standards department staff supports regional standards development processes by providing technical advice, final quality review of regional standards, presentation to the Board, and preparation of regional standards materials for submission for standard adoption to the applicable regulatory authorities in the U.S. and Canada.

Stakeholder Engagement and Cost Effectiveness Project

As part of the standard development process, industry technical experts scope, draft, and review the new or revised Reliability Standards for approval by the industry ballot body, adoption by the Board, and filing with regulatory authorities in the U.S. and Canada. Additionally, federal, state and provincial regulatory authorities, the Board, Regional Entities, and many industry stakeholders have expressed interest in the identification of costs incurred from implementing Reliability Standards compared to risks they address. The objective is to ensure that these elements are considered during the standards development and revision process. A process has been established that ensures that industry feedback on costs is taken into account throughout the standard development process.

Key Efforts Underway

NERC ensures that the Reliability Standards Development Plan (RSDP) is effectively executed and that Reliability Standards are focused on and mitigate significant risks to BES reliability. Department resources are focused on supporting the *ERO Enterprise Operating Plan*, including but not limited to support of the RRMP and resolving FERC directives. Standards department key activities include:

- **Focus on the selection of projects undertaken.** Resources are expended on issues determined to be a reliability risk through the RRMP (also see the Reliability Assessment and System Analysis section and the Performance Analysis section below for additional detail). The department applies broad project management skills to implement a variety of solutions to a reliability concern. An effective solution to an identified reliability risk may be a Reliability Standard, or it may be a guideline, information request, training, NERC Alert, technical conference, research, or a combination of these or other tools.
- **Address FERC directives and respond to FERC orders** through standard development projects, as necessary. Each project determines whether: (1) the directive will be complied with as issued, (2) there is an equally effective and efficient way to address the concern that fostered the directive, or (3) there is technical justification (including that the directive has been overcome by events, processes, or advances in technology) that resolution of the directive is no longer needed.
- **Perform a comprehensive review of standards.** In 2018, NERC and industry will complete a comprehensive review of the Reliability Standards to measure their effectiveness and ability to mitigate the risks to the reliability and security of the BPS, compared to the industry burden for their implementation. An outcome of this review will inform the need to retire or enhance requirements based on operational experience. This will include an analysis of reliability risk, particularly emerging risks, and cost effectiveness. In 2019, projects will be initiated to address the results of this review to retire or modify Reliability Standards.
- **Facilitate smooth transition to new standards.** This includes working with the Compliance Assurance, Enforcement, Registration, Reliability Assurance, Reliability Assessment and System Analysis, and Performance Analysis groups to develop guidelines, webinars, and other activities to support auditor and industry training for the new standards.

The 2019–2021 RSDP will be developed in 2018 in conjunction with the Standards Committee, RISC, and RRMP. It will outline the work plan for the continued evaluation of Reliability Standards, the Standards department's support of Reliability Risk Management, and resolution of FERC directives. Additionally, standards grading metrics will be used to measure the overall quality of each enforceable Reliability Standard as a basis for measuring needed improvements.

2019 Goals and Deliverables

In 2018, the body of Reliability Standards will be reviewed for potential improvements while considering quality and content criteria, as well as results-based standards principles. In 2019, industry and NERC will determine whether there is a need to make further improvements to the standards through periodic reviews that include: (1) a measured review of the content of standards, considering whether the requirements could more effectively mitigate risks to the BPS, (2) whether the standards are results-based and drafted with high quality, (3) whether the standards are concise or if the number of requirements could be reduced, and (4) whether compliance expectations are clear. Also in 2019, Standards staff will continue to support the operating plan through the key activities discussed above by addressing potential improvements, any new directives issued by FERC, as well any reliability risks identified through RRMP or by the RISC for which a Reliability Standard is part of the solution.

Resource Requirements

Personnel

The 0.94 reduction in FTEs results from the reallocation of one position (0.94 FTEs) to realign staff with current needs.

Consultants and Contracts

No consultant or contract expenses were budgeted in 2018. Budgeted consultant and contract expenses are \$50k for 2019 for standards development support. A detailed breakdown of 2018 and 2019 budgeted expenses is shown in *Exhibit B – Consultant and Contractor Costs*.

Other Costs

The \$300k increase in computer and software capital expenditures is for a standards database solution that will integrate with the new CMEP tool.

Section A – 2019 Business Plan and Budget Program Area and Department Detail

Statement of Activities and Fixed Assets Expenditures					
2018 Budget & Projection, and 2019 Budget					
RELIABILITY STANDARDS					
	2018 Budget	2018 Projection	Variance 2018 Projection v 2018 Budget Over(Under)	2019 Budget	Variance 2019 Budget v 2018 Budget Over(Under)
Funding					
ERO Funding					
NERC Assessments	\$ 6,689,437	\$ 6,689,437	\$ -	\$ 6,598,401	\$ (91,036)
Assessment Stabilization Reserve - Penalties	71,739	71,739	-	58,793	(12,946)
Total NERC Funding	\$ 6,761,176	\$ 6,761,176	\$ -	\$ 6,657,194	\$ (103,982)
Third-Party Funding					
Testing Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Workshops	50,000	50,000	-	60,000	10,000
Interest	10,717	24,323	13,605	18,884	8,166
Miscellaneous	-	-	-	-	-
Total Funding	\$ 6,821,893	\$ 6,835,499	\$ 13,605	\$ 6,736,078	\$ (85,816)
Expenses					
Personnel Expenses					
Salaries	\$ 2,207,431	\$ 1,879,225	\$ (328,205)	\$ 2,031,580	\$ (175,850)
Payroll Taxes	145,638	118,136	(27,502)	134,348	(11,290)
Benefits	299,194	261,710	(37,484)	297,782	(1,412)
Retirement Costs	246,107	220,557	(25,550)	224,171	(21,936)
Total Personnel Expenses	\$ 2,898,370	\$ 2,479,629	\$ (418,741)	\$ 2,687,881	\$ (210,489)
Meeting Expenses					
Meetings	\$ 105,000	\$ 105,000	\$ -	\$ 105,000	\$ -
Travel	240,000	238,050	(1,950)	220,000	(20,000)
Conference Calls	-	3,369	3,369	18,000	18,000
Total Meeting Expenses	\$ 345,000	\$ 346,419	\$ 1,419	\$ 343,000	\$ (2,000)
Operating Expenses					
Consultants & Contracts	\$ -	\$ 100,000	\$ 100,000	\$ 50,000	\$ 50,000
Office Rent	-	-	-	-	-
Office Costs	49,796	26,281	(23,515)	38,200	(11,596)
Professional Services	-	-	-	-	-
Miscellaneous	500	500	-	500	-
Depreciation	39,278	173,799	134,521	257,774	218,496
Total Operating Expenses	\$ 89,574	\$ 300,580	\$ 211,006	\$ 346,474	\$ 256,900
Total Direct Expenses	\$ 3,332,944	\$ 3,126,629	\$ (206,315)	\$ 3,377,356	\$ 44,412
Indirect Expenses	\$ 3,470,011	\$ 3,553,026	\$ 83,015	\$ 3,446,152	\$ (23,859)
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses (A)	\$ 6,802,955	\$ 6,679,655	\$ (123,300)	\$ 6,823,508	\$ 20,553
Change in Assets	\$ 18,939	\$ 155,844	\$ 136,905	\$ (87,430)	\$ (106,369)
Fixed Assets					
Depreciation	\$ (39,278)	\$ (173,799)	\$ (134,521)	\$ (257,774)	\$ (218,496)
Computer & Software CapEx	-	-	-	300,000	300,000
Furniture & Fixtures CapEx	-	-	-	-	-
Equipment CapEx	-	-	-	-	-
Leasehold Improvements	-	-	-	-	-
Allocation of Fixed Assets	58,217	(133,048)	(191,264)	(129,656)	(187,872)
Inc(Dec) in Fixed Assets (B)	\$ 18,939	\$ (306,847)	\$ (325,785)	\$ (87,430)	\$ (106,369)
TOTAL BUDGET (=A+B)	\$ 6,821,893	\$ 6,372,808	\$ (449,085)	\$ 6,736,078	\$ (85,816)
FTEs	15.51	13.38	(2.13)	14.57	(0.94)

Compliance Assurance, Compliance Analysis, Organization Registration and Certification, and Compliance Enforcement

The Compliance Assurance, Compliance Analysis, Organization Registration and Certification, and Compliance Enforcement program areas promote a culture of reliability excellence through risk-informed compliance monitoring, mitigation, enforcement, and registration.

Compliance Assurance

Compliance Assurance (in whole dollars)			
	2018 Budget	2019 Budget	Increase (Decrease)
Total FTEs	19.27	16.45	(2.82)
Direct Expenses	\$ 4,520,550	\$ 4,294,505	\$ (226,044)
Indirect Expenses	4,311,226	3,890,817	(420,409)
Other Non-Operating Expenses	-	-	-
Inc(Dec) in Fixed Assets	72,330	737,614	665,285
TOTAL BUDGET	\$ 8,904,105	\$ 8,922,937	\$ 18,832

Background and Scope

NERC's Compliance Assurance group works collaboratively with the Regional Entities to ensure effective implementation of risk-based compliance monitoring under the CMEP across the entire ERO Enterprise. This program ensures that Regional Entities monitor registered entities for compliance according to their own specific facts and circumstances, including the entity's inherent risks, evaluation of controls in place to mitigate the inherent risks, and other factors, such as risk elements and entity performance. Additionally, the risk-based compliance monitoring approach allows for the appropriate allocation of resources to the issues that pose a higher level of risk to the reliability of the BPS.

The CMEP provides for Regional Entities to develop customized compliance oversight plans (COPs) for each registered entity that identifies: (1) the standards or requirements to be monitored; (2) the monitoring processes (tools) for use by the Regional Entities, including compliance audits, self-certification, and spot checking; and (3) the interval of monitoring. NERC and the Regional Entities ensure that inherent risk assessments (IRAs) for registered entities begin with a consistent framework and that Regional Entities' implementation of the CMEP coalesce around effective and efficient practices, ensuring comprehensive data management procedures that address data reporting requirements, integrity, retention, security, and confidentiality.

The Compliance Assurance group's responsibilities include, but are not limited to, the following major activities and functions:

- Oversight of the Regional Entities' implementation of the risk-based compliance monitoring program and NERC ROP in North America;
- Development and execution of the annual CMEP Implementation Plan (IP);
- Oversight of the use of necessary compliance-related processes, procedures, IT platforms, tools, and templates;
- Development and delivery of education and training for ERO Enterprise staff;

- Training and outreach activities for the Critical Infrastructure Protection (CIP) Reliability Standards and subsequent enhancements to support industry compliance and security;
- Coordination with the NERC Standards department to assist in the smooth transition for standards from development to enforceability and feedback on risks seen in the field that are not addressed by a standard, as well as information on where a standard is too broad; and
- Support for Regional Entity and industry committees, working groups, and task forces, such as the ERO Compliance Monitoring Group, NERC Compliance and Certification Committee (CCC) and NERC Critical Infrastructure Protection Committee (CIPC).

Stakeholder Engagement and Benefit

NERC continues to promote the Regional Entities' development of customized COPs for registered entities. As the risk-based compliance monitoring approach was implemented in 2015 and 2016, Regional Entities worked closely with stakeholders to develop IRAs and appropriately scope compliance monitoring activities. As this process continues to mature, Regional Entities will continue to customize compliance monitoring tools and frequency of monitoring for each registered entity, based on its IRA as well as additional considerations such as risk elements, entity performance, internal controls, and mitigating activities to inform the development of their COPs.

Compliance Assurance continues to work closely with the standard development program to provide compliance information, statistics, technical input, and perspectives to drafting teams to provide an increased reliability benefit and clarify compliance risks. This collaboration with industry and the Standards department occurs early in the standard development process by providing draft compliance monitoring insights, including information on how compliance with draft standards will be determined, as well as input to the drafting teams on the auditability and enforceability of the draft standards. This collaboration ensures that ERO Enterprise tools used in the auditing process, such as the reliability standards auditing worksheet (RSAW), do not expand or modify standards requirements.

NERC also continues to provide industry-focused outreach events and webinars on the ERO Enterprise's approaches to risk-based CMEP activities. ERO Enterprise staff will continue its webinar series providing views on standards and requirements associated with the 2019 risk elements identified for consideration for compliance monitoring.

Key Efforts Underway

NERC Oversight of Risk-Based Compliance Monitoring

Consistent with the goals and objectives set forth in the operating plan, NERC continues to implement risk-based compliance monitoring as part of its stated objectives of ensuring BPS reliability, improving consistency, effectiveness, and efficiency of ERO Enterprise compliance operations, focusing on identified risks, and reducing unnecessary burdens on registered entities. Ensuring the successful implementation of NERC's risk-based CMEP remains the priority of Compliance Assurance's oversight plan for the Regional Entities. As part of that oversight, and in addition to offering regular feedback to the Regional Entities, NERC continues to identify areas for improvement or promoting consistency through training, guidance, or adjustments during the following year. NERC also produces an ERO Enterprise CMEP annual report, which includes an assessment of the risk-based CMEP implementation.

NERC performs oversight of the Regional Entities' compliance monitoring programs primarily through the review of processes, supporting evidence, observations, and other information provided by the Regional Entities over the course of focused program area engagements that are scheduled throughout the year. NERC communicates the recommendations and findings to the Regional Entities to help the ERO

Enterprise develop responsive strategies and solutions to potential issues and ensure uniform and consistent implementation of the CMEP. Such recommendations and findings also help identify priority areas for training of ERO Enterprise staff during the year.

CIP Compliance

NERC and the Regional Entities continue to manage the smooth implementation of compliance activities for CIP Version 5 Reliability and Physical Security Standards, along with their subsequent enhancements by providing training, webinars, and other forms of outreach. The ERO Enterprise continues to provide educational programs to support industry compliance and the integration of risk assessment and internal controls.

CMEP Technology Project

Beginning in 2017 through 2020, NERC, in collaboration with the Regional Entities, will develop and implement a common CMEP tool, including the various processes and activities (e.g., analysis of risk, development of implementation plans and audit schedules, actual compliance monitoring, and enforcement processing). For more information on the CMEP Technology Project, see *Exhibit F – CMEP Technology Project*.

Regional Entity Training

NERC Compliance Assurance provides training to Regional Entity staff on the most important elements of risk-based compliance monitoring, including enhancements to registered entity IRAs, internal controls reviews, COP development, as well as Reliability Standards monitoring. NERC develops this training based on observations from its oversight activities of the Regional Entities, as well as the process reviews described above.

Emerging Technology Roundtables

Compliance Assurance periodically hosts an Emerging Technology Roundtable with industry and vendors that includes in-depth discussions around the integration of emerging technologies associated with BPS operations to address and mitigate cyber and physical security risks of the BPS.

Compliance Enforcement Authority for Southwest Power Pool Regional Transmission Organization

As a result of the Southwest Power Pool Regional Entity (SPP RE) dissolution process, in early 2018 the Board approved, and FERC subsequently approved,²⁵ that NERC assume the Compliance Enforcement Authority (CEA) activities for the registered entity SPP Regional Transmission Organization (RTO) for two years. This is the role that is generally delegated by NERC to a Regional Entity. Essentially the CEA is responsible for planning and conducting all CMEP activities as described in the ROP and other guiding documents. NERC will leverage existing internal and Regional Entity resources and expertise to undertake the CEA activities with respect to the SPP RTO.

2019 Goals and Deliverables

The Compliance Assurance group has several goals and deliverables that support the *ERO Enterprise Operating Plan*. Resources will be focused on improvements implemented as a result of the risk-based compliance monitoring activities in 2017 and 2018. Specific 2019 objectives for this group are:

- Continue to mature the risk-based compliance monitoring program, providing ongoing oversight of the risk-based CMEP, including IRAs, consideration of internal controls, coordinated oversight of Multi-Region Registered Entities (MRREs), and ensuring that COPs are addressing the relevant risks.

²⁵ *North American Electric Reliability Corporation, Midwest Reliability Organization, and SERC Reliability Corporation, Order Granting Approvals in Connection with the Dissolution of the Southwest Power Pool regional Entity*, 163 FERC ¶ 61,094 (2018).

- Work closely with NERC’s Enforcement and IT departments, as well as staff in the Regional Entities, to develop application business requirements and test business functionality for the ERO Enterprise CMEP tool.
- Support the continued successful implementation of the CIP Version 5 Reliability Standards and subsequent enhancements as they become effective.
- Monitor and support effective implementation of the physical security Reliability Standard.
- Enhance and implement training to support monitoring of Reliability Standards, integrating principles from the Compliance Monitoring Competency Guide.
- Continue feedback to Standards through integration and coordination between the standards and compliance functions for clear stakeholder implementation and feedback on risks seen in the field that are not addressed by a standard, as well as information on where a standard is too broad. This effort will be supported through a common set of RSAWs, guidance, and outreach.
- Support international CMEP activities, including reliability and security subject matter expertise and outreach.
- Provide support and leadership to the CIPC and CCC as well as their subcommittees, working groups, and task forces. Support the CIPC and CCC leadership and development and implementation of annual work plans.
- Develop and implement the NERC CEA program for SPP RTO.

These 2019 activities are necessary to further implement risk-based compliance monitoring, including the CIP standards, and integrate the standards and compliance functions. A number of activities that support the implementation of the strategic risk-based reforms are intended to reduce regulatory burden by focusing compliance monitoring according to each registered entity’s potential impact on the BPS.

Resource Requirements

Personnel

The increase in Compliance Assurance personnel in prior years through the reallocation of resources from other departments to Compliance Assurance was the result of NERC’s plan to strengthen the implementation and oversight of the risk-based CMEP, increase risk analysis capabilities and technical expertise, and support feedback loops that improve program oversight and the development and implementation of Reliability Standards. Due to the maturation of these areas, three open positions (2.82 FTEs) are being eliminated from the Compliance Assurance department.

Consultants and Contracts

Funds budgeted for consultant and contract expenses to assist in successful implementation of risk-based compliance monitoring remains unchanged at \$50k. A detailed breakdown of the 2018 and 2019 budgeted expenses is shown in *Exhibit B – Consultant and Contractor Costs*.

Other Costs

The \$884k increase in computer and software capital expenditures is attributed to the CMEP Technology Project, for which the total capital expenditure of approximately \$1.8M is split evenly between Compliance Assurance and Compliance Enforcement. The \$204k increase in office costs is primarily for license and hosting fees for the new CMEP tool.

Section A – 2019 Business Plan and Budget Program Area and Department Detail

Statement of Activities and Fixed Assets Expenditures					
2018 Budget & Projection, and 2019 Budget					
COMPLIANCE ASSURANCE					
	2018 Budget	2018 Projection	Variance 2018 Projection v 2018 Budget Over(Under)	2019 Budget	Variance 2019 Budget v 2018 Budget Over(Under)
Funding					
ERO Funding					
NERC Assessments	\$ 8,801,659	\$ 8,801,659	\$ -	\$ 8,835,237	\$ 33,578
Assessment Stabilization Reserve - Penalties	89,130	89,130	-	66,379	(22,751)
Total NERC Funding	\$ 8,890,790	\$ 8,890,790	\$ -	\$ 8,901,616	\$ 10,827
Third-Party Funding	\$ -	\$ -	\$ -	\$ -	\$ -
Testing Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Workshops	-	-	-	-	-
Interest	13,316	36,881	23,565	21,320	8,005
Miscellaneous	-	-	-	-	-
Total Funding	\$ 8,904,105	\$ 8,927,671	\$ 23,565	\$ 8,922,937	\$ 18,832
Expenses					
Personnel Expenses					
Salaries	\$ 2,936,161	\$ 2,744,850	\$ (191,311)	\$ 2,526,754	\$ (409,407)
Payroll Taxes	192,067	190,220	(1,847)	166,873	(25,194)
Benefits	398,424	443,766	45,342	441,671	43,247
Retirement Costs	324,835	292,832	(32,003)	278,308	(46,527)
Total Personnel Expenses	\$ 3,851,487	\$ 3,671,667	\$ (179,819)	\$ 3,413,605	\$ (437,881)
Meeting Expenses					
Meetings	\$ 200,000	\$ 200,000	\$ -	\$ 200,000	\$ -
Travel	375,000	327,197	(47,803)	375,000	-
Conference Calls	-	12,506	12,506	8,000	8,000
Total Meeting Expenses	\$ 575,000	\$ 539,703	\$ (35,297)	\$ 583,000	\$ 8,000
Operating Expenses					
Consultants & Contracts	\$ 50,000	\$ 93,750	\$ 43,750	\$ 50,000	\$ -
Office Rent	-	-	-	-	-
Office Costs	43,563	140,469	96,906	247,400	203,837
Professional Services	-	-	-	-	-
Miscellaneous	500	500	-	500	-
Depreciation	-	-	-	-	-
Total Operating Expenses	\$ 94,063	\$ 234,719	\$ 140,656	\$ 297,900	\$ 203,837
Total Direct Expenses	\$ 4,520,550	\$ 4,446,089	\$ (74,461)	\$ 4,294,505	\$ (226,044)
Indirect Expenses	\$ 4,311,226	\$ 4,635,061	\$ 323,835	\$ 3,890,817	\$ (420,409)
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses (A)	\$ 8,831,775	\$ 9,081,149	\$ 249,374	\$ 8,185,322	\$ (646,453)
Change in Assets	\$ 72,330	\$ (153,479)	\$ (225,809)	\$ 737,614	\$ 665,285
Fixed Assets					
Depreciation	\$ -	\$ -	\$ -	\$ -	\$ -
Computer & Software CapEx	-	-	-	884,000	884,000
Furniture & Fixtures CapEx	-	-	-	-	-
Equipment CapEx	-	-	-	-	-
Leasehold Improvements	-	-	-	-	-
Allocation of Fixed Assets	72,330	(173,566)	(245,896)	(146,386)	(218,715)
Inc(Dec) in Fixed Assets (B)	\$ 72,330	\$ (173,566)	\$ (245,896)	\$ 737,614	\$ 665,285
TOTAL BUDGET (=A+B)	\$ 8,904,105	\$ 8,907,583	\$ 3,478	\$ 8,922,937	\$ 18,832
FTEs	19.27	17.82	(1.45)	16.45	(2.82)

Compliance Analysis, Organization Registration and Certification

Compliance Analysis, Organization Registration and Certification (in whole dollars)			
	2018 Budget	2019 Budget	Increase (Decrease)
Total FTEs	9.40	9.40	-
Direct Expenses	\$ 2,148,762	\$ 2,393,481	\$ 244,718
Indirect Expenses	2,103,037	2,223,324	120,287
Other Non-Operating Expenses	-	-	-
Inc(Dec) in Fixed Assets	635,283	404,674	(230,608)
TOTAL BUDGET	\$ 4,887,082	\$ 5,021,479	\$ 134,397

Background and Scope

The Compliance Analysis, Organization Registration, and Organization Certification functions are fulfilled by two groups at NERC: Registration and Reliability Assurance (includes Compliance Analysis and Organization Certification). The groups are responsible for a range of requirements and activities embodied in Section 500 (Organization Registration and Certification) and Appendices 5A and 5B of the NERC ROP. The groups provide technical resource support to the standards development, compliance monitoring, and enforcement functions. The following specific activities are conducted:

- **Registration** – Identify and register BES users, owners, and operators that are responsible for compliance with Reliability Standards. Organizations that are registered are included on the NERC Compliance Registry (NCR) and responsible for knowing the content of and complying with all applicable Reliability Standards. Maintain the current registry for the entire ERO as entities take on and drop functional responsibilities.
- **Certification** – Evaluate and certify the competency of reliability entities, i.e., RCs, BAs, and TOPs. Entities performing these functions must be evaluated for having the necessary personnel, knowledge, facilities, programs, and other qualifications to carry out these important responsibilities. For example, they must demonstrate the ability to meet the requirements and sub-requirements of all of the Reliability Standards applicable to the reliability function(s). This also includes confirming through the certification review process that a reliability entity continues to have the capabilities mentioned above following planned and unplanned material changes to that entity's operation.
- **Reliability assurance** – Conduct activities to reasonably assure the ERO that certain actions have been taken as reported in response to NERC Alerts or guidance to industry.
- **Oversight** – Provide oversight of Regional Entity implementation of regional registration, compliance, certification, investigation, complaint programs, and processes.
- **Investigations** – Conduct non-public, confidential investigations to identify possible violations of NERC Reliability Standards in response to complaints, BES disturbances, or other similar triggers. Registration and Reliability Assurance staff participate on all Regional Entity-led investigations and as observers as requested on FERC-led reliability investigations and inquiries.
- **Compliance evaluations** – Work closely with Regional Entity staff to confirm that qualified events and disturbances are evaluated against the relevant approved Reliability Standards and ensure formal compliance monitoring occurs if indicated. These analyses are shared with FERC staff.
- **Complaints** – Address formal complaints that allege the violation of Reliability Standards, through a confidential process.

Key Efforts Underway

Registration continues to implement areas for improvements identified in 2016. These areas included:

- Conducting NERC-led Review Panels on registration requests and identifying process improvements;
- NERC ROP changes;
- Reviewing the Coordinated Functional Registration (CFR) process and model efficiencies;
- Supporting the entity registration xRM database (centralized entity registration system) initiative (for more information on entity registration solution, see the *Information Technology* section of Section A);
- Conducting a thorough review of the NERC website for any registration-related modifications;
- Continuing Regional Entity oversight activities.

Additionally, on July 27, 2017, NERC issued a letter to entities registered in the SPP RE footprint that NERC and SPP had mutually agreed to terminate the delegation agreement between NERC and SPP RE. NERC Registration is leading this effort to transition these entities to other Regional Entities, which requires an extensive amount of time and resources. Work will continue throughout the majority of 2018 and into 2019.

NERC Reliability Assurance, in conjunction with Regional Entities, performed a review of the Certification program in 2016 regarding its effectiveness in determining an entity's ability to become certified and then operational, and to begin incorporating changes to the program, if applicable, based on the outcomes of the review. The team concluded that the certification process is necessary and is effective in determining an entity's ability to become certified and operational. The team recommended two improvements to the existing certification process which are continuing to be addressed:

- Clearly establish the focus of certification on evaluation of an entity's capability to perform the reliability function of TOP, BA, and/or RC through the use of standardized templates to be used by each Regional Entity's certification team.
- Conduct an evaluation of the certification review process to determine effectiveness of the current triggers of the certification review and execution of the actual process, and implement any needed ROP changes.
- Continue Regional Entity oversight activities.

2019 Goals and Deliverables

The Registration and Reliability Assurance groups have several goals and deliverables that support the *ERO Enterprise Operating Plan*. Resources will be focused on building upon the improvements identified in 2016 as well as the SPP RE transition. Specific 2019 objectives for these groups are:

- Continue to conduct NERC-led Review Panels on registration requests.
- Continue to implement Registration program improvements and conduct any additional actions identified by the project.
- Begin the entity registration xRM database initiative (centralized entity registration system).
- Continue to manage the SPP RE transition.
- Monitor and support changing footprints, functional relationships, and model changes in the Western Interconnection, especially with regard to the RC role.

- Ensure proper oversight of the Regional Entities for the Certification program.
- Respond to industry changes requiring certification review, with particular emphasis on control center relocations, Energy Management System (EMS) replacements, and RC, BA, and TOP footprint changes.
- Evaluate BES disturbances and events for potential gaps in compliance monitoring or Reliability Standards.
- Support the ongoing joint FERC, NERC, and Regional Entity restoration and recovery initiatives in conjunction with industry.

Resource Requirements

Personnel

There is no change in FTEs for 2019 from the 2018 budget.

Consultants and Contracts

No consultant or contract expenses are budgeted in 2019, which is consistent with the 2018 budget.

Section A – 2019 Business Plan and Budget Program Area and Department Detail

Statement of Activities and Fixed Assets Expenditures					
2018 Budget & Projection, and 2019 Budget					
COMPLIANCE ANALYSIS, ORGANIZATION REGISTRATION and CERTIFICATION					
	2018 Budget	2018 Projection	Variance 2018 Projection v 2018 Budget Over(Under)	2019 Budget	Variance 2019 Budget v 2018 Budget Over(Under)
Funding					
ERO Funding					
NERC Assessments	\$ 4,837,109	\$ 4,837,109	\$ -	\$ 4,971,365	\$ 134,257
Assessment Stabilization Reserve - Penalties	43,478	43,478	-	37,931	(5,547)
Total NERC Funding	\$ 4,880,587	\$ 4,880,587	\$ -	\$ 5,009,296	\$ 128,709
Third-Party Funding	\$ -	\$ -	\$ -	\$ -	\$ -
Testing Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Workshops	-	-	-	-	-
Interest	6,495	18,468	11,973	12,183	5,688
Miscellaneous	-	-	-	-	-
Total Funding	\$ 4,887,082	\$ 4,899,055	\$ 11,973	\$ 5,021,479	\$ 134,397
Expenses					
Personnel Expenses					
Salaries	\$ 1,514,712	\$ 1,588,447	\$ 73,735	\$ 1,596,696	\$ 81,983
Payroll Taxes	95,616	94,753	(863)	98,909	3,293
Benefits	194,709	221,082	26,373	232,391	37,682
Retirement Costs	168,791	178,168	9,377	178,558	9,767
Total Personnel Expenses	\$ 1,973,828	\$ 2,082,451	\$ 108,623	\$ 2,106,554	\$ 132,726
Meeting Expenses					
Meetings	\$ 2,250	\$ 2,250	\$ -	\$ 2,250	\$ -
Travel	150,500	153,995	3,495	150,500	-
Conference Calls	-	6,736	6,736	5,400	5,400
Total Meeting Expenses	\$ 152,750	\$ 162,981	\$ 10,231	\$ 158,150	\$ 5,400
Operating Expenses					
Consultants & Contracts	\$ -	\$ -	\$ -	\$ -	\$ -
Office Rent	-	-	-	-	-
Office Costs	21,684	20,755	(929)	16,600	(5,084)
Professional Services	-	-	-	-	-
Miscellaneous	500	500	-	500	-
Depreciation	-	67,006	67,006	111,677	111,677
Total Operating Expenses	\$ 22,184	\$ 88,261	\$ 66,077	\$ 128,777	\$ 106,592
Total Direct Expenses	\$ 2,148,762	\$ 2,333,693	\$ 184,931	\$ 2,393,481	\$ 244,718
Indirect Expenses	\$ 2,103,037	\$ 2,504,805	\$ 401,769	\$ 2,223,324	\$ 120,287
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses (A)	\$ 4,251,799	\$ 4,838,499	\$ 586,699	\$ 4,616,805	\$ 365,005
Change in Assets	\$ 635,283	\$ 60,556	\$ (574,727)	\$ 404,674	\$ (230,608)
Fixed Assets					
Depreciation	\$ -	\$ (67,006)	\$ (67,006)	\$ (111,677)	\$ (111,677)
Computer & Software CapEx	600,000	600,000	-	600,000	-
Furniture & Fixtures CapEx	-	-	-	-	-
Equipment CapEx	-	-	-	-	-
Leasehold Improvements	-	-	-	-	-
Allocation of Fixed Assets	35,283	(93,796)	(129,079)	(83,649)	(118,932)
Inc(Dec) in Fixed Assets (B)	\$ 635,283	\$ 439,198	\$ (196,084)	\$ 404,674	\$ (230,608)
TOTAL BUDGET (=A+B)	\$ 4,887,082	\$ 5,277,697	\$ 390,615	\$ 5,021,479	\$ 134,397
FTEs	9.40	9.53	0.13	9.40	-

Compliance Enforcement

Compliance Enforcement (in whole dollars)			
	2018 Budget	2019 Budget	Increase (Decrease)
Total FTEs	12.22	13.16	0.94
Direct Expenses	\$ 2,451,137	\$ 3,082,704	\$ 631,567
Indirect Expenses	2,733,948	3,112,654	378,706
Other Non-Operating Expenses	-	-	-
Inc(Dec) in Fixed Assets	1,488,854	661,877	(826,976)
TOTAL BUDGET	\$ 6,673,939	\$ 6,857,235	\$ 183,297

Background and Scope

The NERC Enforcement group is responsible for overseeing enforcement processes, the application of penalties or sanctions, and activities to mitigate and prevent recurrence of noncompliance with Reliability Standards. The group works collaboratively with the Regional Entities to ensure consistent and effective implementation of the risk-based CMEP. Importantly, the department also focuses on ensuring that the ERO Enterprise dedicates resources to the matters that pose the greatest risk to reliability. The Enforcement department performs its responsibilities by:

- Monitoring Regional Entities' enforcement processes and providing oversight of their outcomes to ensure due process, to identify best practices and process efficiency opportunities, and to promote consistency among Regional Entities' business practices;
- Collecting and analyzing enforcement data and trends to assist with the identification of emerging risks and to help inform the development of enforcement policies and processes;
- Filing Notices of Penalty (NOPs) and other submittals associated with noncompliance discovered through Regional Entity compliance monitoring and enforcement activities;
- Processing and filing NOPs and other submittals associated with violations discovered through NERC-led investigations and audits;
- Collaborating with other NERC departments, including Reliability Assurance, Standards, and Event Analysis;; and
- Delivering training to ERO Enterprise staff and registered entities, as well as supporting other outreach efforts.

Under §215(e)(1) of the FPA, NERC or a Regional Entity may impose a penalty on a user, owner, or operator of the BPS for a violation of a Reliability Standard approved by FERC. As the ERO, NERC has Sanction Guidelines in its ROP that govern the ERO Enterprise's determinations of penalties and non-monetary sanctions for Reliability Standard violations. The Sanction Guidelines provide information on the factors that affect penalty determinations and the behaviors, e.g., self-reporting, timely mitigation, and cooperation, that the ERO Enterprise seeks to encourage to promote compliance and reliable operations.

ERO Enterprise Core Values and Guiding Principles

The *ERO Enterprise Operating Plan* promotes the ERO Enterprise's core values and guiding principles. A goal of the ERO Enterprise is to be "a strong enforcement authority that is objective, fair, and promotes a culture of reliability excellence through risk-informed compliance monitoring, mitigation, enforcement, and registration." The following principles serve as guidelines for the conduct and behavior of all involved in the ERO Enterprise enforcement program to ensure alignment with this goal and the core values.

CEAs are independent, without conflict of interest, objective, and fair. The ERO Enterprise strives to be a strong enforcement authority that is independent, without conflict of interest, objective, and fair. NERC and each of the Regional Entities has a code of conduct addressing the professional and ethical standards applicable to its personnel. Foremost among these standards is the requirement that no person work on a matter where that work may affect the person’s financial interest. The ERO Enterprise also expects its personnel to conduct themselves professionally and respectfully when engaging with registered entities or other stakeholders. Personnel who do not meet these standards are subject to discipline, up to and including termination.

The Enforcement program promotes a culture of reliability excellence through a risk-based approach.

The ERO Enterprise’s risk-based enforcement philosophy generally advocates reserving enforcement actions under section 5.0 of the CMEP for those issues that pose a higher risk to the reliability of the BPS. The risk of a noncompliance is determined based on specific facts and circumstances, including any controls in place at the time of the noncompliance. The ERO Enterprise works with registered entities to ensure timely remediation of potential risks to reliability and prevent recurrence of noncompliance. The enforcement process allows parties to address risks collaboratively and promote increased compliance and reliability through improvement of programs and controls at the registered entities.

The ERO Enterprise applies a presumption of non-enforcement treatment of minimal risk noncompliance to entities with demonstrated internal controls who are permitted to self-log such minimal risk issues. Regarding other issues posing a minimal risk, NERC and the Regional Entities may exercise appropriate judgment whether to initiate a formal enforcement action or resolve the issue outside of the formal enforcement processes. The availability of streamlined treatment of minimal risk noncompliance outside of the formal enforcement process encourages self-inspection by registered entities. When self-identified minimal risk noncompliance is more than likely not going to be subject to a financial penalty, registered entities are encouraged to establish more robust internal controls for the detection and correction of noncompliance. This approach allows the ERO Enterprise to oversee the activities of registered entities in a more efficient manner and to focus resources where they result in the greatest benefit to reliability. In this context, efficiency does not necessarily mean less time or effort. Rather, it is using the requisite time, knowledge, and skills required for each circumstance. In addition, this approach allows the ERO Enterprise to continue to provide clear signals to registered entities about identified areas of concern and risk prioritization, while maintaining existing visibility into potential noncompliance and emerging areas of risk. Outcomes for noncompliance are based on the risk of a specific noncompliance and may range from streamlined, non-enforcement processes, to significant monetary penalties.

Enforcement actions are used and penalties are imposed when warranted, commensurate with risk. An element of a risk-based approach to enforcement is accountability of registered entities for their noncompliance. No matter the risk of the noncompliance, the registered entity still bears the responsibility of mitigating that noncompliance. Based on the risk, facts, and circumstances associated with that noncompliance, the Regional Entity decides on an appropriate disposition track, inside or outside of an enforcement action, as described above, and whether a penalty is appropriate for the noncompliance.

Penalties are generally warranted for serious risk violations (e.g., uncontrolled loss of load, CIP program failures) and for when repeated noncompliance constitutes an aggravating factor. In addition to the use of significant penalties to deter undesired behavior, the ERO Enterprise also incents desired behaviors.²⁶

²⁶ As required by §215(e)(6) of the Federal Power Act and the Commission’s regulations at 18 C.F.R. §39.7(g), the Sanction Guidelines, Appendix 4B to the NERC ROP, provide that penalties and sanctions imposed for the violation of a Reliability Standard shall bear a reasonable relation to the seriousness of the violation while also reflecting consideration of the other factors specified in the Sanction Guidelines. The [Sanction Guidelines](#) are available on NERC’s website.

Specifically, Regional Entities may offset penalties to encourage valued behavior. Factors that may mitigate penalty amounts include registered entity cooperation, accountability (including admission of violations), culture of compliance, and self-identification of noncompliance. Regional Entities may also grant credit in enforcement determinations for certain actions undertaken by registered entities for improvements in addition to mitigating factors. For example, Regional Entities may consider significant investments in reliability made by registered entities, beyond those otherwise planned and required, as an offset for proposed penalties in enforcement determinations. Regional Entities do not award credits or offsets for actions or investments undertaken by a registered entity that are required to mitigate noncompliance.

NERC engages in regular oversight of Regional Entity enforcement activities to confirm that the Regional Entities have followed the CMEP. This oversight evaluates the consistency of disposition methods, including assessment of a penalty or sanction, with previous resolutions of similar noncompliance involving similar circumstances. The Board Compliance Committee considers the recommendations of NERC staff regarding approval of Full NOPs and monitors the handling of noncompliance through the streamlined disposition methods of Spreadsheet NOPs, Find, Fix, Track, and Reports (FFTs), and Compliance Exceptions (CEs).

Actions are timely and transparent. NERC's ROP (including the CMEP and Sanction Guidelines) and program documents are available to the public.²⁷ NERC also posts information on enforcement actions on a monthly basis.²⁸ Moreover, information on the efficiency of the enforcement program is available to regulators, industry stakeholders, and the public on a quarterly basis.²⁹

Noncompliance information is used as an input to other processes. When developing risk elements, NERC annually identifies and prioritizes risks to BPS reliability, taking into account factors such as compliance findings, event analysis experiences, and data analysis. In addition, Regional Entities consider factors such as noncompliance information when conducting an IRA of a registered entity. The ERO Enterprise also uses noncompliance information in a feedback loop to the standards development process. This allows enhanced Reliability Standards through appropriate information flows from compliance monitoring and enforcement to the standards drafting process and other NERC programs. NERC regularly provides analysis and lessons learned from noncompliance information to industry stakeholders and the public.³⁰

Stakeholder Engagement and Benefit

Over the past few years, NERC and the Regional Entities have made substantial progress in reducing the number of instances of noncompliance remaining to be evaluated and processed. The ERO Enterprise has held registered entities accountable for instances of noncompliance that posed a risk to reliability while ensuring that enforcement actions are timely and transparent. NERC promotes a culture of reliability excellence by examining registered entities' internal compliance programs and considering them as mitigating factors in penalty determinations.

²⁷ [NERC Rules of Procedure](#)

²⁸ [Posted compliance exceptions, Spreadsheet Notices of Penalty, and Full Notices of Penalty](#)

²⁹ The CMEP reports can be found in the Compliance Committee meeting agenda packages on the [Compliance Committee website](#).

³⁰ Id.

Key Efforts Underway

Enforcement Metrics

In an effort to improve the efficiency of enforcement processing throughout the ERO Enterprise, NERC developed a series of key enforcement metrics, which are tracked and analyzed throughout the year. The ERO Enterprise has continued to promote timely mitigation of noncompliance with over 99 percent of noncompliance discovered before 2015, and over 85 percent discovered in 2016, having completed Mitigation Plans or mitigating activities, reducing risk to the BPS. Including noncompliance discovered in 2017, there are 1,530 instances of noncompliance with outstanding mitigation activities. Of these, only one minimal risk instance of noncompliance has a discovery date of 2014 or earlier. It has an expected completion date in Q4 2018.

The ongoing use of CEs throughout the ERO Enterprise, has contributed to the noncompliance average age of 8.0 months. As a comparison, the average age of noncompliance was 12 months at its highest point in 2014. In 2016, it had dropped to 10.8 months. As of the end of 2017, 82 percent of the ERO Enterprise noncompliance inventory was less than one year old and only three percent was over two years old. During 2017, the ERO completed processing of all pre-2014 non-federal entity noncompliances and all but three outstanding pre-2014 federal entity noncompliances.

Continued Outreach Efforts in 2018 and Beyond

In 2018, NERC and the Regional Entities continue to conduct outreach activities that focus on self-logging, compliance exceptions, and risk assessment of noncompliance. NERC plans to use existing industry events, such as the standards and compliance workshops and industry webinars, to provide information on enforcement activities.

NERC Oversight of Risk-Based CMEP Implementation

For 2018, ensuring the successful implementation of NERC's risk-based CMEP remains the priority of Enforcement's oversight plan for the Regional Entities. As part of that oversight and in addition to offering regular feedback to the Regional Entities, NERC will continue to identify areas for improvement or promoting consistency through training, guidance, or adjustment the following year. NERC also produces an ERO Enterprise CMEP annual report, which includes an assessment of the risk-based CMEP implementation. NERC expects to publish that report during Q1 2019.

NERC performs oversight of the Regional Entities' enforcement programs primarily through the review of the processes, supporting evidence, and other information provided by the Regional Entities over the course of focused engagements of program areas that are scheduled throughout the year. NERC communicates the recommendations and findings to the Regional Entities to help the ERO Enterprise develop responsive strategies and solutions to potential issues and ensure consistent implementation of the CMEP. Such recommendations and findings also help identify priorities for training of ERO Enterprise staff during the year.

Regional Entity Training

NERC Enforcement will provide training to Regional Entity staff on the most important elements of risk-based enforcement, including risk assessment of noncompliance and the determination of appropriate penalties and sanctions for noncompliance. NERC is developing this training based on observations from its oversight activities of Regional Entity settlement agreements, as well as the process reviews described above.

CMEP Technology Project

Beginning in 2017 through 2020, NERC, in collaboration with the Regional Entities, will develop and implement a common CMEP tool that supports the CMEP, including the various processes and activities (e.g., analysis of risk, development of implementation plans and audit schedules, actual compliance monitoring, and enforcement processing). For more information on the CMEP Technology Project, see *Exhibit F – CMEP Technology Project*.

2019 Goals and Deliverables

Specific 2019 objectives for the Enforcement department include:

- Continuing to refine and improve the risk-based CMEP processes;
- Continuing to implement in a transparent manner an ERO Enterprise enforcement philosophy that is risk-focused and drives desired behaviors by registered entities;
- Expanding the feedback loop of information from Enforcement to Standards and other program areas; and
- Working closely with NERC’s Compliance Assurance and IT departments, as well as the Regional Entities, to develop application business requirements and test business functionality for the CMEP tool.

Resource Requirements

Personnel

The increase of one position (0.94 FTEs) is the result of resource allocations to realign staff with current needs.

Consultants and Contracts

No consultant or contract expenses were budgeted in Enforcement in 2018. The addition of \$161k of expenses is a result of a reclassification of support for the Compliance Reporting and Tracking System (CRATS) from the IT department to Enforcement. A detailed breakdown of the 2018 and 2019 budgeted expenses is shown in *Exhibit B – Consultant and Contractor Costs*.

Other Costs

The \$884k budgeted for computer and software capital expenditures is attributed to the CMEP Technology Project, for which the total capital expenditure of approximately \$1.8M is split evenly between Compliance Assurance and Compliance Enforcement. The \$211k increase in office costs is primarily for license and hosting fees for the new CMEP tool.

Section A – 2019 Business Plan and Budget Program Area and Department Detail

Statement of Activities and Fixed Assets Expenditures					
2018 Budget & Projection, and 2019 Budget					
COMPLIANCE ENFORCEMENT					
	2018 Budget	2018 Projection	Variance 2018 Projection v 2018 Budget Over(Under)	2019 Budget	Variance 2019 Budget v 2018 Budget Over(Under)
Funding					
ERO Funding					
NERC Assessments	\$ 6,608,973	\$ 6,608,973	\$ -	\$ 6,787,076	\$ 178,103
Assessment Stabilization Reserve - Penalties	56,522	56,522	-	53,103	(3,418)
Total NERC Funding	\$ 6,665,495	\$ 6,665,495	\$ -	\$ 6,840,179	\$ 174,684
Third-Party Funding	\$ -	\$ -	\$ -	\$ -	\$ -
Testing Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Workshops	-	-	-	-	-
Interest	8,444	20,961	12,517	17,056	8,612
Miscellaneous	-	-	-	-	-
Total Funding	\$ 6,673,939	\$ 6,686,456	\$ 12,517	\$ 6,857,235	\$ 183,297
Expenses					
Personnel Expenses					
Salaries	\$ 1,792,112	\$ 1,972,628	\$ 180,516	\$ 1,991,052	\$ 198,940
Payroll Taxes	115,916	115,709	(206)	126,256	10,340
Benefits	168,533	185,311	16,777	198,145	29,612
Retirement Costs	200,403	211,841	11,438	218,788	18,385
Total Personnel Expenses	\$ 2,276,963	\$ 2,485,489	\$ 208,526	\$ 2,534,240	\$ 257,277
Meeting Expenses					
Meetings	\$ 2,000	\$ 2,000	\$ -	\$ 2,000	\$ -
Travel	47,500	48,471	971	47,500	-
Conference Calls	-	3,367	3,367	2,400	2,400
Total Meeting Expenses	\$ 49,500	\$ 53,838	\$ 4,338	\$ 51,900	\$ 2,400
Operating Expenses					
Consultants & Contracts	\$ -	\$ 48,500	\$ 48,500	\$ 161,000	\$ 161,000
Office Rent	-	-	-	-	-
Office Costs	19,160	120,480	101,320	230,050	210,890
Professional Services	-	-	-	-	-
Miscellaneous	500	500	-	500	-
Depreciation	105,014	105,014	0	105,014	-
Total Operating Expenses	\$ 124,674	\$ 274,494	\$ 149,820	\$ 496,564	\$ 371,890
Total Direct Expenses	\$ 2,451,137	\$ 2,813,822	\$ 362,685	\$ 3,082,704	\$ 631,567
Indirect Expenses	\$ 2,733,948	\$ 3,084,838	\$ 350,890	\$ 3,112,654	\$ 378,706
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses (A)	\$ 5,185,085	\$ 5,898,660	\$ 713,575	\$ 6,195,358	\$ 1,010,273
Change in Assets	\$ 1,488,854	\$ 787,796	\$ (701,058)	\$ 661,877	\$ (826,976)
Fixed Assets					
Depreciation	\$ (105,014)	\$ (105,014)	\$ (0)	\$ (105,014)	\$ -
Computer & Software CapEx	1,548,000	1,548,000	-	884,000	(664,000)
Furniture & Fixtures CapEx	-	-	-	-	-
Equipment CapEx	-	-	-	-	-
Leasehold Improvements	-	-	-	-	-
Allocation of Fixed Assets	45,868	(115,516)	(161,383)	(117,109)	(162,976)
Inc(Dec) in Fixed Assets (B)	\$ 1,488,854	\$ 1,327,470	\$ (161,384)	\$ 661,877	\$ (826,976)
TOTAL BUDGET (=A+B)	\$ 6,673,939	\$ 7,226,130	\$ 552,191	\$ 6,857,235	\$ 183,297
FTEs	12.22	11.86	(0.36)	13.16	0.94

Reliability Assessment and System Analysis

Reliability Assessment and System Analysis (in whole dollars)			
	2018 Budget	2019 Budget	Increase (Decrease)
Total FTEs	14.10	15.04	0.94
Direct Expenses	\$ 4,256,247	\$ 4,831,482	\$ 575,235
Indirect Expenses	3,154,555	3,557,318	402,763
Other Non-Operating Expenses	-	-	-
Inc(Dec) in Fixed Assets	(97,847)	(359,213)	(261,366)
TOTAL BUDGET	\$ 7,312,956	\$ 8,029,587	\$ 716,631

Background and Scope

The NERC Reliability Assessment and System Analysis (RASA) department, which includes the Reliability Assessment, System Analysis, and Advanced Analytics and Modeling (AAM) groups, carries out the ERO's statutory responsibility to conduct assessments of the reliability of the BPS. These assessments are used to provide insight and guidance about reliability risks, which provide a foundation for the development of new Reliability Standards or modifications to Reliability Standards, or other initiatives, such as guidelines, alert(s), webinars, etc., all focused on enhancing overall reliability. The majority of the activities in the RASA department directly address the risk priorities established by the RISC. In particular, the risks pertaining to changing resources and planning noted in the RISC report are of particular importance to the assessment and analysis work being performed in RASA.

NERC staff works closely with stakeholders on creating assessment development schedules, including schedules with adequate stakeholder review at every level. All NERC reliability assessments typically have a sponsoring technical committee, subcommittee, or other subgroup. The long-term and seasonal assessments are conducted by the NERC Planning Committee's (PC's) Reliability Assessment Subcommittee (RAS), and ultimately endorsed by the PC. Special assessments often require a separate and specialized task force or advisory group to help construct, conduct, and produce special topic assessments.

The department focuses on developing a technical framework and understanding the emerging reliability risks facing the industry. It also provides guidance and insights to stakeholders across North America. The department relies on its own engineering and analysis expertise, as well as Regional Entity and stakeholder resources. RASA is responsible for:

- Independent reliability assessments on the overall reliability and adequacy of the BES and associated emerging reliability risks that could impact the short-, mid- and the long-term (e.g., 10-year) planning horizons, and other reliability issues requiring an in-depth analysis.
- Support for the development and improvement of long-term, sustainable interconnection-based power flow, dynamic, and load models that exhibit the accuracy and fidelity reflecting actual BES reliability performance and dynamic conditions.
- Interconnection-wide analysis of steady-state and dynamic conditions, including frequency, ERS, stability, short circuit ratio, and oscillatory behavior aspects.
- Advancement of industry and the ERO's understanding of power system characteristics and behaviors by gathering larger phasor measurement units (PMU) datasets for advanced data analytics and modeling improvements.

- Assurance oversight that the BES electrical elements necessary for its reliable operation are identified, requiring the elements to follow the Reliability Standards.
- Establishment of reliability leadership and consistent, technically sound insights and recommendations that position industry and policymakers to enhance reliability through effective outreach and communications.

Stakeholder Engagement and Benefit

RASA works with industry leaders to create a reliability strategy that is relevant, timely, and effective to address the most important reliability risks. This effort includes (1) reviewing and addressing key priority risks identified by the RISC; (2) synthesizing key information identified through analysis and assessment efforts; (3) extracting and prioritizing the associated reliability risks; (4) sharing and integrating risk analysis insights across the ERO Enterprise; and (5) translating that knowledge into actionable guidance and recommendations for NERC management, the Board, and industry, along with state, federal, and provincial policymakers.

Key Efforts Underway

RASA focuses its efforts in the following key areas:

Reliability Assessment

Reliability assessments serve to evaluate the expected reliability of the BES through extensive deterministic and probabilistic analyses to identify potential reliability risks and potential mitigation approaches. These reviews include both evaluations at the edge of the planning horizon, as well as assessments of the anticipated performance during the short-term (12- to 18-month outlook). These analyses involve planned and anticipated changes to generation resources, transmission infrastructure, and load behavior compared to base-line needs of the system to remain reliable, and formulate recommendations and related guidance. This assessment is often completed by examining special scenarios and unique situations within the BES. These analyses provide a technical platform for important policy discussions on challenges facing the interconnected BES, as well as focused recommendations on mitigation to improve overall reliability or lessen reliability risks.

By identifying and quantifying emerging issues, NERC is able to provide risk-informed recommendations and support a learning environment for industry to address emerging risks and pursue improved reliability performance. These efforts are expanding to assess reliability impacts from the changing resource mix, reliability behavior of resources, distributed energy resources, and loads. Many recent resource additions are asynchronous and energy-limited, requiring assessment of a substantial number of scenarios rather than just seasonal peak conditions. Reliability assessments must therefore include a greater focus on probabilistic approaches, assessing the sufficiency of essential reliability services (ERS), as well as focusing seasonal assessments on short-term horizons to encompass evaluations beyond peak condition reserve margin analyses. Key assessments include:

- Long-Term Reliability Assessment (LTRA) (supplemented by the Probabilistic Assessment)
- Summer and Winter Reliability Assessments
- Special Reliability Assessments (selected based on high-priority/high-risk issues that require an independent assessment from the ERO)

A significant ongoing effort involving RASA, Regional Entity staff, and stakeholders focuses on effective ERS. These efforts are expected to lead to a broad set of recommendations that will culminate with defined elements, an evaluation of initial metrics and data compilation of actual performance, and refinement of the ongoing assessment of ERS measures.

As part of reliability assessment activities, NERC collects, maintains, and annually publishes the Electricity Supply and Demand (ES&D) database, which includes 10-year projections for the North American BPS. Data is validated by the Regional Entities, NERC staff, and the RAS during NERC’s annual development of the LTRA. The data collection and management of its systems are an essential component to NERC’s MOU with the DOE’s Energy Information Agency.

System Analysis

Understanding the technical behavior of the North American grid is the foundation for identifying crucial aspects of performance that are important for sustaining overall reliability. NERC’s understanding of grid behavior is achieved through constant observation and study, analytic simulations, and forensic analysis of system disturbances. The System Analysis group focuses on:

- **Power system analysis** – Develop technical analyses in key reliability areas, resulting in technically accurate and comprehensive reports addressing areas of concern (e.g., frequency response, short circuit strength, inter-area oscillation, distributed energy resources, etc.). The purpose of these technical analyses are to understand and evaluate BPS characteristics, behavior, and performance due to the changing resource mix and integration of new technology. These analyses are also intended to provide oversight, guidance, direction, and technical expertise to address key planning-related issues and interconnection-wide concerns.
- **Advance software capabilities** – Continue to explore the use of state-of-the-art software to conduct power system analysis. Enhance the usage of real-time tools used by the industry to sharpen and fine-tune models as the system evolves with the integration of new technology.
- **Technical support, implementation and outreach** – Provide technical expertise, research, and feedback to the industry. Provide foundational technical efforts that support development of key reliability planning-related standards. Solicit industry’s help by using resources and leveraging any research that has been done by the industry. NERC system analysis assessment and studies are coordinated through the PC’s System Analysis and Modeling Subcommittee (SAMS) in a collaborative manner to engage stakeholder involvement and support.

System analysis activities also support the following objectives:

- Continue leading and improving NERC’s analytical capabilities to address a broad range of engineering topics.
- Conduct analyses and assessments in response to FERC directives.
- Support Reliability Standards development with subject matter expertise.
- Support and lead technical analysis of emerging risks requiring advanced analytics and interconnection-wide assessment.
- Conduct detailed forensic analyses of significant system disturbances.

Key focus areas include:

- PMU measurement, use, and analysis improvements
 - Synchrophasor technology
 - Power plant model verification
 - Oscillation analysis
- Frequency response analysis, interconnection frequency response obligation analysis, and forward-looking reliability assessment
- Interconnection-wide system inertia study
- Interconnection-wide short circuit ratio assessment
- Interconnection-wide model building designation and criteria administration
- Interconnection-wide model validation
- Improving model quality and fidelity
- Analysis of TPL Footnote 12
- Load and distributed energy resource modeling
- Event analysis (simulation and forensic analysis of major events)
- Reliability Standards support
- BES exception and self-determined notification processing

Advanced Analytics and Modeling

The AAM group focuses on emerging reliability risks to the BPS through advanced system analysis techniques and modeling capabilities. The AAM group works collaboratively with NERC stakeholders, particularly through the NERC PC and Operating Committee (OC) as well as their technical subgroups. Through these activities, AAM’s key focuses include:

- **State of Modeling Report** – Provide industry insight related to modeling improvements and interconnection-wide system analysis, with recommendations for enhancement and industry engagement. Provide industry with annual updates related on modeling and modeling practices.
- **Inverter-based resource performance** – Perform event analyses and investigate abnormal performance of inverter-based resources, particularly solar photovoltaic. Develop industry recommendations and address potential reliability gaps through NERC Alerts, guidelines, technical reference documents, industry education, and evaluation of Reliability Standards. Coordinate the PC’s Inverter-Based Resource Performance Task Force (IRPTF).
- **Distributed energy resources** – Support industry in the reliable integration of increased levels of distributed energy resources. Provide industry leadership and technical guidance on key reliability impacts of distributed energy resources. Develop recommended practices (modeling, planning, and operations) to ensure BPS reliability.
- **Synchrophasor technology** – Support industry adoption and advancement of synchrophasor technology through the PC’s Synchronized Measurement Subcommittee (SMS). Study interconnection-wide oscillatory behavior (and other interconnection-wide phenomena) through PMU data collected from RCs.
- **Power plant model verification** – Support industry understanding and expertise in power plant modeling through the PC’s System Analysis and Modeling Subcommittee’s (SAMS’s) Power Plant Modeling and Verification Task Force (PPMVTF). Advance capabilities to perform a disturbance-based model verification, working with software vendors. Support industry implementation of MOD-026-1 and MOD-027-1.

- **Dynamic load modeling** – Drive improvements of dynamic load modeling capabilities in support of industry stability studies for planning and real-time reliability assessments. Advance state of the art modeling capability across North America. Support the SAMS’s Load Modeling Task Force (LMTF) efforts.
- **Changing end-use loads** – Support studies and technical positions on the changing nature of end-use loads and advocate for grid-friendly load behavior. Engage with industries collaboratively, working with utility members, to represent BPS needs.
- **Interconnection-wide case quality assessments** – Perform annual assessments of case quality and fidelity on the interconnection-wide cases released by the MOD-032 designees. Develop a feedback loop mechanism with the MOD-032 designees to instigate improvements to models.
- **Modeling notifications** – Proactively address deficiencies in interconnection-wide models and provide industry education on key modeling topics as identified by NERC or industry.
- **Interconnection Reliability Operating Limits (IROLs)** – Coordinate with the PC’s Methods for Establishing IROLs Task Force (MEITF) and support improvements to the methods, practices, and tools used for establishing IROLs. Coordinate with industry and FERC on potential new approaches to characterize IROLs while ensuring reliable operation of the BPS.

Technical Committees

RASA coordinates and administers the activities and efforts of the PC and its subgroups. The PC and its subgroups provide the oversight, guidance, and leadership essential to address these areas of strategic focus efficiently and comprehensively, and ensure technical accuracy, with the objective of enhancing BPS reliability. Further, the PC recognizes the need to strengthen the ties between the technical committees to ensure expertise is leveraged and amplified, thereby increasing the relevance and value of the technical committee results. NERC supports industry volunteers and helps them achieve industry consensus around important and strategic reliability issues as identified by the RISC and detailed in the *ERO Enterprise Long-Term Strategy* and *ERO Enterprise Operating Plan*.

NERC and Regional Entity Coordination

NERC’s Reliability Assessment and Performance Analysis (RAPA) staff coordinate with Regional Entity counterparts through the ERO RAPA Group to collaborate on and provide oversight for reliability assessment and reliability risk analysis functions. The responsibilities of this group include facilitating the exchange of information, jointly coordinating work product expectations (scope, timing, schedule, resource expenditures, budget assumptions, etc.), and promoting consistency across the ERO Enterprise. Additionally, ERO RAPA continually seeks improvements to data and information coordination, methods, and approaches for the advancement of BPS risk analysis, and interfaces with the NERC technical committees accordingly to fulfill these objectives. Key objectives include:

- Program management and operations
 - Achieve consistent implementation and alignment across the ERO Enterprise for reliability assessment and performance analysis functions.
 - Periodically review coordination plans and ensure they are aligned with the *ERO Enterprise Operating Plan*.
- Program oversight
 - Provide oversight to reliability assessments and other key reports. ERO RAPA establishes common approaches and processes for reliability assessments and solutions for program challenges.

- Implement enhancements to improve ERO Enterprise-wide efficiency and effectiveness of RAPA-related functions.
- Data and information coordination
 - Provide consistent oversight materials regarding data collection, checking, validation, and assessment for use throughout NERC and the Regional Entities.
 - Coordinate data and information systems across the ERO Enterprise.

Further, RASA continues to work closely with other organizations, including but not limited to the Electric Power Research Institute (EPRI), the DOE, the Institute of Electrical and Electronic Engineers (IEEE), the Institute of Nuclear Power Operations (INPO), the North American Transmission Forum (NATF), the North American Generation Forum (NAGF), and the Canadian Electricity Association (CEA). RASA collaborates with these groups on a number of fronts, including GMD, vegetation management, and variable generation integration. RASA also works with the Interstate Natural Gas Association of America (INGAA) and the Natural Gas Supply Association (NGSA) regarding studies pertaining to the interdependency of gas and electric systems.

2019 Goals and Deliverables

RASA activities and deliverables for 2019 are in support of the following goals and objectives identified in the *ERO Enterprise Operating Plan*.

Goal 3: Reduction of Known Risks to Reliability

- Ensure that the IRPTF completes its scope of work on schedule and implements the recommendations needed to maintain reliability. The recommendations should include addressing any gaps in Reliability Standards.
- Collaborate with Planning Coordinators to expand development of interconnection-wide models with expected dispatches to support effective long-term planning assessments.
- Work with stakeholders to develop and share knowledge and information supporting BPS resilience.

Goal 4: Identification and Assessment of Emerging Reliability Risks

- Improve resource adequacy assessments with increased probabilistic and risk analysis.
- Conduct interconnection-wide analysis of steady-state and dynamic conditions, including frequency, ERS, stability, short circuit ratio, and oscillatory behavior aspects to support NERC's reliability assessments and improve industry planning.
- Perform model validations at the interconnection level and compare with internal transmission owner models (short circuit model validation).
- Gather additional system performance data (e.g., data on balancing and frequency performance, renewables, and ERS) to advance analytics and improve modeling.
- Increase technical analysis and assessment focus on natural gas, wind, and solar resource and fuel availability.
- Develop technical references and guidelines that advance and improve reliability using new technologies.
- Develop quality and fidelity assessments of interconnection models.

Resource Requirements

Personnel

The increase of one position (0.94 FTEs) is the result of resource allocations to realign staff with current needs.

Consultants and Contracts

The total consultant and contract expenses for the RASA department increased from \$525k in 2018 to \$625k in 2019, specifically to support research on the reliability effects of GMD. A detailed breakdown of 2018 and 2019 budgeted expenses are shown in *Exhibit B – Consultant and Contract Costs*.

Section A – 2019 Business Plan and Budget Program Area and Department Detail

Statement of Activities and Fixed Assets Expenditures					
2018 Budget & Projection, and 2019 Budget					
RELIABILITY ASSESSMENT and SYSTEM ANALYSIS					
	2018 Budget	2018 Projection	Variance 2018 Projection v 2018 Budget Over(Under)	2019 Budget	Variance 2019 Budget v 2018 Budget Over(Under)
Funding					
ERO Funding					
NERC Assessments	\$ 7,212,995	\$ 7,212,995	\$ -	\$ 7,924,404	\$ 711,409
Assessment Stabilization Reserve - Penalties	65,217	65,217	-	60,690	(4,528)
Total NERC Funding	\$ 7,278,213	\$ 7,278,213	\$ -	\$ 7,985,094	\$ 706,881
Third-Party Funding	-	-	-	-	-
Testing Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Workshops	25,000	25,000	-	25,000	-
Interest	9,743	27,684	17,941	19,493	9,750
Miscellaneous	-	-	-	-	-
Total Funding	\$ 7,312,956	\$ 7,330,896	\$ 17,941	\$ 8,029,587	\$ 716,631
Expenses					
Personnel Expenses					
Salaries	\$ 2,334,967	\$ 2,505,353	\$ 170,387	\$ 2,588,128	\$ 253,162
Payroll Taxes	144,330	150,118	5,787	156,888	12,558
Benefits	283,513	323,070	39,557	355,375	71,862
Retirement Costs	258,277	277,158	18,881	285,005	26,728
Total Personnel Expenses	\$ 3,021,087	\$ 3,255,699	\$ 234,612	\$ 3,385,397	\$ 364,310
Meeting Expenses					
Meetings	\$ 121,000	\$ 121,000	\$ -	\$ 121,000	\$ -
Travel	250,000	263,486	13,486	250,000	-
Conference Calls	-	3,367	3,367	6,500	6,500
Total Meeting Expenses	\$ 371,000	\$ 387,853	\$ 16,853	\$ 377,500	\$ 6,500
Operating Expenses					
Consultants & Contracts	\$ 525,000	\$ 525,000	\$ -	\$ 625,000	\$ 100,000
Office Rent	-	-	-	-	-
Office Costs	187,889	202,769	14,880	217,710	29,821
Professional Services	-	-	-	-	-
Miscellaneous	500	500	-	500	-
Depreciation	150,771	196,362	45,591	225,375	74,604
Total Operating Expenses	\$ 864,160	\$ 924,631	\$ 60,471	\$ 1,068,585	\$ 204,425
Total Direct Expenses	\$ 4,256,247	\$ 4,568,183	\$ 311,936	\$ 4,831,482	\$ 575,235
Indirect Expenses	\$ 3,154,555	\$ 3,896,364	\$ 741,809	\$ 3,557,318	\$ 402,763
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses (A)	\$ 7,410,803	\$ 8,464,547	\$ 1,053,744	\$ 8,388,800	\$ 977,997
Change in Assets	\$ (97,847)	\$ (1,133,650)	\$ (1,035,804)	\$ (359,213)	\$ (261,366)
Fixed Assets					
Depreciation	\$ (150,771)	\$ (196,362)	\$ (45,591)	\$ (225,375)	\$ (74,604)
Computer & Software CapEx	-	-	-	-	-
Furniture & Fixtures CapEx	-	-	-	-	-
Equipment CapEx	-	-	-	-	-
Leasehold Improvements	-	-	-	-	-
Allocation of Fixed Assets	52,924	(145,905)	(198,829)	(133,838)	(186,762)
Inc(Dec) in Fixed Assets (B)	\$ (97,847)	\$ (342,267)	\$ (244,420)	\$ (359,213)	\$ (261,366)
TOTAL BUDGET (=A+B)	\$ 7,312,956	\$ 8,122,280	\$ 809,325	\$ 8,029,587	\$ 716,631
FTEs	14.10	14.98	0.88	15.04	0.94

Reliability Risk Management

NERC's Reliability Risk Management (RRM) department carries out the ERO's statutory responsibility to perform assessments (real-time or near real-time continual awareness, detailed analysis of significant events, and longer-term broad performance assessments) of the reliability and adequacy of the BPS including identifying potential issues of concern relating to system, equipment, entity, and human performance that may indicate the need to implement targeted interventions. RRM has three groups: Situation Awareness (also referred to as Bulk Power System Awareness), Event Analysis, and Performance Analysis. These groups have five primary functions: (1) BPS awareness; (2) event and root cause analysis; (3) assessment of human performance challenges that affect reliability and identification of improvement opportunities; (4) continent-wide analysis and reporting of BPS performance; and (5) support of the OC.

RRM's functions and resources are directly focused on proactive awareness of BPS conditions and all events over a threshold of certain risk or impact. Through awareness and continuous assessment, RRM identifies potential reliability risks. RRM analyzes events in detail, addresses the most significant risks to reliability, and ensures that industry is well informed of system events, emerging trends, risk analysis, and lessons learned. Through performing these functions, RRM provides data and analysis to inform other aspects of NERC's statutory functions. The group also provides strategic direction for using risk-based concepts in planning and executing its responsibilities.

Situation Awareness

Situation Awareness (in whole dollars)			
	2018 Budget	2019 Budget	Increase (Decrease)
Total FTEs	5.64	5.64	-
Direct Expenses	\$ 2,566,215	\$ 2,621,352	\$ 55,137
Indirect Expenses	1,261,822	1,333,994	72,172
Other Non-Operating Expenses	-	-	-
Inc(Dec) in Fixed Assets	18,610	340,863	322,252
TOTAL BUDGET	\$ 3,846,648	\$ 4,296,209	\$ 449,561

Background and Scope

NERC's Situation Awareness group and the Regional Entities monitor BPS conditions, significant occurrences and emerging risks, and threats across the 14 RC regions in North America to maintain an understanding of conditions and situations that could impact reliable operation. This group also supports the development and publication of NERC Alerts and awareness products and facilitates information sharing among industry, the Regional Entities, and the government during crisis situations and major system disturbances. The process for understanding the potential threats or vulnerabilities to BPS reliability starts with understanding occurrences and events in the context in which they occur.

Stakeholder Engagement and Benefit

BPS conditions continually change and provide recognizable signatures through automated tools, mandatory reports and voluntary information sharing, and third-party publicly available sources. The significant majority of these signatures represents conditions and occurrences that have little or no reliability impact, either positive or adverse, on the BPS. However, being cognizant of the short-term condition of the BPS and the signatures associated with the entire range of reliability performance helps the ERO identify significant occurrences more accurately and efficiently. Registered entities continue to robustly share information and collaborate with the ERO to maintain and improve the overall reliability.

Key Efforts Underway

Situation Awareness focuses on the following in support of the *ERO Enterprise Operating Plan*:

- Ensure that the ERO is aware of all BES events above a threshold of impact.
- Enable the sharing of information and data to facilitate wide-area situational awareness.
- During crisis situations, facilitate the exchange of information among industry, the Regional Entities, and the U.S. and Canadian governments.
- Keep industry informed of emerging reliability threats and risks, including any expected actions.
- Conduct the annual NERC Monitoring and Situational Awareness Conference and Human Performance Conference.
- Administer the NERC Alerts process as specified in ROP §810 to issue Advisory (Level 1) Alerts on significant and emerging reliability- and security-related topics as needed, and facilitate the tracking of actions specified in Recommendation (Level 2) and Essential Action (Level 3) Alerts.
- Perform oversight, as per the Situation Awareness Oversight Plan, of the activities and performance of the Regional Entities.

The department uses the following major reliability-related tools to support department activities:

- **Resource Adequacy (Area Control Error [ACE] Frequency) Tool** – This software application provides continuous monitoring of key resource adequacy performance metrics, including pre-established thresholds and limits defined in standards. It alerts RCs and resource subcommittees to conditions that could result in critical inadequacies, such as major tie errors, inaccurate load forecasts, and inadequate frequency response.
- **Inadvertent Interchange** – This tool facilitates the entering of monthly scheduling data and submittal of monthly inadvertent performance standards reports to NERC. It also assists in the monitoring and resolution of reliability issues originated by inadvertent interchange imbalances.
- **Frequency Monitoring and Analysis Tool** – This tool detects frequency events and captures key frequency response information for each interconnection.
- **Intelligent Alarms Tool** – This tool detects short-term and long-term frequency deviations using data transmitted to NERC by the BAs. When coupled with the FNet³¹ and Frequency Monitoring and Analysis tools, this tool allows immediate differentiation of the cause of a frequency deviation—a generator trip or a scheduling error.
- **Genscape** – The PowerIQ and PowerRT tools provide more detailed insight into current-day conditions impacting BPS conditions in both normal operations and stressed conditions.
- **Process Information (PI) Historian System** – The PI Historian system benefits RASA for the attainment of deliverables recommended in the 2015 ERS Task Force (ERSTF) Report (specifically, collect and analyze system inertia data) and offers longer term value for both RASA and RRM. The system enables the continued strategy to transition away from other applications, offsetting future expenses by replicating the functionality of Resource Adequacy and Intelligent Alarms in-house in the 18–36 months outlook, and creates the necessary foundation for NERC’s eventual receipt and consumption of streaming synchrophasor data in near real time.

³¹ FNet – Operated by the Power Information Technology Laboratory at the University of Tennessee, FNet is a low-cost, quickly deployable global positioning system (GPS)-synchronized wide-area frequency measurement network. High dynamic accuracy Frequency Disturbance Recorders are used to measure the frequency, phase angle, and voltage of the power system at ordinary 120 V outlets. The measurement data are continuously transmitted via the Internet to the FNet servers hosted at the University of Tennessee and Virginia Tech.

Several reliability-related situational awareness and monitoring tools and processes are undergoing enhancement or modification. The following are being focused on during 2018: (1) an upgrade to the SAFNR software application to include preparation of a request for proposals (RFP) in late 2018; (2) operation and maintenance of the NERC Alerts tool while planning for a streamlined NERC Alert process and platform appropriately integrated with related ongoing NERC, E-ISAC, and ERO Enterprise IT initiatives; (3) a refresh of the Reliability Coordinator Information System (RCIS) legacy application for operability and maintainability reasons, with no significant changes to functionality; and (4) continuing to set the conditions to bring limited streaming synchrophasor data into NERC for wide-area situational awareness and event triage applications.

2019 Goals and Deliverables

In 2019, the Situation Awareness group will continue to accomplish the specific goals and deliverables referenced above in support of the *ERO Enterprise Operating Plan*, and will also focus on the upgrade to the SAFNR application. The current SAFNR platform limits the Situation Awareness group's ability to accurately understand current conditions on the BPS due to the inability to easily or cost-effectively update the underlying power system information, including incorporating available real-time data feeds on risks to reliability, such as severe weather, flooding, and wildfires, as well as available information on interconnection frequency, BA ACE, and aggregated customer outages.

Further, enhancing SAFNR will incorporate functionality elements piloted during GridEx IV that will enable the Situation Awareness group to provide the E-ISAC and the ESCC with more timely and understandable common operating picture information, meeting the *GridEx IV Executive Tabletop Report* recommendation that states that NERC and the E-ISAC should enhance their ability to provide reliable, timely, and accurate information regarding the state of grid reliability and security threats and events, and largely meeting the observation #3 recommendation from the *GridEx IV Distributed Play Lessons Learned Report*, which states that the E-ISAC should consider adding a "common operational picture" function to the E-ISAC portal.

With the insight gained from more than five years of use, the system can be implemented as envisioned—a shared platform for rapid and accurate situational awareness that appropriately protects the proprietary information in the tool while maximizing the value of understanding shared to the right audiences. See *Exhibit G – Situation Awareness for FERC, NERC, and the Regional Entities (SAFNR)* for further details.

Resource Requirements

Personnel

There is no change in FTEs for 2019 from the 2018 budget.

Consultants and Contracts

The overall funding of approximately \$1.3M for consultant and contract expenses (which largely includes support costs of the tools described above) in 2019 is consistent with the 2018 budget. A detailed breakdown of the 2018 and 2019 budgeted expenses is shown in *Exhibit B – Consultant and Contract Costs*.

Other Costs

The \$400k increase for computer and software capital expenditures is attributed to the upgrade for SAFNR, for which the total capital expenditure of \$600k is split between Situation Awareness and the E-ISAC.

Section A – 2019 Business Plan and Budget Program Area and Department Detail

Statement of Activities and Fixed Assets Expenditures 2018 Budget & Projection, and 2019 Budget					
SITUATION AWARENESS					
	2018 Budget	2018 Projection	Variance 2018 Projection v 2018 Budget Over(Under)	2019 Budget	Variance 2019 Budget v 2018 Budget Over(Under)
Funding					
ERO Funding					
NERC Assessments	\$ 3,816,664	\$ 3,816,664	\$ -	\$ 4,266,141	\$ 449,477
Assessment Stabilization Reserve - Penalties	26,087	26,087	-	22,759	(3,328)
Total NERC Funding	\$ 3,842,751	\$ 3,842,751	\$ -	\$ 4,288,899	\$ 446,149
Third-Party Funding					
Testing Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Workshops	-	-	-	-	-
Interest	3,897	8,403	4,506	7,310	3,413
Miscellaneous	-	-	-	-	-
Total Funding	\$ 3,846,648	\$ 3,851,154	\$ 4,506	\$ 4,296,209	\$ 449,561
Expenses					
Personnel Expenses					
Salaries	\$ 888,593	\$ 747,279	\$ (141,314)	\$ 865,683	\$ (22,910)
Payroll Taxes	59,143	50,725	(8,418)	58,475	(668)
Benefits	144,353	178,875	34,523	182,721	38,368
Retirement Costs	98,676	95,692	(2,984)	95,435	(3,240)
Total Personnel Expenses	\$ 1,190,764	\$ 1,072,571	\$ (118,193)	\$ 1,202,314	\$ 11,550
Meeting Expenses					
Meetings	\$ 2,000	\$ 2,000	\$ -	\$ 2,000	\$ -
Travel	33,000	26,400	(6,600)	33,000	-
Conference Calls	-	3,369	3,369	-	-
Total Meeting Expenses	\$ 35,000	\$ 31,769	\$ (3,231)	\$ 35,000	\$ -
Operating Expenses					
Consultants & Contracts	\$ 1,295,495	\$ 1,295,495	\$ -	\$ 1,280,990	\$ (14,505)
Office Rent	-	-	-	-	-
Office Costs	41,897	39,322	(2,575)	93,600	51,703
Professional Services	-	-	-	-	-
Miscellaneous	500	500	-	500	-
Depreciation	2,559	7,722	5,162	8,948	6,389
Total Operating Expenses	\$ 1,340,451	\$ 1,343,039	\$ 2,587	\$ 1,384,038	\$ 43,587
Total Direct Expenses	\$ 2,566,215	\$ 2,447,379	\$ (118,836)	\$ 2,621,352	\$ 55,137
Indirect Expenses	\$ 1,261,822	\$ 1,212,087	\$ (49,736)	\$ 1,333,994	\$ 72,172
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses (A)	\$ 3,828,038	\$ 3,659,466	\$ (168,572)	\$ 3,955,347	\$ 127,309
Change in Assets	\$ 18,610	\$ 191,688	\$ 173,078	\$ 340,863	\$ 322,252
Fixed Assets					
Depreciation	\$ (2,559)	\$ (7,722)	\$ (5,162)	\$ (8,948)	\$ (6,389)
Computer & Software CapEx	-	-	-	400,000	400,000
Furniture & Fixtures CapEx	-	-	-	-	-
Equipment CapEx	-	-	-	-	-
Leasehold Improvements	-	-	-	-	-
Allocation of Fixed Assets	21,170	(45,388)	(66,558)	(50,189)	(71,359)
Inc(Dec) in Fixed Assets (B)	\$ 18,610	\$ (53,110)	\$ (71,720)	\$ 340,863	\$ 322,252
TOTAL BUDGET (=A+B)	\$ 3,846,648	\$ 3,606,356	\$ (240,292)	\$ 4,296,209	\$ 449,561
FTEs	5.64	4.66	(0.98)	5.64	-

Event Analysis

Event Analysis (in whole dollars)			
	2018 Budget	2019 Budget	Increase (Decrease)
Total FTEs	11.28	11.28	-
Direct Expenses	\$ 2,680,449	\$ 2,857,240	\$ 176,791
Indirect Expenses	2,523,644	2,667,989	144,344
Other Non-Operating Expenses	-	-	-
Inc(Dec) in Fixed Assets	(42,604)	(185,960)	(143,357)
TOTAL BUDGET	\$ 5,161,490	\$ 5,339,268	\$ 177,778

Background and Scope

The Event Analysis group performs assessments of the reliability and adequacy of the BES. This includes identifying potential issues of concern related to system, equipment, entity, and human performance that may indicate a need to develop remediation strategies, action plans, or data used to revise or retire Reliability Standards or consider new Reliability Standards. The group analyzes and determines the cause of the events, promptly ensures tracking of corrective actions to prevent recurrence, and provides lessons learned to the industry. Event Analysis ensures that reporting and analysis are consistent to allow wide-area assessment of trends and risks. The department analyzes all reportable events for sequence of events, root cause, risk to reliability, and mitigation, and keeps the industry well informed of system events, emerging trends, risk analysis, lessons learned, and expected actions.

Additional resources within this department focus on identifying human-error risks and those precursor factors that allow human error to impact system reliability. The department educates industry regarding risks, precursors, and mitigation methods. Resources also support compliance and standards training initiatives and trending and analysis to identify emerging reliability risks. These efforts are conducted in collaboration with industry human performance projects, including WECC's Human Performance Working Group, the OC's Event Analysis Subcommittee (EAS), and others.

Stakeholder Engagement and Benefit

The Event Analysis department coordinates the use of collective resources, consistency in analysis, and timely delivery of event analysis reports.³² The ERO disseminates lessons learned and other useful information to the electric industry obtained from or as a result of event analysis. The Event Analysis team conducts in-depth analyses of approximately 150 events per year on average. Annually, the team also conducts calls facilitated by the Regional Entities with over 140 registered entities to finalize root and contributing causes for the categorized events analyzed. Major analysis to date includes continuing assessment of Energy Management System (EMS) outages, continued collaboration with the RASA and Performance Analysis groups on frequency response performance, analyses of substation equipment failure events, and protective relay trends, including ground overcurrent relay misoperations, relay communication system failures, and the importance of commissioning testing.

Collaboration with the Trade Associations and Forums

The activities of the NATF, the NAGF, trade associations, and other industry groups are expected to compliment ERO Enterprise activities and limit the need to add incremental resources to the NERC and Regional Entity BP&Bs that might otherwise be required in the absence of these forums.

³² The core process for Event Analysis is outlined in the approved process: [ERO Event Analysis Process - Version 3.1](#) (December 2016).

NATF has been invited to participate in several reliability initiatives that are expected to continue into 2019, including protection systems misoperations reduction, challenges associated with inverter-based resources, physical security, various activities related to reliability assurance initiatives, improvement of modeling practices, and complementary efforts on addressing the GMD challenges.

Event Analysis seeks to accomplish several specific goals and objectives as part of the strategic focus of the ERO Enterprise and in support of the *ERO Enterprise Operating Plan*:

- Work with the Regional Entities to review information from registered entities on qualifying events and disturbances advancing awareness of events above a threshold level; facilitate analysis of root and contributing causes, risks to reliability, wide-area assessments, and remediation efforts; and disseminate information regarding events in a timely manner.
- Ensure that all reportable events are analyzed for sequence of events, root cause, risk to reliability, and mitigation.
- Continue to refine risk-based methods to support better identification of reliability risks, including the use of more sophisticated cause codes for analysis.
- Conduct training (webinars, workshops, and conference support) to inform industry and the ERO Enterprise of lessons learned, root cause analysis, trends, human performance, and extreme weather preparedness and recommendations.
- Develop reliability recommendations and Alerts as needed and track industry accountability for critical reliability recommendations.
- Ensure that industry is well informed of system events, emerging trends, risk analysis, lessons learned, and expected actions.
- Conduct major event analysis and reporting of major findings and recommendations that will improve reliability.
- Perform oversight, as per the Event Analysis Oversight Plan, of the activities and performance of the Regional staffs.

The Event Analysis department also supports several of the top-priority reliability risk projects as identified and described under the Performance Analysis section of this document.

2019 Goals and Deliverables

In 2019, the Event Analysis group will continue to accomplish the specific goals and deliverables referenced above in support of the *ERO Enterprise Operating Plan*, particularly with regard to analysis in the area of inverters and inverter technologies as the proliferation of renewables using these technologies are rapidly increasing.

Resource Requirements

Personnel

There is no change in FTEs for 2019 from the 2018 budget.

Consultants and Contracts

No funding is budgeted for consultant and contract expenses in 2019, which is consistent with the 2018 budget.

Section A – 2019 Business Plan and Budget Program Area and Department Detail

Statement of Activities and Fixed Assets Expenditures					
2018 Budget & Projection, and 2019 Budget					
EVENT ANALYSIS					
	2018 Budget	2018 Projection	Variance 2018 Projection v 2018 Budget Over(Under)	2019 Budget	Variance 2019 Budget v 2018 Budget Over(Under)
Funding					
ERO Funding					
NERC Assessments	\$ 5,061,521	\$ 5,061,521	\$ -	\$ 5,239,131	\$ 177,610
Assessment Stabilization Reserve - Penalties	52,174	52,174	-	45,517	(6,657)
Total NERC Funding	\$ 5,113,695	\$ 5,113,695	\$ -	\$ 5,284,648	\$ 170,953
Third-Party Funding	\$ -	\$ -	\$ -	\$ -	\$ -
Testing Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Workshops	40,000	156,380	116,380	40,000	0
Interest	7,794	19,927	12,133	14,620	6,825
Miscellaneous	-	-	-	-	-
Total Funding	\$ 5,161,490	\$ 5,290,002	\$ 128,512	\$ 5,339,268	\$ 177,778
Expenses					
Personnel Expenses					
Salaries	\$ 1,783,120	\$ 1,868,493	\$ 85,373	\$ 1,903,950	\$ 120,830
Payroll Taxes	110,619	105,369	(5,250)	113,420	2,801
Benefits	227,802	245,405	17,603	264,308	36,506
Retirement Costs	198,179	194,876	(3,303)	210,479	12,300
Total Personnel Expenses	\$ 2,319,720	\$ 2,414,144	\$ 94,424	\$ 2,492,158	\$ 172,438
Meeting Expenses					
Meetings	\$ 81,500	\$ 187,447	\$ 105,947	\$ 81,500	\$ 0
Travel	150,000	146,310	(3,690)	150,000	-
Conference Calls	-	10,559	10,559	-	-
Total Meeting Expenses	\$ 231,500	\$ 344,317	\$ 112,817	\$ 231,500	\$ 0
Operating Expenses					
Consultants & Contracts	\$ -	\$ -	\$ -	\$ -	\$ -
Office Rent	-	-	-	-	-
Office Costs	43,786	56,159	12,373	47,500	3,714
Professional Services	-	-	-	-	-
Miscellaneous	500	500	-	500	-
Depreciation	84,943	85,582	639	85,582	639
Total Operating Expenses	\$ 129,229	\$ 142,241	\$ 13,012	\$ 133,582	\$ 4,353
Total Direct Expenses	\$ 2,680,449	\$ 2,900,702	\$ 220,253	\$ 2,857,240	\$ 176,791
Indirect Expenses	\$ 2,523,644	\$ 2,923,574	\$ 399,929	\$ 2,667,989	\$ 144,344
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses (A)	\$ 5,204,093	\$ 5,824,276	\$ 620,182	\$ 5,525,228	\$ 321,135
Change in Assets	\$ (42,604)	\$ (534,273)	\$ (491,670)	\$ (185,960)	\$ (143,357)
Fixed Assets					
Depreciation	\$ (84,943)	\$ (85,582)	\$ (639)	\$ (85,582)	\$ (639)
Computer & Software CapEx	-	-	-	-	-
Furniture & Fixtures CapEx	-	-	-	-	-
Equipment CapEx	-	-	-	-	-
Leasehold Improvements	-	-	-	-	-
Allocation of Fixed Assets	42,339	(109,477)	(151,816)	(100,379)	(142,718)
Inc(Dec) in Fixed Assets (B)	\$ (42,604)	\$ (195,059)	\$ (152,455)	\$ (185,960)	\$ (143,357)
TOTAL BUDGET (=A+B)	\$ 5,161,490	\$ 5,629,217	\$ 467,727	\$ 5,339,268	\$ 177,778
FTEs	11.28	11.24	(0.04)	11.28	-

Performance Analysis

Performance Analysis (in whole dollars)			
	2018 Budget	2019 Budget	Increase (Decrease)
Total FTEs	9.40	10.34	0.94
Direct Expenses	\$ 2,639,101	\$ 3,169,962	\$ 530,861
Indirect Expenses	2,103,037	2,445,656	342,619
Other Non-Operating Expenses	-	-	-
Inc(Dec) in Fixed Assets	(108,716)	(388,009)	(279,293)
TOTAL BUDGET	\$ 4,633,422	\$ 5,227,610	\$ 594,188

Background and Scope

The Performance Analysis department currently consists of balancing and frequency control (B&FC) and data analytics (DA) groups and provides significant statistical analysis and outreach support for NERC and the entire ERO Enterprise. The outreach includes initiatives with the Regional Entities and electricity industry-related organizations.

B&FC Scope

B&FC provides support and services necessary for the real-time operation of the BPS in the areas of balancing resources and demand, interconnection frequency, interchange scheduling, and control performance. B&FC is responsible for providing technical assistance in the development and administration of the NERC balancing standards (BAL standards) that include BAL-001 Real Power Balancing Control Performance, BAL-002 Disturbance Control Performance, BAL-003 Frequency Response and Frequency Bias Setting, BAL-004 Time Error Correction, and BAL-006 Inadvertent Interchange. B&FC is also instrumental in performing the analysis and development of annual reports and informational filings that satisfy the FERC directives set forth in the orders that approved the balancing standards.

B&FC supports the OC's Resources Subcommittee (RS), Frequency Working Group (FWG), Inadvertent Interchange Working Group (IIWG), and Reserves Working Group (RWG) through facilitation of quarterly in-person meetings, organizing and hosting of teleconferences as needed, drafting and posting of agendas and meeting minutes, and hosting subcommittee and industry webinars. B&FC also maintains the RS website and Balancing Authority Submittal Site (BASS), which are critical to industry stakeholders by providing operational information and a submittal mechanism for the aforementioned balancing standard requirements.

The PC and OC jointly created the ERS Working Group (ERSWG) to advance the work initiated by the ERSTF in consideration of the technical and operational impacts to BPS reliability that could result from the changing generation resource mix throughout North America. B&FC provides support through data collection, analysis, and reporting for five of the ERS measures that include Measure 1: Synchronous Inertial Response at an Interconnection Level, Measure 2: Initial Frequency Deviation Following Largest Contingency, Measure 3: Synchronous Inertial Response at a BA Level, Measure 4: Frequency Response at an Interconnection Level, and Measure 6: Net Demand Ramping Variability. B&FC supports the annual *State of Reliability* report (SOR report) by providing data and analysis for interconnection frequency response (M-4) and related statistical analysis.

In 2017, B&FC partnered with the Situation Awareness group, IT, and OSisoft to accomplish the specification, development, and installation of a PI Historian system that allows NERC to retrieve, analyze, and report on data that is currently hosted and analyzed by external parties. The initial data includes

interconnection frequency and BA ACE across North America and provides enhanced wide area visualization and analysis of the North American BES. B&FC is leading the effort to build the asset framework hierarchy that will further enhance analysis and reporting that support the efforts of NERC staff and technical committees. Near-term project initiatives include the retrieval of high-speed sub-second frequency data from the University of Tennessee at Knoxville into the NERC PI Historian. While the implementation of PI Historian at NERC is a very large step forward, the maintenance of this database and continued development of visualization, analysis, and reporting tools continue to be a considerable effort and resource requirement going forward.

DA Scope

DA is responsible for the collection, management, and analysis of data related to the performance of five areas of BPS operations: transmission, conventional generation, wind generation, protection system misoperations, and demand response. DA also provides application training and end-user support to reporting entities and Regional Entity staff. DA collaborates with internal and external stakeholders through working groups associated with the industry sectors reporting performance data to define and revise reporting requirements and related applications. Analysis performed by DA includes identifying potential risks of concern related to system, equipment, entity, and organizational performance that may indicate a need to develop remediation strategies, improvements to the reporting applications, new data collection or analysis tools, or data used to create, revise, or retire reliability standards or consider new reliability standards or reporting areas. Such analysis provides the foundation for the annual SOR report, the annual misoperations report, and technical papers to the industry.

DA continues the 2018 trend of highly concentrated business engagement in IT projects. 2019 projects include: (1) the planning and subsequent deployment of the solar data collection system; (2) continued refinement and implementation of the data sharing process to comply with FERC Order 824; (3) development of portal applications on the NERC enterprise platform; (4) integration of the next application data set for the ERO data warehouse; and (5) continued planning and collection of ROP Section 1600 data requests, including but not limited to GMD studies and cyber and physical security data. Throughout these projects, DA has developed effective and efficient processes and work products that are being adopted by the NERC Project Management Office as models for other NERC IT projects. To improve data quality, DA conducts multiple multi-day in-person training sessions for end-users that provide data to the reporting applications. In addition to its legacy work with data collection and analysis, DA provides business subject matter expertise for several IT projects, including new data reporting and analytical tools, projects to support FERC data needs, ERO Enterprise data sharing, as well as projects with other NERC groups.

Stakeholder Engagement and Benefit

The Performance Analysis group monitors the performance and identifies risks to reliability of the BES in North America through analyzing data from industry measuring historic trends. The group provides reports and recommendations regarding the anticipated conditions that could impact the reliability, security, and stability of the BPS to the industry, Regional Entities, regulatory entities, and other designated entities.

Performance Analysis works with industry leaders to create a reliability strategy that is relevant, timely, and effective at addressing the most important reliability risks. This effort includes Performance Analysis's contribution (including its data gathering and statistical analyses of data, trends, and events) toward the ERO's understanding of key information identified through (1) analysis and assessment efforts; (2) extraction and prioritization of the associated reliability risks from that information; (3) communication and integration of those risk analysis insights across the ERO Enterprise; and (4) translation of that knowledge into actionable guidance and recommendations for NERC management, the Board, industry,

and state, federal, and provincial policymakers. This offers stakeholders an open and transparent approach for the development of NERC's reliability strategy, ultimately ensuring the ERO is accountable to industry, regulators, and the public at large.

B&FC will continue to support the RS, ERSWG, and industry stakeholders through performance-based webinars, technical whitepapers, reliability guidelines, and individual outreach. These efforts have proven successful throughout 2017 and 2018, with an emphasis on frequency response performance and operational capabilities.

Key Efforts Underway

In addition to support of the RS and its working groups, the maintenance and administration of the BAL standards is a major effort for B&FC, with particular current focus on BAL-003-1 Frequency Response and Frequency Bias Setting. B&FC fulfils the ongoing tasks assigned to the ERO in BAL-003-1 Attachment A and the Procedure for ERO Support. These tasks include, but are not limited to:

- Ongoing quarterly identification, review, selection, and posting of BAL-003-1 and M-4 frequency events for use by BAs and other industry stakeholders;
- Calculation and posting of Minimum Frequency Bias Settings for each BA;
- Calculation and assignment of BA Frequency Response Obligations for the upcoming year;
- Calculation and assignment of BA annual Frequency Bias Settings and L10 values for April implementation into BA control systems;
- Ongoing maintenance of and necessary modifications to BAL-003-1 Frequency Response Standard Forms used by BAs to calculate frequency response performance and document bilateral purchase or sale of frequency response and/or participation in a Frequency Response Sharing Group in accordance with BAL-003-1;
- Maintenance of the BASS used by BAs for BAL-003-1 submittals and performance of vetting for stakeholders requesting access to the BASS;
- Ongoing annual development of the Frequency Response Annual Analysis Report, which is necessary to identify changes in frequency response performance and recommend changes in Interconnection Frequency Response Obligations in accordance with BAL-003-1; and
- Leading efforts related to FERC Order 794 that approved the BAL-003-1 standard and directed NERC to submit a report in 2018 addressing (1) an evaluation of the use of linear regression methodology to calculate frequency response and (2) the availability of resources for applicable entities to meet the Frequency Response Obligation.

The key trends, findings, and recommendations from Performance Analysis serve as technical input to Reliability Standards and standards project prioritization, compliance process improvements, event analyses, reliability assessment, and critical infrastructure protection efforts. This analysis of BES performance provides an industry reference for historical BES reliability, but it also offers analytical insights that lead toward the prioritization of specific actionable risk control steps for industry. These analyses and results are summarized in the annual SOR report, which provides guidance and recommendations for enhanced BPS reliability. Performance Analysis has added Generator Availability Data System (GADS) wind data to the data collected under NERC ROP Section 1600, requiring the development of a new software tool to enable this. In 2019, DA will begin development of the system for solar data collection.

Performance Analysis is working with Event Analysis to develop a link between their databases. Specific equipment outages will be linked to disturbance reports filed with NERC, enabling better association of transmission and generation outages. The continued alignment between these efforts will enhance the ability to conduct effective event analyses as well as to identify key reliability areas for trend analyses of multiple databases. This is expected to improve the depth of event analyses across the ERO Enterprise and expand the quality of data gathered. With use of sophisticated statistical and probabilistic analyses, trends and insights about reliability performance will be identified, as well as effective measures and actions to address reliability risks. Performance Analysis has begun data mining of completed Event Analysis efforts to identify any insights from these events. This is important for as the grid evolves, these events may have been particularly relevant to enhanced grid reliability at the time of the original event investigation.

Performance Analysis is currently refining the composition of NERC’s annual SOR report to expand the GADS data trend analysis and, for 2018, has begun reflecting post-seasonal reliability review, insights from analysis of the GADS, Transmission Availability Data System (TADS), and Demand Response Data System (DADS), and integration of event analysis and misoperations. Also, in 2019, the department will implement the decision of whether the SOR report should move from a Q1–Q4 report to a Q4–Q3 report. Current dynamics around validation and reporting of corporate metrics might even move the SOR report to a Q3–Q2 reporting to accommodate the needs of this activity within a common reporting framework.

Further, Performance Analysis continues to work closely with other organizations, including but not limited to EPRI, DOE, IEEE, INPO, NATF, NAGF, and CEA. Performance Analysis collaborates with these groups on a number of fronts, including the TADS, GADS, and DADS.

2019 Goals and Deliverables

In 2019, Performance Analysis has a number of specific goals and deliverables in support of the *ERO Enterprise Operating Plan*, including:

- Issue the SOR report, guidelines, recommendations, and Alerts as needed (including the verification and validation of data and information through Regional Entities and technical committees, as required).
- Provide support and leadership to the OC, Operating Reliability Subcommittee (ORS), and RS and its working groups, the FWG, IIWG, and RWG, with emphasis on balancing operations and analysis, administration of balancing standards, and performance-based outreach to functional entities responsible for real-time BPS reliability.
- Continue the administration of the BAL standards, with emphasis on BAL-003-1 Frequency Response.
- Provide technical assistance to Compliance Assurance and Enforcement with emphasis on BAL-003-1 for the BA performance requirements that became effective in 2017.
- Develop quarterly BPS performance reports using PI Historian data and functionality to support the OC and RS.
- Oversee and evaluate reliability trends that identify reliability risks by analyzing data contained in GADS, TADS, and DADS, along with reliability metrics and protection and controls system misoperations data.
- Support Reliability Standards development by providing subject matter expertise.
- Provide support and leadership to the PC’s subcommittees, working groups, and task forces, with primary focus on the Performance Analysis Subcommittee (PAS) and its subgroups.

- Assist in the development of approaches to registration and provide input to NERC staff in support of the development of CMEP risk elements.
- Conduct major event investigations, analyses, and reporting of major findings, recommendations, and lessons learned that will improve reliability.
- Provide insight on emerging system protection issues, and hand-off any issues gleaned with future implications to RASA.

Additionally, a major effort in 2019 will be the development of the technical report to be filed with FERC, in accordance with the directives set forth in Order 794, in addition to development of the *Frequency Response Annual Analysis Report*. Another major effort in 2019 will be the expansion of the PI Historian to include high speed frequency data from the University of Tennessee at Knoxville, as well as interconnection inertia data to support efforts of the RS and ERSWG.

Resource Requirements

Personnel

The increase of one position (0.94 FTEs) is the result of resource allocations to realign staff with current needs.

Consultants and Contracts

Performance Analysis's budgeted consultant and contract expenses increased from \$572k in 2018 to \$654k in 2019, primarily due to an increased need for GADS, TADS, and DADS support. A detailed breakdown of 2018 and 2019 budgeted expenses is shown in *Exhibit B – Consultant and Contract Costs*.

Section A – 2019 Business Plan and Budget Program Area and Department Detail

Statement of Activities and Fixed Assets Expenditures					
2018 Budget & Projection, and 2019 Budget					
PERFORMANCE ANALYSIS					
	2018 Budget	2018 Projection	Variance 2018 Projection v 2018 Budget Over(Under)	2019 Budget	Variance 2019 Budget v 2018 Budget Over(Under)
Funding					
ERO Funding					
NERC Assessments	\$ 4,533,448	\$ 4,533,448	\$ -	\$ 5,132,484	\$ 599,036
Assessment Stabilization Reserve - Penalties	43,478	43,478	-	41,724	(1,754)
Total NERC Funding	\$ 4,576,927	\$ 4,576,927	\$ -	\$ 5,174,208	\$ 597,282
Third-Party Funding					
Testing Fees	-	-	-	-	-
Services & Software	50,000	50,000	-	40,000	(10,000)
Workshops	-	-	-	-	-
Interest	6,495	18,468	11,973	13,401	6,906
Miscellaneous	-	-	-	-	-
Total Funding	\$ 4,633,422	\$ 4,645,395	\$ 11,973	\$ 5,227,610	\$ 594,188
Expenses					
Personnel Expenses					
Salaries	\$ 1,372,376	\$ 1,500,026	\$ 127,650	\$ 1,581,929	\$ 209,553
Payroll Taxes	92,361	96,058	3,697	104,052	11,690
Benefits	154,799	165,524	10,725	186,375	31,576
Retirement Costs	154,224	161,005	6,781	176,656	22,433
Total Personnel Expenses	\$ 1,773,760	\$ 1,922,613	\$ 148,853	\$ 2,049,012	\$ 275,252
Meeting Expenses					
Meetings	\$ 11,000	\$ 11,000	\$ -	\$ 11,000	\$ -
Travel	80,000	76,708	(3,292)	80,000	-
Conference Calls	-	3,367	3,367	3,600	3,600
Total Meeting Expenses	\$ 91,000	\$ 91,075	\$ 75	\$ 94,600	\$ 3,600
Operating Expenses					
Consultants & Contracts	\$ 572,030	\$ 572,030	\$ -	\$ 653,565	\$ 81,535
Office Rent	-	-	-	-	-
Office Costs	57,812	44,521	(13,291)	76,290	18,478
Professional Services	-	-	-	-	-
Miscellaneous	500	500	-	500	-
Depreciation	143,999	252,434	108,435	295,995	151,996
Total Operating Expenses	\$ 774,341	\$ 869,485	\$ 95,144	\$ 1,026,350	\$ 252,009
Total Direct Expenses	\$ 2,639,101	\$ 2,883,173	\$ 244,072	\$ 3,169,962	\$ 530,861
Indirect Expenses	\$ 2,103,037	\$ 2,481,396	\$ 378,359	\$ 2,445,656	\$ 342,619
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses (A)	\$ 4,742,138	\$ 5,364,569	\$ 622,431	\$ 5,615,618	\$ 873,480
Change in Assets	\$ (108,716)	\$ (719,175)	\$ (610,458)	\$ (388,009)	\$ (279,293)
Fixed Assets					
Depreciation	\$ (143,999)	\$ (252,434)	\$ (108,435)	\$ (295,995)	\$ (151,996)
Computer & Software CapEx	-	-	-	-	-
Furniture & Fixtures CapEx	-	-	-	-	-
Equipment CapEx	-	-	-	-	-
Leasehold Improvements	-	-	-	-	-
Allocation of Fixed Assets	35,283	(92,919)	(128,202)	(92,014)	(127,297)
Inc(Dec) in Fixed Assets (B)	\$ (108,716)	\$ (345,353)	\$ (236,637)	\$ (388,009)	\$ (279,293)
TOTAL BUDGET (=A+B)	\$ 4,633,422	\$ 5,019,216	\$ 385,794	\$ 5,227,610	\$ 594,188
FTEs	9.40	9.54	0.14	10.34	0.94

Electricity Information Sharing and Analysis Center

E-ISAC (including CRISP) (in whole dollars)			
	2018 Budget	2019 Budget	Increase (Decrease)
Total FTEs	29.14	37.60	8.46
Direct Expenses	\$ 15,056,942	\$ 18,148,115	\$ 3,091,173
Indirect Expenses	6,519,415	9,004,572	2,485,157
Other Non-Operating Expenses	-	-	-
Inc(Dec) in Fixed Assets	274,241	242,940	(31,301)
TOTAL BUDGET	\$ 21,850,597	\$ 27,395,627	\$ 5,545,030

Background and Scope

The E-ISAC reduces cyber and physical risk to the electricity industry across North America by providing unique insights, leadership, and coordination. NERC formed the Electricity Sector Information Sharing and Analysis Center (ES-ISAC) in 1998 when the U.S. Secretary of Energy requested that NERC serve as the ISAC³³ for the Electricity Subsector.³⁴ NERC rebranded the ES-ISAC to the Electricity Information Sharing and Analysis Center (E-ISAC) in September 2015. The current E-ISAC organizational structure is designed to support the three primary focus areas in support of its long-term strategy, which is discussed further below: information sharing, analysis, and engagement. The Programs and Engagement group manages the portfolio of E-ISAC products and services and is focused on ensuring stakeholder needs are understood and addressed. The Operations group consists of four teams. The Watch Operations team and CRISP team are primarily focused on information sharing, while the Cyber and Physical teams are focused on deeper analysis of incidents, threats, and mitigations. Both of the main groups support each other across the three focus areas wherever possible.

The E-ISAC also oversees CRISP, a unique public-private initiative between the E-ISAC, the North American electric utility industry, the DOE, and the U.S. Intelligence Community that delivers real-time, relevant, and actionable cybersecurity risk information to all E-ISAC member electricity asset owners and operators. The program leverages subject matter expertise and resources from the E-ISAC, DOE, the Pacific Northwest National Laboratory (PNNL), and the Argonne National Laboratory. Using passive information sharing devices (ISD) on participant networks outside boundary firewalls, packet header information is collected. The CRISP participation agreement contains strict data-handling procedures and guidelines. Participant data is used and then matched against known threat signatures—classified and unclassified—to identify potential threats and provide participants with recommended mitigation steps. Aggregated indicators of compromise and other relevant security information are shared with all E-ISAC members, regardless of participation in CRISP.

In addition to voluntary reporting of security and threat information by industry participants, registered entities subject to Reliability Standard CIP-008-5 with High Impact and Medium Impact BES Cyber Systems are required to have processes in place for identifying Cyber Security Incidents, determining if a Cyber Security Incident is a Reportable Cyber Security Incident, and if so, notifying the E-ISAC. Further, in its Order No. 848 issued July 19, 2018, FERC directed NERC to develop and submit modifications to Reliability Standards to provide for mandatory reporting to the E-ISAC (and other organizations) of Cyber Security

³³ In 1998, US Government authorities that were derived from Presidential Decision Directive 63, established the Information Security Analysis Center (ISAC) construct. The E-ISAC focuses specifically on information sharing, analytics and sector activities directly related to the protection of critical infrastructure.

³⁴ Subsequent administrations have sought to continue and strengthen information sharing in other sectors by establishing other sector-specific ISACs. In 2013, the DOE again reaffirmed its desire for NERC to continue to operate the E-ISAC.

Incidents that compromise, or attempt to compromise, a responsible entity's Electronic Security Perimeter or associated Electronic Access Control or Monitoring Systems.

Additionally, since 2011, the E-ISAC has sponsored a biennial grid security exercise (GridEx). This geographically-distributed exercise is designed to exercise the electricity industry's crisis response in handling simulated coordinated cyber and physical security threats and incidents, to strengthen utilities' crisis response functions and relationships with government emergency managers and law enforcement, and to provide input for lessons learned. Most recently, GridEx IV, held in November 2017, consisted of a two-day grid-focused operational exercise for participants across North America and a half-day tabletop discussion for executives. Over 6,500 participants from 450 industry and government organizations participated in GridEx IV. The E-ISAC manages the program and collects industry information during and after the exercise, subject to existing data collection and protection policies. During the exercise, E-ISAC watch and analysis staff exercise the E-ISAC mission and share crisis information and analysis towards mitigating the threats and attacks. Lessons learned and recommendations are shared with exercise participants via restricted reports, and are also shared publically at a high level.

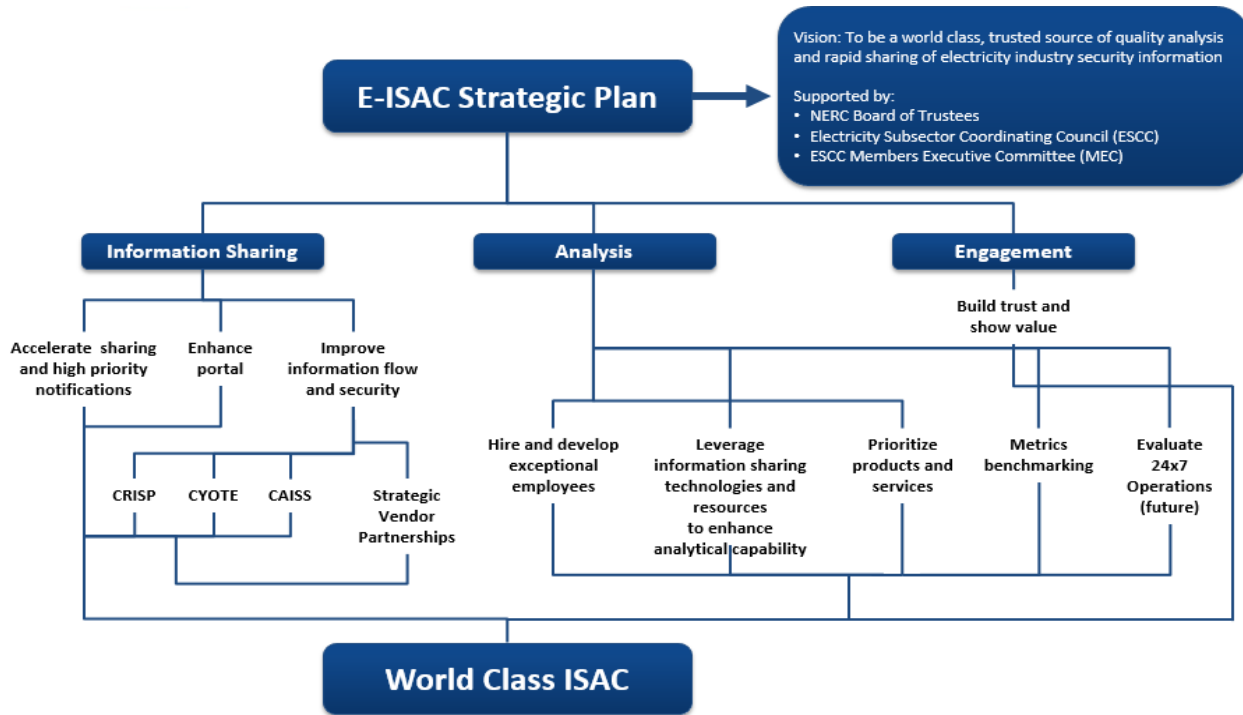
Also since 2011, NERC has sponsored an annual grid security conference (GridSecCon). This conference brings together hundreds of industry and government subject matter experts on cyber, physical, and operations technology threats and solutions, with training sessions and classified or official use briefs on topics vital to grid security. The E-ISAC provides expertise and gathers appropriate speakers, panelists, and training providers.

E-ISAC staff also routinely engages stakeholders through monthly briefings and threat workshops. The briefings cover timely physical and cyber security topics with regards to critical infrastructure protection. Private and government partner representatives, including those from the U.S. Department of Homeland Security (DHS) National Cybersecurity and Communications Integration Center (NCCIC), regularly discuss current events and risk mitigation strategies within the electricity industry audience. Special guest speakers from industry or security analysis firms also provide coverage of emerging threats and mitigation information.

Key Efforts Underway: E-ISAC Long-Term Strategy

At the request of the Board and under the guidance of the ESCC and the ESCC MEC, E-ISAC executive leadership developed a long-term strategic plan, a copy of which is included as *Exhibit E – E-ISAC Long-Term Strategy*. The goal of the long-term strategic plan is to build the E-ISAC into a world-class, trusted source of quality analysis and rapid sharing of electricity industry security information. The MEC approved the long-term strategy on April 24, 2017. The strategy was accepted by the Board on May 11, 2017 and incorporated into NERC's 2018 BP&B that was approved by both the Board and FERC. The E-ISAC's long-term strategy contemplates a measured increase in resources over a five-year period, with the exact timing of resource additions dependent on progress in execution of the long-term strategy and NERC's annual BP&B process. Resource increases to augment existing capabilities for 2019 are detailed below under *2019 Goals and Deliverables*, and in the attachment to Exhibit E, *Expanding E-ISAC Operations to Include 24x7 Onsite Operations*.

The three primary elements of the E-ISAC's long-term strategy are depicted in the chart below: information sharing, analysis, and engagement.



Information Sharing

Timely and effective information sharing is critical to security risk identification and mitigation. Long-term strategy focus areas include the development and implementation of high priority notification procedures, automated information sharing technology, improving the functionality of the E-ISAC portal, and improving access of personnel to classified intelligence sources. The E-ISAC communication portal capabilities include publishing immediate notifications and other informational products, exchanging threat indicator information, and providing self-service access to user security awareness services. With the support of the IT department, the E-ISAC installed a completely new communication portal, incorporating important enhancements with improved functionality and capabilities, such as facilitating direct data exchange with E-ISAC members, other ISACs, and government partners, and establishing user communities that allow registered users to discuss security issues.

Additionally, beyond the portal notifications, the E-ISAC developed the Critical Broadcast Program (CBP) to deliver information rapidly to stakeholders about emerging security threats, based on the best analysis available at the time, with follow-on updates as more details emerge. The CBP allows a faster response to events and a higher level of awareness for members provided by E-ISAC analysts.

The E-ISAC has also broadened automated information sharing capabilities beyond CRISP, piloting a program using the Structured Threat Information Expression/Trusted Automated Exchange of Indicator Information (STIX/TAXII) protocols in use by many organizations, including the DHS. During 2017 and early 2018, the E-ISAC and several industry partners piloted the Cyber Automated Information Sharing System (CAISS). The pilot evaluated technological solutions for bi-directional communication, workflow between participants, the handling and vetting of shared information, and lessons learned from the technology and processes overall. The CAISS pilot will transition to an operational program in 2018 and will be available for voluntary participation from industry asset owners and operators.

Analysis

E-ISAC management is making strategic investments in hiring and training skilled security analysts, identifying and leveraging additional technology, enhancing relationships with and access to government analysis sources, and developing strategic vendor relationships. Working with the NERC IT department, the E-ISAC is building a high-capacity data warehouse to support increasingly complex analytical needs. The data warehouse will assimilate all of the data feeds (including CRISP data) and allow greater correlation and pattern analysis by E-ISAC staff.

Building and maintaining highly skilled cyber and physical security analysis teams is a focus for the E-ISAC, and resource additions are necessary to provide the advanced skills required for analysis in an evolving and complex threat environment. The E-ISAC will also evaluate and where appropriate contract with outside service providers with security analysis expertise to support highly specialized analytical needs, as well as to supplement in-house capabilities.

The E-ISAC is also evaluating several strategic vendor relationships to provide additional data sources from an even wider range of industry participants to both strengthen and enhance existing programs, such as CRISP and CAISS. Available data sources, together with associated technological and analytical capabilities, will be identified, evaluated and, as appropriate, piloted with E-ISAC members to ensure viability.

Engagement

Successful engagement with the electric sector and other stakeholders is critical to cyber and physical security risk identification and mitigation. There are many factors affecting increasing industry engagement, but perhaps the most vital is the trust of the members that shared information is protected. The E-ISAC has made and continues to make significant investments in physical and cyber security systems, procedures, training, and testing to ensure the security of industry data, and adopted a code of conduct to programmatically safeguard information shared by members.

After a successful pilot phase with several Large Public Power Council members, the E-ISAC recently launched an industry augmentation program that embeds industry security analysts at the E-ISAC to interact with E-ISAC staff, observe data collection and handling procedures, and share their own expertise with E-ISAC personnel. Participants also provide valuable feedback regarding their organizations' security practices and needs, which helps inform ongoing and future practices and programs within the E-ISAC.

The E-ISAC also regularly interacts with industry members, in coordination with the National Rural Electric Cooperative Association (NRECA), American Public Power Association (APPA), EEI, and CEA, by providing analyst briefings and information regarding E-ISAC programs and services. Through regional security events, such as NRECA's Rural Cooperative Cybersecurity Capabilities Program, the E-ISAC ensures that actionable security information is available across the industry landscape. The location of GridSecCon is rotated through a different Regional Entity each year. The E-ISAC is committed to being responsive to the needs of the wide range of industry members.

As described above, the new E-ISAC portal includes a user community capability that will allow groups of stakeholders with similar security concerns to collaborate directly with E-ISAC staff on a trusted, secure platform. Building on lessons learned from CRISP participants, the user communities will bring together expertise regarding common areas of issue and build trust through increased interaction among stakeholders.

Additionally, the E-ISAC is continually working to strengthen relationships between industry and government. These relationships are practiced regularly during GridEx and other exercises, and help build understanding between stakeholders that would be vital in responding to any crisis to the grid. Interfacing

smoothly with the government intelligence community would bring with it increased access to government-informed threat information and analysis, and a proposed specific function of additional E-ISAC staff. The E-ISAC is also engaged in regular communications with the DOE, DHS, and the FERC Office of Energy and Infrastructure Security, as well as continuing to build on its cross sector relationships with the other ISACs (financial sector, water, communications, and nuclear).

2019 Goals and Deliverables

The E-ISAC remains focused on furtherance of the strategic efforts discussed above as 2019 marks the second year of the *E-ISAC Long-Term Strategy*. The following discusses areas of increased resource needs to fulfill strategic efforts in 2019 and the overall impact to the E-ISAC budget.

Resources for 2019 Strategy

Watch Operations is the principal entry and egress point for information sharing between the E-ISAC and its members and partners. Information—both required reporting as well as voluntary shares—flows into the organization via portal postings, emails, phone calls, and other means and receives initial analysis by Watch Officers to determine (1) the severity of the event, (2) if it is part of an ongoing series of related event, and (3) whether it rises to the level that requires a “deeper dive” by cyber and physical security subject matter experts. The results of that analysis are shared in a format of greatest benefit to the recipient (operational intelligence for network defenders, recommended actions for leadership, the CBP, etc.). In effect, Watch Operations is responsible for sharing the “so what” that best allows the stakeholders to take the appropriate actions.

With the full support and encouragement of the MEC, the E-ISAC has evaluated resource requirements and options to phase in a 24x7 capability to more rapidly respond to threats outside of normal business hours, beyond a Watch Officer duty rotation. Details of this evaluation are available in the attachment to Exhibit E, *Expanding E-ISAC Operations to Include 24x7 Onsite Operations*.

The E-ISAC also requires expertise necessary to maintain critical links with the intelligence community, which is vital to supporting core analytical and information sharing functions. Key responsibilities of the Government Intelligence Interface team include (1) gathering intelligence community information relevant to the electricity sector and making timely reports of this information (edited as appropriate to avoid disclosure of classified information) available to industry through the E-ISAC, (2) providing electricity sector subject matter expertise required by the intelligence community to inform their intelligence efforts and enhance electricity sector security, (3) facilitating recurring threat update briefings with industry leadership and technical management at both secret and higher classification levels, and (4) supporting collaborative analysis of information between the E-ISAC and the intelligence community.

In support of the needs discussed above, in 2019 resources are being added to the E-ISAC as follows: four cyber analysts, four Watch officers (two for 24x7 capabilities), and one addition to the Government Intelligence Interface team. This increase is primarily to address immediate needs for increased analytical capabilities and expanded watch capabilities outside standard working hours as a first phase in providing the necessary resources for 24x7 operations. In addition, to support E-ISAC operations, two corporate support positions are being added, one in IT (business requirements analyst) and one in the finance area (budget analyst), as further outlined in the long-term strategy.

Additionally, the nature of evolving security threats requires ongoing specialized training and education for E-ISAC staff. As mentioned in the analysis section above, each technically-focused staff member requires significant resources to stay current in their field of expertise and obtain or maintain their certifications. Training requirements for 2019 have been identified and are reflected in personnel expense.

Budget Impacts of 2019 Strategy

The total budget increase for E-ISAC in 2019 is \$5.5M, of which \$3.5M is directly attributed to the costs for the second year of the E-ISAC long-term strategy, with the remaining \$2.0M increase due primarily to the resulting allocation of indirect costs. Building on the resources and foundation put in place in the 2018 BP&B, the E-ISAC 2019 budget reflects a continued measured approach in strengthening the required resources and technology required to support the three primary elements of the E-ISAC's long-term strategy: information sharing, analysis, and engagement.

Resource Requirements

Personnel

The increase of 9 positions (8.46 FTEs) is to address the analytical capabilities discussed above in support of the long-term strategy for the E-ISAC. An additional two positions (1.88 FTEs) are being added to Administrative Programs areas for E-ISAC support activities.

Consultants and Contracts

Consultant and contract expenses for the E-ISAC for 2019, including CRISP, are approximately \$8.3M, which is an increase of \$886k from the 2018 budget. CRISP's consultant and contracts expenses are \$6.5M, which is \$166k more than was in the 2018 budget. Total E-ISAC increases in 2019 are largely due to funding for GridEx planning, funding for vendor support costs to advance CRISP and other cyber security program participation by smaller municipal utilities, further enhancing the E-ISAC portal capabilities, and strengthening overall analytical capacity and capabilities. A detailed breakdown of the budgeted 2018 and 2019 costs is provided in *Exhibit B – Consultant and Contractor Costs*.

Other Costs

The \$250k increase for leasehold improvements is for facility costs associated with the growth in the E-ISAC in support of the E-ISAC long-term strategy. The \$200k increase for computer and software capital expenditures is attributed to the upgrade for SAFNR, for which the total capital expenditure of \$600k is split between Situation Awareness and the E-ISAC.

Section A – 2019 Business Plan and Budget Program Area and Department Detail

Statement of Activities and Fixed Assets Expenditures					
2018 Budget & Projection, and 2019 Budget					
E-ISAC (including CRISP)					
	2018 Budget	2018 Projection	Variance 2018 Projection v 2018 Budget Over(Under)	2019 Budget	Variance 2019 Budget v 2018 Budget Over(Under)
Funding					
ERO Funding					
NERC Assessments	\$ 14,297,524	\$ 14,297,524	\$ -	\$ 19,627,897	\$ 5,330,373
Assessment Stabilization Reserve - Penalties	134,783	134,783	-	155,517	20,735
Total NERC Funding	\$ 14,432,307	\$ 14,432,307	\$ -	\$ 19,783,414	\$ 5,351,107
Third-Party Funding					
Testing Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Workshops	70,000	70,000	-	70,000	-
Interest	24,038	75,459	51,421	55,859	31,822
Miscellaneous	-	-	-	-	-
Total Funding	\$ 21,850,597	\$ 21,797,147	\$ (53,451)	\$ 27,395,627	\$ 5,545,030
Expenses					
Personnel Expenses					
Salaries	\$ 4,634,838	\$ 4,326,752	\$ (308,087)	\$ 6,297,594	\$ 1,662,756
Payroll Taxes	290,702	256,721	(33,982)	384,429	93,727
Benefits	578,849	551,542	(27,306)	825,677	246,828
Retirement Costs	499,793	410,639	(89,154)	672,423	172,630
Total Personnel Expenses	\$ 6,004,182	\$ 5,545,653	\$ (458,529)	\$ 8,180,123	\$ 2,175,942
Meeting Expenses					
Meetings	\$ 127,000	\$ 127,000	\$ -	\$ 127,000	\$ -
Travel	291,000	319,206	28,206	291,000	-
Conference Calls	-	9,455	9,455	-	-
Total Meeting Expenses	\$ 418,000	\$ 455,661	\$ 37,661	\$ 418,000	\$ -
Operating Expenses					
Consultants & Contracts	\$ 7,391,794	\$ 7,491,594	\$ 99,800	\$ 8,278,000	\$ 886,206
Office Rent	-	-	-	-	-
Office Costs	907,330	909,443	2,113	903,196	(4,134)
Professional Services	250,000	204,366	(45,634)	250,000	(0)
Miscellaneous	500	500	-	500	-
Depreciation	85,136	101,397	16,261	118,296	33,160
Total Operating Expenses	\$ 8,634,760	\$ 8,707,300	\$ 72,540	\$ 9,549,992	\$ 915,232
Total Direct Expenses	\$ 15,056,942	\$ 14,708,614	\$ (348,328)	\$ 18,148,115	\$ 3,091,173
Indirect Expenses	\$ 6,519,415	\$ 6,039,624	\$ (479,790)	\$ 9,004,572	\$ 2,485,157
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses (A)	\$ 21,576,357	\$ 20,748,238	\$ (828,118)	\$ 27,152,687	\$ 5,576,330
Change in Assets	\$ 274,241	\$ 1,048,908	\$ 774,668	\$ 242,940	\$ (31,301)
Fixed Assets					
Depreciation	\$ (85,136)	\$ (101,397)	\$ (16,261)	\$ (118,296)	\$ (33,160)
Computer & Software CapEx	100,000	100,000	-	300,000	200,000
Furniture & Fixtures CapEx	-	-	-	-	-
Equipment CapEx	-	-	-	-	-
Leasehold Improvements	150,000	150,000	-	400,000	250,000
Allocation of Fixed Assets	109,377	(226,162)	(335,538)	(338,764)	(448,141)
Inc(Dec) in Fixed Assets (B)	\$ 274,241	\$ (77,559)	\$ (351,800)	\$ 242,940	\$ (31,301)
TOTAL BUDGET (=A+B)	\$ 21,850,597	\$ 20,670,680	\$ (1,179,918)	\$ 27,395,627	\$ 5,545,030
FTEs	29.14	23.22	(5.92)	37.60	8.46

Training, Education, and Personnel Certification

Training, Education, and Personnel Certification (in whole dollars)			
	2018 Budget	2019 Budget	Increase (Decrease)
Total FTEs	5.88	3.76	(2.12)
Direct Expenses	\$ 1,708,013	\$ 1,369,674	\$ (338,339)
Indirect Expenses	1,314,398	889,330	(425,069)
Other Non-Operating Expenses	-	-	-
Inc(Dec) in Fixed Assets	20,613	(35,379)	(55,991)
TOTAL BUDGET	\$ 3,043,024	\$ 2,223,625	\$ (819,399)

Background and Scope

Training and Education

The Training and Education program provides oversight for coordination and delivery of learning materials, resources, and activities to allow for training and education of (1) ERO Enterprise staff supporting statutory and delegation-related activities and (2) BPS industry participants consistent with ERO functional program requirements.

The Training and Education program supports NERC's responsibilities to develop, adopt, and obtain approval of Reliability Standards and to monitor, enforce, and achieve compliance with the mandatory standards. Section 901 of the NERC ROP addresses the program's obligations to industry stakeholders and ERO Enterprise staff. The responsibility to participate in the program is shared among the NERC departments,³⁵ in conjunction with the ERO Enterprise working groups.

NERC's Continuing Education program acknowledges high-quality learning activities within the electric utility industry by approving continuing education providers that meet NERC guidelines and standards. System Operator Certification, which is detailed below, is maintained by completing NERC-approved continuing education courses and activities. The OC's Personnel Subcommittee, composed of industry training experts, provides oversight of the Continuing Education program. Section 902 of the NERC ROP addresses the specific continuing education program expectations and activities.

Personnel Certification

The System Operator Certification program ensures that personnel operating the BPS have the skills, training, and qualifications needed to operate the system reliably. NERC maintains credentials for over 7,500 System Operator credential holders who work in various industry areas across North America. NERC's System Operator Certification exam is designed to test specific knowledge of job skills and Reliability Standards, and prepares operators for complying with requirements of Reliability Standards and appropriately operating the BPS during normal and emergency operations. The System Operator Certification program is governed by the NERC Personnel Certification Governance Committee (PCGC), an industry group of operations experts, trainers, and supervisors. Certification exams are created by the PCGC's Exam Working Group (EWG), an industry group of operations subject matter experts. Under the PCGC oversight, the EWG reviews and updates job tasks and certification exams. Section 600 of the NERC ROP addresses the Personnel Certification activities in the area of System Operator Certification.

³⁵ The Human Resources department is also engaged in training initiatives.

Key Efforts Underway

Training and Education

The ERO provides learning materials, resources, and activities to assist industry and ERO Enterprise staff in their understanding of key program areas. These areas include:

- Reliability Standards;
- Risk-based compliance monitoring and enforcement;
- Organization Registration and Certification;
- Event Analysis, cause analysis, Performance Analysis, and lessons learned;
- RASA; and
- Continuing education for System Operators.

Personnel Certification

The Personnel Certification department is performing the following activities:

- Continuing to update the System Operator Certification Exam Item Bank to ensure relevance to current Reliability Standards and promote reliability of the BPS;
- Developing the exam “skills assessment” process to better assess the skills and knowledge of System Operators;
- Developing a strategic plan for the System Operator Certification program; and
- Evaluating credential review and rationalization to maintain credentials.

Additionally, the PCGC approved and launched the System Operator Certification Continuing Education Database (SOCCED) to a new platform in 2018. The new platform will provide accurate and meaningful data to assist with the System Operator Certification program.

2019 Goals and Deliverables

Training and Education

The annual NERC and ERO Enterprise Learning Priorities Plan articulates and prioritizes the accumulated learning needs for the ERO Enterprise and the potential delivery vehicles supporting achievement of the *ERO Enterprise Operating Plan* goals. Development and management of the annual plan is exercised through monthly meetings to ensure priorities are reviewed and updated based on the changing business landscape informed through input received by the various functional program managers on behalf of their respective programs, ERO Enterprise working groups, and leadership teams.

An objective-based approach describing audience needs facilitates identification and formulation of products throughout the year. It inspires modular (interchangeable parts or building blocks) thought in implementing a cross-cutting multi-use product model. Production is accomplished by combining in-house expertise and tools with vendor support to increase bandwidth that positively impacts the quality and timeliness of customer service.

NERC program leads spearhead the effort to identify gaps in program knowledge and associated learning needs of their employees, industry stakeholders, and ERO Enterprise partners. The following objectives serve as foundational building blocks for ongoing learning development work and will inform the priorities of focus in 2019 and beyond:

- Educate industry on managing risk to the reliability of the BPS based on the results of technical assessment and analysis, standards development, and human performance knowledge.
- Enhance ERO Enterprise compliance monitoring personnel performance through a deeper understanding of ERO Enterprise compliance monitoring processes and technical aspects of the BPS operations.
- Improve NERC employee understanding of NERC functions and core technical knowledge for regulating the BES.

NERC will deliver training and education products and resources by hosting workshops and webinars, as well as computer-based and instructor-led training courses. The responsibility for subject matter expertise input to the learning development process is shared among multiple departments at NERC. The Training and Education department provides coordination and synchronization efforts for shared NERC and ERO Enterprise learning responsibilities in addition to advancing and improving the skills of the NERC operating staff. The Human Resources department funds and manages the delivery of individual corporate employee training and continuing education programs in concert with the coordination efforts of the Training and Education department.

The Continuing Education program evaluates and revises the current program criteria as reflected in the program manual. The evaluation considers the growth and maturation of industry programs, as well as ongoing research in the area of adult learning to ensure that the Continuing Education program efforts improve core objectives in addition to fostering improvement of training and promoting quality industry training programs in general. The Continuing Education program will remain focused on NERC System Operator credential maintenance in 2019. The program will share funding responsibilities with the Personnel Certification program for SOCCED and the associated help desk tool.

Personnel Certification

With the successful delivery of the certification exams using Linear on the Fly Testing (LOFT), which is the dynamic creation of exams, the PCGC has reduced the exam delivery cycle from 36 months to a dynamic process every time an exam is initiated by a candidate. As part of the ongoing exam development cycle, the EWG will continue to develop and analyze new items for future certification exams and ensure relevancy to current Reliability Standards.

In 2019, the PCGC will focus on further development of the System Operator Certification program strategic plan, which will include but is not limited to analyzing data from the System Operator Certification program survey and white papers to the industry. The PCGC is dedicated to enhancing the System Operator Certification program to assure reliable operation of the BPS. Key deliverables for the System Operator Certification program include:

- Annual analysis of the System Operator Certification Exam Item Bank;
- New exam items;
- Enhancement to the credential maintenance tool; and
- Strategic plan action items for program enhancements.

Personnel Certification will continue to work with industry stakeholders and the exam development vendor to create certification exams that will promote reliability of the BPS.

Resource Requirements

Personnel

The 2.12 reduction in FTEs is the result of the elimination of one open position from the Training, Education, and Personnel Certification department and the reallocation of resources to realign staff with current needs.

Consultants and Contracts

Consultant and contract expenses decreased to \$335k for 2019 from \$348k in 2018, primarily due to decreased costs to support the continuing education program, partially offset by an increase in support costs for course development. A detailed breakdown of 2018 and 2019 budgeted expenses is shown in *Exhibit B – Consultant and Contract Costs*.

Other Costs

The \$64k increase for office costs is due primarily to software subscription and support costs for the new database system, which is being reclassified from contracts and consultants in the 2018 budget.

Section A – 2019 Business Plan and Budget Program Area and Department Detail

Statement of Activities and Fixed Assets Expenditures					
2018 Budget & Projection, and 2019 Budget					
TRAINING, EDUCATION, and PERSONNEL CERTIFICATION					
	2018 Budget	2018 Projection	Variance 2018 Projection v 2018 Budget Over(Under)	2019 Budget	Variance 2019 Budget v 2018 Budget Over(Under)
Funding					
ERO Funding					
NERC Assessments	\$ 1,309,031	\$ 1,309,031	\$ -	\$ 569,839	\$ (739,192)
Assessment Stabilization Reserve - Penalties	17,391	17,391	-	7,586	(9,805)
Total NERC Funding	\$ 1,326,422	\$ 1,326,422	\$ -	\$ 577,426	\$ (748,997)
Third-Party Funding					
Testing Fees	1,790,000	1,689,757	(100,243)	1,790,000	-
Services & Software	-	-	-	-	-
Workshops	-	-	-	-	-
Interest	4,060	17,839	13,779	4,873	814
Miscellaneous	-	-	-	-	-
Total Funding	\$ 3,120,482	\$ 3,034,018	\$ (86,464)	\$ 2,372,299	\$ (748,183)
Expenses					
Personnel Expenses					
Salaries	\$ 701,307	\$ 532,876	\$ (168,431)	\$ 461,613	\$ (239,694)
Payroll Taxes	52,088	43,197	(8,892)	34,613	(17,475)
Benefits	95,207	73,777	(21,430)	78,388	(16,820)
Retirement Costs	79,353	62,239	(17,113)	51,167	(28,185)
Total Personnel Expenses	\$ 927,956	\$ 712,089	\$ (215,867)	\$ 625,781	\$ (302,175)
Meeting Expenses					
Meetings	\$ 44,250	\$ 44,250	\$ -	\$ 44,250	\$ -
Travel	17,000	16,353	(647)	17,000	-
Conference Calls	-	6,735	6,735	1,200	1,200
Total Meeting Expenses	\$ 61,250	\$ 67,338	\$ 6,088	\$ 62,450	\$ 1,200
Operating Expenses					
Consultants & Contracts	\$ 598,900	\$ 598,900	\$ -	\$ 497,000	\$ (101,900)
Office Rent	-	-	-	-	-
Office Costs	117,969	118,197	228	182,024	64,055
Professional Services	-	-	-	-	-
Miscellaneous	500	500	-	500	-
Depreciation	1,439	1,919	480	1,919	480
Total Operating Expenses	\$ 718,808	\$ 719,516	\$ 708	\$ 681,443	\$ (37,364)
Total Direct Expenses	\$ 1,708,013	\$ 1,498,942	\$ (209,071)	\$ 1,369,674	\$ (338,339)
Indirect Expenses	\$ 1,314,398	\$ 1,295,320	\$ (19,078)	\$ 889,330	\$ (425,069)
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses (A)	\$ 3,022,411	\$ 2,794,262	\$ (228,149)	\$ 2,259,004	\$ (763,408)
Change in Assets	\$ 98,071	\$ 239,756	\$ 141,686	\$ 113,295	\$ 15,224
Fixed Assets					
Depreciation	\$ (1,439)	\$ (1,919)	\$ (480)	\$ (1,919)	\$ (480)
Computer & Software CapEx	-	-	-	-	-
Furniture & Fixtures CapEx	-	-	-	-	-
Equipment CapEx	-	-	-	-	-
Leasehold Improvements	-	-	-	-	-
Allocation of Fixed Assets	22,052	(48,505)	(70,557)	(33,460)	(55,511)
Inc(Dec) in Fixed Assets (B)	\$ 20,613	\$ (50,424)	\$ (71,037)	\$ (35,379)	\$ (55,991)
TOTAL BUDGET (=A+B)	\$ 3,043,024	\$ 2,743,838	\$ (299,186)	\$ 2,223,625	\$ (819,399)
FTEs	5.88	4.98	(0.90)	3.76	(2.12)

Administrative Programs

Administrative Programs (in whole dollars)						
	Direct Expenses and Fixed Assets			FTEs		
	2018 Budget	2019 Budget	Increase (Decrease)	2018 Budget	2019 Budget	Increase (Decrease)
General & Administrative	\$ 10,096,147	\$ 10,654,921	\$ 558,774	15.98	14.10	(1.88)
Legal and Regulatory	2,914,377	3,878,791	964,414	10.34	13.16	2.82
Information Technology	11,266,626	11,696,532	429,907	22.33	23.50	1.18
Human Resources & Administration	1,704,459	2,562,371	857,913	2.82	9.40	6.58
Finance and Accounting	4,008,326	2,553,747	(1,454,579)	15.98	7.52	(8.46)
Total Administrative Programs	\$ 29,989,934	\$ 31,346,363	\$ 1,356,429	67.45	67.68	0.23

Program Scope and Functional Description

NERC's Administrative Programs area includes the budget for all business and administrative functions of the organization, including (1) General & Administrative, which includes Board fees and expenses, the CEO, CRO and support staff, communications, external affairs and governmental relations, and office rent; (2) Legal and Regulatory; (3) Information Technology; (4) Human Resources & Administration; (5) Finance and Accounting; and (6) other general administrative expenses necessary to support program area activities. These functions are necessary to the existence and functioning of the organization and support the performance of NERC's ERO statutory activities. The costs of the Administrative Programs functions are allocated to the statutory programs as indirect expenses. The resource requirements and comparative budget information for each of these functions are described below.

Technical Committees and Members' Forum Program

While NERC management and staff will continue to interact with and support numerous reliability-related forums (e.g., the NATF and NAGF), NERC's 2019 budget does not contain specific funding for any forum activities.

General & Administrative

Background and Scope

The General & Administrative area is responsible for the administration and general management of the organization. Expenses allocated in this area include office rent as well as personnel and related costs of (1) the CEO, the CRO, and their support staff; (3) communications, external affairs, and government relations staff; and (4) Board costs. The 1.88 decrease in FTEs is the result of resource allocations to realign staff with current needs. Consultant and contract expenses for this area are increasing \$140k due to consulting work for strategic support for the E-ISAC and effectiveness and efficiency initiative.

The following table details the Board costs included in the total costs of the General and Administrative area.

Board of Trustee Expenses	Budget	Budget	Variance	
	2018	2019	2019 Budget v 2018 Budget	Variance %
Meeting and Travel Expenses				
Quarterly Board Meetings	\$ 185,000	\$ 185,000	\$ -	0.0%
Trustee Travel	130,000	130,000	-	0.0%
Total	\$ 315,000	\$ 315,000	\$ -	0.0%
Professional Services				
Independent Trustee Fees	\$ 1,237,500	\$ 1,410,000	\$ 172,500	13.9%
Trustee Search Fees	100,000	100,000	-	0.0%
Total	\$ 1,337,500	\$ 1,510,000	\$ 172,500	12.9%
Total	\$ 1,652,500	\$ 1,825,000	\$ 172,500	10.4%

The increase in independence trustees fees is due to (1) the results of the 2018 annual review and periodic independent study of trustee compensation, which recommended, subject to approval by the Board, a \$5,000 increase per trustee each year for 2019–2021, and (2) the addition of a trustee per the Board’s decision to search for this new trustee in 2018 instead of 2019. This decision was made to reduce the number of trustee searches that would need to be conducted in 2019 as a result of the coinciding term expirations of two current trustees.

Legal and Regulatory

Background and Scope

The Legal and Regulatory department supports the following key NERC program areas: Compliance Analysis, Organization Certification and Registration, RASA, RRM, and Reliability Standards. In addition, the Legal and Regulatory department is responsible for providing a wide range of legal support to the NERC management team regarding antitrust, corporate, commercial, insurance, contract, employment, real estate, copyright, tax, legislation, and other legal matters. The department also addresses legal and regulatory matters that arise in connection with the delegation agreements with the Regional Entities. Lastly, the Legal and Regulatory department also includes the internal audit and corporate risk management functions.

Resource Requirements

Personnel

The increase of three positions (2.82 FTEs) is the result of resource allocations to realign staff with current needs.

Professional Services

Outside law firms and consultants supporting this area are budgeted and tracked as Professional Services. The Professional Services budget for 2019 increased \$50k as compared to 2018 primarily due to added support costs for the E-ISAC strategy.

Information Technology

Background and Scope

NERC's IT department plan includes capital and operating expenses required to support, build, configure, and enhance applications that serve registered entities, Regional Entities, and NERC staff. The plan also includes work related to ERO Enterprise data analysis, as well as ongoing NERC and E-ISAC internal operations.

The focus of budget funding for 2019 and 2020 is primarily on applications designed to better support effectiveness and consistency across the ERO Enterprise in the areas of Reliability Standards, Compliance Monitoring, Enforcement, Registration, and the associated assessment of reliability risk. These applications include the CMEP Technology Project and complementary solutions for entity registration and standards data. The entity registration application will consolidate core registration functions currently distributed across three applications into a single registration application. In similar fashion, the three applications used across NERC and the Regional Entities for enforcement processing will be replaced by a single common application that also provides compliance monitoring functionality. Additionally, a standards database solution will be developed to work in concert with the compliance and enforcement application. These investments will provide broad benefits across the ERO Enterprise in terms of the effectiveness and efficiency of operations and meeting reliability goals. Additionally, by providing more tools and systems to registered and Regional Entities, associated economies of scale will result from these investments, increasing value across the ERO Enterprise in the years to come.

The 2019–2021 planning period also includes improvements to NERC's public facing website (NERC.com), funding for GADS solar data (GADS Solar), GADS wind data (GADS Wind), and a rewrite or replacement of the Resource Adequacy application.

The IT budget is broken down into four categories as follows:

- **ERO Enterprise new functionality** – Items listed in this category are those items designed to add, enhance, or improve capabilities for registered entities, Regional Entities, and NERC staff. This includes the Entity Registration application, the CMEP Technology Project, NERC.com, and other applications.
- **ERO Enterprise infrastructure and support** – Items listed in this category are those infrastructure and support items required for applications used by registered entities, Regional Entities, and NERC staff. Items include security and applications used by the ERO Enterprise such as The Events Analysis Management System (TEAMS), the Bulk Electric System Notification and Exception System tool (BESnet), the Standards Balloting System (SBS), the Reliability Coordinator Information System (RCIS), User Management and Records (UMR), and numerous other applications.
- **NERC new functionality** – There is no new functionality targeted for NERC in the 2019–2021 planning period. The budget continues to be heavily focused on improving the registered entity and Regional Entity experience.
- **NERC infrastructure and support** – Items listed in this category are primarily those items required to maintain and run the internal office infrastructure and support NERC staff operations, including business continuity and disaster recovery. Items include server hardware and software licenses, network equipment, data and telecommunication circuits, and data storage, as well as office administrative applications (e.g., Microsoft Office) and user hardware such as laptops and peripherals.

A further discussion of each item is outlined below.

ERO Enterprise New Functionality

As noted above, this category is primarily those applications or systems designed to improve or add capability to registered entities, Regional Entities, and NERC staff. Over the past two years, IT has successfully deployed a number of new applications and functionalities for the ERO Enterprise that have now moved into support. In 2019 and beyond, IT will continue that trend with a heavy focus on Entity Registration and the CMEP Technology Project.

- **Entity Registration** – The objective of the Entity Registration application is to take the core registration functions currently distributed across three systems—the OATI Compliance Data Management System (webCDMS), Guidance Compliance Information Tracking System (CITS), and Guidance CRATS—and move those functions to a single, consolidated registration system. Doing so will allow for an expansion of current functionality, more control over the future of the application, and ultimate reduction in costs through the long-term transfer of the remaining functions provided by those three systems into a single, common system.

This program is being implemented via multiple projects over four years. This first project in 2017 addressed the registration, tracking, and management of CFRs. Subsequent projects will address Joint Registration Organizations (JROs), tracking coordinated oversight of MRREs, consolidating all existing entity registration functions into a single platform, adding validation of business relationships and functional responsibilities, and the capability to integrate reliability and compliance data for risk analysis purposes (supporting the creation of an entity’s risk profile).

- **CMEP Technology Project** – IT will work closely with the Regional Entities through 2020 to evaluate and implement strategic investments in tools that replace the current three applications mentioned above with a single, consolidated application. The scope of the project includes how Reliability Standards and entity registration data will be integrated with the tool, as well as how best to support the various parts of the CMEP process (e.g., analysis of risk, development of implementation plans and audit schedules, actual compliance monitoring, and enforcement processing). For more information on the CMEP Technology Project, see *Exhibit F – CMEP Technology Project*.

Funding for any capital investments in these areas will be subject to review and approval as part of the BP&B application in the year when such investments are proposed to be made. Prior to actual start of each project, the project will be reviewed through the enterprise information technology investment planning process to ensure the project’s estimated costs and benefits are reasonable and justify investment. For more information on this process, see *Robust Planning for New Capital Projects* section below.

- **Additional tools** – IT will continue to support the business in future years through the provision of software products that meet the analysis, communication, data collection, and analysis needs of the ERO Enterprise. Examples include the collection and analysis of solar generation performance data, further analysis of wind generation performance data, additional data collection and analysis to support and enhance reliability assessments, and further improvement of the effectiveness and efficiency of communications with stakeholders and industry participants.

ERO Enterprise Infrastructure and Support

This category primarily consists of items used by registered entities, Regional Entities, and NERC staff. IT has worked closely with the Regional Entities to design and configure a number of ERO Enterprise applications, with a bias toward using commercial-off-the-shelf (COTS) technology whenever possible. Infrastructure and support for these COTS tools (such as SharePoint and the Dynamics xRM platform), as

well as custom built applications developed in the past, require ongoing investment to maintain continuous operations. For many applications and systems, this includes the cost of maintaining development, quality assurance, and staging and production environments, which are required to ensure the security and operational integrity and stability of the multiple applications supported for the ERO Enterprise, including the necessary redundancy and business continuity hardware, network and licenses to ensure operational availability of these important business assets. These applications and systems are monitored, tested (including penetration and vulnerability testing), and maintained in a manner as to ensure the highest level of integrity, security, and availability to the roughly 4,000 users across North America.

IT continues to place emphasis on ensuring the environment is configured in a manner consistent with enterprise best practices, ensuring the security and integrity of the environment while allowing ERO Enterprise users to obtain the information and resources required to perform various analyses. Ongoing support for new applications, such as The Event Analysis Management System (TEAMS), the Misoperations Information Data Analysis System (MIDAS), the Standards Balloting System (SBS), and the Reliability Assessment Data System (RADS), in addition to numerous older ERO Enterprise products (such as GADS, TADS, and DADS), make up this portion of the IT budget.

NERC New Functionality

There is no new functionality planned for the NERC environment in the 2019–2021 planning period.

NERC Infrastructure and Support

As previously noted, NERC infrastructure and support are those items required to maintain and support the internal infrastructure for NERC staff, to include those items necessary for business continuity and disaster recovery. Items such as file servers, network equipment, storage, Microsoft Office (Word, Excel, PowerPoint, Email, SharePoint, etc.), along with security and telecommunications, are required to ensure staff have the necessary tools and technology to perform their daily operational functions. Emphasis continues to be placed on optimizing the amount of effort placed on NERC infrastructure and support in order to minimize spend on internal office steady state operations, allowing a larger portion of IT resources to focus on new ERO Enterprise functionality as well as ERO Enterprise infrastructure and support. Examples of items included in internal operations are outlined below:

- **CRATS** – This compliance database is used to track violations, mitigation plans, and reporting required by NERC as the ERO. The database has additional modules, such as the Reliability Standards, Technical Feasibility Exceptions (TFEs), and Registration module, which contains a list of all registered entities. Funding requirements include ongoing maintenance for the CRATS compliance tool. As noted above, the CRATS application will be replaced in 2020 by an enterprise CMEP tool used by NERC, the Regional Entities, and registered entities. Reduced funding for support of the CRATS application in 2020 and beyond will be required for historical purposes.
- **Meeting manager, ERO membership, central repository of curtailment events** – NERC maintains a number of legacy applications. Many of the legacy applications were developed and implemented five to ten years ago and are unable to benefit from contemporary application development. Some of these applications may have to be completely rewritten, or moved to the xRM application platform, as IT was able to do with Application Broker, NERC MyAccount, and the User Management Program (UMP) in 2016. Funding in 2019–2021 is required for ongoing maintenance and enhancements until the applications can be rewritten or moved to the xRM platform or, in some cases, potentially divested or transferred to industry support.
- **Quarterly penetration and vulnerability testing of all NERC networks and systems** – Expert consulting services to provide intrusion detection and vulnerability testing of NERC.com and NERC’s network, applications, and systems, is an essential requirement for operations. NERC is

subject to frequent intrusion attempts where external parties try to gain access to its systems. Any vulnerability identified is documented and provided to NERC IT for rapid remediation.

- **NERC security program** – NERC’s IT department performs a number of technology initiatives to ensure the security of the network and infrastructure. In order to continually improve security, a more holistic approach is required that implements technology improvements and constructs an overarching security program to ensure all aspects of security have been considered, including information classification, review of retention policies, and enforcement of security guidelines. Security remains an intensive focus area throughout the 2019–2021 budget cycle and increasing cyber security threats will continue to put pressure on the IT budget to meet demands.

Robust Planning for New Capital Projects

NERC has adopted an enterprise IT investment planning methodology that ensures only projects with compelling and approved business cases are funded. The approval process uses four approval gates:

- Business unit sponsor approval;
- NERC vice president/chief technology officer (CTO) approval;
- ERO Technology Leadership Team (TLT) (comprised of the NERC CEO and three Regional Entity CEOs) approval; and
- Approval from all NERC and Regional Entity CEOs.

NERC’s planning process and associated approval gates result in thorough review of both costs and benefits of the proposed technology project prior to moving forward with the project. The benefits of a given project are evaluated within the context of six identified value domains:

- Reducing reliability risk (the project is expected to address one or more identified risks to reliability);
- Increasing capability (the project is expected to make possible activities or analysis that are not currently possible given existing process, resource, or system limitations);
- Reducing corporate risk (the project is expected to address one or more corporate risks, such as reputational risk, contract risk, or litigation risk);
- Increasing work quality (the project is expected to reduce the probability of errors or provide information of better quality);
- Increasing productivity (the project is expected to increase the amount of work that can be completed within the same amount of time); and
- Reducing cost (the project is expected to provide a net reduction in costs related to the area(s) being addressed by the project).

As projects progress, complete, and mature, periodic evaluations of the manifesting benefits against the projections used within the business case are performed. This helps to create organizational discipline by ensuring projections are realistic and not unreasonably optimistic. NERC also considers potential benefits to the Regional Entities and registered entities when considering potential IT investments, which ensures recognition of Regional Entity staffing and budget impacts within the business case analysis, identifying economies of scale, and benefits to ERO Enterprise stakeholders through IT investment.

Resource Requirements

Personnel

The 1.18 FTE increase is the result of the addition of one position in support of the E-ISAC long-term strategy and the reallocation of resources to realign staff with current needs.

Consultants and Contracts

The consultant and contract budget decreased slightly to \$2.0M in 2019 from \$2.1M in 2018. A detailed breakdown of 2018 and 2019 budgeted expenses are shown in *Exhibit B – Consultant and Contract Costs*.

IT Office Costs

The below table shows the major categories of IT Office Costs, and a short description of certain categories follows thereafter. Explanations for the major areas of increase from the 2018 budget to the 2019 budget are provided in Table B-8 in Section B.

Office Costs	Budget		Variance	
	2018	2019	2019 Budget v 2018 Budget	Variance %
Telephone	\$ 162,100	\$ 96,351	\$ (65,749)	-40.6%
Internet	358,920	219,750	(139,170)	-38.8%
Computer Supplies	98,100	177,000	78,900	80.4%
Software License and Support*	1,773,030	2,336,000	562,970	31.8%
Subscription and Publications	126,200	131,000	4,800	3.8%
Dues	2,500	2,500	-	0.0%
Express Shipping	7,500	7,500	-	0.0%
Audio/Visual and Hardware Lease**	640,336	752,529	112,193	17.5%
Total	\$ 3,168,686	\$ 3,722,630	\$ 553,944	17.5%

*Combined Software and Maintenance/Service Agreement accounts to streamline accounting activities

**Combined Audio/Visual and Hardware Lease accounts to streamline accounting activities

Telephone

Telephone costs are items associated with cellular phone, satellite phone (for business continuity), mobile laptop cellular air card, and Session Internet Protocol (SIP) data circuits.

Internet

Internet expense is comprised of both primary and secondary data circuits to ensure continuous capability in the event of primary service provider failure.

Computer Supplies

Computer supplies are expense items required for infrastructure support.

Software License and Support

Includes non-capital software subscription and license costs, and related support agreements. Also includes costs for support and service agreements related to NERC infrastructure management software, data center co-location, offsite backup of data, and network and security monitoring.

Audio/Visual and Hardware Leases

Consists of lease payments for audio visual equipment, computers, laptops, servers, and switches that were leased, in lieu of purchasing, beginning in January 2017.

Fixed Asset (Capital) Expenses

The following table presents a summary of NERC’s IT 2019 fixed asset (capital) budget³⁶ compared to the 2018 budget:

IT Capital Budget	Budget 2018	Budget 2019	Variance 2019 Budget v 2018 Budget	
			Variance Budget	Variance %
Hardware (storage, servers)	\$ 705,000	\$ 465,000	(240,000)	-34.0%
Other Equipment	370,000	425,000	55,000	14.9%
Disaster Recovery	100,000	-	(100,000)	-100.0%
NERC Software Licenses	301,000	120,000	(181,000)	-60.1%
Total	\$ 1,476,000	\$ 1,010,000	\$ (466,000)	-31.6%

As in prior years, the goal of the fixed assets (capital) program for the 2019–2021 planning period is to provide access, visibility, and analysis of data from many different sources. This requires ongoing investments in hardware, software, and associated tools. The overarching theme is to securely gather, analyze, and maintain data across the ERO Enterprise to support ERO operations. Adding the capability to centralize and mine data—in addition to foundational elements such as the Microsoft xRM application, SharePoint 2013, and disaster recovery and enhanced security—sets the stage for vastly improved reporting and business intelligence. It also allows the capability for collaboration and sharing of information vital to the ERO’s mission.

In addition to the investments described in the preceding paragraph to support efficiency and consistency across the ERO Enterprise, the 2019 budget also includes the cost of network assets, software, servers, laptops, security, and other hardware to support daily operations.

Human Resources & Administration

Background and Scope

Human Resources & Administration primarily includes human resources and facilities and meeting planning functions. NERC’s human resources functions include staffing, benefits administration, employee relations, performance and compensation management, and training and development. Management has implemented a robust, objective, and auditable performance management system to track corporate and individual performance against pre-established goals, objectives, and measures. Each year NERC continues to refine and improve this system.

Leadership, Management, and Professional and Administrative Staff Training and Development

As part of the ERO Enterprise’s ongoing efforts to engage and retain highly qualified talent with the leadership and technical skills to support its mission, NERC’s executives, managers, and professional and support staff participate in ongoing training and development to improve competencies critical to success and succession planning for critical roles. As such, NERC will continue to invest in learning opportunities in several areas. First, Human Resources will continue to host and optimize an e-learning platform, SkillSoft, to provide staff resources for improving soft and technical skills. Second, Human Resources will provide broad-based staff development training through real-world access via tours of and training on control centers, electric substations, and power generation plants. Finally, staff will have access to additional

³⁶ NERC’s total 2019 fixed asset (capital) budget is \$4.8M and includes \$3.3M for ERO Application Development. These ERO projects are managed by NERC’s IT department but the costs are budgeted in the applicable NERC program area.

education, including but not limited to degree-oriented university education, pursuit of specialized certifications, and other in-house and external training that provides essential competencies and skills development that will lead to improved organization performance.

Compensation Strategy

NERC relies on data and advisory from multiple perspectives to hire and retain the necessary technical and other staff to support the goals and objectives in the company's operating plan. Under the mandate of the Board Corporate Governance and Human Resources Committee (CGHRC), NERC performs periodic market compensation studies to benchmark the pay practices of similar organizations and roles for which NERC hires. To ensure that NERC is able to attract the best-qualified staff to meet our mission, the CGHRC recommended a compensation philosophy of paying between the 50th and 75th percentiles, which has historically enabled the company to hire appropriate skills at prevailing market rates. Management will continue to closely monitor market conditions through periodic compensation studies and real-time pay trends of our candidate pool and expect that our pay philosophy will sustain the ability to hire qualified talent consistent with appropriate market levels.

Compensation Consulting

Consultants are periodically retained to examine appropriate compensation based on current market data. This ensures that decisions affecting compensation are made in light of the current market climate and that qualified employees are attracted and retained within a defined total remuneration range. NERC also periodically retains compensation subject matter experts to perform periodic assessments of the Board compensation model to ensure alignment with market practices.

Surveys

NERC periodically retains a vendor to conduct Board and committee effectiveness surveys to identify improvement opportunities. Human Resources will also launch additional surveys as appropriate, based on business needs, which may include periodic internal climate surveys.

Succession Planning

Minimizing disruption of knowledge, skill, and experience of key staff is critical to the company's success. Human Resource works with senior management to identify essential roles and develop strategies to build succession and contingency plans for any loss of staff.

Human Resources Products and Services Automation

Human Resource will continue to operate, maintain, and investigate investment in additional electronic platforms for Human Resource support services that reduce administrative burden and improve employee access to tools and information.

Resource Requirements

Personnel

The increase of seven positions (6.58 FTEs) is primarily the result of a reclassification from the finance and accounting department to human resources and administration to better reflect actual activities and functions.

Consultants and Contracts

The consultant and contract budget increased to \$690k in 2019 from \$640k in 2018 primarily due to increased funding for human resources and compensation-related consulting services. A detailed breakdown of 2018 and 2019 budgeted expenses is shown in *Exhibit B – Consultant and Contract Costs*.

Miscellaneous Expenses

Miscellaneous expenses include community responsibility and employee engagement, the year-end employee appreciation event, and employee rewards and recognition.

Finance and Accounting

Background and Scope

NERC's Finance and Accounting department manages all finance and accounting functions, including employee payroll, 401(k), 457(b), and 457(f) plans, travel and expense reporting, monthly financial reporting, sales and use tax, and insurance. This area also holds primary responsibility for the development of the annual BP&B. Over the past several years, NERC's Finance and Accounting department implemented additional policies, procedures, and controls governing day-to-day practices including contract and personnel procurements, expense reimbursement, and back office systems and procedures. The department will continue to refine, improve and, where necessary, implement additional procedures and controls.

Resource Requirements

Personnel

The reduction of eight positions (7.52 FTEs) is primarily the result of a reclassification from the finance and accounting department to the human resources and administration department to better reflect actual activities and functions.

Consultants and Contracts

The consultant and contract budget increased to \$475k in 2019 from \$427k in 2018 primarily for outside auditor consulting support. A detailed breakdown of 2018 and 2019 budgeted expenses is shown in *Exhibit B – Consultant and Contact Costs*.

Section A – 2019 Business Plan and Budget Program Area and Department Detail

Statement of Activities and Fixed Assets Expenditures					
2018 Budget & Projection, and 2019 Budget					
ADMINISTRATIVE SERVICES					
	2018 Budget	2018 Projection	Variance 2018 Projection v 2018 Budget Over(Under)	2019 Budget	Variance 2019 Budget v 2018 Budget Over(Under)
Funding					
ERO Funding					
NERC Assessments	\$ (231,393)	\$ (231,393)	\$ -	\$ (1,067,980)	\$ (836,587)
Assessment Stabilization Reserve - Penalties	-	-	-	-	-
Total NERC Funding	\$ (231,393)	\$ (231,393)	\$ -	\$ (1,067,980)	\$ (836,587)
Third-Party Funding	\$ -	\$ -	\$ -	\$ -	\$ -
Testing Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Workshops	-	-	-	-	-
Interest	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Total Funding	\$ (231,393)	\$ (231,393)	\$ -	\$ (1,067,980)	\$ (836,587)
Expenses					
Personnel Expenses					
Salaries	\$ 11,625,482	\$ 12,266,032	\$ 640,550	\$ 11,965,297	\$ 339,815
Payroll Taxes	651,076	643,202	(7,875)	666,617	15,541
Benefits	1,443,502	1,601,455	157,953	1,610,374	166,872
Retirement Costs	1,010,928	979,171	(31,757)	1,032,835	21,907
Total Personnel Expenses	\$ 14,730,988	\$ 15,489,860	\$ 758,872	\$ 15,275,124	\$ 544,135
Meeting Expenses					
Meetings	\$ 375,500	\$ 375,500	\$ -	\$ 360,500	\$ (15,000)
Travel	570,000	531,026	(38,974)	570,000	-
Conference Calls	119,600	96,547	(23,053)	94,800	(24,800)
Total Meeting Expenses	\$ 1,065,100	\$ 1,003,073	\$ (62,027)	\$ 1,025,300	\$ (39,800)
Operating Expenses					
Consultants & Contracts	\$ 3,290,966	\$ 3,583,232	\$ 292,266	\$ 3,447,763	\$ 156,797
Office Rent	3,091,804	3,087,919	(3,885)	3,335,058	243,254
Office Costs	3,874,198	3,962,551	88,353	4,454,347	580,149
Professional Services	2,287,500	2,249,022	(38,478)	2,507,600	220,100
Miscellaneous	34,500	34,500	-	77,000	42,500
Depreciation	981,159	2,050,840	1,069,681	2,235,443	1,254,284
Total Operating Expenses	\$ 13,560,127	\$ 14,968,064	\$ 1,407,937	\$ 16,057,212	\$ 2,497,084
Total Direct Expenses	\$ 29,356,216	\$ 31,460,998	\$ 2,104,782	\$ 32,357,635	\$ 3,001,419
Indirect Expenses	\$ (29,495,094)	\$ (31,626,096)	\$ (2,131,002)	\$ (32,571,806)	\$ (3,076,712)
Other Non-Operating Expenses	\$ 138,878	\$ 165,098	\$ 26,220	\$ 214,171	\$ 75,293
Total Expenses (A)	\$ 0	\$ -	\$ (0)	\$ -	\$ (0)
Change in Assets	\$ (231,393)	\$ (231,393)	\$ 0	\$ (1,067,980)	\$ (836,587)
Fixed Assets					
Depreciation	\$ (981,159)	\$ (2,050,840)	\$ (1,069,681)	\$ (2,235,443)	\$ (1,254,284)
Computer & Software CapEx	301,000	301,000	-	120,000	(181,000)
Furniture & Fixtures CapEx	-	-	-	-	-
Equipment CapEx	1,175,000	565,559	(609,441)	890,000	(285,000)
Leasehold Improvements	-	-	-	-	-
Allocation of Fixed Assets	(494,841)	1,184,281	1,679,122	1,225,443	1,720,284
Inc(Dec) in Fixed Assets (B)	\$ 0	\$ -	\$ (0)	\$ -	\$ (0)
TOTAL BUDGET (=A+B)	\$ 0	\$ -	\$ (0)	\$ -	\$ (0)
FTEs	67.45	66.42	(1.02)	67.68	0.23

Section B – Supplemental Financial Information

Breakdown by Statement of Activity Sections

The following detailed schedules support the consolidated Statement of Activities.

Table B-1 – Operating Reserve and Assessment Analysis

Operating Reserve and Assessment Analysis						
Statutory						
	Total Reserves	Future Obligation Reserve ¹	Operating Contingency Reserve	System Operator Certification Reserve	CRISP Reserve	Assessment Stabilization Reserve
Beginning Operating Reserves Balance - 1/1/2018	\$ 9,844,365	\$ 3,015,787	\$ 3,680,094	\$ 477,484	\$ 500,000	\$ 2,171,000
Generation or (Use) from 2018 Operations						
From 2018 budgeted operations	\$ (634,392)	\$ (480,457)	\$ (231,393)	\$ 77,458	\$ -	\$ -
From 2018 approved addition/(use) of reserves	-	-	-	-	-	-
Proceeds from financing activities (non-current portion only) ²	1,432,000	-	1,432,000	-	-	-
Debt service ³	(717,274)	-	(717,274)	-	-	-
Other addition/(use) of reserves ⁴	(971,679)	(15,759)	(328,120)	(27,800)	-	(600,000)
Projected Operating Reserves - 12/31/18	\$ 8,953,020	\$ 2,519,571	\$ 3,835,307	\$ 527,142	\$ 500,000	\$ 1,571,000
Required Working Capital and Operating Reserves - 12/31/19						
Adjustment in funding to achieve required reserve balance	(331,783)	(480,457)	-	148,674	-	-
Penalty sanctions received 7/1/2017 - 6/30/2018 (See Table B-2)	500,000	-	-	-	-	500,000
Less: Assessment Stabilization Reserve Release - Penalties	(550,000)	-	-	-	-	(550,000)
Total Adjustments to Reserves	\$ (381,783)	\$ (480,457)	\$ -	\$ 148,674	\$ -	\$ (50,000)
Assessment Reconciliation						
2019 Expenses and Capital Expenditures	\$80,049,655					
Less: Assessment Stabilization Reserve Release - Penalties	(550,000)					
Adjustment in funding to achieve required reserve balance	148,674					
Less: Other Funding Sources	(9,696,353)					
Less: Proceeds from financing activities (non-current only)	(2,178,667)					
Plus: Debt service	1,110,687					
2019 NERC Assessment	\$68,883,995					

¹As further explained in the discussion of the Working Capital Reserve amount in Exhibit D, the Future Obligations Reserve offsets future, non-current liabilities.

²Proceeds from financing activities amount is equal to two-thirds of the amount financed or to be financed in the year. See Exhibit D.

³Debt Service amount is equal to Annual Payments for Debt Service less Interest Expense. See Exhibit C.

⁴Represents transactions recorded only on the Statement of Financial Position (balance sheet) and do not impact the Statement of Activities (income statement), including recording of capitalized leases, amortization of future obligations, and funding the 457f plan.

Table B-2 – Penalties

Penalty Sanctions

The *NERC Policy – Accounting, Financial Statement and Budgetary Treatment of Penalties Imposed and Received for Violations of Reliability Standard*, as well as § 1107.2 of the ROP, specify that penalty monies received by NERC during the 12 months ended June 30 are to be used in the subsequent budget year to offset assessments. In 2015, the Board approved an updated *Working Capital and Operating Reserves Policy* that was approved by FERC. This updated policy allows NERC, with Board and FERC approval pursuant to § 1107.4 of the ROP, to place penalty funds into an Assessment Stabilization Reserve for use in future years to offset assessments. For the 2019 budget, subject to Board and FERC approval, NERC will deposit \$500k of penalty funds collected during the period July 1, 2017–June 30, 2018 into the Assessment Stabilization Reserve. NERC will also, subject to Board approval, use \$550k from the Assessment Stabilization Reserve to reduce 2019 assessments. The balance held in the Assessment Stabilization Reserve will be used for future assessment offsets.

Allocation Method

Penalty sanctions released from the Asset Stabilization Reserve to offset 2019 assessments will be allocated to the following statutory programs to reduce assessments: (1) Reliability Standards, (2) Compliance Assurance, (3) Compliance Analysis, Organization Registration and Certification, (4) Compliance Enforcement, (5) RASA, (6) Situation Awareness, (7) Event Analysis, (8) Performance Analysis, (9) E-ISAC (including CRISP), and (10) Training and Education. Penalty sanctions are allocated based on the number of FTEs in the program divided by the aggregate total FTEs in the programs receiving the allocation.

All penalties received during the 12-month period ended June 30, 2018 are detailed in the table below, including the amount and date received.

Penalty Sanctions	Date Received	Amount Received
Penalties received between 7/1/2017 and 6/30/2018		
	November-17	\$ 500,000
		<u>\$ 500,000</u>
Penalties received prior to 6/30/2017, held in the assessment stabilization reserve		\$ 1,571,000
Total penalties available on 1/1/2019 to offset assessments		<u>\$ 2,071,000</u>
Adjustments		
Total penalties released to offset assessments in the 2019 Budget		\$ (550,000)
Total penalties held in Assessment Stabilization Reserve 12/31/2019		<u>\$ 1,521,000</u>

Table B-3 – Outside Funding

Outside Funding Breakdown By Program (Excludes Penalty Sanction)	Budget 2018	Budget 2019	Variance 2019 Budget v 2018 Budget
Reliability Standards			
Workshops	\$ 50,000	\$ 60,000	\$ 10,000
Interest Income Allocation	10,717	18,884	8,166
Total	\$ 60,717	\$ 78,884	\$ 18,166
Compliance Analysis, Registration and Certification			
Interest Income Allocation	\$ 6,495	\$ 12,183	\$ 5,688
Total	\$ 6,495	\$ 12,183	\$ 5,688
Compliance Assurance			
Interest Income Allocation	\$ 13,316	\$ 21,320	\$ 8,005
Total	\$ 13,316	\$ 21,320	\$ 8,005
Compliance Enforcement			
Interest Income Allocation	\$ 8,444	\$ 17,056	\$ 8,612
Total	\$ 8,444	\$ 17,056	\$ 8,612
Reliability Assessment and System Analysis			
Services and Software	\$ -	\$ -	\$ -
Workshops	25,000	25,000	-
Interest Income Allocation	9,743	19,493	9,750
Total	\$ 34,743	\$ 44,493	\$ 9,750
Performance Analysis			
Services and Software	\$ 50,000	\$ 40,000	\$ (10,000)
Interest Income Allocation	6,495	13,401	6,906
Total	\$ 56,495	\$ 53,401	\$ (3,094)
Training, Education, and Personnel Certification			
Testing Fees	\$ 540,000	\$ 540,000	\$ -
Certificate Renewals	650,000	650,000	-
Continuing Education Fees	600,000	600,000	-
Interest Income Allocation	4,060	4,873	814
Total	\$ 1,794,060	\$ 1,794,873	\$ 814
Event Analysis			
Workshops	\$ 40,000	\$ 40,000	\$ 0
Interest Income Allocation	7,794	14,620	6,825
Total	\$ 47,794	\$ 54,620	\$ 6,825
Situation Awareness			
Interest Income Allocation	\$ 3,897	\$ 7,310	\$ 3,413
Total	\$ 3,897	\$ 7,310	\$ 3,413
E-ISAC			
Third Party Funding (CRISP)	\$ 7,324,253	\$ 7,486,353	\$ 162,101
Workshops	70,000	70,000	-
Interest Income Allocation	24,038	55,859	31,822
Total	\$ 7,418,290	\$ 7,612,213	\$ 193,922
Grand Total	\$ 9,444,253	\$ 9,696,353	\$ 252,101

- Interest Income Allocation – The aggregate \$90k increase is the result of higher anticipated interest rates in 2019.
- Third Party Funding (CRISP) – The \$162k increase is due to the increase in NERC costs, which are funded equally by participants in CRISP and through assessments.

Table B-4 – Personnel

Personnel	Budget		Variance	
	2018	2019	2019 Budget v 2018 Budget	Variance %
Salaries	\$ 31,791,098	\$ 33,810,276	\$ 2,019,179	6.4%
Payroll Taxes	1,949,557	2,044,880	95,324	4.9%
Benefits	3,988,886	4,673,208	684,322	17.2%
Retirement	3,239,565	3,423,826	184,261	5.7%
Total	\$ 40,969,105	\$ 43,952,190	\$ 2,983,085	7.28%
FTEs	199.28	204.92	5.64	2.8%
Cost per FTE				
Salaries	\$ 159,530	\$ 164,993	\$ 5,463	3.4%
Payroll Taxes	9,783	9,979	196	2.0%
Benefits	20,016	22,805	2,789	13.9%
Retirement	16,256	16,708	452	2.8%
Total	\$ 205,586	\$ 214,485	\$ 8,899	4.33%

Below is additional information on the components of personnel expense:

- Salaries – Total salary expense is comprised of base salaries, incentive compensation, deferred compensation, employment agency fees, and temporary office expenses. The 2019 budget for base salaries assumes a 3% increase over actual 2018 base salaries and is inclusive of market adjustments and promotions. The 2019 budget for incentive compensation is based on historical actuals and is comparable to prior years. The 2019 budgets for deferred compensation, employment agency fees, and temporary office expenses are generally consistent with 2018.
- Benefits are budgeted to increase 17.2% based on (1) a 7.5% increase in health and dental premiums and (2) an increase in training expenses to support staff development.
- There have been no changes to NERC's retirement plans.

Table B-5 – Meetings

Meetings	Budget		Variance	
	2018	2019	2019 Budget v 2018 Budget	Variance %
Meetings	\$ 1,071,500	\$ 1,056,500	\$ (15,000)	-1.4%
Travel	2,204,000	2,184,000	(20,000)	-0.9%
Conference Calls	119,600	139,900	20,300	17.0%
Total	\$ 3,395,100	\$ 3,380,400	\$ (14,700)	-0.4%

Table B-6 – Consultants and Contracts

NOTE: This table has been replaced by Exhibit B – Consultant and Contract Costs

Table B-7 – Rent

Office Rent	Budget		Variance	
	2018	2019	2019 Budget v 2018 Budget	Variance %
Office Rent	\$ 2,819,554	\$ 3,122,808	\$ 303,254	10.8%
Maintenance	272,250	212,250	(60,000)	-22.0%
Total	\$ 3,091,804	\$ 3,335,058	\$ 243,254	7.9%

- The \$303k increase in office rent is attributed to facility expansion for the Atlanta office to provide additional meeting space in order to reduce future offsite meeting expenses.
- The \$60k decrease in maintenance costs is due to a historical trend of lower facility maintenance costs.

Table B-8 – Office Costs

Office Costs	Budget		Variance	
	2018	2019	2019 Budget v 2018 Budget	Variance %
Telephone	\$ 422,387	\$ 312,851	\$ (109,536)	-25.9%
Telephone Answering Service	2,750	1,200	(1,550)	-56.4%
Internet	383,966	241,500	(142,466)	-37.1%
Office Supplies	190,750	175,700	(15,050)	-7.9%
Computer Supplies	106,100	183,500	77,400	73.0%
Software License and Support*	2,954,942	4,140,834	1,185,892	40.1%
Subscription and Publications	194,970	228,420	33,450	17.2%
Dues	66,911	69,611	2,700	4.0%
Postage	15,540	10,540	(5,000)	-32.2%
Express Shipping	26,992	28,992	2,000	7.4%
Copying	115,842	117,642	1,800	1.6%
Audio/Visual and Hardware Lease	640,336	752,529	112,193	17.5%
Equipment Repair/Service Contract	132,497	132,497	-	0.0%
Bank Charges	25,000	25,000	-	0.0%
Merchant Card Fees	86,100	86,100	-	0.0%
Total	\$ 5,365,084	\$ 6,506,917	\$ 1,141,833	21.3%

*Combined Software and Maintenance/Service Agreement accounts to streamline accounting activities

**Combined Audio/Visual and Hardware Lease accounts to streamline accounting activities

- Telephone – The \$110k decrease is primarily related to lower conference call expenses due to a change in service providers.
- Internet – The \$142k decrease is the result of cost reductions through vendor negotiation.
- Computer Supplies – The \$77k increase, which is partially offset by the decrease in costs for office supplies, is due to higher spending than budget.
- Software License and Support – The \$1.2M increase is primarily the result of annual software subscription and support costs of \$459k for the new CMEP software tool, and a higher historical trend than previously budgeted in non-capital software and support expenses. The increase in 2019 is partially offset by a lower capital expenditure budget in NERC software costs.
- Audio/Visual and Hardware Lease – The \$112k increase is the result of anticipated leases of new computer and hardware equipment.

Table B-9 – Professional Services

Professional Services	Budget		Variance	
	2018	2019	2019 Budget v 2018 Budget	Variance %
Independent Trustee Fees	\$ 1,237,500	\$ 1,410,000	\$ 172,500	13.9%
Trustee Search Fees	100,000	100,000	-	0.0%
Outside Legal	595,500	645,500	50,000	8.4%
Lobbying	72,000	72,000	-	0.0%
Accounting and Auditing Fees	128,000	128,000	-	0.0%
Insurance Commercial	231,000	225,000	(6,000)	-2.6%
Outside Services	173,500	177,100	3,600	2.1%
Total	\$ 2,537,500	\$ 2,757,600	\$ 220,100	8.7%

- Independent Trustee Fees – The \$172k increase in independence trustees fees is due to (1) the results of the 2018 annual review and periodic independent study of trustee compensation, which recommended, subject to approval by the Board, a \$5,000 increase per trustee every year for 2019–2021, and (2) the addition of a trustee per the Board’s decision to search for this new trustee in 2018 instead of 2019. This decision was made to reduce the number of trustee searches that would need to be conducted in 2019 as a result of the coinciding term expirations of two current trustees.
- Outside Legal – The \$50k increase is primarily due to support costs for the E-ISAC long-term strategy.

Table B-10 – Miscellaneous

Miscellaneous Expenses	Budget		Variance	
	2018	2019	2019 Budget v 2018 Budget	Variance %
Miscellaneous Expense	\$ 7,000	\$ 7,000	\$ -	0.0%
Employee Rewards and Recognition	25,500	48,000	22,500	88.2%
Community Responsibility & Employee Engagement	4,500	4,500	-	0.0%
Sponsorships	2,500	22,500	20,000	800.0%
Total	\$ 39,500	\$ 82,000	\$ 42,500	107.6%

- Employee Rewards and Recognition – The \$22k increase is due to additional budgeting for staff spot awards as part of the employee recognition program.
- Sponsorships – The \$20k increase is the result of a reclassification of expenses formerly budgeted under meetings that are more appropriately categorized as sponsorships.

Table B-11 – Other Non-Operating Expenses

Other Non-Operating Expenses	Budget		Variance	
	2018	2019	2019 Budget v 2018 Budget	Variance %
Property and Other Tax Expense	\$ 50,000	\$ 120,000	\$ 70,000	140.0%
Interest Expense	88,878	94,171	5,293	6.0%
Total	\$ 138,878	\$ 214,171	\$ 75,293	54.2%

- Property and Other Tax Expense – The \$70k increase is due to federal excise taxes for parking and mass transit expenses, which is a new expense item and is based on recent changes to federal tax laws.
- Interest Expense – Budgeted interest expense is calculated based on expected draws on the capital financing loans and the projected interest rate on the loans. Refer to *Exhibit C – Capital Financing* for additional information related to debt repayment and the interest expense calculation.

Table B-12 – Fixed Assets

Fixed Assets	Budget		Variance	
	2018	2019	2019 Budget v 2018 Budget	Variance %
Depreciation	\$ (1,594,299)	\$ (3,446,022)	\$ (1,851,724)	116.1%
Computer & Software CapEx	2,549,000	3,488,000	939,000	36.8%
Furniture & Fixtures CapEx	-	-	-	0.0%
Equipment CapEx	1,175,000	890,000	(285,000)	-24.3%
Leasehold Improvements	150,000	400,000	250,000	166.7%
Total	\$ 2,279,701	\$ 1,331,978	\$ (947,724)	-41.6%

As discussed in the *Introduction and Executive Summary*, expenditures for fixed assets, excluding the reversal of depreciation expense, are budgeted to be \$904k more in 2019 compared to 2018. This increase is primarily due to increased expenditures on ERO Enterprise software projects and leasehold improvements for the E-ISAC.

Table B-13 – 2019–2020 Projections

NOTE: Refer to the Executive Summary section on page 18

NORTH AMERICAN ELECTRIC RELIABILITY COPORATION

Statement of Activities, Fixed Asset Expenditures, and Change in Working Capital by Program 2019 Budget	Statutory Activities																
	Statutory Total	Reliability Standards	Compliance Analysis, Organization Registration & Certification	Compliance Assurance	Compliance Enforcement	Reliability Assessment and System Analysis	Performance Analysis	Personnel Certification	Training and Continuing Education	Event Analysis	Situation Awareness	E-ISAC (Including CRISP)	General and Administrative (Includes Executive and Gov't Relations)	Legal and Regulatory	Information Technology	Human Resources	Accounting and Finance
Funding																	
ERO Funding																	
NERC Assessments	\$ 68,883,995	\$ 6,598,401	\$ 4,971,365	\$ 8,835,237	\$ 6,787,076	\$ 7,924,404	\$ 5,132,484	\$ -	\$ 569,839	\$ 5,239,131	\$ 4,266,141	\$ 19,627,897	\$ (1,067,980)	\$ -	\$ -	\$ -	\$ -
Assessment Stabilization Reserve - Penalties	550,000	58,793	37,931	66,379	53,103	60,690	41,724	-	7,586	45,517	22,759	155,517	-	-	-	-	-
Total NERC Funding	\$ 69,433,995	\$ 6,657,194	\$ 5,009,296	\$ 8,901,616	\$ 6,840,179	\$ 7,985,094	\$ 5,174,208	\$ -	\$ 577,426	\$ 5,284,648	\$ 4,288,899	\$ 19,783,414	\$ (1,067,980)	\$ -	\$ -	\$ -	\$ -
Third-Party Funding (CRISP)	\$ 7,486,353	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 7,486,353	\$ -	\$ -	\$ -	\$ -	\$ -
Testing Fees	1,790,000	-	-	-	-	-	-	1,190,000	600,000	-	-	-	-	-	-	-	-
Services & Software	40,000	-	-	-	-	-	40,000	-	-	-	-	-	-	-	-	-	-
Workshops	195,000	60,000	-	-	-	25,000	-	-	-	40,000	-	70,000	-	-	-	-	-
Interest	185,000	18,884	12,183	21,320	17,056	19,493	13,401	2,437	2,437	14,620	7,310	55,859	-	-	-	-	-
Miscellaneous	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Funding (A)	\$ 79,130,349	\$ 6,736,078	\$ 5,021,479	\$ 8,922,937	\$ 6,857,235	\$ 8,029,587	\$ 5,227,610	\$ 1,192,437	\$ 1,179,862	\$ 5,339,268	\$ 4,296,209	\$ 27,395,627	\$ (1,067,980)	\$ -	\$ -	\$ -	\$ -
Expenses																	
Personnel Expenses																	
Salaries	\$ 33,810,276	\$ 2,031,580	\$ 1,596,696	\$ 2,526,754	\$ 1,991,052	\$ 2,588,128	\$ 1,581,929	\$ 258,133	\$ 203,480	\$ 1,903,950	\$ 865,683	\$ 6,297,594	\$ 3,171,684	\$ 2,668,537	\$ 3,636,270	\$ 1,323,436	\$ 1,165,371
Payroll Taxes	2,044,880	134,348	98,909	166,873	126,256	156,888	104,052	17,873	16,740	113,420	58,475	384,429	153,490	144,000	229,379	72,392	67,355
Benefits	4,673,208	297,782	232,391	441,671	198,145	355,375	186,375	32,946	45,441	264,308	182,721	825,677	385,794	321,006	505,765	233,718	164,092
Retirement Costs	3,423,826	224,171	178,558	278,308	218,788	285,005	176,656	28,276	22,891	210,479	95,435	672,423	110,027	288,847	398,226	111,126	124,609
Total Personnel Expenses	\$ 43,952,190	\$ 2,687,881	\$ 2,106,554	\$ 3,413,605	\$ 2,534,240	\$ 3,385,397	\$ 2,049,012	\$ 337,228	\$ 288,553	\$ 2,492,158	\$ 1,202,314	\$ 8,180,123	\$ 3,820,995	\$ 3,422,391	\$ 4,769,639	\$ 1,740,671	\$ 1,521,427
Meeting Expenses																	
Meetings	\$ 1,056,500	\$ 105,000	\$ 2,250	\$ 200,000	\$ 2,000	\$ 121,000	\$ 11,000	\$ 32,000	\$ 12,250	\$ 81,500	\$ 2,000	\$ 127,000	\$ 332,500	\$ 6,000	\$ 7,000	\$ 10,000	\$ 5,000
Travel	2,184,000	220,000	150,500	375,000	47,500	250,000	80,000	7,000	10,000	150,000	33,000	291,000	363,000	55,000	72,000	5,000	75,000
Conference Calls	139,900	18,000	5,400	8,000	2,400	6,500	3,600	1,200	-	-	-	-	20,400	2,400	72,000	-	-
Total Meeting Expenses	\$ 3,380,400	\$ 343,000	\$ 158,150	\$ 583,000	\$ 51,900	\$ 377,500	\$ 94,600	\$ 40,200	\$ 22,250	\$ 231,500	\$ 35,000	\$ 418,000	\$ 715,900	\$ 63,400	\$ 151,000	\$ 15,000	\$ 80,000
Operating Expenses																	
Consultants & Contracts	\$ 15,043,318	\$ 50,000	\$ -	\$ 50,000	\$ 161,000	\$ 625,000	\$ 653,565	\$ 162,000	\$ 335,000	\$ -	\$ 1,280,990	\$ 8,278,000	\$ 240,000	\$ -	\$ 2,042,763	\$ 690,000	\$ 475,000
Office Rent	3,335,058	-	-	-	-	-	-	-	-	-	-	3,335,058	-	-	-	-	-
Office Costs	6,506,917	38,200	16,600	247,400	230,050	217,710	76,290	76,400	105,624	47,500	93,600	903,196	541,797	39,000	3,722,630	5,100	145,820
Professional Services	2,757,600	-	-	-	-	-	-	-	-	-	-	250,000	1,764,000	353,500	-	59,100	331,000
Miscellaneous	82,000	500	500	500	500	500	500	500	500	500	500	23,000	500	500	500	500	500
Depreciation	3,446,022	257,774	111,677	-	105,014	225,375	295,995	-	1,919	85,582	8,948	118,296	378,405	1,919	1,857,039	-	-
Total Operating Expenses	\$ 31,170,916	\$ 346,474	\$ 128,777	\$ 297,900	\$ 496,564	\$ 1,068,585	\$ 1,026,350	\$ 238,400	\$ 443,043	\$ 133,582	\$ 1,384,038	\$ 9,549,992	\$ 6,282,260	\$ 393,000	\$ 7,622,932	\$ 806,700	\$ 952,320
Total Direct Expenses	\$ 78,503,506	\$ 3,377,356	\$ 2,393,481	\$ 4,294,505	\$ 3,082,704	\$ 4,831,482	\$ 3,169,962	\$ 615,828	\$ 753,846	\$ 2,857,240	\$ 2,621,352	\$ 18,148,115	\$ 10,819,155	\$ 3,878,791	\$ 12,543,571	\$ 2,562,371	\$ 2,553,747
Indirect Expenses	\$ -	\$ 3,446,152	\$ 2,223,324	\$ 3,890,817	\$ 3,112,654	\$ 3,557,318	\$ 2,445,656	\$ 444,665	\$ 444,665	\$ 2,667,989	\$ 1,333,994	\$ 9,004,572	\$ (11,033,326)	\$ (3,878,791)	\$ (12,543,571)	\$ (2,562,371)	\$ (2,553,747)
Other Non-Operating Expenses	\$ 214,171	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 214,171	\$ -	\$ -	\$ -	\$ -
Total Expenses (B)	\$ 78,717,677	\$ 6,823,508	\$ 4,616,805	\$ 8,185,322	\$ 6,195,358	\$ 8,388,800	\$ 5,615,618	\$ 1,060,493	\$ 1,198,511	\$ 5,525,228	\$ 3,955,347	\$ 27,152,687	\$ -	\$ -	\$ -	\$ (0)	\$ 0
Change in Assets	\$ 412,672	\$ (87,430)	\$ 404,674	\$ 737,614	\$ 661,877	\$ (359,213)	\$ (388,009)	\$ 131,944	\$ (18,649)	\$ (185,960)	\$ 340,863	\$ 242,940	\$ (1,067,980)	\$ -	\$ -	\$ 0	\$ (0)
Fixed Assets																	
Depreciation	\$ (3,446,022)	\$ (257,774)	\$ (111,677)	\$ -	\$ (105,014)	\$ (225,375)	\$ (295,995)	\$ -	\$ (1,919)	\$ (85,582)	\$ (8,948)	\$ (118,296)	\$ (378,405)	\$ -	\$ (1,857,039)	\$ -	\$ -
Computer & Software CapEx	3,488,000	300,000	600,000	884,000	884,000	-	-	-	-	-	400,000	300,000	-	-	120,000	-	-
Furniture & Fixtures CapEx	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Equipment CapEx	890,000	-	-	-	-	-	-	-	-	-	-	-	-	-	890,000	-	-
Leasehold Improvements	400,000	-	-	-	-	-	-	-	-	-	-	400,000	-	-	-	-	-
Allocation of Fixed Assets	(0)	(129,656)	(83,649)	(146,386)	(117,109)	(133,838)	(92,014)	(16,730)	(16,730)	(100,379)	(50,189)	(338,764)	378,405	-	847,039	-	-
Inc(Dec) in Fixed Assets (C)	\$ 1,331,978	\$ (87,430)	\$ 404,674	\$ 737,614	\$ 661,877	\$ (359,213)	\$ (388,009)	\$ (16,730)	\$ (18,649)	\$ (185,960)	\$ 340,863	\$ 242,940	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL BUDGET (=B+C)	\$ 80,049,655	\$ 6,736,078	\$ 5,021,479	\$ 8,922,937	\$ 6,857,235	\$ 8,029,587	\$ 5,227,610	\$ 1,043,763	\$ 1,179,862	\$ 5,339,268	\$ 4,296,209	\$ 27,395,627	\$ -	\$ -	\$ -	\$ (0)	\$ 0
TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)	\$ (919,306)	\$ 0	\$ -	\$ 0	\$ -	\$ 0	\$ (0)	\$ 148,674	\$ (0)	\$ 0	\$ 0	\$ -	\$ (1,067,980)	\$ -	\$ -	\$ 0	\$ (0)
FTEs	204.92	14.57	9.40	16.45	13.16	15.04	10.34	1.88	1.88	11.28	5.64	37.60	14.10	13.16	23.50	9.40	7.52

Section C – Non-Statutory Activity

NERC has no non-statutory activities.

Exhibit A – Application of NERC Section 215 Criteria

DISCUSSION OF HOW THE NERC MAJOR ACTIVITIES IN THE 2019 BUSINESS PLAN AND BUDGET MEET THE NERC WRITTEN CRITERIA FOR DETERMINING WHETHER A RELIABILITY ACTIVITY IS ELIGIBLE TO BE FUNDED UNDER FEDERAL POWER ACT SECTION 215

I. Introduction

This Exhibit discusses how the major activities in NERC’s 2019 Business Plan and Budget meet the NERC written criteria for determining whether a reliability activity is eligible to be funded under §215 of the Federal Power Act (“FPA §215”). This Exhibit is intended to satisfy Recommendation No. 38 resulting from the financial performance of NERC conducted by the Commission’s Division of Audits (“DA”) in 2012-2013 and adopted by the Commission in its November 2, 2012 order on NERC’s 2013 Business Plan and Budget.³⁷ NERC submitted the written criteria to the Commission in a compliance filing dated February 21, 2013 in Docket No. FA11-21-000.³⁸ The Commission approved the NERC written criteria, with modifications, in an order issued in that docket on April 18, 2013.³⁹ The NERC written criteria as used in this Exhibit incorporate the modifications specified in the Compliance Order.⁴⁰

II. Reliability Standards Program 2018 Major Activities

The major activities of the Reliability Standards Program are described at pages 20–22 of the 2019 Business Plan and Budget. The Reliability Standards Program carries out the ERO’s responsibility to develop, adopt, obtain approval of, and modify as and when appropriate, mandatory Reliability Standards to assure the Bulk Electric System (BES) is planned, operated, maintained, and secured to minimize risks of cascading failures, avoid damages to major equipment, or limit interruptions. The major activity areas for this program include (1) providing project management and leadership to the reliability standard development process to deliver high-quality, continent-wide reliability standards, both new and modified, to address reliability risks identified through the Reliability Risk Management Process (RRMP), including standard development outreach activities, facilitation of drafting team activities, drafting support, assisting drafting teams in adhering to the processes in the *Standard Processes Manual*, and ensuring that the quality of documents produced are appropriate for approval by industry and the NERC Board; (2) facilitating continent-wide industry engagement in the standard development processes; and (3) conducting industry balloting on standards, disseminating information on standards and the standard development processes, and supporting regulatory filings and proceedings relating to standards. Additionally, the Reliability Standards Program provides technical advice and final quality review for Regional Entity standards development processes, presents proposed regional standards to the NERC Board, and prepares submissions for approval of regional standards to the applicable regulatory authorities in the U.S. and Canada.

³⁷ *North American Electric Reliability Corporation, Order Accepting 2013 Business Plan and Budget of the North American Electric Reliability Corporation and Ordering Compliance Filing*, 141 FERC ¶ 61,086 (2012) (“2013 Budget Order”). Recommendation 38, as adopted in the 2013 Budget Order, is: “In its annual business plan and budget filings, [NERC should] provide an explanation as to why the proposed activities to be undertaken by each program area for the budget year are statutory, including, at a minimum: a description and the purpose of the major activities to be taken by each program area and an explanation for why the activity is a statutory activity.” *Id.* at P 16.

³⁸ *Compliance Filing of the North American Electric Reliability Corporation in Response to Paragraph 30 of November 2, 2012 Commission Order – NERC Written Criteria for Determining Whether a Reliability Activity is Eligible to be Funded Under Federal Power Act Section 215*, filed February 1, 2013 in Docket No. FA 11-21-000 (“February 1, 2013 Compliance Filing”).

³⁹ *North American Electric Reliability Corporation, Order on Compliance*, 143 FERC ¶ 61,052 (2013) (“Compliance Order”).

⁴⁰ For ease of reference, the complete NERC written criteria, as modified in accordance with the Compliance Order, are provided at the end of this Exhibit.

For 2019, the major activities of the Reliability Standards Program will continue to focus on (1) selection of standards projects to be undertaken based on the nature of the reliability issue, and whether a standard or another solution is most appropriate to address the issue; (2) addressing Commission directives and responding to Commission orders as necessary through the standards process; (3) implementing the results of the comprehensive review of standards conducted in 2017 and completed in 2018 by initiating projects to modify or retire standards; and (4) facilitating smooth transitions to new standards, including by working with the NERC Compliance Assurance, Compliance Enforcement, Organization Registration, Reliability Assurance, Reliability Assessment and System Analysis (RASA), and Performance Analysis groups to develop guidelines, webinars, and other activities to support auditor and industry training for new standards. In 2019, the Reliability Standards Program, in conjunction with stakeholders, will determine whether there is a need to make further improvements to Reliability Standards through periodic reviews that include a measured review of the contents of standards, considering whether the requirements could more effectively mitigate risks to the Bulk Power System (BPS); whether the standards are results-based and drafted with high quality; whether the standards are concise or if the number of requirements could be reduced; and whether compliance expectations are clear.

The major activities of the Reliability Standards Program satisfy the following criteria:

- I.A: Is the activity necessary or appropriate for Reliability Standards development projects pursuant to the NERC Rules of Procedure (ROP)?
- I.B: Is the activity necessary or appropriate for providing guidance and assistance to Regional Entities in carrying out Regional Reliability Standards development activities?
- I.C: Is the activity necessary or appropriate for information gathering, collection and analysis activities to obtain information for Reliability Standards development, including for purposes of identifying areas in which new Reliability Standards could be developed, existing Reliability Standards could be revised, or existing Reliability Standards could be eliminated?
- I.D: Is the activity necessary or appropriate for the provision of training and education concerning Reliability Standards development processes, procedures, and topics for/to (i) NERC personnel, (ii) Regional Entity personnel, (iii) industry personnel?
- II.F.1: Is the activity necessary or appropriate for the provision of training, education and dissemination of information for/to (i) NERC personnel, (ii) Regional Entity personnel, and (iii) industry personnel with respect to compliance monitoring and enforcement topics and topics concerning reliability risks identified through compliance monitoring and enforcement activities, such as (1) Requirements of Reliability Standards, including how to comply and how to demonstrate compliance? This includes development of guidance and interpretation documents.
- IV: Is the activity one that was required or directed by a Commission order issued pursuant to §215? (Reliability Standards development projects are often initiated in response to directives in Commission orders).
- V: Is the activity one that is required or specified by, or carries out, the provisions of NERC's ROP that have been approved by the Commission as "Electric Reliability Organization Rules" (defined in 18 C.F.R. §39.1) pursuant to FPA §215(f)? (The applicable ROP

provisions for the Reliability Standards Program are §300 and Appendix 3A.)

- VI: Is the activity necessary or appropriate for the supervision and oversight of Regional Entities in the performance of their delegated responsibilities in accordance with FPA §215, 18 C.F.R. Part 39, the Commission-approved delegation agreement between NERC and the Regional Entity, the NERC ROP, and applicable provisions of Commission orders?
- IX. Is the activity necessary or appropriate for NERC and Regional Entity committees, subcommittees and working groups engaged in activities encompassed by one or more of the other criteria?
- X. Is the activity necessary or appropriate for the analysis and evaluation of activities encompassed by one or more of the other criteria for the purpose of identifying means of performing the activities more effectively and efficiently?

III. Compliance Assurance, Compliance Analysis, Organization Registration and Certification, and Compliance Enforcement Program Area 2019 Major Activities

The major activities of the Compliance Assurance, Compliance Analysis, Organization Registration and Certification, and Compliance Enforcement Program Area are described on pages 24-27, 29-31, and 33-37 of the 2019 Business Plan and Budget. This Program Area is comprised of three operational groups: (1) Compliance Assurance, (2) Compliance Analysis, Organization Registration and Certification, and (3) Compliance Enforcement.

The Compliance Assurance group works collaboratively with the Regional Entities to ensure effective implementation of risk-based compliance monitoring under the Compliance Monitoring and Enforcement Program (“CMEP”) across the entire ERO Enterprise. This group’s activities include the following major activities and functions: (1) oversight of the Regional Entities’ implementation of the risk-based compliance monitoring program and the NERC Rules of Procedure (ROP), including ensuring that Regional Entities monitor registered entities for compliance according to their specific facts and circumstances, developing customized compliance oversight plans (COPs) for each registered entity based on its inherent risk assessment (IRA), evaluation of controls in place to mitigate the inherent risks, and other factors; (2) overseeing Regional Entities’ IRAs of registered entities; (3) oversight of the quality implementation of the risk-based compliance monitoring program; (4) development and execution of the annual CMEP Implementation Plan; (5) oversight of use of necessary compliance-related processes, procedures, IT platforms, tools and templates; (6) development and delivery of education and training for ERO Enterprise staff; (7) training and outreach activities for the Critical Infrastructure Protection (CIP) Reliability Standards; (8) coordinating with the NERC Standards department to assist in smooth transition for standards from development to enforceability and to provide feedback on risks seen in the field that are not addressed by a standard, as well as information on whether a standard is too broad; and (9) supporting Regional Entity and industry committees, working groups and task forces, such as the ERO Compliance Monitoring Group, NERC Compliance and Certification Committee (CCC) and NERC Critical Infrastructure Protection Committee (CIPC). Compliance Assurance provides training to Regional Entity staff on the important elements of risk-based compliance monitoring. Compliance Assurance is also participating, in conjunction with the Regional Entities, on the development and implementation of a common CMEP tool through the CMEP Technology Project.

The ongoing and new major activities of the Compliance Assurance group for 2019 will include: (1) continuing to mature the risk-based compliance program, including ongoing oversight of the risk-based

CMEP, IRAs, internal controls, coordinated oversight of Multi-Region Registered Entities, and ensuring that COPs are addressing the relevant risks; (2) working with NERC Enforcement and IT and with Regional Entity staffs on development of the CMEP Process tool; (3) supporting the continued successful implementation of CIP V5 standards and subsequent enhancements as they become effective; (4) monitoring and supporting effective implementation and monitoring of the Physical Security Reliability Standard; (5) enhancing and implementing training to support monitoring of compliance with Reliability Standards, integrating principles from the Compliance Monitoring Competency Guide; (6) continuing to provide feedback to the Standards Program through integration of the standards and compliance functions for clear stakeholder implementation, and feedback on risks seen on the field that are not addressed by a standard or where a standard is too broad, supporting this effort through a common set of Reliability Standard Audit Worksheets (RSAWs), guidance, and outreach; (7) supporting international CMEP activities including reliability and security subject matter expertise and outreach; and (8) providing support and leadership to applicable committees and subcommittees including the CIPC and the CCC. Additionally, in conjunction with the dissolution of the SPP Regional Entity, NERC, through the Compliance Assurance Group, will take responsibility for the Compliance Enforcement Authority (CEA) activities with respect to the SPP Regional Transmission Organization (RTO) registered functions. NERC expects to assume responsibility as the CEA for the SPP RTO in the second half of 2018, and anticipates that this responsibility will continue for at least the ensuing two years.

Compliance Analysis, Organization Registration and Certification is comprised of two groups: Registration and Reliability Assurance (the latter group includes Compliance Analysis and Organization Certification). These groups are responsible for a range of requirements and activities embodied in Section 500 and Appendices 5A and 5B of the NERC ROP, including providing technical resource support to the standards development, compliance monitoring, and enforcement functions. Major activities of these groups include: (1) Registration - identifying and registering BES users, owners, and operators that are responsible for compliance with Commission-approved Reliability Standards; (2) Certification - evaluation and certification of the competency of Reliability Coordinators (RC), Balancing Authorities (BA), and Transmission Operators (TOP) to perform their respective responsibilities and that they continue to maintain these capabilities; (3) Reliability assurance - conducting activities to reasonably assure the ERO that certain actions have been taken as reported in response to NERC Alerts or guidance to industry; (4) Oversight - providing oversight of Regional Entity implementation of regional registration, compliance, certification, investigation, and complaint programs and processes; (5) Investigations - conducting investigations to identify possible violations of Reliability Standards in response to complaints, BES disturbances, or other triggers, including participating on all Regional Entity-led investigations and as observers as requested on Commission-led reliability investigations and inquiries; (6) Compliance evaluations - working with Regional Entity staff to confirm that qualified events and disturbances are evaluated against the relevant Reliability Standards and to ensure formal compliance monitoring occurs if indicated; and (7) Complaints - addressing formal complaints that allege violations of Reliability Standards. Specific major activities of Compliance Analysis, Organization Registration and Certification for 2018 will include continuing to conduct NERC-led panels on registration requests; continuing to implement registration program improvements and certification program improvements identified in prior years, including conducting training as necessary; and evaluating BES disturbances and events for potential gaps in compliance monitoring or reliability standards.

The Registration group continues to implement areas for improvement in registration processes identified in 2016, including conducting NERC-led Review Panels on registration requests and identifying process improvements; changes to applicable provisions of the NERC ROP; reviewing the Coordinated Functional Registration processes and model efficiencies; supporting the entity registration xRM data base (a centralized entity registration system) initiative; conducting a thorough review of the NERC website for

registration-related modifications; and continuing regional Entity oversight activities. In addition, the Registration group is assisting in managing the transition of registered entities formerly in the SPP Regional Entity (SPP RE) to SERC and Midwest Reliability Organization (MRO), due to the termination of the SPP Regional Delegation Agreement and dissolution of the SPP RE.

During 2019, the Registration and Reliability Assurance groups will continue to conduct NERC-led Panel Reviews on registration requests; continue to implement Registration program improvements including conducting additional actions identified by this project; begin the registration xRM initiative; continue to monitor the transition of registered entities from the SPP RE to SERC and MRO; monitor and support changing footprints, functional relationships, and model changes in the Western interconnection, especially with respect to the RC role; ensure proper oversight of Regional Entities for the Certification program; respond to industry changes requiring certification review, with emphasis on control center relocations, Energy Management System replacements, and RC, BA and TOP footprint changes; evaluate BES disturbances and events for potential gaps in compliance monitoring or Reliability Standards; and support the ongoing joint Commission, NERC and Regional Entity restoration and recovery initiatives.

The Compliance Enforcement group is responsible for overseeing enforcement processes, the application of Penalties or sanctions, and activities to mitigate and prevent recurrence of noncompliance with Reliability Standards. This group works collaboratively with the Regional Entities to ensure consistent and effective implementation of the risk-based CMEP. It also focuses on ensuring that the ERO Enterprise dedicates resources to the matters that pose the greatest risk to reliability. The Compliance Enforcement group monitors Regional Entities' enforcement processes and provides oversight over the outcomes of such processes, to ensure due process, identify best practices and process efficiency opportunities, and promote consistency among Regional Entities' business practices; collects and analyzes compliance enforcement data and trends to assist with identification of emerging risks and help to inform development of enforcement policy and processes; files Notices of Penalty ("NOP") and other submittals associated with noncompliance discovered through Regional Entity compliance monitoring and enforcement activities; processes and files NOPs and other submittals discovered through NERC-led investigations and audits; collaborates with other NERC departments, including Reliability Assurance, Reliability Standards, and Event Analysis; and delivers training to ERO Enterprise staff and registered entities. Compliance Enforcement also conducts other outreach activities that focus on self-logging, compliance exceptions, and risk assessment of noncompliances.

Compliance Enforcement continues to identify areas for improvement and promotion of consistency through training, guidance, or other adjustments. Compliance Enforcement performs oversight of the Regional Entity enforcement programs through review of the processes, supporting evidence and other information provided by the Regional Entities, and communicates findings and recommendation to the Regional Entities to ensure consistent implementation of the CMEP. Compliance Enforcement provides training to Regional Entity staffs on the most important elements of risk-based enforcement. In addition, Compliance Enforcement is participating in developing and implementing a common CMEP tool through the CMEP Technology Project. During 2019, the major activities of the Compliance Enforcement group will include continuing to refine and improve the risk-based CMEP processes; continuing to implement in a transparent manner the risk-focused ERO Enterprise enforcement philosophy; expanding the feedback loop of information from Compliance Enforcement to Standards and other program areas; and working with Compliance Assurance, IT, and Regional Entities to develop application business requirements and test business functionality for the new CMEP tool.

The major activities of the Compliance Assurance, Compliance Analysis, Organization Registration and Certification, and Compliance Enforcement Program Area satisfy the following criteria:

- I.A: Is the activity necessary or appropriate for Reliability Standards development projects pursuant to the NERC ROP?
- I.C: Is the activity necessary or appropriate for information gathering, collection and analysis activities to obtain information for Reliability Standards development, including for purposes of identifying areas in which new Reliability Standards could be developed, existing Reliability Standards could be revised, or existing Reliability Standards could be eliminated?
- II.A: Is the activity necessary or appropriate for the identification and registration of users, owners, and operators of the Bulk Power System that are required to comply with Requirements of Reliability Standards applicable to the reliability functions for which they are registered?
- II.B: Is the activity necessary or appropriate for the Certification of Reliability Coordinators, Transmission Operators and Balancing Authorities as having the requisite personnel, qualifications and facilities and equipment needed to perform these reliability functions in accordance with the applicable Requirements of Reliability Standards?
- II.D: Is the activity necessary or appropriate for conducting, participating in or overseeing compliance monitoring and enforcement activities pursuant to the NERC ROP and (through the Regional Entities) the Commission-approved delegation agreements?
- II.E: Is the activity necessary or appropriate for information gathering, collection and analysis activities to obtain information to monitor and enforce compliance with Reliability Standards, including evaluating the effectiveness of current compliance monitoring and enforcement processes, the need for new or revised compliance monitoring and enforcement processes, and the need for new or different means of training and education on compliance with Reliability Standards.
- II.F: Is the activity necessary or appropriate for the provision of training, education and dissemination of information for/to (i) NERC personnel, (ii) Regional Entity personnel, and (iii) industry personnel with respect to compliance monitoring and enforcement topics and topics concerning reliability risks identified through compliance monitoring and enforcement activities, such as: (1) Requirements of Reliability Standards, including how to comply and how to demonstrate compliance? This includes development of guidance and interpretation documents. (2) Compliance monitoring and enforcement processes, including how to conduct them, how to participate in them, and the expectations for the process? This includes development of guidance documents. (3) Disseminating, through workshops, webinars, Advisories/Recommendations/Essential Actions, and other publications, “lessons learned” information on compliance concerns and reliability risks obtained through compliance monitoring and enforcement activities, monitoring and investigation of Bulk Power System major events, off-normal occurrences and near miss events, and other Bulk Power System monitoring activities? (4) Registered Entity internal processes for compliance with Reliability Standards, such as development, implementation and maintenance of internal reliability compliance programs?
- V: Is the activity one that is required or specified by, or carries out, the provisions of NERC’s ROP that have been approved by the Commission as “Electric Reliability Organization

Rules” (defined in 18 C.F.R. §39.1) pursuant to FPA §215(f)? (The applicable ROP provisions for these major activities are §400 and 500 and Appendices 4B, 4C, 5A, 5B and 5C.)

- VI: Is the activity necessary or appropriate for the supervision and oversight of Regional Entities in the performance of their delegated responsibilities in accordance with FPA §215, 18 C.F.R. Part 39, the Commission-approved delegation agreement between NERC and the Regional Entity, the NERC ROP, and applicable provisions of Commission orders?
- IX: Is the activity necessary or appropriate for NERC and Regional Entity committees, subcommittees and working groups engaged in the activities encompassed by one or more of the other criteria?
- X: Is the activity necessary or appropriate for the analysis and evaluation of activities encompassed by one or more of the other criteria for the purpose of identifying means of performing the activities more effectively and efficiently?

IV. Reliability Assessment and System Analysis Program 2019 Major Activities

The major activities of the Reliability Assessment and System Analysis (RASA) Program are described at pages 39-44 of the 2019 Business Plan and Budget. The RASA Program is comprised of the Reliability Assessment, System Analysis, and Advanced Analytics and Modeling (AAM) groups. The RASA Program carries out the ERO’s responsibility to conduct assessments of the reliability and adequacy of the BES to provide insight and guidance about reliability risks, which provide a foundation for development of new, or modifications to existing, Reliability Standards, or other initiatives focused on enhancing reliability. The majority of RASA’s activities directly address the risk priorities established by the NERC Reliability Issues Steering Committee (RISC). RASA focuses on developing a technical framework and understanding of the emerging reliability risks facing the industry, and providing guidance and insights to stakeholders. The principal activity areas of the RASA Program include: independent assessments and reports on the overall reliability and adequacy of the BES, and associated reliability risks that could impact the short-term, mid-term and long-term planning horizons and other reliability issues requiring an in-depth analysis; support for development and improvement of long-term sustainable interconnection-based power flow, dynamic and load models that exhibit the accuracy and fidelity reflecting actual BES reliability performance and dynamic conditions; interconnection-wide analysis of steady-state and dynamic conditions, including frequency, Essential Reliability Services (ERS), stability, short circuit ratio, and oscillatory behavior aspects; advancement of industry and the ERO’s understanding of power system characteristics and behaviors by gathering larger phasor measurement unit datasets of data for advanced data analytics and modeling improvements; assurance oversight that electrical elements necessary for reliable operation of the BES are identified, requiring these elements to follow applicable Reliability Standards; and establishing reliability leadership and consistent, technically sound insights and recommendations that position industry and policy-makers to enhance reliability through effective outreach and communications.

The RASA Program works with industry leaders to create a reliability strategy that is relevant, timely, and effective at addressing the most important reliability risks, through reviewing and addressing key priority risks identified by the RISC; synthesizing information identified through analysis and assessment efforts; extracting and prioritizing the associated reliability risks; sharing and integrating risk analysis insights across the ERO Enterprise; and translating that knowledge into actionable guidance and recommendations for NERC management, the Board, industry, and government policy makers. RASA provides reports and recommendations regarding anticipated conditions that could impact reliability,

security and stability of the BPS. RASA conducts reliability assessments to evaluate the expected reliability of the BES through extensive deterministic and probabilistic analyses to identify potential reliability risks and mitigation approaches. Key assessments include the Long-Term Reliability Assessment (supplemented by the Probabilistic Assessment), Summer and Winter Reliability Assessments, and Special Reliability Assessments (selected based on high priority/high risk issues that require an independent assessment from the ERO). A significant ongoing effort focuses on the continued development of effective ERS. As part of its reliability assessment activities, RASA collects, maintains, and annually publishes the Electricity Supply and Demand database, which includes 10-year projections for the North American BPS.

The System Analysis group of RASA focuses on understanding the technical behavior of the North American grid, as the foundation for identifying crucial aspects of performance that are important for sustaining overall reliability. The System Analysis Group focuses on power system analysis to understand and evaluate BPS characteristics, behavior and performance due to the changing resource mix and integration of new technology; the use of advance software capabilities to conduct power system analysis; and providing technical support, implementation and outreach to industry. The System Analysis activities also support the following objectives: leading and improving NERC’s analytical capabilities to address a broad range of engineering topics; conducting analysis and assessments in response to Commission directives; supporting Reliability Standards development with subject matter expertise; supporting and leading technical analysis of emerging risks requiring advanced analytics and interconnection-wide assessment; and conducting detailed forensic analyses of significant system disturbances.

The AAM group of RASA focuses on emerging reliability risks to the BPS through advanced system analysis techniques and modeling capabilities, working collaboratively with NERC stakeholders including the Planning Committee (PC), Operating Committee (OC), and technical subgroups. The AAM’s key focus areas include: the State of Modeling Report; inverter-based resource performance; integration of increased levels of distributed energy resources; synchrophasor technology; power plant modeling verification; dynamic load modeling; analysis of the changing nature of end-use loads; assessments of case quality and fidelity for interconnection-wide cases released by Reliability Standard MOD-032 designees; addressing deficiencies in interconnection-wide models and providing industry education on key modeling topics; and coordinating with the PC’s Methods for Establishing IROLs Task Force and supporting improvements to methods, practices and tools used for establishing Interconnection Reliability Operating Limits.

RASA coordinates and administers the activities of the NERC PC and its subgroups. RASA also coordinates with Regional Entity counterparts through the ERO Reliability Assessment and Performance Analysis Group to collaborate on and provide oversight for reliability assessment and reliability risk analysis functions. RASA also works closely with other organizations such as the Electric Power Research Institute (EPRI), Department of Energy (DOE), Institute of Electrical and Electronics Engineers (IEEE), Institute of Nuclear Power Operations (INPO), North American Transmission Forum (NATF), North American Generation Forum (NAGF), Canadian Electricity Association (CEA), Interstate Natural Gas Association of America, and Natural Gas Supply Association, on a number of energy industry reliability issues such as geomagnetic disturbances, vegetation management, variable generation integration, and interdependency of gas and electric systems.

The ongoing and new major activities of the RASA Program for 2019, in support of goals and objectives in the *ERO Enterprise Operating Plan*, include: (1) ensuring that the Inverter-Based Resource Performance Task Force completes its scope of work on schedule and implements the recommendations needed to maintain reliability, including addressing any gaps in Reliability Standards; collaborating with Planning

Coordinators to expand development of interconnection-wide models with expected dispatches to support effective long-term planning assessments; working with stakeholders to develop and share knowledge and information supporting BPS resilience; improving resource adequacy assessments with increased probabilistic and risk analysis; conducting interconnection-wide analysis of steady-state and dynamic conditions, including frequency, ERS, stability, short circuit ratio, and oscillatory behavior aspects to support NERC’s reliability assessments and improve industry planning; performing model validations at the interconnection level and comparing with internal transmission owner models; gathering additional system performance data (e.g., on balancing and frequency performance, renewables, and ERS) to advance analytics and improve modeling; increasing the focus of technical analysis and assessment on natural gas, wind, and solar resources and fuel availability; developing technical references and guidelines that advance and improve reliability using new technologies; and developing quality and fidelity assessments of interconnection models.

The major activities of the RASA Program satisfy the following criteria:

- I.A: Is the activity necessary or appropriate for Reliability Standards development projects pursuant to the NERC ROP?
- I.C.1: Is the activity necessary or appropriate for information gathering, collection and analysis activities to obtain information for Reliability Standards development, including for purposes of identifying areas in which new Reliability Standards could be developed, existing Reliability Standards could be revised, or existing Reliability Standards could be eliminated, such as: (1) Measuring reliability performance – past, present and future; publishing or disseminating the results of such measurements; analyzing the results of such measurements; identifying and analyzing risks to reliability of the Bulk Power System based on such measurements; and/or identifying approaches to mitigating or eliminating such risks?
- II.A: Is the activity necessary or appropriate for the identification and registration of users, owners, and operators of the Bulk Power System that are required to comply with Requirements of Reliability Standards applicable to the reliability functions for which they are registered?
- III.A: Is the activity necessary or appropriate for the preparation or dissemination of long-term, seasonal, and special assessments of the reliability and adequacy of the Bulk Power System?
- III.B: Is the activity necessary or appropriate for measuring reliability performance – past, present and future; publishing or disseminating the results of such measurements; analyzing the results of such measurements; identifying and analyzing risks to reliability of the Bulk Power System based on such measurements; and/or identifying approaches to mitigating or eliminating such risks?
- III.F: Is the activity necessary or appropriate for the development and dissemination of Advisories/Recommendations/Essential Actions regarding lessons learned and potential reliability risks to users, owners, and operators of the Bulk Power System?
- IV: Is the activity one that was required or directed by a Commission order issued pursuant to §215? (FERC orders directed NERC to develop and implement a revised definition of

“Bulk Electric System” and a procedure for requesting and receiving exceptions from the BES definition, and subsequently approved NERC’s proposed revised BES definition and its proposed BES exception procedure.)

- V. Is the activity one that is required or specified by, or carries out, the provisions of NERC’s ROP that have been approved by the Commission as “Electric Reliability Organization Rules” (defined in 18 C.F.R. §39.1) pursuant to FPA §215(f)? (The applicable ROP provisions for major activities of the RASA Program are §801-806, §809-810, and Appendix 5C.)
- VI: Is the activity necessary or appropriate for the supervision and oversight of Regional Entities in the performance of their delegated responsibilities in accordance with FPA §215, 18 C.F.R. Part 39, the Commission-approved delegation agreement between NERC and the Regional Entity, the NERC ROP, and applicable provisions of Commission orders?
- IX: Is the activity necessary or appropriate for NERC and Regional Entity committees, subcommittees and working groups engaged in activities encompassed by one or more of the other criteria?
- X: Is the activity necessary or appropriate for the analysis and evaluation of activities encompassed by one or more of the other criteria for the purpose of identifying means of performing the activities more effectively and efficiently?

V. **Reliability Risk Management (Situation Awareness, Event Analysis and Performance Analysis) 2019 Major Activities**

The major activities of the Reliability Risk Management (RRM) group, which is comprised of the Situation Awareness Department, the Event Analysis Department, and the Performance Analysis (PA) group, are described at pages 47-49, 51-52, and 54-58 of the 2019 Business Plan and Budget. The RRM group carries out the ERO’s responsibility to perform assessments (including real-time and near-real-time continual awareness, detailed analysis of significant events, and longer-term broad performance assessments) of the reliability and adequacy of the BPS, including identifying potential issues of concern relating to system, equipment, entity, and human performance. The RRM groups have five primary functions: (1) BPS awareness, (2) event and root cause analysis, (3) assessment of human performance challenges that affect reliability and identification of improvement opportunities, (4) continent-wide analysis and reporting of BPS performance, and (5) support of the NERC OC. Through awareness and continuous assessment, RRM identifies potential reliability risks, analyzes events in detail, ensures that industry is well informed of system events, emerging trends, risk analysis, and lessons learned, and provides data and analysis to inform other aspects of NERC’s statutory functions.

The Situation Awareness department along, with the Regional Entities, monitors BPS conditions, significant occurrences and emerging risks, and threats across the 14 Reliability Coordinator regions in North America, to maintain an understanding of conditions and situations that could impact reliable operations. Situation Awareness also supports development and publication of NERC Alerts and awareness products, and facilitates information sharing among industry, Regional Entities and government during crisis situations and major system disturbances. Situation Awareness is engaged in enhancement, replacement, streamlining or modification of several reliability-related situation awareness and monitoring tools, including the SAFNR software application; operation and maintenance pending replacement of the current secure NERC Alert tool; refreshing the Reliability Coordinator Information

System application; and continuing to set conditions to bring limited Synchrophasor data into NERC for wide-area situational awareness and event triage applications. The Situation Awareness Department uses the following reliability-related tools to support its activities: Resource Adequacy (Area Control Error Frequency) Tool; Inadvertent Interchange; Frequency Monitoring and Analysis Tool; Intelligent Alarms Tool; Genscape (PowerIQ and PowerRT tools); and the Process Information (PI) Historian System.

The ongoing and new major activities of the Situation Awareness department for 2019 include: ensuring that the ERO is aware of all BES events above a threshold of impact; enabling the sharing of information and data to facilitate wide-area situational awareness; during crisis situations, facilitating the exchange of information among industry, Regions, and U.S. and Canadian governments; keeping the industry informed of emerging reliability threats and risks, including any expected actions; conducting the annual NERC Monitoring and Situational Awareness Conference and Human Performance Conference; administering the NERC Alerts process as specified in §810 of the ROP to issue Advisory (Level 1) Alerts on significant and emerging reliability and security related topics, and facilitate the tracking of actions specified in Recommendation (Level 2) and Essential Action (Level 3) Alerts; and performing oversight as per the Situation Awareness Oversight Plan of the activities and performance of the Regional staffs. Situation Awareness will also continue to focus on the upgrade to the SAFNR application.

The Event Analysis department performs assessments of the reliability and adequacy of the BES to identify potential issues of concern related to system, equipment, entity, and human performance that may indicate a need to develop remediation strategies, action plans, or data used to revise or retire Reliability Standards or consider new Reliability Standards. Event Analysis analyzes and determines the causes of events, promptly assures tracking of corrective actions to prevent recurrence, and provides lessons learned to the industry. Event Analysis analyzes all reportable events for sequence of events, root cause, risks to reliability, and mitigation and keeps the industry well-informed of system events, emerging trends, risk analysis, lessons learned, and expected actions. Event Analysis conducts in-depth analyses of approximately 150 events per year on average. Event Analysis ensures that reporting and analysis of events are consistent, to allow for wide-area assessment of trends and risks. Additionally, Event Analysis identifies human error risks and precursor factors that allow human error to affect BES reliability, and educates industry regarding such risks, precursors, and related mitigation methods. Event analysis also supports compliance and standards training initiatives and trending and analysis to identify emerging reliability risks. Event Analysis works in collaboration with and supports the activities of other groups involved in human performance analysis including the NERC OC's Event Analysis Subcommittee, the WECC Human Performance Working Group, and others. Event Analysis also collaborates with industry groups including the NATF, NAGF, and trade associations.

The ongoing and new major activities for 2019 for the Event Analysis group include: (1) Working with Regional Entities to obtain and review information from registered entities on qualifying events and disturbances in order to advance awareness of events above a threshold level; facilitating analysis of root and contributing causes, risks to reliability, wide-area assessments and remediation efforts; and disseminating information regarding events in a timely manner. (2) Ensuring that all reportable events are analyzed for sequence of events, root cause, risk to reliability, and mitigation. (3) Continuing to refine risk-based methodologies to support better identification of reliability risks, including use of more sophisticated cause codes for analysis. (4) Conducting training (webinars, workshops and conference support) to inform industry and the ERO of lessons learned, root cause analysis, trends, human performance, and extreme weather preparedness and recommendations. (5) Developing reliability recommendations and Alerts as needed, and tracking industry accountability for critical reliability recommendations. (6) Ensuring that industry is well informed of system events, emerging trends, risk analysis, lessons learned, and expected actions. (7) Conducting major event analysis and reporting of

major findings and recommendations that will improve reliability. (8) Performing oversight of the event-analysis-related activities and performance of the Regional Entities. The Event Analysis department will also support several top priority reliability risk projects being led by the Performance Analysis group. Additionally, in 2019, the System Analysis group will focus on analysis in the area of inverters and inverter technologies, due to the rapid increase in renewable resources using these technologies.

Performance Analysis, which consists of Balancing and Frequency Control (BF&C) and Data Analytics (DA), provides statistical analysis and support to the ERO Enterprise, as well as outreach for the ERO Enterprise to electric industry organizations. Trends, findings, and recommendations from PA serve as technical input to Reliability Standards and standards project prioritization, compliance process improvements, event analyses, reliability assessment, and critical infrastructure protection efforts. PA's analyses of BES performance offer analytical insights that lead toward the prioritization of specific actionable risk control steps for industry. PA's analyses and results are summarized in the annual State of Reliability (SOR) report, which provides guidance and recommendations for enhanced BPS reliability. PA has added Generator Availability Data System (GADS) wind data to the data collected under ROP §1600, requiring the development of a new software tool to enable this. In 2019, the DA group will begin development of the system for solar data collection.

BF&C provides support and services necessary for the real-time operation of the BPS in the areas of balancing resources and demand, interconnection frequency, interchange scheduling, and control performance. BF&C provides technical assistance in the development and administration of the NERC Balancing (BAL) standards, including BAL-001, BAL-002, BAL-003, BAL-004 and BAL-006, as well as in performing analysis and developing annual reports and informational filings required by Commission directives in its orders that approved BAL standards. BF&C performs the ongoing tasks assigned to the ERO in Attachment A to Reliability Standard BAL-003-1, Frequency Response and Frequency Bias Setting, and the Procedure for ERO Support, including calculation and posting of Minimum Frequency Bias Settings for each Balancing Authority (BA) and, calculation and assignment of BA Frequency Response Obligations for the upcoming year, and calculation and assignment of BA annual Frequency Bias Settings and L10 values for implementation into BA control systems. BF&C supports the NERC OC's Resources Subcommittee (RS), Frequency Working Group, Inadvertent Exchange Working Group and Reserves Working Group, including through maintaining the RS website and the Balancing Authority Submittal Site, which provide operational information and a submittal mechanism for requirements under the BAL standards; and through webinars, technical white papers, reliability guidelines, and other outreach. BF&C also provides data collection, analysis and reporting for five ESR measures to support the OC's ESR Working Group. BF&C participated in the specification, development and installation of a PI Historian system that allows NERC to retrieve, analyze and report on data that is hosted and analyzed by external parties. BF&C continues to participate in the implementation and enhancement of, including obtaining data maintained by third parties for, the PI Historian System.

DA is responsible for collection, management and analysis of data related to the performance of five areas of BPS operations: transmission, conventional generation, wind generation, protection system misoperations and demand response. DA provides application training and end-user support to reporting entities and Regional Entity staffs. DA works with stakeholders through working groups associated with industry sectors reporting performance data, to define and revise reporting requirements and related applications. DA performs analysis to identify potential risks relating to system, equipment, entity or organizational performance that may indicate, among other things, a need to develop remediation strategies, improvements to reporting applications, new data collection or analysis tools, or creation, revision or retirement of Reliability Standards. DA's analyses provide the foundation for the annual SOR Report, the annual Misoperations report, and technical papers for industry. During 2019, DA will

participate in several Information Technology projects, including: planning and deployment of the solar data collection system; continued refinement and implementation of the data sharing process to comply with Order No. 824; and continued planning and collection of ROP §1600 data requests, including but not limited to Geomagnetic disturbance studies and cyber and physical security data.

New and ongoing major activities for Performance Analysis in 2019 will include: issuing the annual SOR Report and guidelines, recommendations and Alerts as needed (including verification and validation of data and information through Regional Entities and technical committees); providing support and leadership to the NERC OC, Operating Reliability Subcommittee and the RS and its working groups, with emphasis on balancing operations and analysis, administration of BAL standards, and performance-based outreach to functional entities responsible for real-time BPS reliability; continuing administration of the BAL standards; providing technical assistance to NERC Compliance and Enforcement, emphasizing BAL-003-1 Frequency Response; providing technical assistance to Compliance Assurance and Compliance Enforcement with emphasis on BAL-003-1 for the BA performance requirements that became effective in 2017; developing the Frequency Response Annual Analysis Report; developing quarterly BPS performance reports using PI Historian data and functionality to support the OC and the RS; overseeing and evaluating reliability trends that identify reliability risks, by analyzing data contained in the GADS, Transmission Availability Data System (TADS), and Demand Response Availability Data System (DADS); supporting Reliability Standards development by providing subject matter expertise; continuing to provide leadership and support to the NERC PC's subcommittees, working groups, and task forces, including the Performance Analysis Subcommittee and its subgroups; assisting in development of approaches to registration and providing input to NERC staff in support of development of CMEP risk elements; conducting major event investigations, analyses, and reporting of major findings, recommendations and lessons learned that will improve reliability; and providing insight on merging system protection issues, and handing off any issues with future implications to RASA. Additionally, major efforts in 2019 will include development of the technical report to be filed with the Commission in accordance with directives in Order No. 794; and expansion of the PI Historian to include high speed frequency data from the University of Tennessee and interconnection inertia data to support the RS and the ERSWG.

The major activities of the RRM group satisfy the following criteria:

- I.A: Is the activity necessary or appropriate for Reliability Standards development projects pursuant to the NERC ROP?
- I.C.1: Is the activity necessary or appropriate for information gathering, collection and analysis activities to obtain information for Reliability Standards development, including for purposes of identifying areas in which new Reliability Standards could be developed, existing Reliability Standards could be revised, or existing Reliability Standards could be eliminated, such as: (1) Measuring reliability performance – past, present and future; publishing or disseminating the results of such measurements; analyzing the results of such measurements; identifying and analyzing risks to reliability of the Bulk Power System based on such measurements; and/or identifying approaches to mitigating or eliminating such risks? (2) Monitoring, event analysis and investigation of Bulk Power System major events, off-normal occurrences and near miss events?
- I.C.2: Is the activity necessary or appropriate for information gathering, collection and analysis activities to obtain information for Reliability Standards development, including for purposes of identifying areas in which new Reliability Standards could be developed, existing Reliability Standards could be revised, or existing Reliability Standards could be

eliminated, such as: (2) Monitoring, event analysis and investigations of Bulk Power System major events, off-normal occurrences and near-miss events?

- II.E: Is the activity necessary or appropriate for information gathering, collection and analysis activities to obtain information to monitor and enforce compliance with Reliability Standards, including evaluating the effectiveness of current compliance monitoring and enforcement processes, the need for new or revised compliance monitoring and enforcement processes, and the need for new or different means of training and education on compliance with Reliability Standards, such as: (1) Measuring reliability performance – past, present and future; publishing or disseminating the results of such measurements; analyzing the results of such measurements; identifying and analyzing risks to reliability of the Bulk Power System based on such measurements; and/or identifying approaches to mitigating or eliminating such risks? (2) Monitoring, event analysis and investigation of Bulk Power System major events, off-normal occurrences, and near miss events?
- II.F.3: Is the activity necessary or appropriate for the provision of training, education and dissemination of information for/to (i) NERC personnel, (ii) Regional Entity personnel, and (iii) industry personnel with respect to compliance monitoring and enforcement topics and topics concerning reliability risks identified through compliance monitoring and enforcement activities, such as: (3) Disseminating, through workshops, webinars, Advisories, Recommendations, Essential Actions, and other publications; “lessons learned” information on compliance concerns and reliability risks obtained through compliance monitoring and enforcement activities; monitoring and investigation of Bulk Power System major events, off-normal occurrences and near miss events, and other Bulk Power System monitoring activities?
- II.G: Is the activity necessary or appropriate for the development and provision of tools and services that are useful for the provision of adequate reliability, because they relate specifically to compliance with existing Reliability Standards and they proactively help avert Reliability Standard violations and Bulk Power System disturbances?
- III.A: Is the activity necessary or appropriate for the preparation or dissemination of long-term, seasonal, and special assessments of the reliability and adequacy of the Bulk Power System?
- III.B: Is the activity necessary or appropriate for measuring reliability performance – past, present and future; publishing or disseminating the results of such measurements; analyzing the results of such measurements; identifying and analyzing risks to reliability of the Bulk Power System based on such measurements; and/or identifying approaches to mitigating or eliminating such risks?
- III.C: Is the activity necessary or appropriate for investigating, analyzing, evaluating, and disseminating information concerning, the causes of major events and off-normal occurrences, and/or providing coordination assistance, technical expertise and other assistance to users, owners, and operators of the Bulk Power System in connection with Bulk Power System major events and off-normal occurrences, but not real-time operational control of the Bulk Power System?
- III.D: Is the activity necessary or appropriate for awareness of circumstances on the Bulk Power

System and to contribute to understanding risks to reliability?

- III.E: Is the activity necessary or appropriate for gathering, analyzing and sharing with and among industry and government participants, information regarding the physical or cyber security of the Bulk Power System?
- III.F: Is the activity necessary or appropriate for the development and dissemination of Advisories/Recommendations/Essential Actions regarding lessons learned and potential reliability risks to users, owners, and operators of the Bulk Power System?
- III.G: Is the activity necessary or appropriate for data collection and analysis of information regarding Bulk Power System reliability matters mandated by the Commission?
- IV: Is the activity one that was required or directed by a Commission order issued pursuant to FPA §215? (The applicable Commission orders include Order Nos. 794 and 824 which require data collection, availability and reporting.)
- V: Is the activity one that is required or specified by, or carries out, the provisions of NERC’s ROP that have been approved by the Commission as “Electric Reliability Organization Rules” (defined in 18 C.F.R. §39.1) pursuant to FPA §215(f)? (The applicable ROP provisions for these major activities are §801-811 and 1001 and Appendix 8.)
- IX. Is the activity necessary or appropriate for NERC and Regional Entity committees, subcommittees and working groups engaged in activities encompassed by one or more of the other criteria?

VI. Electricity Information Sharing and Analysis Center 2019 Major Activities

The major activities of the Electricity Information Sharing and Analysis Center (“E-ISAC”) are described at pages 60-65 of the 2019 Business Plan and Budget. The primary function of E-ISAC is to reduce cyber and physical risk to the electricity industry across North America by providing unique insights, leadership and coordination, and to be the trusted, timely, actionable resource of grid risk information and analysis to enhance electric reliability. The E-ISAC strategy has three primary focus areas: (1) Sharing information on cyber and physical threats to the reliability and security of the BPS with electric industry stakeholders; (2) analysis of threat information; and (3) engagement with electric sector and other stakeholders concerning security risk identification and mitigation. E-ISAC staff routinely engages stakeholders through monthly briefings and threat workshops covering timely cyber and physical security topics. E-ISAC manages and executes NERC’s responsibilities in the Cybersecurity Risk Information Sharing Program (“CRISP”) and acts as the program manager for CRISP. CRISP delivers real-time, relevant, and actionable cybersecurity risk information to E-ISAC member electricity asset owners and operators. E-ISAC also supports an annual grid security conference and a biennial Grid Security Exercise. In addition to voluntary reporting of security and threat information by industry participants, registered entities subject to Reliability Standard CIP-008-5 with High Impact and Medium Impact BES Cyber Systems are required to have processes in place for identifying Cyber Security Incidents, determining if a Cyber Security Incident is a Reportable Cyber Security Incident, and if so, notifying the E-ISAC. Further, in its Order No. 848 issued July 19, 2018 (164 FERC ¶161,033), FERC directed NERC to develop and submit modifications to Reliability Standards to provide for mandatory reporting to the E-ISAC (and other organizations) of Cyber Security Incidents that compromise, or attempt to compromise, a responsible entity’s Electronic Security Perimeter or associated Electronic Access Control or Monitoring Systems.”

The major activities of the E-ISAC satisfy the following criteria:

- I.C.1: Is the activity necessary or appropriate for information gathering, collection and analysis activities to obtain information for Reliability Standards development, including for purposes of identifying areas in which new Reliability Standards could be developed, existing Reliability Standards could be revised, or existing Reliability Standards could be eliminated, such as: (1) Measuring reliability performance – past, present and future; publishing or disseminating the results of such measurements; analyzing the results of such measurements; identifying and analyzing risks to reliability of the Bulk Power System based on such measurements; and/or identifying approaches to mitigating or eliminating such risks? (2) Monitoring, event analysis and investigation of Bulk Power System major events, off-normal occurrences and near-miss events?
- III.D: Is the activity necessary or appropriate for awareness of circumstances on the Bulk Power System and to contribute to understanding risks to reliability.
- III.E: Is the activity necessary or appropriate for gathering, analyzing and sharing with and among industry and government participants, information regarding the physical or cyber security of the Bulk Power System.
- III.F: Is the activity necessary or appropriate for the development and dissemination of Advisories/Recommendations/Essential Actions regarding lessons learned and potential reliability risks to users, owners, and operators of the Bulk Power System?
- V: Is the activity one that is required or specified by, or carries out, the provisions of NERC’s ROP that have been approved by the Commission as “Electric Reliability Organization Rules” (defined in 18 C.F.R. §39.1) pursuant to FPA §215(f)? (The applicable ROP provisions for these major activities are §810 and 1003.)
- IX. Is the activity necessary or appropriate for NERC and Regional Entity committees, subcommittees and working groups engaged in activities encompassed by one or more of the other criteria?

VII. Training, Education, and Personnel Certification Program 2019 Major Activities

The major activities of the Training, Education, and Personnel Certification Program are described at pages 67-69 of the 2019 Business Plan and Budget. The major activities of this program include oversight and coordination of the delivery of training programs to ERO Enterprise staff supporting statutory and delegation-related activities; as well as training and education for BPS industry participants consistent with ERO functional program requirements. The Training and Education Program supports the ERO’s responsibilities to develop, adopt, and obtain approval of Reliability Standards and to monitor, enforce and achieve compliance with the mandatory standards. Additionally, the Continuing Education program approves continuing education providers that meet NERC guidelines and standards

The Training and Education Program also supports NERC’s System Personnel Certification Program, which ensure that personnel operating the BPS have the skills, training and qualifications needed to operate the BPS reliably. This Program maintains the credentials required to work in various industry areas across North America for over 7,500 system operators. NERC’s System Operator Certification exam tests specific knowledge of job skills and Reliability Standards and prepares operators for complying with requirements

of Reliability Standards and appropriately operating the BES during normal and emergency operations. The Training and Education program provides learning materials, resources and activities to assist industry and ERO Enterprise staff in their understanding of key program areas including Reliability Standards; risk-based compliance monitoring and enforcement; organization registration and certification; event analysis, cause analysis, performance analysis and lessons learned; Reliability Assessment and System Analysis; and continuing education for system operators.

The major activities of the Training and Education Program for 2019 include implementing the annual NERC and ERO Enterprise Learning Priorities Plan which articulates and prioritizes the accumulated learning needs of the ERO Enterprise and the potential delivery vehicles supporting achievement of the goals of the *ERO Enterprise Operating Plan*. The focus for 2019 (and beyond) includes educating industry on managing risk to the reliability of the BPS based on results of technical assessment and analysis, standards development, and human performance knowledge; enhancing ERO Enterprise compliance monitoring personnel performance through a deeper understanding of ERO Enterprise compliance monitoring processes and technical aspect of BPS operations; and improving NERC employee's understanding of NERC functions and core technical knowledge of the BPS. Training and education will be delivered through workshops, webinars, and computer-based and instructor-led training courses. The Continuing Education program will evaluate and revise current program criteria as reflected in the Continuing Education program manual. The Continuing Education Program will remain focused on NERC System Operator credential maintenance. The Personnel Certification Program will continue to implement Linear on the Fly Testing, which dynamically creates an exam each time an exam is initiated by a candidate, and will work with industry stakeholders and the exam development vendor to create certification exams that promote BPS reliability. The Exam Working Group of the NERC Personnel Certification Governance Committee (PCGC) will continue to develop and analyze new items for future certification exams and work to ensure relevance to current Reliability Standards. The PCGC will continue to focus on further development of the System Operator Certification program strategic plan to ensure reliable operation of the BPS, including continuing annual analysis of the System Operator Certification Exam Item Bank; identification of new exam items; developing enhancements to the credential maintenance tool; and other program enhancements.

The major activities of the Training, Education, and Personnel Certification Program satisfy the following criteria:

- I.D: Is the activity necessary or appropriate for the provision of training and education concerning Reliability Standards development processes, procedures and topics for/to (i) NERC personnel, (ii) Regional Entity personnel, and (iii) industry personnel?

- II.C: Is the activity necessary or appropriate for the Certification of system operating personnel as qualified to carry out the duties and responsibilities of their positions in accordance with the Requirements of applicable Reliability Standards?

- II.F: Is the activity necessary or appropriate for the provision of training, education and dissemination of information for/to (i) NERC personnel, (ii) Regional Entity personnel, and (iii) industry personnel with respect to compliance monitoring and enforcement topics and topics concerning reliability risks identified through compliance monitoring and enforcement activities, such as: (1) Requirements of Reliability Standards, including how to comply and how to demonstrate compliance? This includes development of guidance and interpretation documents. (2) Compliance monitoring and enforcement processes, including how to conduct them, how to participate in them, and the expectations for the

processes? This includes development of guidance documents. (3) Disseminating, through workshops, webinars, Advisories/Recommendations/Essential Actions, and other publications, “lessons learned” information on compliance concerns and reliability risks obtained through compliance monitoring and enforcement activities, monitoring and investigation of Bulk Power System major events, off-normal occurrences and near miss events, and other Bulk Power System monitoring activities. (4) Registered Entity internal processes for compliance with Reliability Standards, such as development, implementation and maintenance of internal reliability compliance programs?

- V: Is the activity one that is required or specified by, or carries out, the provisions of NERC’s ROP that have been approved by the Commission as “Electric Reliability Organization Rules” (defined in 18 C.F.R. §39.1) pursuant to FPA §215(f)? (The applicable ROP provision for the major activities of the Training, Education and Personnel Certification Program are §600 and §900.)
- VI: Is the activity necessary or appropriate for the supervision and oversight of Regional Entities in the performance of their delegated responsibilities in accordance with FPA §215, 18 C.F.R. Part 39, the Commission-approved delegation agreement between NERC and the Regional Entity, the NERC ROP, and applicable provisions of Commission orders?

VIII. Administrative Services 2019 Major Activities

NERC’s Administrative Services Departments are Technical Committees and Member Forums (for which no funding for activities is budgeted for 2019), General and Administrative, Legal and Regulatory, Information Technology (“IT”), Human Resources & Administration, and Finance and Accounting. The major activities of these departments are described at pages 72-81 of the 2019 Business Plan and Budget.

General and Administrative is responsible for the administration and general management of the organization and includes the Chief Executive Officer and Chief Reliability Officer, Board of Trustees costs, communications, external affairs and government relations, and Office Rent.

Legal and Regulatory provides legal support to the organization, including to management, and the Reliability Standards, Compliance Analysis, Organization Registration and Certification, RASA, and Reliability Risk Management Programs, as well as general corporate legal support in areas including antitrust, corporate, commercial, insurance, contracts, employment, real estate, copyright, tax, and other areas, and legal and regulatory support in connection with delegation agreements with Regional Entities. Legal and Regulatory also includes the internal audit and corporate risk management functions.

IT supports, builds, configures, and enhances applications that serve registered entities, Regional Entities, and NERC staff, including ERO Enterprise data analysis and ongoing NERC and E-ISAC internal operations. IT’s budgeted activities for 2019 are in the following categories: (1) ERO Enterprise new functionality; (2) maintaining ERO Enterprise infrastructure and support; and (3) maintaining NERC infrastructure and support. The focus of IT’s budgeted activities is applications designed to better support effectiveness and consistency across the ERO Enterprise in the areas of Reliability Standards, Compliance Monitoring, Enforcement, Registration and the associated assessment of reliability risk. These applications include the CMEP Technology Project and complementary solutions for entity registration and standards data. IT’s budgeted activities for 2019 also include improvements to NERC’s public-facing website, funding for solar and wind data in the Generator Availability Data System, and a rewrite or replacement of the Resource Adequacy Application. IT is also responsible for certain Office Costs including telephone,

internet, computer supplies, software licenses and support, subscriptions and publications, and audio/visual and hardware leases.

Human Resources & Administration includes NERC’s human resources and facilities and meeting planning functions, including staffing, benefits administration, employee relations, performance and compensation management, succession planning, and management and professional and administrative staff training and development. Under the direction of the NERC Board Corporate Governance and Human Resources Committee, Human Resources & Administration also develops compensation strategy and performs or obtains (through consultants) compensation studies, effectiveness studies, and other compensation and staffing related studies as needed.

Finance and Accounting manages all finance and accounting functions of NERC, including employee payroll, 401(k), 457(b) and 457(f) plans, travel and expense reporting, monthly financial reporting, sales and use tax, insurance, and development of the annual business plan and budget.

The major activities of NERC’s Administrative Services Departments satisfy the following criteria:

- I.A: Is the activity necessary or appropriate for Reliability Standards development projects pursuant to the NERC ROP?
- II.A: Is the activity necessary or appropriate for the identification and registration of users, owners, and operators of the Bulk Power System that are required to comply with Requirements of Reliability Standards applicable to the reliability functions for which they are registered?
- II.D: Is the activity necessary or appropriate for conducting, participating in or overseeing compliance monitoring and enforcement activities pursuant to the NERC ROP and (through the Regional Entities) the Commission-approved delegation agreements?
- III.C: Is the activity necessary or appropriate for investigating, analyzing, evaluating, and disseminating information concerning, the causes of major events and off-normal occurrences, and/or providing coordination assistance, technical expertise and other assistance to users, owners, and operators of the Bulk Power System in connection with Bulk Power System major events and off-normal occurrences, but not real-time operational control of the Bulk Power System?
- V: Is the activity one that is required or specified by, or carries out, the provisions of NERC’s ROP that have been approved by the Commission as “Electric Reliability Organization Rules” (defined in 18 C.F.R. §39.1) pursuant to FPA §215(f)? (The applicable ROP provision for the major activities of Finance and Accounting is §1100.)
- VI: Is the activity necessary or appropriate for the supervision and oversight of Regional Entities in the performance of their delegated responsibilities in accordance with FPA §215, 18 C.F.R. Part 39, the Commission-approved delegation agreement between NERC and the Regional Entity, the NERC ROP, and the applicable provisions of Commission orders.
- IX: Is the activity necessary or appropriate for NERC and Regional Entity committees,

subcommittees and working groups engaged in activities encompassed by one or more of the other criteria?

- XI: Is the activity a governance or administrative/overhead function, activity or service necessary or appropriate for the activities encompassed by the other criteria and, in general, necessary and appropriate to operate a functioning organization?

**NERC WRITTEN CRITERIA FOR DETERMINING
WHETHER AN ACTIVITY IS ELIGIBLE TO BE FUNDED
UNDER SECTION 215 OF THE FEDERAL POWER ACT**

For purposes of internal management approval of a proposed new activity or group of related activities (“major activity”), the proposed activity or major activity must be shown to fall within at least one of the criteria listed below. When sub-criteria are listed below a roman numeral numbered major criterion, the proposed activity should be a positive answer to at least one of the sub-criteria. Conversely, an activity that falls under a sub-criterion should pertain to the subject matter of the major criterion.

NERC’s annual business plan and budget will describe how each major activity falls within one or more of the criteria listed below. If the major activity is substantially the same as a major activity that was shown to fall within the criteria in a previous year’s business plan and budget, the current year’s business plan and budget can refer to the prior year business plan and budget.

A determination that an activity falls within FPA §215 does not necessarily mean that NERC will propose or undertake such activity. The determination of whether an activity falling under FPA §215 should or will be undertaken in a given budget year will be addressed in the context of the applicable business plan and budget and will include opportunities for stakeholder input.

The criteria listed below are not necessarily each distinct from the others. An activity or major activity may fall within more than one of the criteria listed below.

- I. Is the activity necessary or appropriate for the development of Reliability Standards?
 - A. Is the activity necessary or appropriate for Reliability Standards development projects pursuant to the NERC ROP?
 - B. Is the activity necessary or appropriate for providing guidance and assistance to Regional Entities in carrying out Regional Reliability Standards development activities?
 - C. Is the activity necessary or appropriate for information gathering, collection and analysis activities to obtain information for Reliability Standards development, including for purposes of identifying areas in which new Reliability Standards could be developed, existing Reliability Standards could be revised, or existing Reliability Standards could be eliminated, such as:
 1. Measuring reliability performance – past, present and future; publishing or disseminating the results of such measurements; analyzing the results of such measurements; identifying and analyzing risks to reliability of the Bulk Power System⁴¹ based on such measurements; and/or identifying approaches to mitigating or eliminating such risks?

⁴¹ This document uses the term “Bulk Power System” because that is the term defined and used in FPA §215. NERC recognizes that a different term, “Bulk Electric System,” is used to define the current reach of reliability standards.

2. Monitoring, event analysis and investigation of Bulk Power System major events, off-normal occurrences and near miss events?
 - D. Is the activity necessary or appropriate for the provision of training and education concerning Reliability Standards development processes, procedures and topics for/to (i) NERC personnel, (ii) Regional Entity personnel, and (iii) industry personnel?
- II. Is the activity necessary or appropriate for the monitoring and enforcement of compliance with Reliability Standards?
- A. Is the activity necessary or appropriate for the identification and registration of users, owners, and operators of the Bulk Power System that are required to comply with Requirements of Reliability Standards applicable to the reliability functions for which they are registered?
 - B. Is the activity necessary or appropriate for the Certification of Reliability Coordinators, Transmission Operators and Balancing Authorities as having the requisite personnel, qualifications and facilities and equipment needed to perform these reliability functions in accordance with the applicable Requirements of Reliability Standards?
 - C. Is the activity necessary or appropriate for the Certification of system operating personnel as qualified to carry out the duties and responsibilities of their positions in accordance with the Requirements of applicable Reliability Standards?⁴²
 - D. Is the activity necessary or appropriate for conducting, participating in or overseeing compliance monitoring and enforcement activities pursuant to the NERC ROP and (through the Regional Entities) the Commission-approved delegation agreements?
 - E. Is the activity necessary or appropriate for information gathering, collection and analysis activities to obtain information to monitor and enforce compliance with Reliability Standards, including evaluating the effectiveness of current compliance monitoring and enforcement processes, the need for new or revised compliance monitoring and enforcement processes, and the need for new or different means of training and education on compliance with Reliability Standards, such as:
 1. Measuring reliability performance – past, present and future; publishing or disseminating the results of such measurements; analyzing the results of such measurements; identifying and analyzing risks to reliability of the Bulk Power System based on such measurements; and/or identifying approaches to mitigating or eliminating such risks?
 2. Monitoring, event analysis and investigation of Bulk Power System major events, off-normal occurrences, and near miss events?
 - F. Is the activity necessary or appropriate for the provision of training, education and dissemination of information for/to (i) NERC personnel, (ii) Regional Entity personnel, and (iii) industry personnel with respect to compliance monitoring and enforcement topics and topics concerning reliability risks identified through compliance monitoring and enforcement activities, such as:

⁴² Although certification of system operating personnel is an activity falling within the scope of, and eligible to be funded pursuant to, FPA §215, NERC strives to fully fund the costs of this activity through fees charged to participants.

1. Requirements of Reliability Standards, including how to comply and how to demonstrate compliance? This includes development of guidance and interpretation documents.
 2. Compliance monitoring and enforcement processes, including how to conduct them, how to participate in them, and the expectations for the processes? This includes development of guidance documents.
 3. Disseminating, through workshops, webinars, Advisories, Recommendations, Essential Actions, and other publications; “lessons learned” information on compliance concerns and reliability risks obtained through compliance monitoring and enforcement activities; monitoring and investigation of Bulk Power System major events, off-normal occurrences and near miss events, and other Bulk Power System monitoring activities?
 4. Registered Entity internal processes for compliance with Reliability Standards, such as development, implementation and maintenance of internal reliability compliance programs?
- G. Is the activity necessary or appropriate for the development and provision of tools and services that are useful for the provision of adequate reliability, because they relate specifically to compliance with existing Reliability Standards and they proactively help avert Reliability Standard violations and Bulk Power System disturbances?
- III. Is the activity necessary or appropriate for conducting and disseminating periodic assessments of the reliability of the Bulk Power System or monitoring the reliability of the Bulk Power System?
- A. Is the activity necessary or appropriate for the preparation or dissemination of long-term, seasonal, and special assessments of the reliability and adequacy of the Bulk Power System?
 - B. Is the activity necessary or appropriate for measuring reliability performance – past, present and future; publishing or disseminating the results of such measurements; analyzing the results of such measurements; identifying and analyzing risks to reliability of the Bulk Power System based on such measurements; and/or identifying approaches to mitigating or eliminating such risks?
 - C. Is the activity necessary or appropriate for investigating, analyzing, evaluating, and disseminating information concerning, the causes of major events and off-normal occurrences, and/or providing coordination assistance, technical expertise and other assistance to users, owners, and operators of the Bulk Power System in connection with Bulk Power System major events and off-normal occurrences, but not real-time operational control of the Bulk Power System?
 - D. Is the activity necessary or appropriate for awareness of circumstances on the Bulk Power System and to contribute to understanding risks to reliability?
 - E. Is the activity necessary or appropriate for gathering, analyzing and sharing with and among industry and government participants, information regarding the physical or cyber security of the Bulk Power System?
 - F. Is the activity necessary or appropriate for the development and dissemination of Advisories/Recommendations/Essential Actions regarding lessons learned and potential reliability risks to users, owners, and operators of the Bulk Power System?

- G. Is the activity necessary or appropriate for data collection and analysis of information regarding Bulk Power System reliability matters mandated by the Commission?
- IV. Is the activity one that was required or directed by a Commission order issued pursuant to FPA §215? Justification of an activity as a FPA §215 activity based on this category must reference the particular Commission order and directive.
- V. Is the activity one that is required or specified by, or carries out, the provisions of NERC’s ROP that have been approved by the Commission as “Electric Reliability Organization Rules” (defined in 18 C.F.R. §39.1) pursuant to FPA §215(f)?
- VI. Is the activity necessary or appropriate for the supervision and oversight of Regional Entities in the performance of their delegated responsibilities in accordance with FPA §215, 18 C.F.R. Part 39, the Commission-approved delegation agreement between NERC and the Regional Entity, the NERC ROP, and applicable provisions of Commission orders?
- VII. Is the activity necessary or appropriate to maintain NERC’s certification as the Electric Reliability Organization? This Criterion includes conducting periodic assessments of NERC’s and the Regional Entities’ performance as the Electric Reliability Organization as required by 18 C.F.R. §39.3(c).
- VIII. Does the activity respond to or is it necessary or appropriate for audits of NERC and the Regional Entities conducted by the Commission?
- IX. Is the activity necessary or appropriate for NERC and Regional Entity committees, subcommittees and working groups engaged in activities encompassed by one or more of the other criteria?
- X. Is the activity necessary or appropriate for the analysis and evaluation of activities encompassed by one or more of the other criteria for the purpose of identifying means of performing the activities more effectively and efficiently?
- XI. Is the activity a governance or administrative/overhead function, activity or service necessary or appropriate for the activities encompassed by the other criteria and, in general, necessary and appropriate to operate a functioning organization? (Should NERC perform any non-FPA §215 activities, the costs of governance and administrative/overhead functions must be appropriately allocated.)
- NERC’s current governance and administrative/overhead functions are carried out in the following program areas:
- A. Technical Committees and Members’ Forum Programs
 - B. General and administrative (includes, but is not limited to, executive, board of trustees, communications, government affairs, and facilities and related services).
 - C. Legal and Regulatory.
 - D. Information Technology
 - E. Human Resources
 - F. Accounting and Finance.

The following matters are excluded from the scope of FPA §215 activities. While a list of non-FPA §215 activities would be infinite, the following excluded matters are listed here because they are expressly referred to in FPA §215, the Commission’s ERO regulations and/or a Commission order issued pursuant to FPA §215:

- A. Developing or enforcing requirements to enlarge Bulk Power System facilities, or to construct new transmission capacity or generation capacity, or requirements for adequacy or safety of electric facilities or services.
- B. Activities entailing Real-time operational control of the Bulk Power System.
- C. Activities pertaining to facilities used in the local distribution of electricity.

Exhibit B – Consultant and Contract Costs

Consultants & Contracts	2018 Budget	2019 Budget	Increase (Decrease)
Reliability Standards			
Standards Development Support		\$ 50,000	\$ 50,000
Total		\$ 50,000	\$ 50,000
Compliance Assurance			
Risk-Based Compliance Monitoring Implementation	\$ 50,000	\$ 50,000	\$ -
Total	\$ 50,000	\$ 50,000	\$ -
Compliance Enforcement			
CRATS		\$ 161,000	\$ 161,000
Total		\$ 161,000	\$ 161,000
Reliability Assessment and System Analysis			
Reliability Effects of GMD	\$ 100,000	\$ 200,000	\$ 100,000
Reliability Consulting Support	\$ 425,000	\$ 425,000	\$ -
Total	\$ 525,000	\$ 625,000	\$ 100,000
Performance Analysis			
GADS/TADS/DADS	\$ 572,030	\$ 653,565	\$ 81,535
Total	\$ 572,030	\$ 653,565	\$ 81,535
Situation Awareness			
Reliability Tools	\$ 600,595	\$ 614,110	\$ 13,515
Secure Alerting System	\$ 96,000	\$ 98,880	\$ 2,880
SAFNR - Phase II	\$ 523,900	\$ 493,000	\$ (30,900)
Communication Network	\$ 75,000	\$ 75,000	\$ -
Total	\$ 1,295,495	\$ 1,280,990	\$ (14,505)
E-ISAC			
Security Consulting	\$ 33,000	\$ 33,000	\$ -
GridEx Support	\$ 142,000	\$ 550,000	\$ 408,000
Program-Level Capabilities	\$ 770,000	\$ 725,000	\$ (45,000)
Software and Services	\$ 105,200		\$ (105,200)
Portal Improvement		\$ 462,500	\$ 462,500
Events and Outreach	\$ 50,000	\$ 50,000	\$ -
CRISP	\$ 6,291,594	\$ 6,457,500	\$ 165,906
Total	\$ 7,391,794	\$ 8,278,000	\$ 886,206
Personnel Certification			
System Operator Testing Expenses	\$ 58,500	\$ 62,000	\$ 3,500
System Operator Examination Development	\$ 50,000	\$ 50,000	\$ -
Job Task Analysis	\$ 42,000		\$ (42,000)
Database License	\$ 25,200		\$ (25,200)
SOCCE Database Improvements	\$ 75,000	\$ 50,000	\$ (25,000)
Total	\$ 250,700	\$ 162,000	\$ (88,700)
Training and Education			
Continuing Education Program	\$ 133,200	\$ 85,000	\$ (48,200)
ERO Enterprise Learning Portal	\$ 103,150	\$ 105,000	\$ 1,850
ERO Enterprise and Industry Course Development	\$ 76,850	\$ 110,000	\$ 33,150
NERC Staff Technical Training	\$ 35,000	\$ 35,000	\$ -
Total	\$ 348,200	\$ 335,000	\$ (13,200)
General and Administrative			
Communications Support	\$ 20,000	\$ 20,000	\$ -
ERO Enterprise Effectiveness Survey	\$ 80,000	\$ 20,000	\$ (60,000)
Executive Consulting		\$ 200,000	\$ 200,000
Total	\$ 100,000	\$ 240,000	\$ 140,000
Information Technology			
ERO Data Analytics	\$ 1,277,966	\$ 1,307,763	\$ 29,797
Applications Enhancements, Consulting, and Help Desk Support	\$ 846,000	\$ 735,000	\$ (111,000)
Total	\$ 2,123,966	\$ 2,042,763	\$ (81,203)
Human Resources			
Training and Development	\$ 400,000	\$ 400,000	\$ -
Compensation Consulting	\$ 175,000	\$ 225,000	\$ 50,000
Employee, Industry, and Board Surveys	\$ 40,000	\$ 40,000	\$ -
HR Consulting Services	\$ 25,000	\$ 25,000	\$ -
Total	\$ 640,000	\$ 690,000	\$ 50,000
Finance and Accounting			
Internal Controls and Outside Auditor Consulting Support	\$ 220,000	\$ 300,000	\$ 80,000
Finance and Accounting Support	\$ 207,000	\$ 175,000	\$ (32,000)
Total	\$ 427,000	\$ 475,000	\$ 48,000
Total Consultants & Contracts	\$ 13,724,185	\$ 15,043,318	\$ 1,319,133

Exhibit C – Capital Financing

The company initiated a capital financing program in January 2014 as a funding source for major software application development projects that primarily benefit the ERO Enterprise. The total size of the original non-revolving credit facility was \$7.5M and was used to finance a portion of NERC's capital expenditures (including IT hardware and software application development costs) made through December 2016. A similar non-revolving credit facility was closed in November 2016, totaling \$5.0M, and is available to finance certain capital expenditures made from January 2017 to December 2019. The interest rate for both credit facilities is floating and equal to LIBOR plus 275 basis points. NERC projects the average interest rate during 2019 will be 4.5%. Authorized annual borrowings under the facilities are limited to the amount approved by the Board and FERC in each year's BP&B. Borrowings under the credit facilities are amortized over a three-year period, and can be prepaid without penalty.

As further discussed in the *Introduction and Executive Summary* and set forth in the table below, NERC has a 2019 proposed capital budget of approximately \$4.8M, of which it is proposing to finance \$3.3M.

NERC Capital Budget	Budget	Budget	Variance	
	2018	2019	v 2018 Budget	Variance %
ERO Application Development	\$ 2,148,000	\$ 3,268,000	\$ 1,120,000	52.1%
Hardware (storage, servers)	805,000	565,000	(240,000)	-29.8%
Other Equipment	370,000	425,000	55,000	14.9%
Disaster Recovery	100,000	-	(100,000)	-100.0%
NERC Software Licenses	301,000	120,000	(181,000)	-60.1%
Leasehold Improvements	150,000	400,000	250,000	166.7%
Total	\$ 3,874,000	\$ 4,778,000	\$ 904,000	23.3%

In the 2019 budget, NERC plans to finance \$3,268,000 for ERO Enterprise application development projects. The tables below show projected year-end outstanding debt and the future annual payments for debt service.

	Year-End Outstanding Debt Balance				
	Prior Years	2018	2019	2020	2021
	Actual	Projected	Budget	Projected	Projected
Prior Years (2015 - 2017 Borrowing)	\$ 1,144,852	\$ 427,578	\$ 32,891	\$ -	\$ -
2018 Projection	-	2,148,000	1,432,000	716,000	-
2019 Budgeted	-	-	3,268,000	2,178,667	1,089,333
2020 Projected	-	-	-	2,007,000	1,338,000
2021 Projected	-	-	-	-	1,300,000
Total Outstanding Balance	\$ 1,144,852	\$ 2,575,578	\$ 4,732,891	\$ 4,901,667	\$ 3,727,333

	Future Annual Payments for Debt Service				
	2018	2019	2020	2021	
	Projected	Budget	Projected	Projected	Projected
Prior Years - Principal	\$ 717,274	\$ 394,692	\$ 32,891	\$ -	\$ -
2018 Projection	-	716,000	716,000	716,000	716,000
2019 Budgeted	-	-	1,089,333	1,089,333	1,089,333
2020 Projected	-	-	-	669,000	669,000
2021 Projected	-	-	-	-	-
Interest Expense	32,727	94,175	177,203	172,239	172,239
Total Principal and Interest Costs	\$ -	\$ 750,001	\$ 1,204,867	\$ 2,015,427	\$ 2,646,572

Exhibit D – Working Capital and Operating Reserve Amounts

In September 2015, FERC approved NERC’s proposed amendments to its *Working Capital and Operating Reserve Policy*, which had been approved by the Board. A number of changes were made to the policy, including:

- Clarifying the definition of working capital to represent funding needed for cash flow purposes due to the timing of the receipt of funds and the payment of expenses.
- Creating four separate categories of operating reserves:
 1. A **Future Obligation Reserve** for funds being held to satisfy obligations that will be settled in a future year. Examples include leases, certain contracts, and credit agreements. These reserves were previously included within the definition of working capital, but are more accurately classified as a form of operating reserve.
 2. Continuation of a separate category of reserves for the Operator Certification Program called the **System Operator Certification Reserve**.
 3. Elimination of the Known and Unforeseen Contingency categories of operating reserves and creating a single category of contingency reserves called the **Operating Contingency Reserve**.
 4. Creation of a separate category of reserves for CRISP called the **CRISP Reserve**.

Working Capital

Based on its 2018 cash flow projection and taking into account the historic manner in which NERC’s assessments have been billed and paid, NERC does not anticipate needing access to working capital in 2019 to meet monthly cash flow needs. While individual reserve categories are increasing and decreasing based on operating needs and uses, the budget in total does not reflect additional net funding for reserves. In the unlikely event NERC experiences a temporary cash flow shortage, it has the ability to either request authorization from the FAC and Board to temporarily access operating contingency reserve funds, or draw on its \$4M line of credit, as long as NERC is in compliance with the covenants under its bank credit agreement.

Operating Reserves

Total operating reserves are budgeted to be \$6.9M at December 31, 2019 among all four categories, or \$6.4M excluding the \$500k CRISP Reserve. The Future Obligation Reserve is budgeted to be \$2.0M and is primarily funds held to offset future liabilities under lease agreements for the Atlanta and Washington, DC, offices. System Operator Certification Reserves are budgeted at \$676k, and the Operating Contingency Reserve is budgeted for \$3.8M. The CRISP Reserve, budgeted at \$500k, is held pursuant to the terms of the Master Services Agreement between NERC and participating utilities, which calls for a separate third-party funded reserve established to fund certain contingencies in connection with CRISP.

Assessment Stabilization Reserve

In addition to the foregoing reserves, the amended policy also provides for an Assessment Stabilization Reserve. The goal of the Assessment Stabilization Reserve is to mitigate assessment volatility and have percentage changes in annual assessments track, within a reasonable band, percentage changes in the company’s total annual budget, with the total budget reflecting prudent fiscal discipline and good stewardship. Assessment stabilization funds will be used when available to help stabilize assessments and mitigate year-to-year swings in assessments. Those swings primarily result from the year-to-year variations in collections of penalty funds to be applied to offset assessments, but could also result from other factors like surplus funds available from a prior period, the need to replenish the Operating Contingency Reserve, or significant but relatively short-term operating or capital spending needs. Subject to FERC approval, NERC will deposit the \$500k of penalty funds collected during the period July 1, 2017–June 30, 2018 into the Assessment Stabilization Reserve. NERC will also, subject to FERC approval, release \$550k from the Assessment Stabilization Reserve to reduce U.S. assessments for 2019.

Exhibit E – E-ISAC Long-Term Strategy

Executive Summary

The Electricity Information Sharing and Analysis Center (E-ISAC), operated by the North American Electric Reliability Corporation (NERC), executed a significant improvement initiative over the past two years based on findings and recommendations developed by the Electricity Subsector Coordinating Council (ESCC) in 2015. Looking forward, the electricity industry would like the E-ISAC to become an indispensable resource for security information sharing and analysis, and to be the centerpiece for building a highly engaged community of security professionals.

To carry forth this vision, the E-ISAC must undergo continuous improvement and evolution that reflects the changing threat landscape, changing technologies and business processes inside the industry, and changing customer expectations for a highly reliable and secure electricity infrastructure that is increasingly more integrated with insecure infrastructures such as the public Internet. This will require additional resources for people, technology, and facilities above what has been budgeted in previous years.

This strategic plan builds on the ESCC’s earlier recommendations and discusses improvements needed in 2017 to address current threats, a look at the mid-term range of 2018-2022 to address emerging threats, and what the E-ISAC might look like beyond 2023 if the forecasted issues continue to develop.

The plan was developed with guidance from the ESCC and from NERC leadership. It recognizes the need for sound fiscal planning, recognizes the growing threats to the grid from human and cyber actors, and highlights the need for a more robust security information sharing and analysis capability within NERC.

At a recent planning session with C-level executives, one utility CEO said he wanted to “transform the EISAC into an intelligence collecting and analytical capability that industry literally cannot do without,” which resonated strongly among the other executives. To achieve this goal we must get the E-ISAC to a maturity level where industry completely trusts it to gather, hold, analyze, and distribute highly sensitive security information.

Specific financial projections, technology requirements, staffing, and facility improvements are being developed and will be incorporated in the NERC strategic plan and the NERC business plan and budget.

Background

The Electricity Information Sharing and Analysis Center (E-ISAC) is operated by the North American Electric Reliability Corporation (NERC).⁴³ It was established by NERC at the request of the U.S. Department of Energy in 1999 to serve as a focal point for voluntary information sharing within the electricity subsector. By 2006, the ISAC was widely used in the subsector for collecting, analyzing, and distributing voluntarily-shared security information and was a key component of NERC’s overall electric reliability mission. NERC’s Board of Trustees oversees the budget and activities of the E-ISAC in the same manner as other NERC divisions.

NERC assumed the role of the Electric Reliability Organization (ERO) in 2006 and began a multi-year effort to develop enforceable reliability and security standards for owners, operators, and users of the Bulk-Power System. As the standards were completed and compliance monitoring began, the ISAC remained the place where security incidents were reported, but the voluntary nature of reporting from electricity entities shifted towards mandatory reporting from entities required to be compliant with NERC’s Critical Infrastructure Protection (CIP) standards. By 2014, voluntary sharing with the E-ISAC had greatly diminished in favor of mandatory reporting, but the desire

⁴³ Initially called the Electricity Sector Information Sharing and Analysis Center (ES-ISAC), the name was changed in September 2015 to the Electricity Information Sharing and Analysis Center (E-ISAC) as part of a rebranding and role-clarification initiative.

for voluntary sharing within the subsector remained strong. The following year a perceived problem of internal NERC cross-sharing of security information was addressed when NERC implemented the employee code of conduct that bars voluntarily shared security information from being forwarded to NERC’s compliance and enforcement teams. Also in 2015 the E-ISAC finished a separation project that includes physical and electronic barriers to protect the information voluntarily shared by industry members.

In late 2014, the Electricity Subsector Coordinating Council (ESCC) initiated a strategic review of the E-ISAC. In June 2015, the ESCC published its key findings and recommendations, which fell into four major areas of improvement for the E-ISAC:

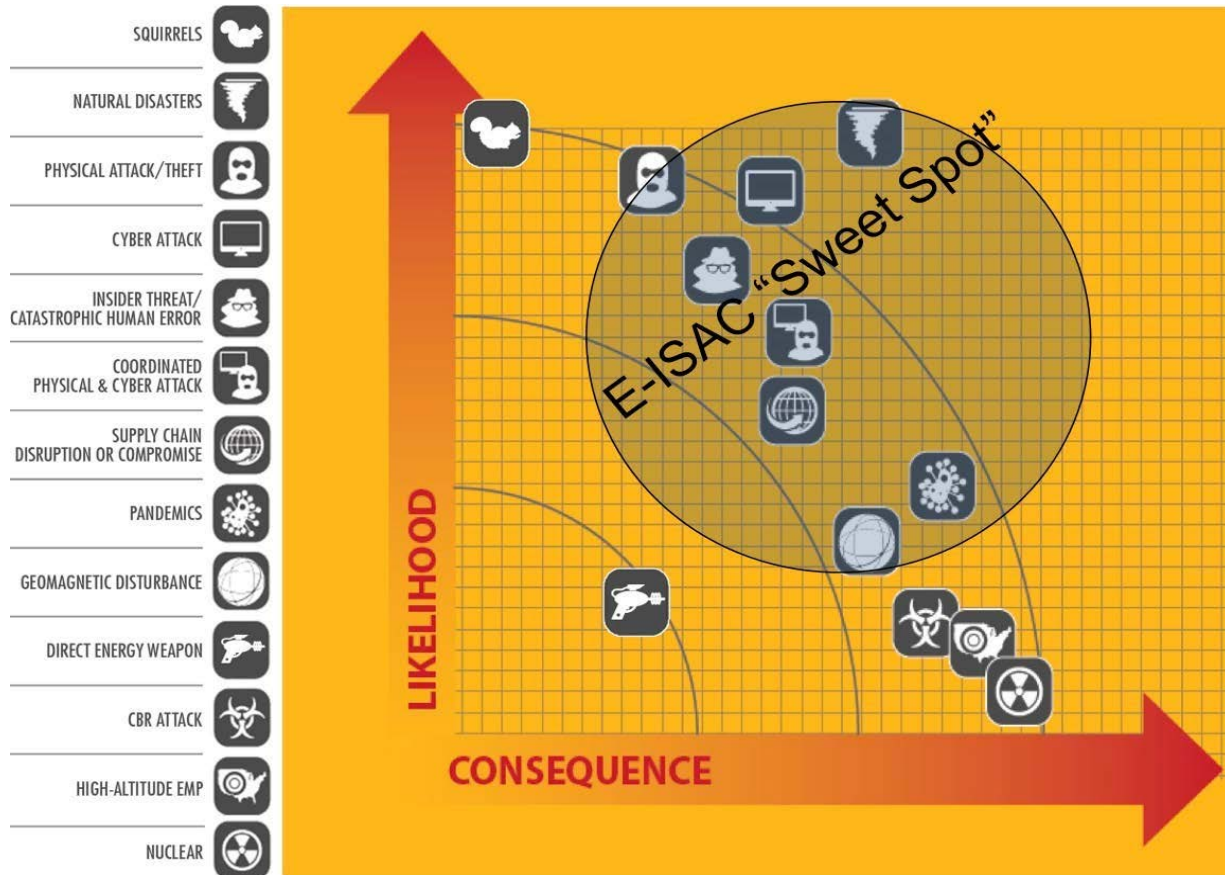
- Strengthen the governance structure and processes to increase effectiveness and responsiveness
- Improve the quality and value of the products by identifying member needs and expectations
- Advance the analysis capabilities by continuing to upgrade operational and staff capabilities
- Advance the information collection capabilities through enhanced member engagement, better tools or sensors, and an improved portal

A C-level advisory team from the ESCC (the Member Executive Committee, or MEC) was established in 2015 to help enable the implementation of the ESCC’s recommendations, which included a new vision for the E-ISAC to become the electricity industry’s leading, trusted source for analysis and sharing of security information. As of April 2017, much progress has been made toward realizing this vision and now we look forward to the next five years and beyond while asking the question, “how do we transform the E-ISAC into an intelligence collecting and analytical capability industry cannot do without?” To begin this process, the following section looks back at known threats and ahead at the anticipated evolving nature of future threats targeting the electricity industry.

The Changing Threat Landscape

A study conducted for the ESCC by the Chertoff Group in 2014⁴⁴ found that a range of threats target the electric power grid. These threats can be approximately related to each other by using a likelihood versus consequence plotting. We feel that the E-ISAC’s “sweet spot” is roughly along the 45-degree line as depicted in the graphic below.

⁴⁴ “Addressing Dynamic Threats to the Electric Power Grid Through Resilience” <https://www.chertoffgroup.com/files/docs/Addressing-Dynamic-Threats.compressed.pdf>



Industry by itself cannot protect the grid from all hazards, and likewise neither can the government. A strong partnership between industry and government for security is required, and in fact has been in place for many years. At the center of this partnership is the ESCC, which serves as a bridge between the public and private sectors for strategic security policy coordination and to develop unity of messaging during a crisis. In addition, timely and actionable information sharing, collaboration, and analysis are the cornerstones of good security practices within the electricity industry. The E-ISAC’s role is to facilitate voluntary sharing and collaboration, and to provide unique insights into emerging security issues that are affecting the sector. In January 2017 the E-ISAC and the MEC met in person to discuss the future of the E-ISAC relative to changing threats, changing industry dynamics, and a changing environment. While physical threats resulting in theft, vandalism, disruption, or destruction will always be present, the group recognized that cyber threats and other types of threats are evolving and will require adaptive change throughout industry and especially with respect to the E-ISAC. The group agreed that future threats industry needed to monitor and mitigate included:

- Near-term (0–2 years)
 - Nation state threats, advanced persistent threats, the Internet of Things (IoT), Distributed Denial of Service (DDoS) attacks, and ransomware
 - Data breaches and intellectual property theft
 - Insiders, physical damage, coordinated attacks, and third-party risks
- Mid-term (3–5 years)
 - Increased reliance on gas generation
 - Distribution system vulnerabilities via networked control systems

- Growth of demand response technologies with low security
- Distributed energy resources
- Reliability of communications networks
- Long-term (5–10 years)
 - Higher replacement rate of components and systems
 - Increased cost of operations due to higher security costs
 - Ability to run manually might be lost
 - Computers attacking computers

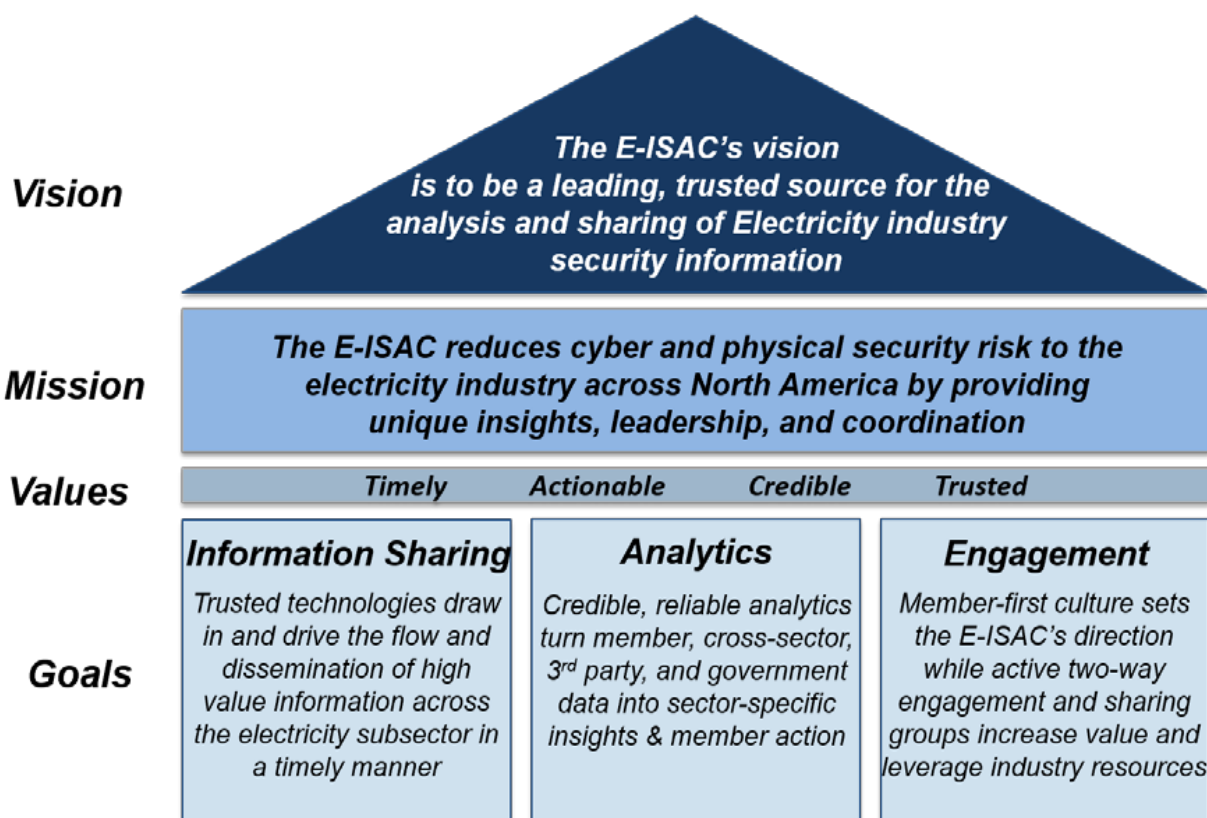
The remainder of this plan discusses improvements needed in 2017 to address current threats, a look at the mid-term range of 2018–2022 to address emerging threats, and what the E-ISAC might look like beyond 2023 if the forecasted issues continue to develop.

The Need for a Strategic Plan

Given that quite a bit of work was accomplished over the past two years to improve the E-ISAC, it is reasonable to ask why a long-term strategic plan is needed. Looking externally, there are three primary drivers:

- Security threats continue to evolve and become more dangerous
 - Ukraine, IoT, and ransomware attacks are indicators
 - Geopolitical tensions and changing societal trends make North America a target
- Customer expectations for highly reliable energy continue to increase
 - Electricity entities need to be more agile and responsive to real-time risks
 - Rapid technology changes also increase the risk landscape
- More robust understanding and measurement of grid resiliency and security
 - Need new tools for collecting and analyzing grid security metrics data

Since the publication of the ESCC’s strategic review in 2015, the E-ISAC has solidified vision, mission, values and goals statements as shown in the graphic below. The three “goals” columns represent parts of a rising spiral of membership engagements: bringing in more information improves the analytical process, which in turn drives more engagement, which then brings in more information, which improves analytics, and so forth.

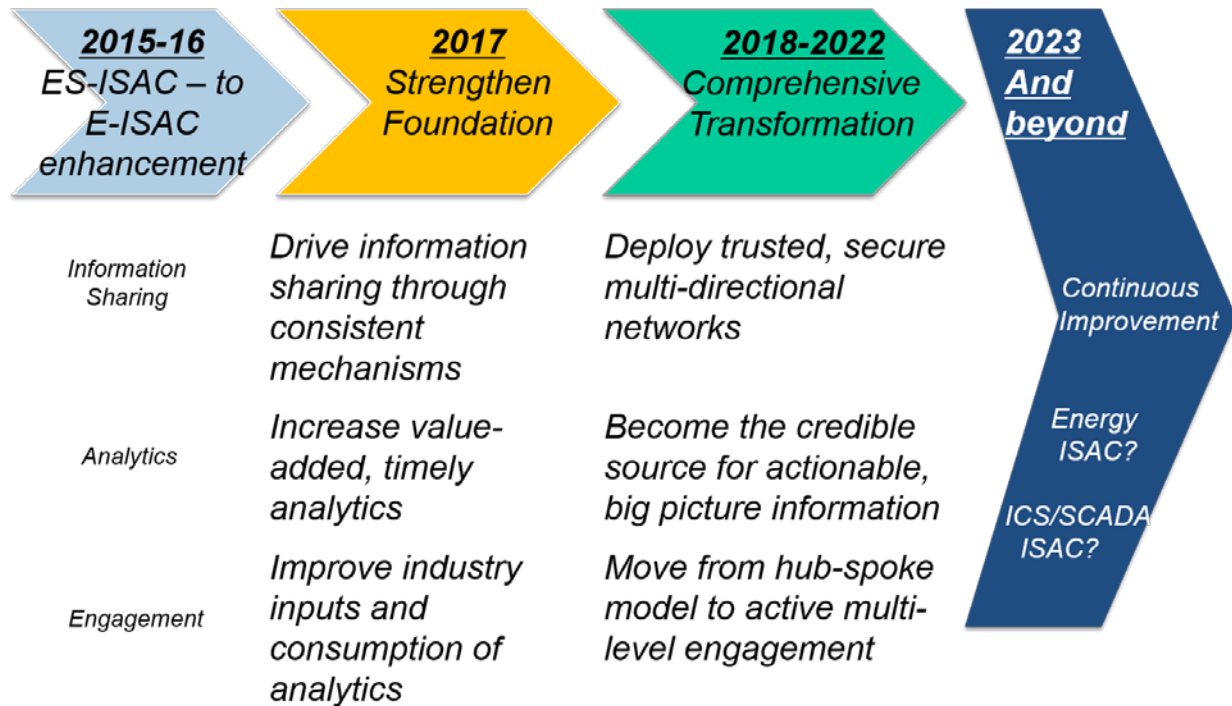


This process takes the E-ISAC to new levels as it gets better at information collection, analysis, and dissemination and represents the core capabilities of the E-ISAC. The MEC and the E-ISAC developed a related strategy for the improvement of the E-ISAC's products and services that builds upon the pillars shown in the graphic above, and is working on a technology roadmap in partnership with NERC's Information Technology team that also follows this method. Both of these more tactical plans support the goals and objectives of the E-ISAC's long-term strategic plan.

Transforming the E-ISAC: 2017 and Beyond

In the coming years, NERC should build on the foundation of the 2015 ESCC recommendations, and position the E-ISAC to provide more robust security information for better understanding of security weaknesses and strengths across the ERO. By addressing the three primary drivers outlined above, NERC can transform the E-ISAC into a world-class intelligence collecting and analytical capability for the electricity industry. To accomplish this, the E-ISAC must achieve a maturity level where industry completely trusts it to gather, hold, analyze, and distribute highly sensitive security information, with no fear that information voluntarily submitted to the E-ISAC would ever be used for a compliance enforcement action or investigation.

As we strengthen the foundation built over the past two years, the E-ISAC should undertake a comprehensive multi-year transformation to build capabilities that include trusted, secure, multidirectional networks and a movement from a hub/spoke model to a very active multi-level engagement. The E-ISAC strives to be the industry's most credible source for actionable, big picture information. This roadmap is illustrated in the graphic below.



2015 and 2016 were foundation-building years, set in motion by the ESCC strategic review and the publication of the findings and recommendations. In 2015, NERC implemented an employee code of conduct, completed a physical and logical separation of the E-ISAC from other parts of NERC, hired strategic leadership and key industry experts, and rebuilt the organization with new internal functional groups. Also that year, the name was changed from the ES-ISAC to the E-ISAC and new logos, color schemes, and branding were launched. In 2016, the old web portal was upgraded with the intention of setting in motion a completely new platform capability that will launch later in 2017. Over the past two years, membership engagement and information sharing grew rapidly, new products and services were launched, and the third Grid Security Exercise (GridEx III) was successfully administered by the E-ISAC. The impact of these initial changes on the E-ISAC’s capability to respond to real-world incidents was validated by the Ukraine grid attacks in December 2015, denial of service attacks from Internet of Things (IoT) devices in October 2016, and the second Ukraine event along with the Grizzly Steppe incident at the end of December 2016.

As was pointed out frequently in the past two years, the “IS” and the “A” in “ISAC” define the two primary strategic themes that must be in place for the organization to be successful. In 2017, the E-ISAC is deploying new information sharing and analysis tools such as the Cyber Automated Information Sharing System (CAISS) and an Event Visualization Tool (EVT) to increase the speed and ease of sharing cyber threat information. While the Cybersecurity Risk Information Sharing Program (CRISP) has enhanced visibility and understanding of cyber threats for the electricity industry, processing classified information takes time. As information comes in from CRISP sensors and goes to the Pacific Northwest National Laboratory, the E-ISAC will leverage a new unclassified data storage and analytics capability inside the E-ISAC so that more actionable information can be sent to industry on a timelier basis. Later this year we anticipate that alerts and technical information will flow securely between CAISS and CRISP in our efforts to expand our data collection beyond the current participant pool and to achieve a more comprehensive picture of industry threats than we have today.

The major technical effort in 2017 is a planned replacement of the current web portal with a new “platform” that will enable automatic information sharing, the creation of private discussion groups, data visualization, and many other features that the E-ISAC’s members requested. To support the new tools and the needs of the sector,

additional analysts will be hired in 2017. In addition, new partnerships are envisioned with organizations like the Computer Emergency Response Team Coordination Center (CERT/CC), and at the end of 2017, the E-ISAC will host the GridEx IV. In mid-April 2017, the internal structure of the E-ISAC was modified to align the staff to better serve the industry. There are now two major groups—one focused on operations and analysis and the other on programs and member engagement. Some minor facility improvements are also planned for 2017.

Looking forward, the next five years (2018-2022) will focus on transforming the E-ISAC into a world-class intelligence collecting and analytical capability for the electricity industry. To achieve this goal, the E-ISAC should increase its capability to collect security intelligence; increase the number of specialized analysts; acquire additional data storage, management, and sharing technologies; and increase the E-ISAC's access to classified networks and facilities.

New Intelligence Collection – To Support Better Unclassified Information Sharing

Some new collection capabilities coming online in 2017 such as CAISS and the Department of Energy's CYOTE project will bring additional intelligence, but the E-ISAC should also consider more active monitoring of public and private networks for new threats, perhaps collecting data from sensors in Operational Technology (OT) networks, and increasing the ability to monitor social media and other open sources. Some of that new collection could be done by others as a service that the E-ISAC would pay for.

Access to Classified Networks and Facilities – To Improve Sharing of Highly Sensitive Information

While the majority of the E-ISAC's staff hold US government security clearances, the facility inside of NERC operates at the unclassified level. This requires E-ISAC staff to travel to government facilities in order to view and analyze classified data. On the industry side, very few entities have access to classified facilities and most do not have staff with appropriate clearances. To support the strategic goal of better information sharing, both the E-ISAC and industry members should have increased access to classified data and classified information sharing networks. Relationships with government partners need to be leveraged to make valuable classified data and analysis rapidly available to asset owners and operators.

More Analysts – To Improve the E-ISAC's Analytical Capabilities

The E-ISAC should hire technical analysts with specializations in fields such as industrial control system security, end-point (host) security, network security, cloud security, and penetration testing. Over the next three to five years an estimated ten or more analysts should be hired at a rate of two or three per year so that the annual increase of NERC's budget is minimized.

Acquisition of New Technologies – To Improve Industry Engagement

As more data is collected, the E-ISAC should acquire additional data storage, management, and sharing technologies. These technologies must be as secure as possible, given that the risk of a targeted data breach will increase as the E-ISAC improves its capability to give early warning to industry about threats and vulnerabilities discovered via data analysis. Specific technologies needed in the next five years include event visualization via the new platform, predictive analysis based on artificial intelligence, real-time threat feeds to members, a customized platform experience for each user, and federated information sharing.

Beyond 2023 security challenges will continue to expand, requiring additional resources and perhaps a different relationship across the energy industry. Due to commonality of threats across all energy companies, rapid growth of vulnerable control systems, and a convergence of lines of business within the industry, we must consider whether or not the E-ISAC should remain focused only on electricity, or if it should expand to include all energy owners/operators (electricity, gas, oil, and natural gas).

Other items to consider beyond 2023 include the size and location of the E-ISAC facility and potential partnerships with the research community. Due to limitations of the NERC budget, some of these new capabilities would need outside funding from the government or perhaps grants from large industry companies.

Other MEC Guidance

Several questions were presented to the MEC membership about the long-term future of the E-ISAC. Most of the questions were answered in the discussion paragraphs above. The remaining questions not previously discussed and the MEC's summarized responses are below.

Should the E-ISAC move to 24/7 operations?

Not immediately but the decision should be based on changing situations and activity levels. This response is driven by the reality of the cost for the additional staff, and by the reality that very little data is submitted to the E-ISAC for analysis outside of normal business hours. But, as the E-ISAC's capabilities and data collection grow, there will likely be a point in the next 3-5 years when it might be necessary to move to round-the-clock operations.

What is the E-ISAC's relationship with other ISACs?

There is concern that other ISACs (the Financial Services ISAC, or FS-ISAC, is a recent example) will attempt to recruit electric utilities to pay for special analytical services in order to cover expanding costs. The consensus view of the MEC is that the E-ISAC should not discourage members from taking advantage of services offered by other ISACs, and should try to learn about those new capabilities with an eye towards developing them organically within the E-ISAC when appropriate. Services offered by other ISACs should be viewed as additional intelligence sources. Additionally, the E-ISAC should develop stronger information sharing partnerships with other ISACs and increase the level of cross-sector engagement.

Should the E-ISAC have an international relationship?

The E-ISAC, as part of NERC, currently has members in Canada and Mexico. The MEC recommended that the E-ISAC consider establishing formal information sharing relationships with other countries such as Japan or the United Kingdom. Because no other countries are interconnected with the North American grid beyond the US, Canada, and Mexico, any future information sharing relationship with entities in other countries would be at a very high level and must preserve the privacy of North American entities that are voluntarily sharing with the E-ISAC.

Should the E-ISAC accept funding from sources beyond NERC assessments?

Government funding may be necessary to cover costs of the recommended expansions of technical capabilities, staff, and facilities. MEC members cautioned about any potential "attached strings" that come with government grants. Beyond 2018, some member companies have expressed interest in a model like CRISP where companies can pay for additional services, or perhaps moving to a tierbased pricing model.

Conclusion and Next Steps

The next several years present an opportunity to transform the E-ISAC into a world-class intelligence collecting and analytical capability for the electricity industry; and an opportunity to support NERC's overall initiatives to better understand the current security posture of the North American grid. As threats, technologies, and business process change, the E-ISAC, in order to be as valuable as it can to the industry, must evolve to a maturity level where industry completely trusts it to gather, hold, analyze, and distribute highly sensitive security information. Specific financial projections, technology requirements, staffing, and facility improvements are being developed and will be incorporated in the NERC strategic plan and the NERC business plan and budget.

Towards this transformation, for the near term (remainder of 2017 and all of 2018), the E-ISAC plans to:

- Hire additional analysts
- Increase the in-house data storage and analysis capabilities
- Grow the CRISP and CAISS programs
- Deliver a world-class information sharing platform well before GridEx IV
- Grow membership engagement via the new platform
- Increase engagement with other ISACs and information sharing partners
- Increase engagement with Canada and Mexico
- Provide higher quality grid security metrics data to support NERC’s data collection initiatives

Attachment

Expanding E-ISAC Operations to Include 24x7 Onsite Operations

At the request of the ESCC’s MEC, the E-ISAC evaluated the benefits of and requirements for expanding operations to include certain 24x7 onsite capabilities. The purpose of this document is to outline: (1) the value of expanding the E-ISAC’s operations to include 24x7 on-site capabilities; (2) a recommendation as to the level of 24x7 onsite capabilities the E-ISAC should implement; and (3) the staffing and other requirements necessary to implement such capabilities.

This document is organized as follows:

- *Section I* provides an executive summary of the E-ISAC’s proposal for expanding its operations to 24x7 onsite capabilities.
- *Section II* provides an overview of the E-ISAC’s existing organization structure, hours of operation, and staffing levels.
- *Section III* discusses the value of expanding E-ISAC operations to include 24x7 onsite capabilities.
- *Section IV* provides the E-ISAC’s proposal with respect to the level of 24x7 capabilities it should offer.
- *Section V* discusses staffing requirements for expanded operations.

Section I: Executive Summary

As discussed further below, the E-ISAC recommends expanding its operations to include certain 24x7 onsite capabilities. Specifically, the E-ISAC would incrementally expand its operations to have one to two E-ISAC personnel onsite at all times to monitor data feeds, respond to member inquiries, and conduct physical and cyber security analysis. 24x7 onsite capabilities could provide significant benefits to members, including (1) timely analysis and information sharing regarding developing physical or cyber security incidents that are discovered or occur outside of normal hours, and (2) the continued development of actionable intelligence during the overnight and weekend hours to enhance industry’s preparation for, and response to, any potential physical or cyber security threat or incident.

As the value of expanding E-ISAC operations to include 24x7 capabilities depends, in large part, on increasing the flow of data into the E-ISAC to warrant the additional resources, the E-ISAC recommends accomplishing the expansion to 24x7 onsite capabilities in stages through 2020. Using a phased approach would (1) allow the expansion to 24x7 onsite capabilities to move in parallel with the E-ISAC’s plans to increase data flow and deploy additional analytical tools and capabilities, and (2) provide the E-ISAC the ability to reassess the timing of additional projected resources needs on an annual basis during its budget approval process based on data flow and work demands.

The E-ISAC proposes that during 2019, the E-ISAC expand its Monday-Friday operations from 6:00 a.m.-6:00 p.m. to a full 24x5 (minus weekends and holidays), with one watch officer assigned to each after-hours period (see Table 1). In 2020, the E-ISAC proposes to move to a full 24x7 operations by adding onsite staff during weekends and holidays. This proposed plan and resources needs for future years (beyond 2020) will continue to be subject to review and approval in the context of NERC’s annual budget approval process, and will primarily augment the 24x7 nature of the watch.

Section II: E-ISAC Organization Structure, Hours of Operation, and Staffing Levels

E-ISAC Organizational Structure

The E-ISAC is separated into two components: (1) Partnerships and Engagement, and (2) Operations. Partnerships and Engagement consists of cross-sector coordination, member outreach, and policy and coordination. The Operations component is the interface for all information sharing and analysis. Operations consists of three teams: Watch Operations, Cyber Analysis and Context, and Physical Security Analysis.

Watch Operations – All information the E-ISAC receives is routed through the Watch Operations team, which performs initial analysis and then passes the information for detailed action to the respective analysis teams. Watch Operations monitors the operations email account for member and cross-sector sharing, manages the E-ISAC portal, reviews and edits (when necessary, to remove attribution) member postings on the portal, and has primary responsibility for all E-ISAC postings on the portal.

Cyber Analysis and Context – The E-ISAC Cyber Analysis and Context team performs detailed analysis on the cyber security-related information shared by E-ISAC members and partners. The team’s goal is to analyze that information to develop and share actionable indicators and the cyber security “big picture” with members and partners. This effort includes vetting information shared by government and cross-sector partners for validity to include the “so what” factor on how certain indicators would apply to a sector. Additionally, the Cyber Analysis and Context team performs analysis of malware samples submitted to the E-ISAC to identify and disseminate indicators that can be used to detect infections or mitigate malware command and control communications.

Physical Security Analysis – The Physical Security Analysis team performs detailed analysis on all physical security events shared with the E-ISAC. When a report is received, the Physical Security Analysis team reviews the information and, as necessary, contacts the relevant entity to seek more detailed information, to determine if there is a bigger threat to the sector. This is especially important in instances of sabotage, vandalism, and explosive devices. The Physical Security Analysis team engages with law enforcement and state fusion centers to help build situational awareness and identify adversary tools, techniques, and procedures that can be shared with industry physical security teams to increase their awareness and protect against similar activity.

E-ISAC Watch Operations Hours of Operation and Staffing Levels

The E-ISAC Watch Operations currently operates with personnel onsite (at 1325 G Street, NW Suite 600, Washington, DC 20005) Monday through Friday from 6 a.m. to 6 p.m. Unless there is an event the necessitates increased after-hours staffing, the only after-hours support to members is provided by a Watch Operations duty officer, rotated through the Watch Operations team on a weekly basis, who monitors the 24-hour incident reporting line. The Watch Operations duty officer is not located onsite outside of normal operating hours.

The E-ISAC Watch Operations is currently staffed as follows:

- One (1) Chief, Watch Operations
- Five (5) Watch Officers:
 1. Watch Manager – Supervisor-level oversight of Watch Officers
 2. Watch Officer: Daily Operations – Watch Floor facility maintenance, tour scheduling, morning situation awareness products, etc.
 3. Watch Officer: Metrics and Reporting (Vacant) – Provides metrics on Watch Operations to NERC and E-ISAC leadership (portal visitors and usage, support ticket tracking, etc.)
 4. Watch Officer: Technical Assessments – Quick-hit, but deeper-dive analysis of cyber event reporting

5. Watch Officer: Open Source Intelligence (Vacant) – Development and production of all analytical products produced by Watch Operations

The E-ISAC's 2019 budget includes the augmentation of existing capabilities with the following additional personnel:

1. Watch Officer: Security Analysis – Specializes in analyzing and information sharing of physical security-specific events
2. Watch Officer: Interagency Liaison – Rotates between the National Cybersecurity and Communications Integration Center (NCCIC) watch floor or other entities with standing information-sharing programs

Section III: Value of Expanding to Include 24x7 Onsite Capabilities

As noted above, the E-ISAC does not operate on a 24x7 basis. As the E-ISAC continue to mature, however, there are benefits to be gained by expanding operations to include certain 24x7 onsite operations. The following is a discussion of the benefits of having 24x7 capabilities.

Increased Capability to Address Events Outside of Normal Hours – To date, there have been only a few events that have occurred outside of normal business hours that required substantive analysis and immediate communication with stakeholders. Such events, however, could become more common as the risk to the nation's critical infrastructure increases.⁴⁵ Business hours in many of the nation states that pose the greatest cyber threats to U.S. interests – e.g., Russia, China, Iran, and Democratic People's Republic of Korea⁴⁶ – are generally opposite those in North America. Hackers may also target members and partners in North America during reduced staffing periods (e.g. overnight, holidays, and weekends).⁴⁷ With an onsite 24x7 staffing presence, the E-ISAC would improve its ability to timely analyze and respond to potential events that occur outside of normal business hours.

Development of Actionable Intelligence for Daytime Staff – As the E-ISAC continues to develop and establish new data sources, 24x7 onsite staffing would allow the E-ISAC additional time to perform analysis to develop and share actionable intelligence with member night shift personnel or to have reports available for daytime staff to assess at the beginning of their work day. Rapid access to information is critical when network defenders are working through the Cyber Kill Chain model to remediate cyber-attacks.⁴⁸

The value of and need for 24x7 onsite capabilities is dependent on increased flow of data into the E-ISAC. Without increased data and additional tools and capabilities to analyze the data, the move towards 24x7 may not provide the intended benefits described above or warrant the additional expenditure of resources. To that end, the E-ISAC is already taking steps to increase data sharing from members and seeking new data sources to which it has access:

- **Member Engagement** – The E-ISAC is currently engaging in a number of efforts to improve the data flow from E-ISAC members. Among other things, the E-ISAC expects increased data flow from: (1) the Industry Augmentation Program; (2) expanding the number of CRISP companies to provide additional insight in the classified threats facing our members' information technology systems,⁴⁹ and (3) developing advanced analytics capabilities (e.g., the Cyber Automated Information Sharing System). The E-ISAC is also taking steps to increase membership overall.

⁴⁵ Two such events include attacks by the hacker group WannaCry, which was believed to be responsible for network compromises primarily located in Asia, and the Petya/NotPetya ransomware attack that affected computers across Europe.

⁴⁶ Based on the [Worldwide Threat Assessment of the US Intelligence Community](#)

⁴⁷ <https://www.curotec.com/insights/christmas-hackers-attacks-increase-around-holidays/>

⁴⁸ Research has been conducted on how the Cyber Kill Chain model can specifically apply to the sector. For one such endeavor, see the SANS Institute report [The Industrial Control System Cyber Kill Chain](#)

⁴⁹ Pacific Northwest National Laboratory, located in Washington State, is a key source of CRISP analysis. Moving to 24x7 operations will expand the opportunities for analysts in Washington, D.C. to communicate with their counterparts at the lab.

- **Government Partnerships** – The E-ISAC is renewing and expanding relationships with federal government partners (e.g., Departments of Energy and Homeland Security, FBI, Canadian Cyber Incident Response Centre) to increase information sharing and data flows, and gaining additional credentialed access where appropriate. These relationships will expand access to government-informed information and analysis.
- **International Partnerships** – The E-ISAC is expanding partnerships with international counterparts. During the June 2017 cyberattacks that began in the Ukraine and spread across Europe, the E-ISAC worked with analysts at the National Cyber Security Centre in the U.K. to assess the tactics, techniques, and procedures being used by the adversary and to provide updated information to members.⁵⁰ The E-ISAC is also fostering a relationship with the nascent Japan Electricity Information Sharing and Analysis Center, and the Canadian Cyber Incident Response Center. The information gained from these international engagements will help provide a more complete assessment of, and ability to act on, attacks against international electricity sector partners which could also threaten the North American grid.
- **Strategic Vendor Partnerships** – The E-ISAC is focused on developing strategic relationships with intelligence-reporting providers to provide insight into threats facing the sector’s industrial control system technologies.⁵¹

Section IV: Recommended Level of 24x7 Onsite Capabilities

Given the value that 24x7 operations could provide to its members and partners, the E-ISAC recommends expanding the role of the Watch Operations team to include certain 24x7 onsite capabilities. Depending on the level of data flow into the E-ISAC, the goal is to have always have one-to-two E-ISAC Watch Officers onsite outside normal business hours.

The responsibilities of the Watch Officers onsite after normal business hours would shift slightly from the duties traditionally conducted by Watch Officers during normal business hours (i.e., monitor and respond to incoming information and perform a “quick hit” initial analysis of incoming data). For Watch Officers that staff the night, weekend and holiday hours, the nature of their responsibilities shift more towards analysis. Baring a substantial security event, after-hours communication and data flow from members and partners—including international partners—is not expected to be as extensive as that received during normal business hours. As such, while a primary focus would continue to be monitoring data feeds and responding to member and partner inquiries, the after-hours onsite Watch Officer would focus more on analysis of data and the development of actionable intelligence reports for daytime staff.

Section V: Staffing Requirements for Expanded Operations

The E-ISAC recommends that expansion to 24x7 capabilities to the level discussed in the previous section be accomplished in stages through 2020 and beyond. Using a phased approach will allow the expansion to move in parallel with the E-ISAC’s plans to increase data flow and deploy additional analytical tools and capabilities. As noted, the value of expanding operations to include 24x7 capabilities depends, in large part, on increasing the data flow in order to warrant the additional resources. A phased approach would provide the ability to reassess the timing of additional projected resource needs on an annual basis during NERC’s budget approval process. The E-ISAC recommends that the expansion proceed as outlined below.

⁵⁰ E-ISAC portal posting [Update 2 - Continuing Cyber Attacks Affecting U.S., Overseas Entities](#)

⁵¹ Pilots are currently being negotiated with Dragos and N-Dimension.

Table 1: Watch Officer Assignments and Coverage

Year	Monday–Friday 6:00 a.m.–6:00 p.m.	Monday–Friday 2:30–11:00 p.m.	Monday–Friday 10:00 p.m.–6:30 a.m.	Weekends/Holidays 12:00 a.m.–12:00 p.m.
2018	Maintain current planned staffing levels	N/A	N/A	N/A
2019	Add two watch officers from 2018 levels	Add one watch officer	Add one watch officer	N/A
2020	Add one watch officer from 2019 levels	Maintain staffing level from 2019	Maintain staffing level from 2019	Add two watch officers
2021	Add one watch officer from 2020 levels	Add one watch officer from 2020 levels	Add one watch officer from 2020 levels	Maintain staffing level from 2020

The table below provides the recommended phase-in plan for additional personnel required to meet the expanded operations for each of the next three years.

Table 2: Watch Officer Totals and Cost

Year	Increased Watch Personnel for Regular Hours (2018 Long-Term Strategy)	Proposed Additional Watch Personnel for 24x7 Coverage (Incremental to 2018 Long-Term Strategy)	Total Proposed Watch Staffing, including 24x7 Watch Capabilities	Estimated Incremental Cost (including salary, incentive, benefits) (24x7 Watch Capabilities)	Running Total for Estimated Incremental Cost (24x7 Watch Capabilities)
2018	1	0	6	N/A	-
2019	2	2	10	\$370,000	\$370,000
2020	1	2	13	\$370,000	\$740,000
2021	1	2	16	\$370,000	\$1,110,000

As noted above, this proposed plan and resources needs for future years (2020 and beyond) will be subject to review and approval in the context of NERC’s annual budget approval process.

Exhibit F – CMEP Technology Project

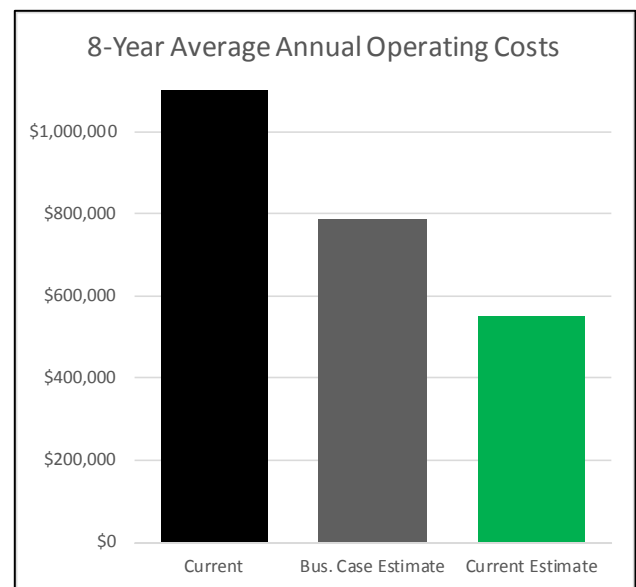
What is it?

As the ERO Enterprise matured to a risk-based approach in its regulatory posture, a more comprehensive system to manage and analyze compliance monitoring and enforcement information became necessary. The CMEP Technology Project began in 2014 to meet that need with the goal of improving and standardizing processes in the Compliance Monitoring and Enforcement Program (CMEP) across the ERO Enterprise. The new project will align the business processes of NERC and the Regional Entities on a single platform; improve documentation, sharing and analysis of compliance work activities; and make CMEP activities more effective and efficient across the ERO Enterprise; thus enhancing the reliability and security of the grid.

Why are we doing it?

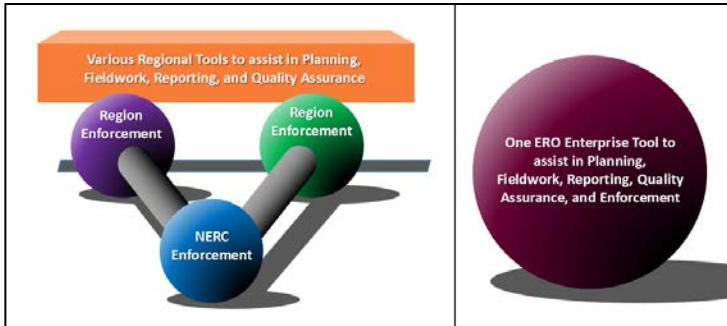
The CMEP Technology Project is designed to promote greater efficiencies in compliance monitoring and enforcement work, better using ERO Enterprise resources and lowering costs, while offering alignment on a single platform across the Enterprise based on a commercial product designed specifically for managing risk and verifying compliance. NERC and the Regional Entities evaluated the benefits of unifying processes and systems to ensure consistency in monitoring compliance with NERC Reliability Standards and judged this effort as a necessary step in the evolution of the ERO model. The NERC Board of Trustees approved the project at their quarterly meeting on November 9, 2017. Benefits include:

- **Consistency.** Moving to a common platform with a single common way for registered entities to interact with the ERO Enterprise on compliance and enforcement will aid significantly in addressing potential gaps in consistency.
- **Cost Management.** By moving to a common platform, economies of scale can significantly reduce, by almost 50%, annual cash expenses incurred for procurement of tools and services that support implementation of the CMEP across the ERO Enterprise.
- **Productivity.** Because of the large number of staff both within the ERO Enterprise and at registered entities that are working to assure reliability through verification of compliance with the Reliability Standards, there is a significant potential for improvements in productivity. These enhancements will reduce the effort of documenting compliance and allow for more focus on ensuring reliability.
- **Effectiveness.** In addition to the benefits provided by implementing consistent processes across the ERO Enterprise, moving to a product specifically designed to support management of risk and verifying compliance will help ensure focus is kept on those things that matter most to reliability. Fine tuning of our processes to align more closely with industry standard best practices and guidelines will also improve the quality of our work.
- **Cyber Security.** As threats against critical infrastructure have grown, a continuously improving cyber security posture has become an essential part of operations. This implementation will elevate our information protection strategy to ensure we continue to provide the high levels of confidentiality demanded by our industry.



How are we doing it?

In the past several years, a number of companies have developed sets of tools to support the three areas of Governance, Risk, and Compliance (GRC). These tools align well with our mission as the ERO Enterprise: assisting in ensuring information can be shared across a large and geographically dispersed leadership team, supporting the analysis and management of risks and threats, and having robust mechanisms for documenting and tracking compliance with both regulations and internal policies and procedures.

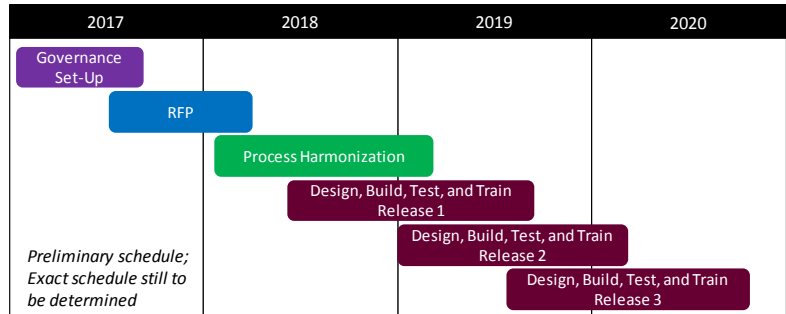


While the various products, tools, templates and file transfers in use today across the ERO Enterprise have been effective for ensuring reliability and verifying compliance, the amount of manual work that is required to maintain and share the information contained within them is intensive. The time is appropriate to bring everything together within a single suite of tools. To help ensure that the organizational change required is scoped to a manageable size, NERC and the Regions are planning the implementation as a set of three defined functional releases.

When is this happening?

Work has already begun on implementing this vision. Initial feasibility workshops were conducted with NERC and Regional Entity leaders in 2014 and 2015, leading to the development of a long-term roadmap and a Request for Information to vendors, which led to a Request for Proposal and selection of a vendor earlier in 2018.

Work in progress includes several cycles of process harmonization intended to ensure alignment between NERC and each of the Regional Entities prior to implementation. While consistency between Regions is a core element of this effort, the accommodation of appropriate regional differences is intended to be addressed within the tool as well. As processes are aligned and confirmed, elements of those processes will be built and tested within the tool, leading to structured releases of functionality.



Additional development to centralize the management and administration of information related to NERC Reliability Standards and registered entities will be undertaken. Integration to transfer data will also be developed. Information security will be a key design consideration for both systems, which will provide high levels of confidentiality and access control.

Who is working on this?

NERC and the Regional Entities began this effort by evaluating consultants with experience implementing GRC systems. Deloitte, identified by Gartner as a “visionary leader” in Risk Management Consulting Services, was selected to assist the ERO Enterprise with this effort. Deloitte has extensive knowledge of the electric utility industry and the ERO through prior projects and engagements. Next, NERC and the Regions developed and issued an RFP that resulted in the review of a number of potential tools to determine both their organizational and technical capabilities to meet the unique needs of the ERO Enterprise. Nasdaq BWISE was selected as the vendor and tool of choice for the CMEP Technology Project.

How can I get involved?

The project team is working with the Compliance and Certification Committee and their Alignment Working Group to ensure the perspectives of registered entities are considered. In addition to reaching out to the members of the CCC, feel free to contact anyone with the ERO Enterprise with questions, concerns, or suggestions.

For more information, go to <https://www.nerc.com/ResourceCenter/Pages/CMEPTechnologyProject.aspx>.

Exhibit G – Situation Awareness for FERC, NERC, and the Regional Entities (SAFNR)

Overview

The Situation Awareness for FERC, NERC, and the Regional Entities (SAFNR) tool, initiated in February 2010, is a system composed of hardware, software, and communication (network) capabilities, providing near real-time information about the current operating conditions of the BPS. SAFNR provides valuable information from a wide-area view about BPS impacts from hurricanes, hot and cold weather extremes, and varying system conditions. However, NERC’s Bulk Power System Awareness (BPSA) staff’s ability to accurately understand BPS current conditions has declined over the years as the technology has aged. Enhancing SAFNR will incorporate functionality elements piloted during GridEx IV and address the recommendations from both the *GridEx IV Executive Tabletop* and *GridEx IV Distributed Play Lessons Learned Report*.

Background

NERC and the Regional Entities monitor operating conditions on the BPS in North America to maintain an awareness of situations that may impact or have the potential to impact the reliable operation of the grid. As called for in the ROP,⁵² the Situation Awareness program enables NERC to initiate timely communications with key stakeholders, including Reliability Coordinators, FERC, Canadian and Mexican governmental agencies, the DHS, and the E-ISAC. Awareness of system events also enables NERC to identify risks for mitigation through its Events Analysis process, permits and promotes the development of lessons learned, and contributes to the ability to trend reliability performance. Similarly, FERC monitors conditions on the BPS in the United States for comparable purposes. Situation Awareness has three essential elements: the ability to perceive, comprehend, and then project that understanding into the future. More simply stated, it is the “What?”, “So what?”, and finally, “Now what?” regarding the status of the grid.

The system has the capability to include data for electric system facilities operating at 230 kV and above and generation units at 500 MW and above and provides near-real time situational awareness information, with data provided by Reliability Coordinators, Balancing Authorities, and Transmission Operators. SAFNR provides the ability to monitor and be aware of the current conditions and assess forecasted conditions on the BPS. The tool also supports the ability to understand and clearly communicate normal system conditions (or conditions of heightened risk to reliability) among Reliability Coordinators, Regional Entities, NERC and FERC.

SAFNR was procured using specifications and technology from 2010, making the technology platform quite dated relative to the latest available tools. With the insights and experience gained from the years of successful use, enhancements and advanced capabilities are envisioned for rapid and accurate situational awareness that protects the proprietary nature of the information while maximizing the understanding of the system conditions, especially during emergencies.

While a successful tool deployment has been maintained and used successfully for more than eight years, NERC BPSA staff cannot efficiently or cost effectively update the underlying power system information or real-time data feeds on risks to reliability, such as severe weather, flooding, and wildfires, as well as available information on interconnection frequency, Balancing Authority ACE, and aggregated customer outages. The tool has been used to support the GridEx exercise, but also demonstrated its shortcomings when aiming for a more precise wide-area view of system conditions. Enhancing SAFNR will incorporate functionality elements piloted during GridEx IV that provided the E-ISAC and the ESCC with more timely and understandable information. Further, these

⁵² Section 1000 contains NERC’s responsibilities for Situation Awareness and Critical Infrastructure Protection (CIP), including its role as the E-ISAC. Additional expectations are outlined in Sections 807, 808, and 810 regarding analysis of events and the dissemination of lessons learned, advisories, recommendations, and essential actions.

improvements address the *GridEx IV Executive Tabletop Report* recommendation that states that NERC and the E-ISAC should enhance their ability to provide reliable, timely, and accurate information regarding the state of grid reliability and security threats and events.

Next Steps

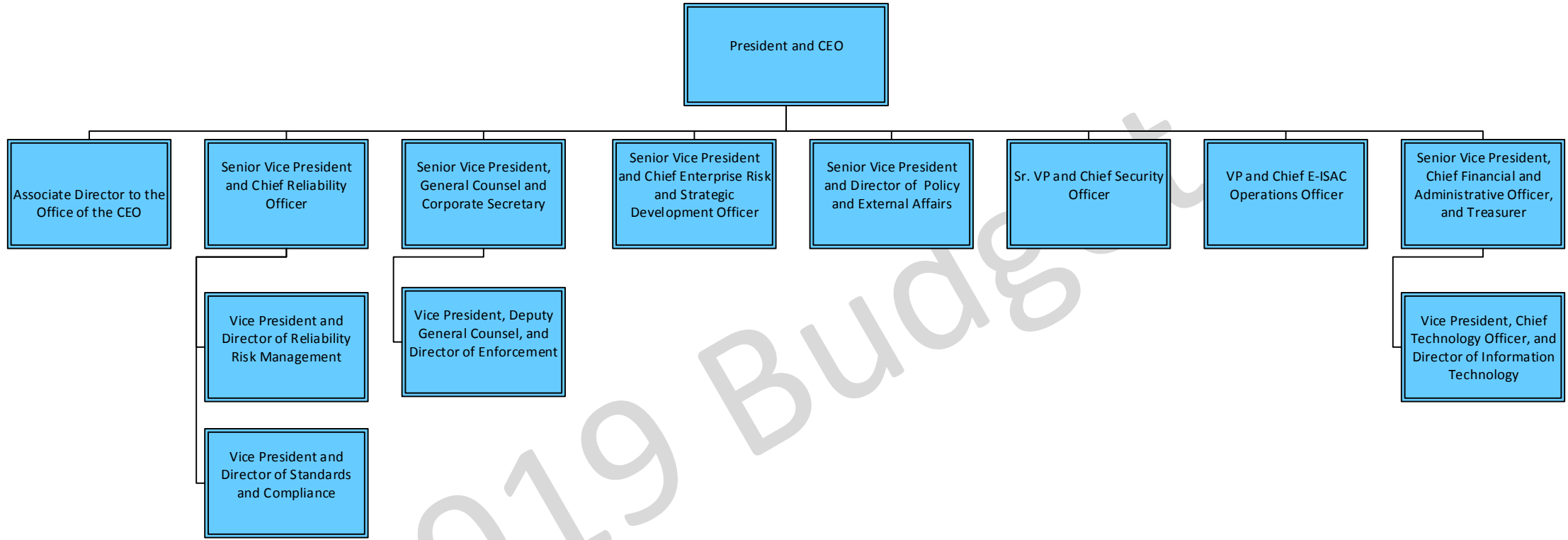
NERC IT's Project Management Office will guide this project through the normal process, including development of a business case, managing the RFP, negotiating with vendors and developers, and ultimately ensuring the successful implementation of the new tool. This approach can be summarized as follows:

- Development of a business opportunity and assessment analysis
 - Current state and future state
- Financial analysis
 - Capital and operational costs
 - Return on investment
- Project governance and gated approvals
 - Executive sponsorship
 - Tollgates
 - Leadership review (e.g., ERO TLT)
 - Monthly financial review
- Project execution
 - Project management oversight
 - Project communications
 - Project scheduling and resource management
 - Contract/vendor management
- Change management and training
 - Regional and registered entity engagement and communications
 - Business value analysis and benefits realization

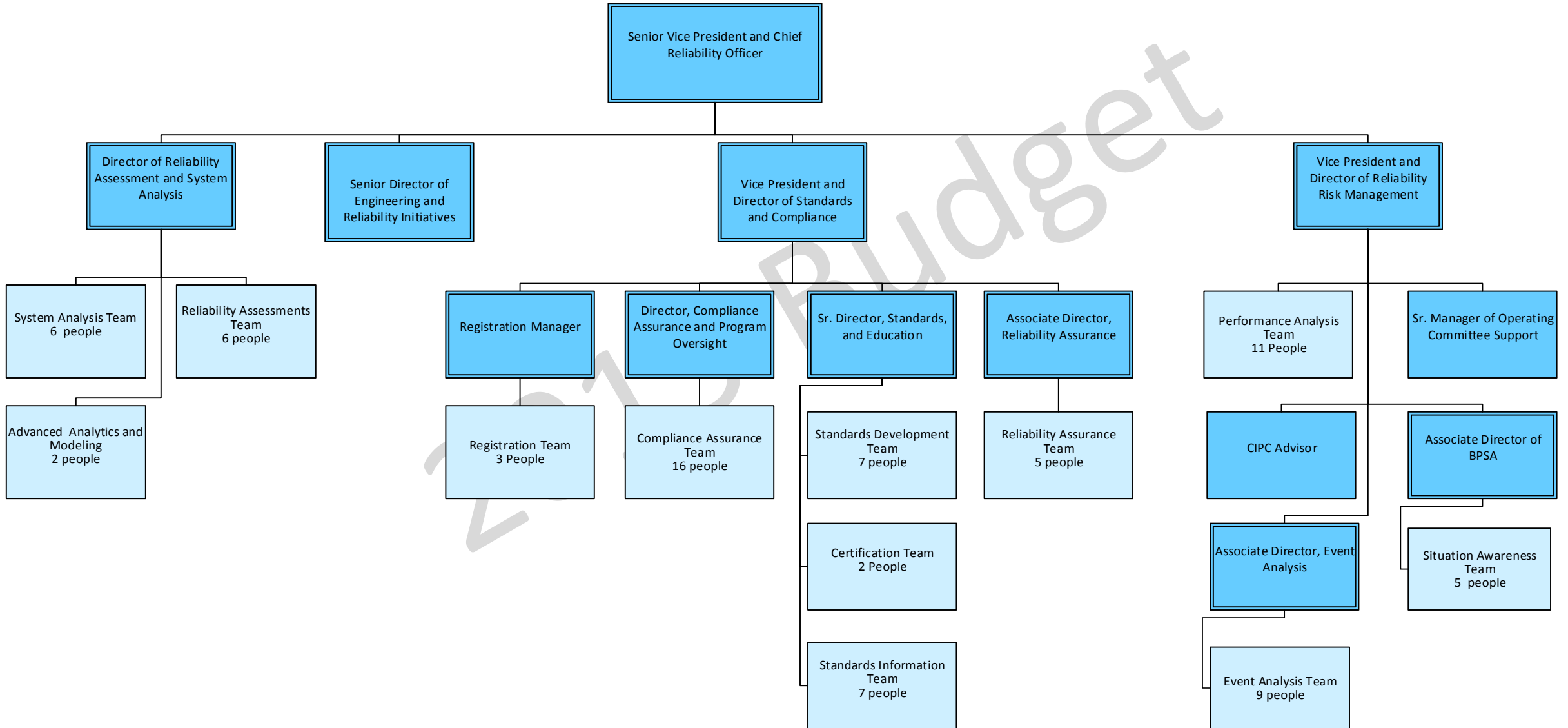
Appendix 1 – NERC Staff Organization Chart

See subsequent pages for NERC's Organization Chart.

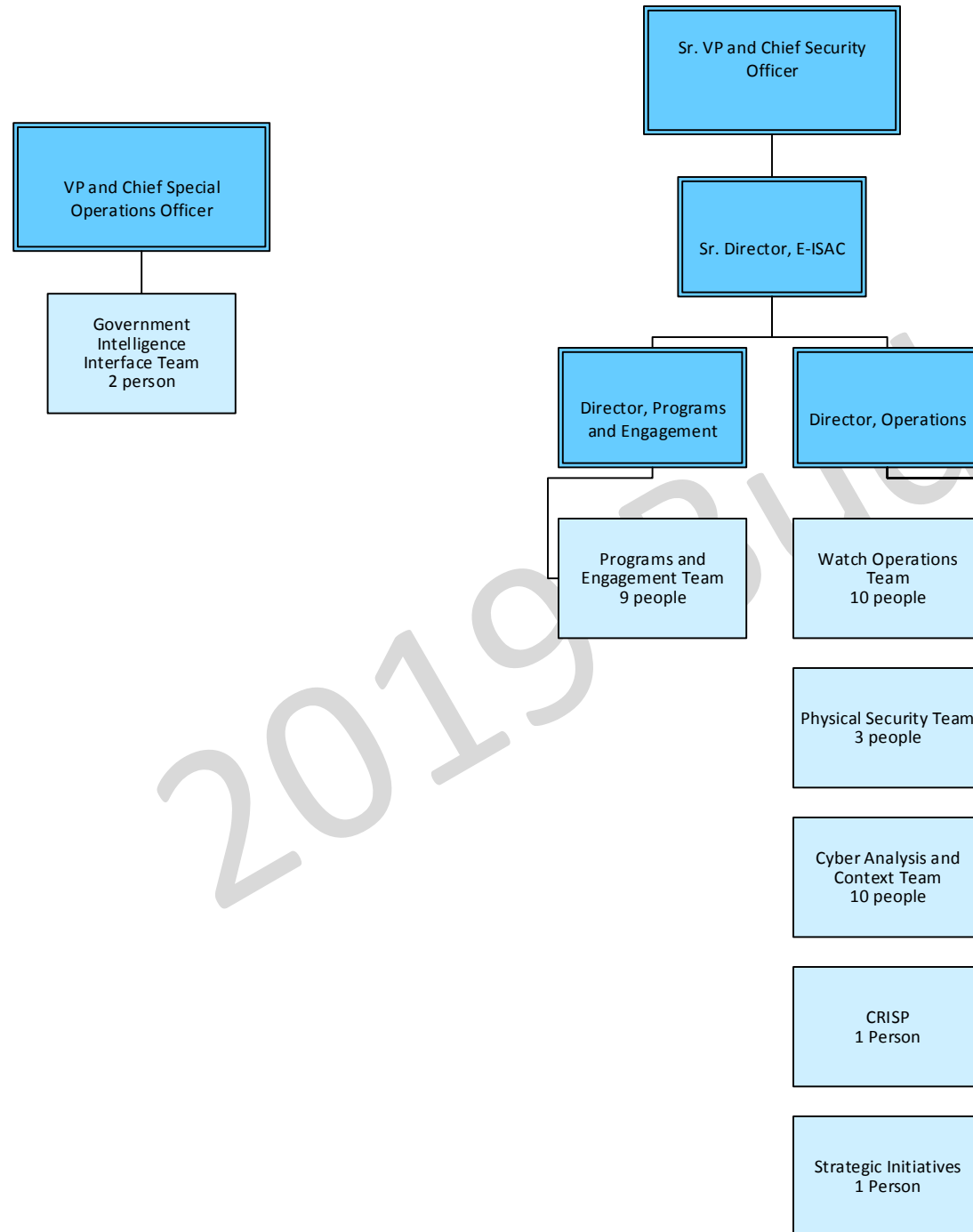
NERC Staff Organization Chart – Budget 2019



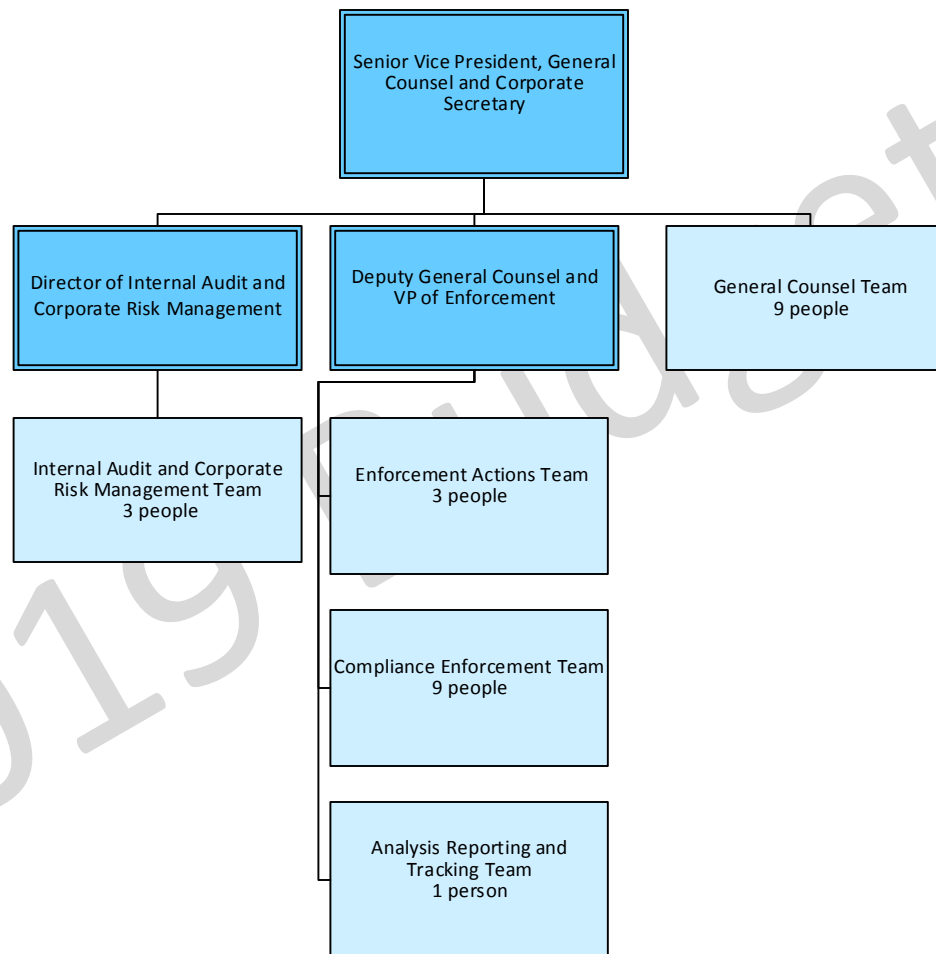
Reliability Standards, Reliability Assurance, Reliability Assessment and System Oversight, Performance Analysis, Event Analysis, Situation Awareness, Operator Certification



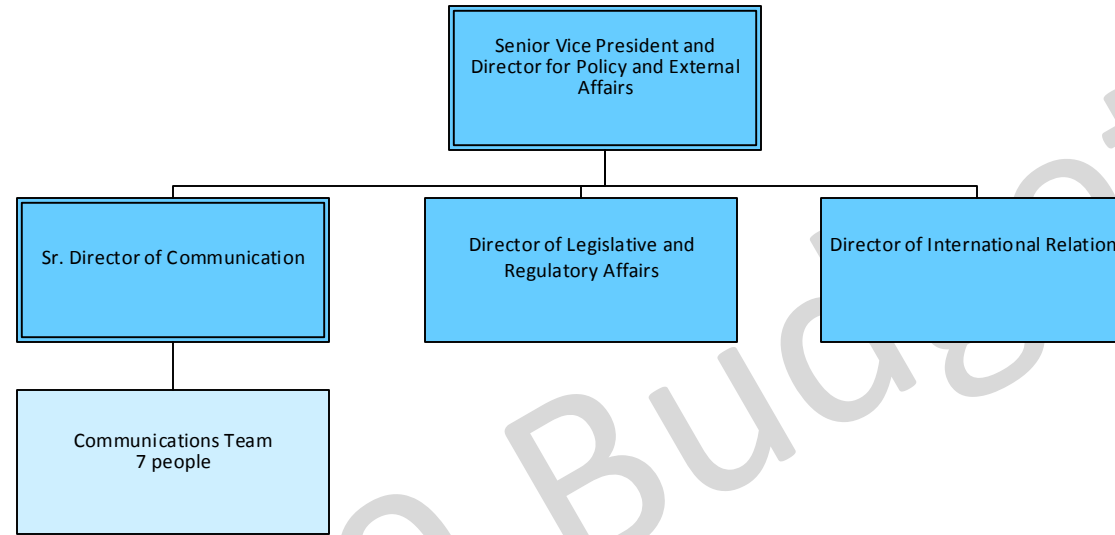
Electricity Information Sharing and Analysis Center



Legal and Regulatory Compliance Enforcement

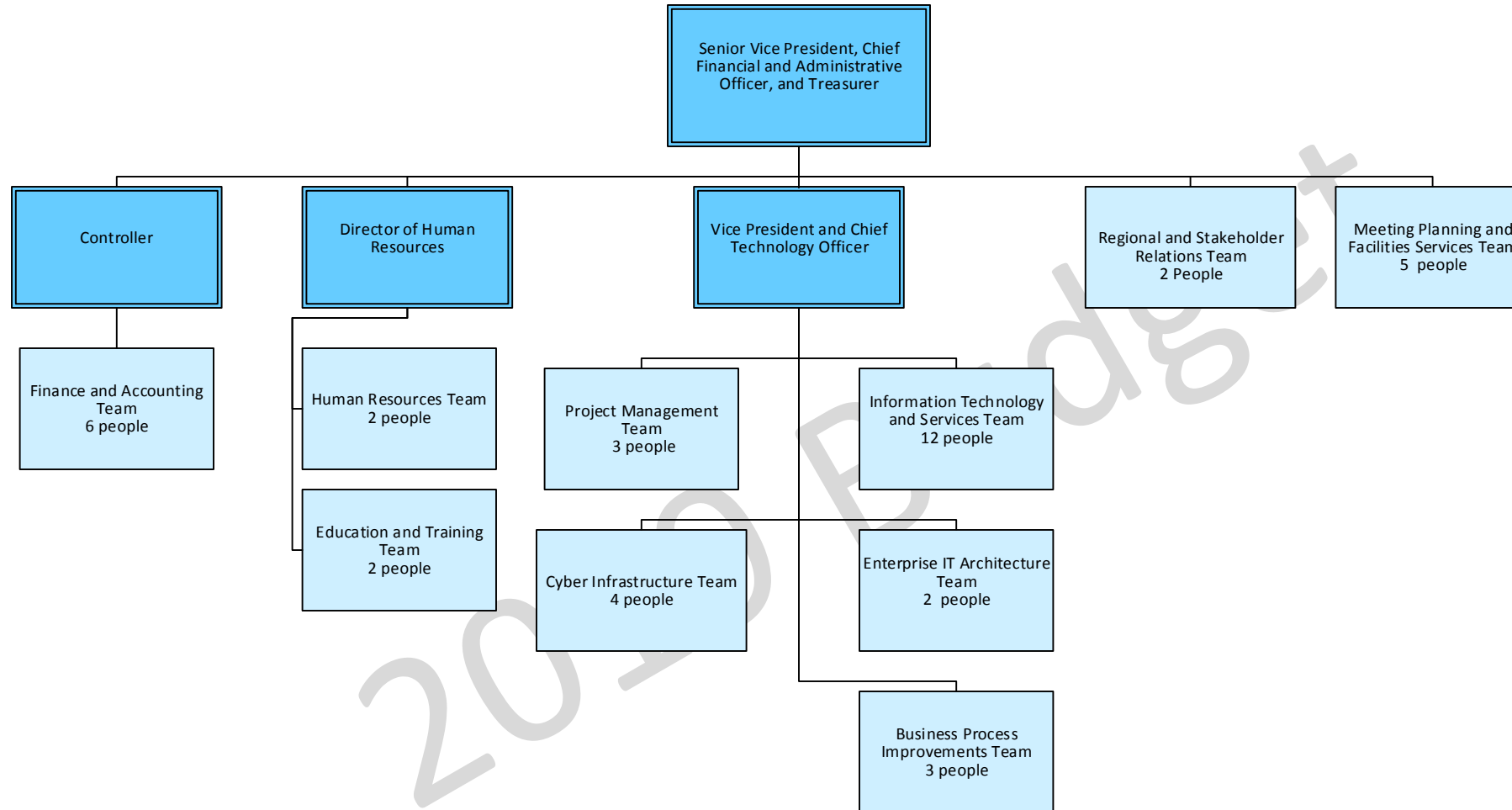


Policy and External Affairs



2019 Budget

Information Technology, Human Resources, and Accounting & Finance



2017 NEL Calculations and Allocations to Load Serving Entities (or Designee) for the 2019 NERC and RE Assessments

Data Year	Regional Entity	ID	Entity	Country	Total NEL (MWh)	U.S. NEL	Canada NEL	Mexico NEL	% of RE total	US Total	Canada Total	Mexico Total	% of ERO Total	US Total	Canada Total	Mexico Total	% of ERO - US Only
2017	FRCC	1074	Alachua, City of	U.S.	135,500	135,500			0.058%	0.058%	0.000%	0.000%	0.003%	0.003%	0.000%	0.000%	0.003%
2017	FRCC	1075	Bartow, City of	U.S.	295,000	295,000			0.127%	0.127%	0.000%	0.000%	0.007%	0.007%	0.000%	0.000%	0.007%
2017	FRCC	1076	Chattahoochee, City of	U.S.	36,900	36,900			0.016%	0.016%	0.000%	0.000%	0.001%	0.001%	0.000%	0.000%	0.001%
2017	FRCC	1077	Florida Keys Electric Cooperative Assn	U.S.	750,000	750,000			0.322%	0.322%	0.000%	0.000%	0.017%	0.017%	0.000%	0.000%	0.019%
2017	FRCC	1078	Florida Power & Light Co.	U.S.	114,357,000	114,357,000			49.139%	49.139%	0.000%	0.000%	2.570%	2.570%	0.000%	0.000%	2.906%
2017	FRCC	1079	Florida Public Utilities Company	U.S.	350,000	350,000			0.150%	0.150%	0.000%	0.000%	0.008%	0.008%	0.000%	0.000%	0.009%
2017	FRCC	1080	Gainesville Regional Utilities	U.S.	1,811,300	1,811,300			0.778%	0.778%	0.000%	0.000%	0.041%	0.041%	0.000%	0.000%	0.046%
2017	FRCC	1081	Homestead, City of	U.S.	596,000	596,000			0.256%	0.256%	0.000%	0.000%	0.013%	0.013%	0.000%	0.000%	0.015%
2017	FRCC	1082	JEA	U.S.	12,520,000	12,520,000			5.380%	5.380%	0.000%	0.000%	0.281%	0.281%	0.000%	0.000%	0.318%
2017	FRCC	1083	Lakeland Electric	U.S.	3,086,000	3,086,000			1.326%	1.326%	0.000%	0.000%	0.069%	0.069%	0.000%	0.000%	0.078%
2017	FRCC	1626	Lee County Electric Cooperative, Inc	U.S.	4,068,000	4,068,000			1.748%	1.748%	0.000%	0.000%	0.091%	0.091%	0.000%	0.000%	0.103%
2017	FRCC	1661	City of Lake Worth	U.S.	470,000	470,000			0.202%	0.202%	0.000%	0.000%	0.011%	0.011%	0.000%	0.000%	0.012%
2017	FRCC	1084	Mount Dora, City of	U.S.	91,900	91,900			0.039%	0.039%	0.000%	0.000%	0.002%	0.002%	0.000%	0.000%	0.002%
2017	FRCC	1085	New Smyrna Beach, Utilities Commission of	U.S.	434,000	434,000			0.186%	0.186%	0.000%	0.000%	0.010%	0.010%	0.000%	0.000%	0.011%
2017	FRCC	1086	Orlando Utilities Commission	U.S.	6,101,300	6,101,300			2.622%	2.622%	0.000%	0.000%	0.137%	0.137%	0.000%	0.000%	0.155%
2017	FRCC	1087	Duke Energy Florida	U.S.	40,748,100	40,748,100			17.510%	17.510%	0.000%	0.000%	0.916%	0.916%	0.000%	0.000%	1.036%
2017	FRCC	1088	Quincy, City of	U.S.	130,700	130,700			0.056%	0.056%	0.000%	0.000%	0.003%	0.003%	0.000%	0.000%	0.003%
2017	FRCC	1089	Reedy Creek Improvement District	U.S.	1,211,000	1,211,000			0.520%	0.520%	0.000%	0.000%	0.027%	0.027%	0.000%	0.000%	0.031%
2017	FRCC	1090	St. Cloud, City of (OUC)	U.S.	769,000	769,000			0.330%	0.330%	0.000%	0.000%	0.017%	0.017%	0.000%	0.000%	0.020%
2017	FRCC	1091	Tallahassee, City of	U.S.	2,758,000	2,758,000			1.185%	1.185%	0.000%	0.000%	0.062%	0.062%	0.000%	0.000%	0.070%
2017	FRCC	1092	Tampa Electric Company	U.S.	20,296,000	20,296,000			8.721%	8.721%	0.000%	0.000%	0.456%	0.456%	0.000%	0.000%	0.516%
2017	FRCC	1603	City of Vero Beach	U.S.	757,000	757,000			0.325%	0.325%	0.000%	0.000%	0.017%	0.017%	0.000%	0.000%	0.019%
2017	FRCC	1093	Wauchula, City of	U.S.	65,000	65,000			0.028%	0.028%	0.000%	0.000%	0.001%	0.001%	0.000%	0.000%	0.002%
2017	FRCC	1094	Williston, City of	U.S.	36,200	36,200			0.016%	0.016%	0.000%	0.000%	0.001%	0.001%	0.000%	0.000%	0.001%
2017	FRCC	1095	Winter Park, City of	U.S.	442,100	442,100			0.190%	0.190%	0.000%	0.000%	0.010%	0.010%	0.000%	0.000%	0.011%
2017	FRCC	1724	Moore Haven, City of	U.S.	15,000	15,000			0.006%	0.006%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
2017	FRCC	1072	Florida Municipal Power Agency	U.S.	5,984,400	5,984,400			2.572%	2.572%	0.000%	0.000%	0.134%	0.134%	0.000%	0.000%	0.152%
2017	FRCC	1073	Seminole Electric Cooperative	U.S.	14,404,000	14,404,000			6.189%	6.189%	0.000%	0.000%	0.324%	0.324%	0.000%	0.000%	0.366%
			TOTAL FRCC		232,719,400	232,719,400	-	-	100.000%	100.000%	0.000%	0.000%	5.229%	5.229%	0.000%	0.000%	5.914%
2017	MRO	1199	Basin Electric Power Cooperative	U.S.	19,376,180	19,376,180	-	-	3.992%	3.992%	0.000%	0.000%	0.435%	0.435%	0.000%	0.000%	0.492%
2017	MRO	1201	Central Iowa Power Cooperative (CIPCO)	U.S.	2,831,165	2,831,165	-	-	0.583%	0.583%	0.000%	0.000%	0.064%	0.064%	0.000%	0.000%	0.072%
2017	MRO	1204	Corn Belt Power Cooperative	U.S.	1,969,812	1,969,812	-	-	0.406%	0.406%	0.000%	0.000%	0.044%	0.044%	0.000%	0.000%	0.050%
2017	MRO	1207	Dairyland Power Cooperative	U.S.	5,509,070	5,509,070	-	-	1.135%	1.135%	0.000%	0.000%	0.124%	0.124%	0.000%	0.000%	0.140%
2017	MRO	1210	Great River Energy	U.S.	13,144,443	13,144,443	-	-	2.708%	2.708%	0.000%	0.000%	0.295%	0.295%	0.000%	0.000%	0.334%
2017	MRO	1222	Minnkota Power Cooperative, Inc.	U.S.	3,832,290	3,832,290	-	-	0.790%	0.790%	0.000%	0.000%	0.086%	0.086%	0.000%	0.000%	0.097%
2017	MRO	1230	Nebraska Public Power District	U.S.	13,689,668	13,689,668	-	-	2.820%	2.820%	0.000%	0.000%	0.308%	0.308%	0.000%	0.000%	0.348%
2017	MRO	1232	Omaha Public Power District	U.S.	11,172,502	11,172,502	-	-	2.302%	2.302%	0.000%	0.000%	0.251%	0.251%	0.000%	0.000%	0.284%
2017	MRO	1240	Western Area Power Administration (UM)	U.S.	9,268,980	9,268,980	-	-	1.910%	1.910%	0.000%	0.000%	0.208%	0.208%	0.000%	0.000%	0.236%
2017	MRO	1239	Western Area Power Administration (LM)	U.S.	45,883	45,883	-	-	0.009%	0.009%	0.000%	0.000%	0.001%	0.001%	0.000%	0.000%	0.001%
2017	MRO	1217	Manitoba Hydro	CAN	23,893,599		23,893,599		4.923%	0.000%	4.923%	0.000%	0.537%	0.000%	0.537%	0.000%	0.000%
2017	MRO	1235	SaskPower	CAN	24,779,000		24,779,000		5.105%	0.000%	5.105%	0.000%	0.557%	0.000%	0.557%	0.000%	0.000%
2017	MRO	1195	Alliant Energy (Alliant East - WPL & Alliant West IPL)	U.S.	29,095,886	29,095,886	-	-	5.994%	5.994%	0.000%	0.000%	0.654%	0.654%	0.000%	0.000%	0.739%
2017	MRO	1710	Dahlberg Electric Company	U.S.	111,972	111,972	-	-	0.023%	0.023%	0.000%	0.000%	0.003%	0.003%	0.000%	0.000%	0.003%
2017	MRO	1216	Madison, Gas and Electric	U.S.	3,383,670	3,383,670	-	-	0.697%	0.697%	0.000%	0.000%	0.076%	0.076%	0.000%	0.000%	0.086%
2017	MRO	1220	MidAmerican Energy Company	U.S.	25,664,492	25,664,492	-	-	5.287%	5.287%	0.000%	0.000%	0.577%	0.577%	0.000%	0.000%	0.652%
2017	MRO	1221	Minnesota Power	U.S.	12,915,759	12,915,759	-	-	2.661%	2.661%	0.000%	0.000%	0.290%	0.290%	0.000%	0.000%	0.328%
2017	MRO	1226	Montana-Dakota Utilities Co.	U.S.	3,251,539	3,251,539	-	-	0.670%	0.670%	0.000%	0.000%	0.073%	0.073%	0.000%	0.000%	0.083%
2017	MRO	1711	North Central Power Company	U.S.	37,156	37,156	-	-	0.008%	0.008%	0.000%	0.000%	0.001%	0.001%	0.000%	0.000%	0.001%

2017 NEL Calculations and Allocations to Load Serving Entities (or Designee) for the 2019 NERC and RE Assessments

Data Year	Regional Entity	ID	Entity	Country	Total NEL (MWh)	U.S. NEL	Canada NEL	Mexico NEL	% of RE total	US Total	Canada Total	Mexico Total	% of ERO Total	US Total	Canada Total	Mexico Total	% of ERO - US Only
2017	MRO	1231	NorthWestern Energy	U.S.	1,557,326	1,557,326	-	-	0.321%	0.321%	0.000%	0.000%	0.035%	0.035%	0.000%	0.000%	0.040%
2017	MRO	1712	NorthWestern Wisconsin	U.S.	185,796	185,796	-	-	0.038%	0.038%	0.000%	0.000%	0.004%	0.004%	0.000%	0.000%	0.005%
2017	MRO	1233	Otter Tail Power Company	U.S.	4,975,311	4,975,311	-	-	1.025%	1.025%	0.000%	0.000%	0.112%	0.112%	0.000%	0.000%	0.126%
2017	MRO	1664	Wisconsin Public Service (WPS)	U.S.	11,692,550	11,692,550	-	-	2.409%	2.409%	0.000%	0.000%	0.263%	0.263%	0.000%	0.000%	0.297%
2017	MRO	1665	Upper Peninsula Power Company (UPPCO)	U.S.	683,680	683,680	-	-	0.141%	0.141%	0.000%	0.000%	0.015%	0.015%	0.000%	0.000%	0.017%
2017	MRO	1244	Xcel Energy Company (NSP)	U.S.	43,456,066	43,456,066	-	-	8.953%	8.953%	0.000%	0.000%	0.976%	0.976%	0.000%	0.000%	1.104%
2017	MRO	1196	Ames Municipal Electric System	U.S.	756,072	756,072	-	-	0.156%	0.156%	0.000%	0.000%	0.017%	0.017%	0.000%	0.000%	0.019%
2017	MRO	1604	Atlantic Municipal Utilities	U.S.	81,220	81,220	-	-	0.017%	0.017%	0.000%	0.000%	0.002%	0.002%	0.000%	0.000%	0.002%
2017	MRO	1713	Bloomer Electric & Water Co.	U.S.	55,261	55,261	-	-	0.011%	0.011%	0.000%	0.000%	0.001%	0.001%	0.000%	0.000%	0.001%
2017	MRO	1714	Village of Caddott	U.S.	13,720	13,720	-	-	0.003%	0.003%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
2017	MRO	1200	Cedar Falls Municipal Utilities	U.S.	517,738	517,738	-	-	0.107%	0.107%	0.000%	0.000%	0.012%	0.012%	0.000%	0.000%	0.013%
2017	MRO	1477	Central Minnesota Municipal Power Agency (CMMPA)	U.S.	390,178	390,178	-	-	0.080%	0.080%	0.000%	0.000%	0.009%	0.009%	0.000%	0.000%	0.010%
2017	MRO	1716	Eldridge Electric and Water Utilities	U.S.	42,377	42,377	-	-	0.009%	0.009%	0.000%	0.000%	0.001%	0.001%	0.000%	0.000%	0.001%
2017	MRO	1203	City of Escanaba	U.S.	137,824	137,824	-	-	0.028%	0.028%	0.000%	0.000%	0.003%	0.003%	0.000%	0.000%	0.004%
2017	MRO	1205	Falls City Water & Light Department	U.S.	58,855	58,855	-	-	0.012%	0.012%	0.000%	0.000%	0.001%	0.001%	0.000%	0.000%	0.001%
2017	MRO	1206	Fremont Department of Utilities	U.S.	432,646	432,646	-	-	0.089%	0.089%	0.000%	0.000%	0.010%	0.010%	0.000%	0.000%	0.011%
2017	MRO	1208	Geneseo Municipal Utilities	U.S.	64,636	64,636	-	-	0.013%	0.013%	0.000%	0.000%	0.001%	0.001%	0.000%	0.000%	0.002%
2017	MRO	1209	Grand Island Utilities Department	U.S.	759,468	759,468	-	-	0.156%	0.156%	0.000%	0.000%	0.017%	0.017%	0.000%	0.000%	0.019%
2017	MRO	1717	Great Lakes Utilities	U.S.	1,476,412	1,476,412	-	-	0.304%	0.304%	0.000%	0.000%	0.033%	0.033%	0.000%	0.000%	0.038%
2017	MRO	1718	City of Guttenberg	U.S.	18,847	18,847	-	-	0.004%	0.004%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
2017	MRO	1606	Harlan Municipal Utilities	U.S.	16,813	16,813	-	-	0.003%	0.003%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
2017	MRO	1211	Hastings Utilities	U.S.	429,051	429,051	-	-	0.088%	0.088%	0.000%	0.000%	0.010%	0.010%	0.000%	0.000%	0.011%
2017	MRO	1212	Heartland Consumers Power District	U.S.	434,617	434,617	-	-	0.090%	0.090%	0.000%	0.000%	0.010%	0.010%	0.000%	0.000%	0.011%
2017	MRO	1213	Hutchinson Utilities Commission	U.S.	290,592	290,592	-	-	0.060%	0.060%	0.000%	0.000%	0.007%	0.007%	0.000%	0.000%	0.007%
2017	MRO	1719	City of Kasota	U.S.	3,249	3,249	-	-	0.001%	0.001%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
2017	MRO	1215	Lincoln Electric System	U.S.	3,204,566	3,204,566	-	-	0.660%	0.660%	0.000%	0.000%	0.072%	0.072%	0.000%	0.000%	0.081%
2017	MRO	1223	Missouri River Energy Services	U.S.	2,695,437	2,695,437	-	-	0.555%	0.555%	0.000%	0.000%	0.061%	0.061%	0.000%	0.000%	0.068%
2017	MRO	1224	MN Municipal Power Agency (MMPA)	U.S.	1,554,303	1,554,303	-	-	0.320%	0.320%	0.000%	0.000%	0.035%	0.035%	0.000%	0.000%	0.039%
2017	MRO	1607	Montezuma Municipal Light & Power	U.S.	25,244	25,244	-	-	0.005%	0.005%	0.000%	0.000%	0.001%	0.001%	0.000%	0.000%	0.001%
2017	MRO	1227	Municipal Energy Agency of Nebraska	U.S.	943,023	943,023	-	-	0.194%	0.194%	0.000%	0.000%	0.021%	0.021%	0.000%	0.000%	0.024%
2017	MRO	1228	Muscatine Power and Water	U.S.	878,182	878,182	-	-	0.181%	0.181%	0.000%	0.000%	0.020%	0.020%	0.000%	0.000%	0.022%
2017	MRO	1229	Nebraska City Utilities	U.S.	129,117	129,117	-	-	0.027%	0.027%	0.000%	0.000%	0.003%	0.003%	0.000%	0.000%	0.003%
2017	MRO	1720	Resale Power Group of Iowa	U.S.	563,492	563,492	-	-	0.116%	0.116%	0.000%	0.000%	0.013%	0.013%	0.000%	0.000%	0.014%
2017	MRO	1721	Rice Lake Utilities	U.S.	165,419	165,419	-	-	0.034%	0.034%	0.000%	0.000%	0.004%	0.004%	0.000%	0.000%	0.004%
2017	MRO	1234	Rochester Public Utilities	U.S.	2,335	2,335	-	-	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
2017	MRO	1236	Southern Minnesota Municipal Power Agency	U.S.	2,782,217	2,782,217	-	-	0.573%	0.573%	0.000%	0.000%	0.063%	0.063%	0.000%	0.000%	0.071%
2017	MRO	1722	City of Spooner	U.S.	31,674	31,674	-	-	0.007%	0.007%	0.000%	0.000%	0.001%	0.001%	0.000%	0.000%	0.001%
2017	MRO	1241	Willmar Municipal Utilities	U.S.	249,549	249,549	-	-	0.051%	0.051%	0.000%	0.000%	0.006%	0.006%	0.000%	0.000%	0.006%
2017	MRO	1242	Wisconsin Public Power, Inc. (East and West regions)	U.S.	5,292,675	5,292,675	-	-	1.090%	1.090%	0.000%	0.000%	0.119%	0.119%	0.000%	0.000%	0.135%
2017	MRO		Wolverine Power Marketing Cooperative	U.S.	35,850	35,850	-	-	0.007%	0.007%	0.000%	0.000%	0.001%	0.001%	0.000%	0.000%	0.001%
2017	SPP-MRO-SERC		Arkansas Electric Cooperative Corporation	U.S.	3,792,311	3,792,311	-	-	0.781%	0.781%	0.000%	0.000%	0.085%	0.085%	0.000%	0.000%	0.096%
2017	SPP-MRO	1246	American Electric Power	U.S.	37,025,653	37,025,653	-	-	7.628%	7.628%	0.000%	0.000%	0.832%	0.832%	0.000%	0.000%	0.941%
2017	SPP-MRO	1707	AEP-VEMCO	U.S.	646,206	646,206	-	-	0.133%	0.133%	0.000%	0.000%	0.015%	0.015%	0.000%	0.000%	0.016%
2017	SPP-MRO	1247	Board of Public Utilities (Kansas City KS)	U.S.	2,421,483	2,421,483	-	-	0.499%	0.499%	0.000%	0.000%	0.054%	0.054%	0.000%	0.000%	0.062%
2017	SPP-MRO	1620	Board of Public Utilities, City of McPherson, Kansas	U.S.	1,059,362	1,059,362	-	-	0.218%	0.218%	0.000%	0.000%	0.024%	0.024%	0.000%	0.000%	0.027%
2017	SPP-MRO	1647	Carthage City Water & Light	U.S.	301,124	301,124	-	-	0.062%	0.062%	0.000%	0.000%	0.007%	0.007%	0.000%	0.000%	0.008%
2017	SPP-MRO	1469	Central Valley Electric Cooperative	U.S.	818,642	818,642	-	-	0.169%	0.169%	0.000%	0.000%	0.018%	0.018%	0.000%	0.000%	0.021%
2017	SPP-MRO	1556	City of Bentonville	U.S.	694,607	694,607	-	-	0.143%	0.143%	0.000%	0.000%	0.016%	0.016%	0.000%	0.000%	0.018%

2017 NEL Calculations and Allocations to Load Serving Entities (or Designee) for the 2019 NERC and RE Assessments

Data Year	Regional Entity	ID	Entity	Country	Total NEL (MWh)	U.S. NEL	Canada NEL	Mexico NEL	% of RE total	US Total	Canada Total	Mexico Total	% of ERO Total	US Total	Canada Total	Mexico Total	% of ERO - US Only
2017	SPP-MRO	1709	City of Nixa	U.S.	161,277	161,277			0.033%	0.033%	0.000%	0.000%	0.004%	0.004%	0.000%	0.000%	0.004%
2017	SPP-MRO	1703	City of Chanute	U.S.	503,616	503,616			0.104%	0.104%	0.000%	0.000%	0.011%	0.011%	0.000%	0.000%	0.013%
2017	SPP-MRO	1248	Independence Power & Light (Independence, MO)	U.S.	1,041,162	1,041,162			0.215%	0.215%	0.000%	0.000%	0.023%	0.023%	0.000%	0.000%	0.026%
2017	SPP-MRO	1436	City Utilities of Springfield, MO	U.S.	3,108,521	3,108,521			0.640%	0.640%	0.000%	0.000%	0.070%	0.070%	0.000%	0.000%	0.079%
2017	SPP-MRO	1437	East Texas Electric Coop, Inc.	U.S.	430,647	430,647			0.089%	0.089%	0.000%	0.000%	0.010%	0.010%	0.000%	0.000%	0.011%
2017	SPP-MRO	1250	The Empire District Electric Company	U.S.	5,156,586	5,156,586			1.062%	1.062%	0.000%	0.000%	0.116%	0.116%	0.000%	0.000%	0.131%
2017	SPP-MRO	1470	Farmers' Electric Coop	U.S.	287,916	287,916			0.059%	0.059%	0.000%	0.000%	0.006%	0.006%	0.000%	0.000%	0.007%
2017	SPP-MRO	1438	Golden Spread Electric Coop	U.S.	4,970,209	4,970,209			1.024%	1.024%	0.000%	0.000%	0.112%	0.112%	0.000%	0.000%	0.126%
2017	SPP-MRO	1251	Grand River Dam Authority	U.S.	5,213,255	5,213,255			1.074%	1.074%	0.000%	0.000%	0.117%	0.117%	0.000%	0.000%	0.132%
2017	SPP-MRO	1252	Kansas City Power & Light (KCPL)	U.S.	15,476,525	15,476,525			3.189%	3.189%	0.000%	0.000%	0.348%	0.348%	0.000%	0.000%	0.393%
2017	SPP-MRO	1439	Kansas Electric Power Coop., Inc	U.S.	2,109,123	2,109,123			0.435%	0.435%	0.000%	0.000%	0.047%	0.047%	0.000%	0.000%	0.054%
2017	SPP-MRO	1440	Kansas Municipal Energy Agency (KCPL)	U.S.	1,576,773	1,576,773			0.325%	0.325%	0.000%	0.000%	0.035%	0.035%	0.000%	0.000%	0.040%
2017	SPP-MRO	1637	Kansas Power Pool	U.S.	874,058	874,058			0.180%	0.180%	0.000%	0.000%	0.020%	0.020%	0.000%	0.000%	0.022%
2017	SPP-MRO	1598	KCP&L GMOC (Greater Missouri Operations Company)	U.S.	8,505,620	8,505,620			1.752%	1.752%	0.000%	0.000%	0.191%	0.191%	0.000%	0.000%	0.216%
2017	SPP-MRO	1472	Lea County Electric Coop	U.S.	1,212,968	1,212,968			0.250%	0.250%	0.000%	0.000%	0.027%	0.027%	0.000%	0.000%	0.031%
2017	SPP-MRO	1441	Midwest Energy Inc.	U.S.	1,788,935	1,788,935			0.369%	0.369%	0.000%	0.000%	0.040%	0.040%	0.000%	0.000%	0.045%
2017	SPP-MRO-SERC		Missouri Joint Municipal Electric Utility Commission	U.S.	445,643	445,643			0.092%	0.092%	0.000%	0.000%	0.010%	0.010%	0.000%	0.000%	0.011%
2017	SPP-MRO	1442	Northeast Texas Electric Cooperative, Inc.	U.S.	3,129,216	3,129,216			0.645%	0.645%	0.000%	0.000%	0.070%	0.070%	0.000%	0.000%	0.080%
2017	SPP-MRO	1255	Oklahoma Gas and Electric Co.	U.S.	28,455,704	28,455,704			5.863%	5.863%	0.000%	0.000%	0.639%	0.639%	0.000%	0.000%	0.723%
2017	SPP-MRO	1444	Oklahoma Municipal Power Auth	U.S.	2,846,675	2,846,675			0.586%	0.586%	0.000%	0.000%	0.064%	0.064%	0.000%	0.000%	0.072%
2017	SPP-MRO	1651	Paragould Light, Water & Cable	U.S.	585,598	585,598			0.121%	0.121%	0.000%	0.000%	0.013%	0.013%	0.000%	0.000%	0.015%
2017	SPP-MRO	1725	People's Electric Cooperative	U.S.	494,865	494,865			0.102%	0.102%	0.000%	0.000%	0.011%	0.011%	0.000%	0.000%	0.013%
2017	SPP-MRO	1473	Roosevelt County Electric Coop	U.S.	151,197	151,197			0.031%	0.031%	0.000%	0.000%	0.003%	0.003%	0.000%	0.000%	0.004%
2017	SPP-MRO	1257	Xcel Energy Company (Southwestern Public Service)	U.S.	21,489,392	21,489,392			4.427%	4.427%	0.000%	0.000%	0.483%	0.483%	0.000%	0.000%	0.546%
2017	SPP-MRO	1256	Sunflower Electric Power Cooperative	U.S.	4,504,839	4,504,839			0.928%	0.928%	0.000%	0.000%	0.101%	0.101%	0.000%	0.000%	0.114%
2017	SPP-MRO	1445	Tex - La Electric Cooperative of Texas	U.S.	488,582	488,582			0.101%	0.101%	0.000%	0.000%	0.011%	0.011%	0.000%	0.000%	0.012%
2017	SPP-MRO	1475	Tri County Electric Coop	U.S.	350,534	350,534			0.072%	0.072%	0.000%	0.000%	0.008%	0.008%	0.000%	0.000%	0.009%
2017	SPP-MRO	1260	Westar Energy, Inc.	U.S.	21,019,021	21,019,021			4.330%	4.330%	0.000%	0.000%	0.472%	0.472%	0.000%	0.000%	0.534%
2017	SPP-MRO	1259	Western Farmers Electric Cooperative	U.S.	8,403,689	8,403,689			1.731%	1.731%	0.000%	0.000%	0.189%	0.189%	0.000%	0.000%	0.214%
2017	SPP-MRO	1501	West Texas Municipal Power Agency	U.S.	2,782,892	2,782,892			0.573%	0.573%	0.000%	0.000%	0.063%	0.063%	0.000%	0.000%	0.071%
TOTAL MRO					485,380,880	436,708,281	48,672,599	-	100.000%	89.972%	10.028%	0.000%	10.906%	9.812%	1.094%	0.000%	11.098%
2017	NPCC	1336	New England	U.S.	121,220,000	121,220,000			20.033%	20.033%	0.000%	0.000%	2.724%	2.724%	0.000%	0.000%	3.081%
2017	NPCC	1339	New York	U.S.	156,370,000	156,370,000			25.842%	25.842%	0.000%	0.000%	3.514%	3.514%	0.000%	0.000%	3.974%
2017	NPCC	1337	Ontario	Canada	132,091,000		132,091,000		21.830%	0.000%	21.830%	0.000%	2.968%	0.000%	2.968%	0.000%	
2017	NPCC		Quebec	Canada	170,703,000		170,703,000		28.211%	0.000%	28.211%	0.000%	3.836%	0.000%	3.836%	0.000%	
2017	NPCC	1705	New Brunswick	Canada	13,796,000		13,796,000		2.280%	0.000%	2.280%	0.000%	0.310%	0.000%	0.310%	0.000%	
2017	NPCC	1340	Nova Scotia	Canada	10,917,000		10,917,000		1.804%	0.000%	1.804%	0.000%	0.245%	0.000%	0.245%	0.000%	
TOTAL NPCC					605,097,000	277,590,000	327,507,000	-	100.000%	45.875%	54.125%	0.000%	13.596%	6.237%	7.359%	0.000%	7.054%
2017	RF	1102	Cannelton Utilities	U.S.	14,171	14,171			0.002%	0.002%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
2017	RF	1106	City of Croswell	U.S.	39,270	39,270			0.005%	0.005%	0.000%	0.000%	0.001%	0.001%	0.000%	0.000%	0.001%
2017	RF	1490	City of Lansing	U.S.	2,178,494	2,178,494			0.250%	0.250%	0.000%	0.000%	0.049%	0.049%	0.000%	0.000%	0.055%
2017	RF	1120	Cloverland Electric Cooperative	U.S.	744,657	744,657			0.085%	0.085%	0.000%	0.000%	0.017%	0.017%	0.000%	0.000%	0.019%
2017	RF	1122	CMS ERM Michigan LLC	U.S.	176,076	176,076			0.020%	0.020%	0.000%	0.000%	0.004%	0.004%	0.000%	0.000%	0.004%
2017	RF	1124	Constellation New Energy (MECS-CONS)	U.S.	1,202,920	1,202,920			0.138%	0.138%	0.000%	0.000%	0.027%	0.027%	0.000%	0.000%	0.031%
2017	RF	1123	Constellation New Energy (MECS-DET)	U.S.	1,349,692	1,349,692			0.155%	0.155%	0.000%	0.000%	0.030%	0.030%	0.000%	0.000%	0.034%

2017 NEL Calculations and Allocations to Load Serving Entities (or Designee) for the 2019 NERC and RE Assessments

Data Year	Regional Entity	ID	Entity	Country	Total NEL (MWh)	U.S. NEL	Canada NEL	Mexico NEL	% of RE total	US Total	Canada Total	Mexico Total	% of ERO Total	US Total	Canada Total	Mexico Total	% of ERO - US Only
2017	RF	1126	Consumers Energy Company	U.S.	33,248,491	33,248,491			3.814%	3.814%	0.000%	0.000%	0.747%	0.747%	0.000%	0.000%	0.845%
2017	RF	1128	Detroit Edison Company	U.S.	44,587,232	44,587,232			5.114%	5.114%	0.000%	0.000%	1.002%	1.002%	0.000%	0.000%	1.133%
2017	RF	1166	Duke Energy Indiana	U.S.	29,452,371	29,452,371			3.378%	3.378%	0.000%	0.000%	0.662%	0.662%	0.000%	0.000%	0.748%
2017	RF	1135	Ferdinand Municipal Light & Water	U.S.	49,598	49,598			0.006%	0.006%	0.000%	0.000%	0.001%	0.001%	0.000%	0.000%	0.001%
2017	RF	1646	FirstEnergy Solutions (MECS-CONS)	U.S.	857,115	857,115			0.098%	0.098%	0.000%	0.000%	0.019%	0.019%	0.000%	0.000%	0.022%
2017	RF	1549	FirstEnergy Solutions (MECS-DET)	U.S.	1,033,511	1,033,511			0.119%	0.119%	0.000%	0.000%	0.023%	0.023%	0.000%	0.000%	0.026%
2017	RF	1145	Hoosier Energy	U.S.	7,476,941	7,476,941			0.858%	0.858%	0.000%	0.000%	0.168%	0.168%	0.000%	0.000%	0.190%
2017	RF	1148	Indiana Municipal Power Agency (DUKE CIN)	U.S.	3,044,276	3,044,276			0.349%	0.349%	0.000%	0.000%	0.068%	0.068%	0.000%	0.000%	0.077%
2017	RF	1485	Indiana Municipal Power Agency (NIPSCO)	U.S.	423,172	423,172			0.049%	0.049%	0.000%	0.000%	0.010%	0.010%	0.000%	0.000%	0.011%
2017	RF	1486	Indiana Municipal Power Agency (SIGE)	U.S.	589,177	589,177			0.068%	0.068%	0.000%	0.000%	0.013%	0.013%	0.000%	0.000%	0.015%
2017	RF	1149	Indianapolis Power & Light Co.	U.S.	13,798,463	13,798,463			1.583%	1.583%	0.000%	0.000%	0.310%	0.310%	0.000%	0.000%	0.351%
2017	RF	1553	Integrus Energy Services (MECS-CONS)	U.S.	437,574	437,574			0.050%	0.050%	0.000%	0.000%	0.010%	0.010%	0.000%	0.000%	0.011%
2017	RF	1554	Integrus Energy Services (MECS-DET)	U.S.	626,251	626,251			0.072%	0.072%	0.000%	0.000%	0.014%	0.014%	0.000%	0.000%	0.016%
2017	RF	1666	Integrus Energy Services	U.S.	295,628	295,628			0.034%	0.034%	0.000%	0.000%	0.007%	0.007%	0.000%	0.000%	0.008%
2017	RF	1614	Just Energy (MECS-DET)	U.S.	8,535	8,535			0.001%	0.001%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
2017	RF	1154	Michigan Public Power Agency	U.S.	3,781,218	3,781,218			0.434%	0.434%	0.000%	0.000%	0.085%	0.085%	0.000%	0.000%	0.096%
2017	RF	1155	Michigan South Central Power Agency	U.S.	705,981	705,981			0.081%	0.081%	0.000%	0.000%	0.016%	0.016%	0.000%	0.000%	0.018%
2017	RF	1158	MidAmerican Energy Company Retail	U.S.	16,970	16,970			0.002%	0.002%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
2017	RF	1163	Northern Indiana Public Service Co.	U.S.	17,514,746	17,514,746			2.009%	2.009%	0.000%	0.000%	0.394%	0.394%	0.000%	0.000%	0.445%
2017	RF	1164	Ontonagon County Rural Electrification Assoc.	U.S.	27,798	27,798			0.003%	0.003%	0.000%	0.000%	0.001%	0.001%	0.000%	0.000%	0.001%
2017	RF	1265	PJM Interconnection, LLC	U.S.	664,258,237	664,258,237			76.195%	76.195%	0.000%	0.000%	14.925%	14.925%	0.000%	0.000%	16.881%
2017	RF	1172	Calpine Energy Solutions (k.n.a.Noble Americas Energy Solutions (MECS-CONS))	U.S.	383,129	383,129			0.044%	0.044%	0.000%	0.000%	0.009%	0.009%	0.000%	0.000%	0.010%
2017	RF	1171	Calpine Energy Solutions (k.n.a.Noble Americas Energy Solutions (MECS-DET))	U.S.	602,634	602,634			0.069%	0.069%	0.000%	0.000%	0.014%	0.014%	0.000%	0.000%	0.015%
2017	RF	1176	Direct Energy (fka:Strategic Energy,LLC) (MECS-CONS)	U.S.	191,510	191,510			0.022%	0.022%	0.000%	0.000%	0.004%	0.004%	0.000%	0.000%	0.005%
2017	RF	1174	Direct Energy (fka:Strategic Energy,LLC) (MECS-DET)	U.S.	908,353	908,353			0.104%	0.104%	0.000%	0.000%	0.020%	0.020%	0.000%	0.000%	0.023%
2017	RF	1581	Spartan Renewable Energy	U.S.	91,331	91,331			0.010%	0.010%	0.000%	0.000%	0.002%	0.002%	0.000%	0.000%	0.002%
2017	RF		Spartan Renewable Energy (MI UP)	U.S.	55,228	55,228			0.006%	0.006%	0.000%	0.000%	0.001%	0.001%	0.000%	0.000%	0.001%
2017	RF	1180	Thumb Electric Cooperative	U.S.	180,092	180,092			0.021%	0.021%	0.000%	0.000%	0.004%	0.004%	0.000%	0.000%	0.005%
2017	RF	1662	Ohio Valley Electric Corporation	U.S.	405,145	405,145			0.046%	0.046%	0.000%	0.000%	0.009%	0.009%	0.000%	0.000%	0.010%
2017	RF	1181	Vectren Energy Delivery of IN	U.S.	5,080,806	5,080,806			0.583%	0.583%	0.000%	0.000%	0.114%	0.114%	0.000%	0.000%	0.129%
2017	RF	1184	Wabash Valley Power Association Inc. (DUKE CIN)	U.S.	2,815,495	2,815,495			0.323%	0.323%	0.000%	0.000%	0.063%	0.063%	0.000%	0.000%	0.072%
2017	RF	1488	Wabash Valley Power Association Inc.(NIPSCO)	U.S.	1,696,109	1,696,109			0.195%	0.195%	0.000%	0.000%	0.038%	0.038%	0.000%	0.000%	0.043%
2017	RF	1185	Wisconsin Electric Power Co.	U.S.	27,453,163	27,453,163			3.149%	3.149%	0.000%	0.000%	0.617%	0.617%	0.000%	0.000%	0.698%
2017	RF	1189	Wolverine Power Marketing Cooperative	U.S.	757,819	757,819			0.087%	0.087%	0.000%	0.000%	0.017%	0.017%	0.000%	0.000%	0.019%
2017	RF	1191	Wolverine Power Supply Cooperative	U.S.	2,671,685	2,671,685			0.306%	0.306%	0.000%	0.000%	0.060%	0.060%	0.000%	0.000%	0.068%
2017	RF	1190	Wolverine Power Marketing Cooperative(MECS-DET)	U.S.	558,524	558,524			0.064%	0.064%	0.000%	0.000%	0.013%	0.013%	0.000%	0.000%	0.014%
			TOTAL RELIABILITYFIRST		871,789,589	871,789,589	-	-	100.000%	100.000%	0.000%	0.000%	19.588%	19.588%	0.000%	0.000%	22.155%
2017	SERC	1267	Alabama Municipal Electric Authority	U.S.	3,358,401	3,358,401			0.326%	0.326%	0.000%	0.000%	0.075%	0.075%	0.000%	0.000%	0.085%
2017	SERC	1268	Alabama Power Company	U.S.	56,129,688	56,129,688			5.456%	5.456%	0.000%	0.000%	1.261%	1.261%	0.000%	0.000%	1.426%
2017	SERC	1269	Ameren - Illinois	U.S.	41,102,000	41,102,000			3.995%	3.995%	0.000%	0.000%	0.924%	0.924%	0.000%	0.000%	1.045%
2017	SERC	1271	Ameren - Missouri	U.S.	36,180,000	36,180,000			3.517%	3.517%	0.000%	0.000%	0.813%	0.813%	0.000%	0.000%	0.919%
2017	SERC	1273	Associated Electric Cooperative Inc.	U.S.	18,890,793	18,890,793			1.836%	1.836%	0.000%	0.000%	0.424%	0.424%	0.000%	0.000%	0.480%
2017	SERC	1582	Beauregard Electric Cooperative, Inc.	U.S.	1,107,602	1,107,602			0.108%	0.108%	0.000%	0.000%	0.025%	0.025%	0.000%	0.000%	0.028%
2017	SERC	1462	Benton Utility District	U.S.	250,113	250,113			0.024%	0.024%	0.000%	0.000%	0.006%	0.006%	0.000%	0.000%	0.006%
2017	SERC	1274	Big Rivers Electric Corporation	U.S.	3,673,173	3,673,173			0.357%	0.357%	0.000%	0.000%	0.083%	0.083%	0.000%	0.000%	0.093%
2017	SERC	1275	Black Warrior EMC	U.S.	399,520	399,520			0.039%	0.039%	0.000%	0.000%	0.009%	0.009%	0.000%	0.000%	0.010%
2017	SERC	1276	Blue Ridge EMC	U.S.	1,352,829	1,352,829			0.131%	0.131%	0.000%	0.000%	0.030%	0.030%	0.000%	0.000%	0.034%
2017	SERC	1628	Brazos Electric Power Cooperative, Inc.	U.S.	467,620	467,620			0.045%	0.045%	0.000%	0.000%	0.011%	0.011%	0.000%	0.000%	0.012%

2017 NEL Calculations and Allocations to Load Serving Entities (or Designee) for the 2019 NERC and RE Assessments

Data Year	Regional Entity	ID	Entity	Country	Total NEL (MWh)	U.S. NEL	Canada NEL	Mexico NEL	% of RE total	US Total	Canada Total	Mexico Total	% of ERO Total	US Total	Canada Total	Mexico Total	% of ERO - US Only
2017	SERC	1463	Canton, MS	U.S.	128,254	128,254			0.012%	0.012%	0.000%	0.000%	0.003%	0.003%	0.000%	0.000%	0.003%
2017	SERC	1277	Central Electric Power Cooperative Inc.	U.S.	16,725,435	16,725,435			1.626%	1.626%	0.000%	0.000%	0.376%	0.376%	0.000%	0.000%	0.425%
2017	SERC	1667	Century Aluminum - Hawesville	U.S.	1,690,381	1,690,381			0.164%	0.164%	0.000%	0.000%	0.038%	0.038%	0.000%	0.000%	0.043%
2017	SERC	1668	Century Aluminum - Sebree	U.S.	3,362,247	3,362,247			0.327%	0.327%	0.000%	0.000%	0.076%	0.076%	0.000%	0.000%	0.085%
2017	SERC	1278	City of Blountstown FL	U.S.	36,190	36,190			0.004%	0.004%	0.000%	0.000%	0.001%	0.001%	0.000%	0.000%	0.001%
2017	SERC	1279	City of Camden SC	U.S.	187,339	187,339			0.018%	0.018%	0.000%	0.000%	0.004%	0.004%	0.000%	0.000%	0.005%
2017	SERC	1280	City of Collins MS	U.S.	44,945	44,945			0.004%	0.004%	0.000%	0.000%	0.001%	0.001%	0.000%	0.000%	0.001%
2017	SERC	1281	City of Columbia MO	U.S.	1,170,456	1,170,456			0.114%	0.114%	0.000%	0.000%	0.026%	0.026%	0.000%	0.000%	0.030%
2017	SERC	1282	City of Conway AR (Conway Corporation)	U.S.	991,407	991,407			0.096%	0.096%	0.000%	0.000%	0.022%	0.022%	0.000%	0.000%	0.025%
2017	SERC	1284	City of Evergreen AL	U.S.	54,500	54,500			0.005%	0.005%	0.000%	0.000%	0.001%	0.001%	0.000%	0.000%	0.001%
2017	SERC	1285	City of Hampton GA	U.S.	30,711	30,711			0.003%	0.003%	0.000%	0.000%	0.001%	0.001%	0.000%	0.000%	0.001%
2017	SERC	1286	City of Hartford AL	U.S.	31,077	31,077			0.003%	0.003%	0.000%	0.000%	0.001%	0.001%	0.000%	0.000%	0.001%
2017	SERC	1287	City of Henderson (KY) Municipal Power & Light	U.S.	612,803	612,803			0.060%	0.060%	0.000%	0.000%	0.014%	0.014%	0.000%	0.000%	0.016%
2017	SERC	1288	City of North Little Rock AR (DENL)	U.S.	922,357	922,357			0.090%	0.090%	0.000%	0.000%	0.021%	0.021%	0.000%	0.000%	0.023%
2017	SERC	1289	City of Orangeburg SC Department of Public Utilities	U.S.	813,000	813,000			0.079%	0.079%	0.000%	0.000%	0.018%	0.018%	0.000%	0.000%	0.021%
2017	SERC	1290	City of Robertsdale AL	U.S.	81,000	81,000			0.008%	0.008%	0.000%	0.000%	0.002%	0.002%	0.000%	0.000%	0.002%
2017	SERC	1291	City of Ruston LA (DERS)	U.S.	272,915	272,915			0.027%	0.027%	0.000%	0.000%	0.006%	0.006%	0.000%	0.000%	0.007%
2017	SERC	1292	Seneca Light & Power	U.S.	163,978	163,978			0.016%	0.016%	0.000%	0.000%	0.004%	0.004%	0.000%	0.000%	0.004%
2017	SERC	1115	City of Springfield (CWLP)	U.S.	1,708,151	1,708,151			0.166%	0.166%	0.000%	0.000%	0.038%	0.038%	0.000%	0.000%	0.043%
2017	SERC	1465	City of Thayer, MO	U.S.	19,916	19,916			0.002%	0.002%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.001%
2017	SERC	1293	City of Troy AL	U.S.	415,700	415,700			0.040%	0.040%	0.000%	0.000%	0.009%	0.009%	0.000%	0.000%	0.011%
2017	SERC	1294	City of West Memphis AR (West Memphis Utilities)	U.S.	380,733	380,733			0.037%	0.037%	0.000%	0.000%	0.009%	0.009%	0.000%	0.000%	0.010%
2017	SERC	1583	Claiborne Electric Cooperative, Inc.	U.S.	640,552	640,552			0.062%	0.062%	0.000%	0.000%	0.014%	0.014%	0.000%	0.000%	0.016%
2017	SERC	1584	Concordia Electric Cooperative, Inc.	U.S.	209,903	209,903			0.020%	0.020%	0.000%	0.000%	0.005%	0.005%	0.000%	0.000%	0.005%
2017	SERC	1726	Cube Hydro Carolinas	U.S.	14,458	14,458			0.001%	0.001%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
2017	SERC	1283	Dalton Utilities	U.S.	1,806,387	1,806,387			0.176%	0.176%	0.000%	0.000%	0.041%	0.041%	0.000%	0.000%	0.046%
2017	SERC	1585	Dixie Electric Membership Corporation	U.S.	2,149,385	2,149,385			0.209%	0.209%	0.000%	0.000%	0.048%	0.048%	0.000%	0.000%	0.055%
2017	SERC	1295	Dominion Virginia Power	U.S.	85,011,366	85,011,366			8.263%	8.263%	0.000%	0.000%	1.910%	1.910%	0.000%	0.000%	2.160%
2017	SERC	1296	Duke Energy Carolinas, LLC	U.S.	84,062,584	84,062,584			8.171%	8.171%	0.000%	0.000%	1.889%	1.889%	0.000%	0.000%	2.136%
2017	SERC	1466	Durant, MS	U.S.	25,094	25,094			0.002%	0.002%	0.000%	0.000%	0.001%	0.001%	0.000%	0.000%	0.001%
2017	SERC	1478	LG&E and KU Services Co as agent for LG&E Co and KU Co	U.S.	33,611,358	33,611,358			3.267%	3.267%	0.000%	0.000%	0.755%	0.755%	0.000%	0.000%	0.854%
2017	SERC	1297	East Kentucky Power Cooperative	U.S.	13,156,334	13,156,334			1.279%	1.279%	0.000%	0.000%	0.296%	0.296%	0.000%	0.000%	0.334%
2017	SERC	1298	East Mississippi Electric Power Association	U.S.	410,452	410,452			0.040%	0.040%	0.000%	0.000%	0.009%	0.009%	0.000%	0.000%	0.010%
2017	SERC	1669	Electricities of North Carolina Inc	U.S.	11,592,845	11,592,845			1.127%	1.127%	0.000%	0.000%	0.260%	0.260%	0.000%	0.000%	0.295%
2017	SERC	1300	EnergyUnited EMC	U.S.	2,517,130	2,517,130			0.245%	0.245%	0.000%	0.000%	0.057%	0.057%	0.000%	0.000%	0.064%
2017	SERC	1301	Entergy	U.S.	118,406,188	118,406,188			11.509%	11.509%	0.000%	0.000%	2.660%	2.660%	0.000%	0.000%	3.009%
2017	SERC	1302	Fayetteville (NC) Public Works Commission	U.S.	2,083,866	2,083,866			0.203%	0.203%	0.000%	0.000%	0.047%	0.047%	0.000%	0.000%	0.053%
2017	SERC	1303	Florida Public Utilities (FL Panhandle Load)	U.S.	306,095	306,095			0.030%	0.030%	0.000%	0.000%	0.007%	0.007%	0.000%	0.000%	0.008%
2017	SERC	1304	French Broad EMC	U.S.	502,644	502,644			0.049%	0.049%	0.000%	0.000%	0.011%	0.011%	0.000%	0.000%	0.013%
2017	SERC	1305	Georgia Power Company	U.S.	84,894,745	84,894,745			8.252%	8.252%	0.000%	0.000%	1.908%	1.908%	0.000%	0.000%	2.157%
2017	SERC	1306	Georgia System Optns Corporation	U.S.	38,909,099	38,909,099			3.782%	3.782%	0.000%	0.000%	0.874%	0.874%	0.000%	0.000%	0.989%
2017	SERC	1479	Greenwood (MS) Utilities Commission	U.S.	279,403	279,403			0.027%	0.027%	0.000%	0.000%	0.006%	0.006%	0.000%	0.000%	0.007%
2017	SERC	1307	Greenwood (SC) Commissioners of Public Works	U.S.	316,439	316,439			0.031%	0.031%	0.000%	0.000%	0.007%	0.007%	0.000%	0.000%	0.008%
2017	SERC	1308	Gulf Power Company	U.S.	11,395,597	11,395,597			1.108%	1.108%	0.000%	0.000%	0.256%	0.256%	0.000%	0.000%	0.290%
2017	SERC	1586	Haywood EMC	U.S.	306,654	306,654			0.030%	0.030%	0.000%	0.000%	0.007%	0.007%	0.000%	0.000%	0.008%
2017	SERC		Hoosier Energy REC, Inc	U.S.	401,175	401,175			0.039%	0.039%	0.000%	0.000%	0.009%	0.009%	0.000%	0.000%	0.010%
2017	SERC	1309	Illinois Municipal Electric Agency	U.S.	1,895,200	1,895,200			0.184%	0.184%	0.000%	0.000%	0.043%	0.043%	0.000%	0.000%	0.048%
2017	SERC	1480	Itta Bena, MS	U.S.	13,811	13,811			0.001%	0.001%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
2017	SERC	1587	Jefferson Davis Electric Cooperative, Inc.	U.S.	262,174	262,174			0.025%	0.025%	0.000%	0.000%	0.006%	0.006%	0.000%	0.000%	0.007%

2017 NEL Calculations and Allocations to Load Serving Entities (or Designee) for the 2019 NERC and RE Assessments

Data Year	Regional Entity	ID	Entity	Country	Total NEL (MWh)	U.S. NEL	Canada NEL	Mexico NEL	% of RE total	US Total	Canada Total	Mexico Total	% of ERO Total	US Total	Canada Total	Mexico Total	% of ERO - US Only
2017	SERC	1617	Kentucky Municipal Power	U.S.	653,191	653,191			0.063%	0.063%	0.000%	0.000%	0.015%	0.015%	0.000%	0.000%	0.017%
2017	SERC	1481	Kosciusko, MS	U.S.	73,119	73,119			0.007%	0.007%	0.000%	0.000%	0.002%	0.002%	0.000%	0.000%	0.002%
2017	SERC	1482	Leland, MS	U.S.	29,889	29,889			0.003%	0.003%	0.000%	0.000%	0.001%	0.001%	0.000%	0.000%	0.001%
2017	SERC	1313	McCormick Commission of Public Works	U.S.	16,341	16,341			0.002%	0.002%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
2017	SERC	1314	Mississippi Power Company	U.S.	10,130,093	10,130,093			0.985%	0.985%	0.000%	0.000%	0.228%	0.228%	0.000%	0.000%	0.257%
2017	SERC	1630	Mt. Carmel Public Utility	U.S.	103,272	103,272			0.010%	0.010%	0.000%	0.000%	0.002%	0.002%	0.000%	0.000%	0.003%
2017	SERC	1315	Municipal Electric Authority of Georgia	U.S.	10,809,000	10,809,000			1.051%	1.051%	0.000%	0.000%	0.243%	0.243%	0.000%	0.000%	0.275%
2017	SERC	1316	N.C. Electric Membership Corp.	U.S.	12,702,195	12,702,195			1.235%	1.235%	0.000%	0.000%	0.285%	0.285%	0.000%	0.000%	0.323%
2017	SERC	1588	Northeast Louisiana Power Cooperative, Inc.	U.S.	262,464	262,464			0.026%	0.026%	0.000%	0.000%	0.006%	0.006%	0.000%	0.000%	0.007%
2017	SERC	1574	Northern Virginia Electric Cooperative	U.S.	4,706,854	4,706,854			0.457%	0.457%	0.000%	0.000%	0.106%	0.106%	0.000%	0.000%	0.120%
2017	SERC	1319	Old Dominion Electric Cooperative	U.S.	4,975,189	4,975,189			0.484%	0.484%	0.000%	0.000%	0.112%	0.112%	0.000%	0.000%	0.126%
2017	SERC	1618	Osceola (Arkansas) Municipal Light and Power	U.S.	155,810	155,810			0.015%	0.015%	0.000%	0.000%	0.004%	0.004%	0.000%	0.000%	0.004%
2017	SERC	1320	Owensboro (KY) Municipal Utilities	U.S.	812,635	812,635			0.079%	0.079%	0.000%	0.000%	0.018%	0.018%	0.000%	0.000%	0.021%
2017	SERC	1321	Piedmont EMC in Duke and Progress Areas	U.S.	504,135	504,135			0.049%	0.049%	0.000%	0.000%	0.011%	0.011%	0.000%	0.000%	0.013%
2017	SERC	1323	Piedmont Municipal Power Agency (PMPA)	U.S.	2,338,860	2,338,860			0.227%	0.227%	0.000%	0.000%	0.053%	0.053%	0.000%	0.000%	0.059%
2017	SERC	1589	Pointe Coupee Electric Memb. Corp.	U.S.	259,826	259,826			0.025%	0.025%	0.000%	0.000%	0.006%	0.006%	0.000%	0.000%	0.007%
2017	SERC	1266	PowerSouth Energy	U.S.	8,636,599	8,636,599			0.839%	0.839%	0.000%	0.000%	0.194%	0.194%	0.000%	0.000%	0.219%
2017	SERC	1330	Prairie Power, Inc.	U.S.	1,535,015	1,535,015			0.149%	0.149%	0.000%	0.000%	0.034%	0.034%	0.000%	0.000%	0.039%
2017	SERC	1706	Duke Energy Progress	U.S.	45,904,781	45,904,781			4.462%	4.462%	0.000%	0.000%	1.031%	1.031%	0.000%	0.000%	1.167%
2017	SERC	1325	Rutherford EMC	U.S.	1,306,902	1,306,902			0.127%	0.127%	0.000%	0.000%	0.029%	0.029%	0.000%	0.000%	0.033%
2017	SERC	1631	Sam Rayburn G&T Electric Cooperative Inc.	U.S.	1,783,514	1,783,514			0.173%	0.173%	0.000%	0.000%	0.040%	0.040%	0.000%	0.000%	0.045%
2017	SERC	1326	South Carolina Electric & Gas Company	U.S.	23,114,816	23,114,816			2.247%	2.247%	0.000%	0.000%	0.519%	0.519%	0.000%	0.000%	0.587%
2017	SERC	1327	South Carolina Public Service Authority	U.S.	8,588,567	8,588,567			0.835%	0.835%	0.000%	0.000%	0.193%	0.193%	0.000%	0.000%	0.218%
2017	SERC	1590	South Louisiana Electric Cooperative Association	U.S.	577,068	577,068			0.056%	0.056%	0.000%	0.000%	0.013%	0.013%	0.000%	0.000%	0.015%
2017	SERC	1328	Cooperative Energy (formerly SMEPA)	U.S.	9,616,043	9,616,043			0.935%	0.935%	0.000%	0.000%	0.216%	0.216%	0.000%	0.000%	0.244%
2017	SERC	1329	Southern Illinois Power Cooperative	U.S.	1,570,438	1,570,438			0.153%	0.153%	0.000%	0.000%	0.035%	0.035%	0.000%	0.000%	0.040%
2017	SERC	1591	Southwest Louisiana Electric Membership Corporation	U.S.	2,449,955	2,449,955			0.238%	0.238%	0.000%	0.000%	0.055%	0.055%	0.000%	0.000%	0.062%
2017	SERC	1619	Southwestern Electric Cooperative, Inc.	U.S.	419,781	419,781			0.041%	0.041%	0.000%	0.000%	0.009%	0.009%	0.000%	0.000%	0.011%
2017	SERC	1331	Tennessee Valley Authority	U.S.	155,211,406	155,211,406			15.086%	15.086%	0.000%	0.000%	3.487%	3.487%	0.000%	0.000%	3.944%
2017	SERC	1632	Tex-La Electric Cooperative of Texas, Inc	U.S.	208,469	208,469			0.020%	0.020%	0.000%	0.000%	0.005%	0.005%	0.000%	0.000%	0.005%
2017	SERC	1332	Tombigbee Electric Cooperative Inc.	U.S.	121,131	121,131			0.012%	0.012%	0.000%	0.000%	0.003%	0.003%	0.000%	0.000%	0.003%
2017	SERC	1594	Town of Sharpsburg, N.C.	U.S.	19,458	19,458			0.002%	0.002%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
2017	SERC	1595	Town of Stantonburg, N.C. JRO	U.S.	55,573	55,573			0.005%	0.005%	0.000%	0.000%	0.001%	0.001%	0.000%	0.000%	0.001%
2017	SERC	1333	Town of Waynesville NC	U.S.	92,379	92,379			0.009%	0.009%	0.000%	0.000%	0.002%	0.002%	0.000%	0.000%	0.002%
2017	SERC	1334	Town of Winnsboro SC	U.S.	62,000	62,000			0.006%	0.006%	0.000%	0.000%	0.001%	0.001%	0.000%	0.000%	0.002%
2017	SERC	1335	Town of Winterville NC	U.S.	54,003	54,003			0.005%	0.005%	0.000%	0.000%	0.001%	0.001%	0.000%	0.000%	0.001%
2017	SERC	1597	Washington-St.Tammany Electric Cooperative, Inc.	U.S.	1,029,251	1,029,251			0.100%	0.100%	0.000%	0.000%	0.023%	0.023%	0.000%	0.000%	0.026%
2017	SERC	1435	Arkansas Electric Cooperative Corporation	U.S.	10,250,834	10,250,834			0.996%	0.996%	0.000%	0.000%	0.230%	0.230%	0.000%	0.000%	0.261%
2017	SERC	1557	City of Clarksdale, Mississippi	U.S.	156,418	156,418			0.015%	0.015%	0.000%	0.000%	0.004%	0.004%	0.000%	0.000%	0.004%
2017	SERC	1708	City of Abbeville	U.S.	137,537	137,537			0.013%	0.013%	0.000%	0.000%	0.003%	0.003%	0.000%	0.000%	0.003%
2017	SERC	1558	Hope Water & Light (HWL)	U.S.	294,430	294,430			0.029%	0.029%	0.000%	0.000%	0.007%	0.007%	0.000%	0.000%	0.007%
2017	SERC	1559	City of Minden	U.S.	138,210	138,210			0.013%	0.013%	0.000%	0.000%	0.003%	0.003%	0.000%	0.000%	0.004%
2017	SERC	1249	Cleco Power LLC	U.S.	11,205,486	11,205,486			1.089%	1.089%	0.000%	0.000%	0.252%	0.252%	0.000%	0.000%	0.285%
2017	SERC	1648	Jonesboro City Water & Light	U.S.	1,389,314	1,389,314			0.135%	0.135%	0.000%	0.000%	0.031%	0.031%	0.000%	0.000%	0.035%
2017	SERC	1649	Kennett Board of Public Works	U.S.	136,607	136,607			0.013%	0.013%	0.000%	0.000%	0.003%	0.003%	0.000%	0.000%	0.003%
2017	SERC	1471	Lafayette Utilities System	U.S.	2,054,903	2,054,903			0.200%	0.200%	0.000%	0.000%	0.046%	0.046%	0.000%	0.000%	0.052%
2017	SERC	1253	Louisiana Energy & Power Authority (LEPA)	U.S.	957,078	957,078			0.093%	0.093%	0.000%	0.000%	0.022%	0.022%	0.000%	0.000%	0.024%
2017	SERC	1650	Malden Board of Public Works	U.S.	49,737	49,737			0.005%	0.005%	0.000%	0.000%	0.001%	0.001%	0.000%	0.000%	0.001%
2017	SERC	1443	Missouri Joint Municipal Electric Utility Commission	U.S.	2,072,115	2,072,115			0.201%	0.201%	0.000%	0.000%	0.047%	0.047%	0.000%	0.000%	0.053%

2017 NEL Calculations and Allocations to Load Serving Entities (or Designee) for the 2019 NERC and RE Assessments

Data Year	Regional Entity	ID	Entity	Country	Total NEL (MWh)	U.S. NEL	Canada NEL	Mexico NEL	% of RE total	US Total	Canada Total	Mexico Total	% of ERO Total	US Total	Canada Total	Mexico Total	% of ERO - US Only
2017	SERC	1639	OzMo Ozark Missouri, West Plains MO	U.S.	188,693	188,693			0.018%	0.018%	0.000%	0.000%	0.004%	0.004%	0.000%	0.000%	0.005%
2017	SERC	1652	Piggott Municipal Light, Water & Sewer	U.S.	36,524	36,524			0.004%	0.004%	0.000%	0.000%	0.001%	0.001%	0.000%	0.000%	0.001%
2017	SERC	1653	Poplar Bluff Municipal Utilities	U.S.	371,235	371,235			0.036%	0.036%	0.000%	0.000%	0.008%	0.008%	0.000%	0.000%	0.009%
2017	SERC	1636	City of Prescott	U.S.	81,986	81,986			0.008%	0.008%	0.000%	0.000%	0.002%	0.002%	0.000%	0.000%	0.002%
2017	SERC	1561	Public Service Commission of Yazoo City of Mississippi	U.S.	116,966	116,966			0.011%	0.011%	0.000%	0.000%	0.003%	0.003%	0.000%	0.000%	0.003%
2017	SERC	1654	Sikeston Board of Municipal Utilities	U.S.	372,304	372,304			0.036%	0.036%	0.000%	0.000%	0.008%	0.008%	0.000%	0.000%	0.009%
TOTAL SERC					1,028,836,571	1,028,836,571	-	-	100.000%	100.000%	0.000%	0.000%	23.117%	23.117%	0.000%	0.000%	26.146%
TOTAL SPP					-	-	-	-	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
2017	TRE	1019	ERCOT	U.S.	359,022,162	359,022,162			100.000%	100.000%	0.000%	0.000%	8.067%	8.067%	0.000%	0.000%	9.124%
TOTAL ERCOT					359,022,162	359,022,162	-	-	100.000%	100.000%	0.000%	0.000%	8.067%	8.067%	0.000%	0.000%	9.124%
2017	WECC		Alberta Electric System Operator	Canada	62,244,032		62,244,032		7.173%	0.000%	7.173%	0.000%	1.399%	0.000%	1.399%	0.000%	0.000%
2017	WECC		British Columbia Hydro & Power Authority	Canada	63,896,653		63,896,653		7.364%	0.000%	7.364%	0.000%	1.436%	0.000%	1.436%	0.000%	0.000%
2017	WECC		Centro Nacional de Control de Energia	Mexico	13,232,487			13,232,487	1.525%	0.000%	0.000%	1.525%	0.297%	0.000%	0.000%	0.297%	0.000%
2017	WECC		Ajo Improvement District	U.S.	10,917	10,917			0.001%	0.001%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
2017	WECC		Arizona Public Service Company	U.S.	29,054,370	29,054,370			3.348%	3.348%	0.000%	0.000%	0.653%	0.653%	0.000%	0.000%	0.738%
2017	WECC		City of Williams	U.S.	44,759	44,759			0.005%	0.005%	0.000%	0.000%	0.001%	0.001%	0.000%	0.000%	0.001%
2017	WECC		Electrical Districts 3	U.S.	85,237	85,237			0.010%	0.010%	0.000%	0.000%	0.002%	0.002%	0.000%	0.000%	0.002%
2017	WECC		Aguila Irrigation District - APS	U.S.	33,128	33,128			0.004%	0.004%	0.000%	0.000%	0.001%	0.001%	0.000%	0.000%	0.001%
2017	WECC		Buckeye Water Conservation and Drainage District - APS	U.S.	22,444	22,444			0.003%	0.003%	0.000%	0.000%	0.001%	0.001%	0.000%	0.000%	0.001%
2017	WECC		Electrical District No. 6 of Pinal County - APS	U.S.	2,153	2,153			0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
2017	WECC		Electrical District No. 7 of Maricopa County - APS	U.S.	50,354	50,354			0.006%	0.006%	0.000%	0.000%	0.001%	0.001%	0.000%	0.000%	0.001%
2017	WECC		Electrical District No. 8 of Maricopa County - APS	U.S.	361,508	361,508			0.042%	0.042%	0.000%	0.000%	0.008%	0.008%	0.000%	0.000%	0.009%
2017	WECC		Harquahala Valley Power Districts - APS	U.S.	114,457	114,457			0.013%	0.013%	0.000%	0.000%	0.003%	0.003%	0.000%	0.000%	0.003%
2017	WECC		Maricopa County Municipal Water Conservation Dist No. 1 - APS	U.S.	51,680	51,680			0.006%	0.006%	0.000%	0.000%	0.001%	0.001%	0.000%	0.000%	0.001%
2017	WECC		McMullen Valley Water Conservation & Drainage District - APS	U.S.	124,395	124,395			0.014%	0.014%	0.000%	0.000%	0.003%	0.003%	0.000%	0.000%	0.003%
2017	WECC		Roosevelt Irrigation District - APS	U.S.	40,913	40,913			0.005%	0.005%	0.000%	0.000%	0.001%	0.001%	0.000%	0.000%	0.001%
2017	WECC		Tonopah Irrigation District - APS	U.S.	27,165	27,165			0.003%	0.003%	0.000%	0.000%	0.001%	0.001%	0.000%	0.000%	0.001%
2017	WECC		Navajo Tribal Utility Authority-Arizona	U.S.	50,356	50,356			0.006%	0.006%	0.000%	0.000%	0.001%	0.001%	0.000%	0.000%	0.001%
2017	WECC		Tohono O'Odham Utility Authority	U.S.	61,695	61,695			0.007%	0.007%	0.000%	0.000%	0.001%	0.001%	0.000%	0.000%	0.002%
2017	WECC		Town of Wickenburg	U.S.	26,553	26,553			0.003%	0.003%	0.000%	0.000%	0.001%	0.001%	0.000%	0.000%	0.001%
2017	WECC		Avista Corporation	U.S.	9,675,178	9,675,178			1.115%	1.115%	0.000%	0.000%	0.217%	0.217%	0.000%	0.000%	0.246%
2017	WECC		Kaiser Aluminum Fabricated Products LLC	U.S.	309,947	309,947			0.036%	0.036%	0.000%	0.000%	0.007%	0.007%	0.000%	0.000%	0.008%
2017	WECC		Pend Oreille County PUD No. 1	U.S.	1,017,642	1,017,642			0.117%	0.117%	0.000%	0.000%	0.023%	0.023%	0.000%	0.000%	0.026%
2017	WECC		PUD No. 2 of Grant County	U.S.	92,247	92,247			0.011%	0.011%	0.000%	0.000%	0.002%	0.002%	0.000%	0.000%	0.002%
2017	WECC		Bonneville Power Administration-Power Services	U.S.	6,362,959	6,362,959			0.733%	0.733%	0.000%	0.000%	0.143%	0.143%	0.000%	0.000%	0.162%
2017	WECC		Bonneville Power Administration-Hydro	U.S.	202,705	202,705			0.023%	0.023%	0.000%	0.000%	0.005%	0.005%	0.000%	0.000%	0.005%
2017	WECC		Bonneville Power Administration-Transmission	U.S.	51,706,599	51,706,599			5.959%	5.959%	0.000%	0.000%	1.162%	1.162%	0.000%	0.000%	1.314%
2017	WECC		City of Redding	U.S.	798,841	798,841			0.092%	0.092%	0.000%	0.000%	0.018%	0.018%	0.000%	0.000%	0.020%
2017	WECC		City of Roseville	U.S.	1,249,280	1,249,280			0.144%	0.144%	0.000%	0.000%	0.028%	0.028%	0.000%	0.000%	0.032%
2017	WECC		Modesto Irrigation District	U.S.	2,623,552	2,623,552			0.302%	0.302%	0.000%	0.000%	0.059%	0.059%	0.000%	0.000%	0.067%
2017	WECC		Sacramento Municipal Utility District	U.S.	11,598,647	11,598,647			1.337%	1.337%	0.000%	0.000%	0.261%	0.261%	0.000%	0.000%	0.295%
2017	WECC		Western Area Power Administration-Sierra Nevada Region	U.S.	1,987,830	1,987,830			0.229%	0.229%	0.000%	0.000%	0.045%	0.045%	0.000%	0.000%	0.051%
2017	WECC		California Independent System Operator	U.S.	229,121,130	229,121,130			26.406%	26.406%	0.000%	0.000%	5.148%	5.148%	0.000%	0.000%	5.823%
2017	WECC		El Paso Electric Company	U.S.	8,426,939	8,426,939			0.971%	0.971%	0.000%	0.000%	0.189%	0.189%	0.000%	0.000%	0.214%
2017	WECC		Idaho Power Company	U.S.	15,787,953	15,787,953			1.820%	1.820%	0.000%	0.000%	0.355%	0.355%	0.000%	0.000%	0.401%
2017	WECC		Imperial Irrigation District	U.S.	3,743,508	3,743,508			0.431%	0.431%	0.000%	0.000%	0.084%	0.084%	0.000%	0.000%	0.095%

2017 NEL Calculations and Allocations to Load Serving Entities (or Designee) for the 2019 NERC and RE Assessments

Data Year	Regional Entity	ID	Entity	Country	Total NEL (MWh)	U.S. NEL	Canada NEL	Mexico NEL	% of RE total	US Total	Canada Total	Mexico Total	% of ERO Total	US Total	Canada Total	Mexico Total	% of ERO - US Only
2017	WECC		Los Angeles Department of Water and Power	U.S.	28,793,447	28,793,447			3.318%	3.318%	0.000%	0.000%	0.647%	0.647%	0.000%	0.000%	0.732%
2017	WECC		City of Henderson	U.S.	41,152	41,152			0.005%	0.005%	0.000%	0.000%	0.001%	0.001%	0.000%	0.000%	0.001%
2017	WECC		City of Las Vegas	U.S.	41,677	41,677			0.005%	0.005%	0.000%	0.000%	0.001%	0.001%	0.000%	0.000%	0.001%
2017	WECC		City of North Las Vegas	U.S.	23,469	23,469			0.003%	0.003%	0.000%	0.000%	0.001%	0.001%	0.000%	0.000%	0.001%
2017	WECC		Clark County Water Reclamation District	U.S.	81,468	81,468			0.009%	0.009%	0.000%	0.000%	0.002%	0.002%	0.000%	0.000%	0.002%
2017	WECC		Colorado River Commission of Nevada	U.S.	472,536	472,536			0.054%	0.054%	0.000%	0.000%	0.011%	0.011%	0.000%	0.000%	0.012%
2017	WECC		Las Vegas Valley Water District	U.S.	108,278	108,278			0.012%	0.012%	0.000%	0.000%	0.002%	0.002%	0.000%	0.000%	0.003%
2017	WECC		Nevada Power Company dba NV Energy	U.S.	31,306,340	31,306,340			3.608%	3.608%	0.000%	0.000%	0.703%	0.703%	0.000%	0.000%	0.796%
2017	WECC		MGM Resorts International	U.S.	936,357	936,357			0.108%	0.108%	0.000%	0.000%	0.021%	0.021%	0.000%	0.000%	0.024%
2017	WECC		Switch-North	U.S.	5,780	5,780			0.001%	0.001%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
2017	WECC		Switch-South	U.S.	296,619	296,619			0.034%	0.034%	0.000%	0.000%	0.007%	0.007%	0.000%	0.000%	0.008%
2017	WECC		Wynn Las Vegas	U.S.	183,596	183,596			0.021%	0.021%	0.000%	0.000%	0.004%	0.004%	0.000%	0.000%	0.005%
2017	WECC		Overton Power District No. 5	U.S.	395,749	395,749			0.046%	0.046%	0.000%	0.000%	0.009%	0.009%	0.000%	0.000%	0.010%
2017	WECC		Southern Nevada Water Authority	U.S.	120,912	120,912			0.014%	0.014%	0.000%	0.000%	0.003%	0.003%	0.000%	0.000%	0.003%
2017	WECC		Basin Electric Power Cooperative	U.S.	799,330	799,330			0.092%	0.092%	0.000%	0.000%	0.018%	0.018%	0.000%	0.000%	0.020%
2017	WECC		Big Horn County Electric Cooperative	U.S.	38,434	38,434			0.004%	0.004%	0.000%	0.000%	0.001%	0.001%	0.000%	0.000%	0.001%
2017	WECC		NorthWestern Corp. dba NorthWestern Energy, LLC	U.S.	9,441,724	9,441,724			1.088%	1.088%	0.000%	0.000%	0.212%	0.212%	0.000%	0.000%	0.240%
2017	WECC		Western Area Power Administration-Upper Great Plains Region	U.S.	8,002	8,002			0.001%	0.001%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
2017	WECC		PacifiCorp West (PACW)	U.S.	21,567,018	21,567,018			2.486%	2.486%	0.000%	0.000%	0.485%	0.485%	0.000%	0.000%	0.548%
2017	WECC		Constellation New Energy	U.S.	349,466	349,466			0.040%	0.040%	0.000%	0.000%	0.008%	0.008%	0.000%	0.000%	0.009%
2017	WECC		3 Phases Renewables	U.S.	220	220			0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
2017	WECC		Avangrid Renewables	U.S.	103,249	103,249			0.012%	0.012%	0.000%	0.000%	0.002%	0.002%	0.000%	0.000%	0.003%
2017	WECC		Calpine Energy Solutions, LLC./Noble Americas Energy Solutions, LLC	U.S.	1,636,654	1,636,654			0.189%	0.189%	0.000%	0.000%	0.037%	0.037%	0.000%	0.000%	0.042%
2017	WECC		PacifiCorp (IPC)	U.S.	2,086	2,086			0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
2017	WECC		PacifiCorp (EasternBalAuth)	U.S.	49,834,039	49,834,039			5.743%	5.743%	0.000%	0.000%	1.120%	1.120%	0.000%	0.000%	1.266%
2017	WECC		PacifiCorp (Portland)	U.S.	4,445	4,445			0.001%	0.001%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
2017	WECC		PacifiCorp (WAPA-CO-MO)	U.S.	116,076	116,076			0.013%	0.013%	0.000%	0.000%	0.003%	0.003%	0.000%	0.000%	0.003%
2017	WECC		Portland General Electric Company	U.S.	17,596,703	17,596,703			2.028%	2.028%	0.000%	0.000%	0.395%	0.395%	0.000%	0.000%	0.447%
2017	WECC		Shell Energy North America	U.S.	74,824	74,824			0.009%	0.009%	0.000%	0.000%	0.002%	0.002%	0.000%	0.000%	0.002%
2017	WECC		Arkansas River Power Authority (ARPA)	U.S.	267,593	267,593			0.031%	0.031%	0.000%	0.000%	0.006%	0.006%	0.000%	0.000%	0.007%
2017	WECC		Black Hills Colorado Electric	U.S.	2,055,374	2,055,374			0.237%	0.237%	0.000%	0.000%	0.046%	0.046%	0.000%	0.000%	0.052%
2017	WECC		Burlington	U.S.	31,202	31,202			0.004%	0.004%	0.000%	0.000%	0.001%	0.001%	0.000%	0.000%	0.001%
2017	WECC		Colorado Springs Utilities	U.S.	60,450	60,450			0.007%	0.007%	0.000%	0.000%	0.001%	0.001%	0.000%	0.000%	0.002%
2017	WECC		Grand Valley Power	U.S.	248,669	248,669			0.029%	0.029%	0.000%	0.000%	0.006%	0.006%	0.000%	0.000%	0.006%
2017	WECC		Holy Cross Energy	U.S.	1,036,635	1,036,635			0.119%	0.119%	0.000%	0.000%	0.023%	0.023%	0.000%	0.000%	0.026%
2017	WECC		Intermountain Rural Electric Association	U.S.	2,232,568	2,232,568			0.257%	0.257%	0.000%	0.000%	0.050%	0.050%	0.000%	0.000%	0.057%
2017	WECC		Municipal Energy Agency of Nebraska	U.S.	170,398	170,398			0.020%	0.020%	0.000%	0.000%	0.004%	0.004%	0.000%	0.000%	0.004%
2017	WECC		Platte River Power Authority	U.S.	3,228,640	3,228,640			0.372%	0.372%	0.000%	0.000%	0.073%	0.073%	0.000%	0.000%	0.082%
2017	WECC		Public Service Company of Colorado (Xcel)	U.S.	30,398,462	30,398,462			3.503%	3.503%	0.000%	0.000%	0.683%	0.683%	0.000%	0.000%	0.773%
2017	WECC		Public Service Company of Colorado (Xcel)-(WAPA-CO-MO)	U.S.	115,284	115,284			0.013%	0.013%	0.000%	0.000%	0.003%	0.003%	0.000%	0.000%	0.003%
2017	WECC		Raton Public Service	U.S.	43,612	43,612			0.005%	0.005%	0.000%	0.000%	0.001%	0.001%	0.000%	0.000%	0.001%
2017	WECC		Town of Center	U.S.	14,886	14,886			0.002%	0.002%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
2017	WECC		Tri-State Generation & Transmission Assoc. Inc - Reliability	U.S.	2,641,443	2,641,443			0.304%	0.304%	0.000%	0.000%	0.059%	0.059%	0.000%	0.000%	0.067%
2017	WECC		Western Area Power - Loveland, CO	U.S.	169,011	169,011			0.019%	0.019%	0.000%	0.000%	0.004%	0.004%	0.000%	0.000%	0.004%
2017	WECC		Yampa Valley Electric Association	U.S.	560,999	560,999			0.065%	0.065%	0.000%	0.000%	0.013%	0.013%	0.000%	0.000%	0.014%
2017	WECC		City of Aztec Electric Dept	U.S.	36,550	36,550			0.004%	0.004%	0.000%	0.000%	0.001%	0.001%	0.000%	0.000%	0.001%
2017	WECC		City of Gallup	U.S.	221,471	221,471			0.026%	0.026%	0.000%	0.000%	0.005%	0.005%	0.000%	0.000%	0.006%
2017	WECC		Jicarilla Apache Nation Power Authority	U.S.	23,054	23,054			0.003%	0.003%	0.000%	0.000%	0.001%	0.001%	0.000%	0.000%	0.001%
2017	WECC		Kit Carson Electric Inc	U.S.	294,677	294,677			0.034%	0.034%	0.000%	0.000%	0.007%	0.007%	0.000%	0.000%	0.007%

2017 NEL Calculations and Allocations to Load Serving Entities (or Designee) for the 2019 NERC and RE Assessments

Data Year	Regional Entity	ID	Entity	Country	Total NEL (MWh)	U.S. NEL	Canada NEL	Mexico NEL	% of RE total	US Total	Canada Total	Mexico Total	% of ERO Total	US Total	Canada Total	Mexico Total	% of ERO - US Only
2017	WECC		Navajo Tribal Utility Authority-New Mexico	U.S.	198,362	198,362			0.023%	0.023%	0.000%	0.000%	0.004%	0.004%	0.000%	0.000%	0.005%
2017	WECC		Public Service Company of New Mexico	U.S.	9,141,458	9,141,458			1.054%	1.054%	0.000%	0.000%	0.205%	0.205%	0.000%	0.000%	0.232%
2017	WECC		The Incorporated County of Los Alamos	U.S.	612,170	612,170			0.071%	0.071%	0.000%	0.000%	0.014%	0.014%	0.000%	0.000%	0.016%
2017	WECC		Tri-State Generation & Transmission Association, Inc.	U.S.	2,769,627	2,769,627			0.319%	0.319%	0.000%	0.000%	0.062%	0.062%	0.000%	0.000%	0.070%
2017	WECC		US Dept of Energy - Kirtland AFB	U.S.	425,052	425,052			0.049%	0.049%	0.000%	0.000%	0.010%	0.010%	0.000%	0.000%	0.011%
2017	WECC		Public Utility District No. 1 of Chelan County	U.S.	1,859,763	1,859,763			0.214%	0.214%	0.000%	0.000%	0.042%	0.042%	0.000%	0.000%	0.047%
2017	WECC		Okanogan PUD	U.S.	663,971	663,971			0.077%	0.077%	0.000%	0.000%	0.015%	0.015%	0.000%	0.000%	0.017%
2017	WECC		PUD No. 1 of Douglas County	U.S.	917,441	917,441			0.106%	0.106%	0.000%	0.000%	0.021%	0.021%	0.000%	0.000%	0.023%
2017	WECC		Douglas Palisades / PUD No. 1 of DC	U.S.	20,468	20,468			0.002%	0.002%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.001%
2017	WECC		PUD No. 2 of Grant County	U.S.	4,771,009	4,771,009			0.550%	0.550%	0.000%	0.000%	0.107%	0.107%	0.000%	0.000%	0.121%
2017	WECC		Puget Sound Energy, Inc.	U.S.	24,489,796	24,489,796			2.822%	2.822%	0.000%	0.000%	0.550%	0.550%	0.000%	0.000%	0.622%
2017	WECC		Salt River Project	U.S.	29,902,054	29,902,054			3.446%	3.446%	0.000%	0.000%	0.672%	0.672%	0.000%	0.000%	0.760%
2017	WECC		Seattle City Light	U.S.	9,963,742	9,963,742			1.148%	1.148%	0.000%	0.000%	0.224%	0.224%	0.000%	0.000%	0.253%
2017	WECC		Barrick Goldstrike Mines Inc.	U.S.	1,387,742	1,387,742			0.160%	0.160%	0.000%	0.000%	0.031%	0.031%	0.000%	0.000%	0.035%
2017	WECC		City of Fallon	U.S.	92,245	92,245			0.011%	0.011%	0.000%	0.000%	0.002%	0.002%	0.000%	0.000%	0.002%
2017	WECC		Mt. Wheeler Power	U.S.	552,994	552,994			0.064%	0.064%	0.000%	0.000%	0.012%	0.012%	0.000%	0.000%	0.014%
2017	WECC		Truckee Donner Public Utility District	U.S.	161,518	161,518			0.019%	0.019%	0.000%	0.000%	0.004%	0.004%	0.000%	0.000%	0.004%
2017	WECC		Beartooth Electric Cooperative	U.S.	77,005	77,005			0.009%	0.009%	0.000%	0.000%	0.002%	0.002%	0.000%	0.000%	0.002%
2017	WECC		City of Tacoma DBA Tacoma Power	U.S.	5,006,565	5,006,565			0.577%	0.577%	0.000%	0.000%	0.112%	0.112%	0.000%	0.000%	0.127%
2017	WECC		Tucson Electric Power Company	U.S.	14,848,416	14,848,416			1.711%	1.711%	0.000%	0.000%	0.334%	0.334%	0.000%	0.000%	0.377%
2017	WECC		Merced Irrigation District	U.S.	519,312	519,312			0.060%	0.060%	0.000%	0.000%	0.012%	0.012%	0.000%	0.000%	0.013%
2017	WECC		Turlock Irrigation District	U.S.	2,179,005	2,179,005			0.251%	0.251%	0.000%	0.000%	0.049%	0.049%	0.000%	0.000%	0.055%
2017	WECC		Basin Electric Power Cooperative	U.S.	2,319,412	2,319,412			0.267%	0.267%	0.000%	0.000%	0.052%	0.052%	0.000%	0.000%	0.059%
2017	WECC		Black Hills Colorado Electric/Cheyenne Light Fuel & Power	U.S.	4,386,123	4,386,123			0.505%	0.505%	0.000%	0.000%	0.099%	0.099%	0.000%	0.000%	0.111%
2017	WECC		Black Hills State University South Dakota	U.S.	20,948	20,948			0.002%	0.002%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.001%
2017	WECC		City of Page	U.S.	72,314	72,314			0.008%	0.008%	0.000%	0.000%	0.002%	0.002%	0.000%	0.000%	0.002%
2017	WECC		Colorado Springs Utilities	U.S.	4,607,995	4,607,995			0.531%	0.531%	0.000%	0.000%	0.104%	0.104%	0.000%	0.000%	0.117%
2017	WECC		Deseret Generation & Transmission Cooperative	U.S.	116,200	116,200			0.013%	0.013%	0.000%	0.000%	0.003%	0.003%	0.000%	0.000%	0.003%
2017	WECC		City of Farmington	U.S.	993,038	993,038			0.114%	0.114%	0.000%	0.000%	0.022%	0.022%	0.000%	0.000%	0.025%
2017	WECC		Municipal Energy Agency of Nebraska	U.S.	630,349	630,349			0.073%	0.073%	0.000%	0.000%	0.014%	0.014%	0.000%	0.000%	0.016%
2017	WECC		Navajo Tribal Utility Authority-Colorado	U.S.	216,337	216,337			0.025%	0.025%	0.000%	0.000%	0.005%	0.005%	0.000%	0.000%	0.005%
2017	WECC		Navajo Agricultural Products Industry (NAPI)	U.S.	3,279	3,279			0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
2017	WECC		Nebraska Public Power Marketing	U.S.	6,603	6,603			0.001%	0.001%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
2017	WECC		Francis E. Warren Air Force Base	U.S.	12,103	12,103			0.001%	0.001%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
2017	WECC		Town of Fredonia	U.S.	10,451	10,451			0.001%	0.001%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
2017	WECC		Tri-State Generation & Transmission Assoc. Inc - Reliability	U.S.	7,866,215	7,866,215			0.907%	0.907%	0.000%	0.000%	0.177%	0.177%	0.000%	0.000%	0.200%
2017	WECC		Western Area Power Administration - CRSP	U.S.	1,918,249	1,918,249			0.221%	0.221%	0.000%	0.000%	0.043%	0.043%	0.000%	0.000%	0.049%
2017	WECC		Western Area Power - Loveland, CO	U.S.	1,834,005	1,834,005			0.211%	0.211%	0.000%	0.000%	0.041%	0.041%	0.000%	0.000%	0.047%
2017	WECC		Wyoming Municipal Power Agency	U.S.	219,215	219,215			0.025%	0.025%	0.000%	0.000%	0.005%	0.005%	0.000%	0.000%	0.006%
2017	WECC		Basin Electric Power Cooperative	U.S.	147,139	147,139			0.017%	0.017%	0.000%	0.000%	0.003%	0.003%	0.000%	0.000%	0.004%
2017	WECC		Montana-Dakota Utilities Co.	U.S.	22,738	22,738			0.003%	0.003%	0.000%	0.000%	0.001%	0.001%	0.000%	0.000%	0.001%
2017	WECC		NorthWestern Corp. dba NorthWestern Energy, LLC	U.S.	302,542	302,542			0.035%	0.035%	0.000%	0.000%	0.007%	0.007%	0.000%	0.000%	0.008%
2017	WECC		Western Area Power Administration-Upper Great Plains Region	U.S.	355,785	355,785			0.041%	0.041%	0.000%	0.000%	0.008%	0.008%	0.000%	0.000%	0.009%
2017	WECC		Aha Macav Power Service	U.S.	14,656	14,656			0.002%	0.002%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
2017	WECC		Bureau of Reclamation (Desalter) - c/o DSW EMMO	U.S.	109	109			0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
2017	WECC		Bureau of Reclamation (Wellfield)	U.S.	6,874	6,874			0.001%	0.001%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
2017	WECC		Central Arizona Water Conservation District	U.S.	2,279,451	2,279,451			0.263%	0.263%	0.000%	0.000%	0.051%	0.051%	0.000%	0.000%	0.058%
2017	WECC		City of Mesa	U.S.	267,299	267,299			0.031%	0.031%	0.000%	0.000%	0.006%	0.006%	0.000%	0.000%	0.007%
2017	WECC		Needles Public Utilities Authority	U.S.	31,707	31,707			0.004%	0.004%	0.000%	0.000%	0.001%	0.001%	0.000%	0.000%	0.001%

2017 NEL Calculations and Allocations to Load Serving Entities (or Designee) for the 2019 NERC and RE Assessments

Data Year	Regional Entity	ID	Entity	Country	Total NEL (MWh)	U.S. NEL	Canada NEL	Mexico NEL	% of RE total	US Total	Canada Total	Mexico Total	% of ERO Total	US Total	Canada Total	Mexico Total	% of ERO - US Only
2017	WECC		Colorado River Agency-Bureau of Indian Affairs	U.S.	17,713	17,713			0.002%	0.002%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
2017	WECC		Electrical District #2 - Coolidge Generating Station	U.S.	9,210	9,210			0.001%	0.001%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
2017	WECC		Electrical District #2	U.S.	189,507	189,507			0.022%	0.022%	0.000%	0.000%	0.004%	0.004%	0.000%	0.000%	0.005%
2017	WECC		Silver State Energy Association	U.S.	656,415	656,415			0.076%	0.076%	0.000%	0.000%	0.015%	0.015%	0.000%	0.000%	0.017%
2017	WECC		Arizona Electric Power Cooperative, Inc	U.S.	3,484,373	3,484,373			0.402%	0.402%	0.000%	0.000%	0.078%	0.078%	0.000%	0.000%	0.089%
2017	WECC		U.S. Army Yuma Proving Ground	U.S.	19,644	19,644			0.002%	0.002%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
2017	WECC		Wellton-Mohawk Irrigation & Drainage District	U.S.	5,084	5,084			0.001%	0.001%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
2017	WECC		Western Area Power Administration-Desert Southwest Region	U.S.	1,627,924	1,627,924			0.188%	0.188%	0.000%	0.000%	0.037%	0.037%	0.000%	0.000%	0.041%
TOTAL WECC					867,701,562	728,328,390	126,140,685	13,232,487	100.000%	83.938%	14.537%	1.525%	19.497%	16.365%	2.834%	0.297%	18.509%
TOTAL ERO					4,450,547,164	3,934,994,393	502,320,284	13,232,487	700.000%	619.785%	78.690%	1.525%	100.000%	88.416%	11.287%	0.297%	100.000%
Summary by Regional Entity					Total NEL (MWh)	U.S. NEL	Canada NEL	Mexico NEL									
2017	FRCC				232,719,400	232,719,400	-	-	100.000%	100.000%	0.000%	0.000%	5.229%	5.229%	0.000%	0.000%	5.914%
2017	MRO				485,380,880	436,708,281	48,672,599	-	100.000%	89.972%	10.028%	0.000%	10.906%	9.812%	1.094%	0.000%	11.098%
2017	NPCC				605,097,000	277,590,000	327,507,000	-	100.000%	45.875%	54.125%	0.000%	13.596%	6.237%	7.359%	0.000%	7.054%
2017	RF				871,789,589	871,789,589	-	-	100.000%	100.000%	0.000%	0.000%	19.588%	19.588%	0.000%	0.000%	22.155%
2017	SERC				1,028,836,571	1,028,836,571	-	-	100.000%	100.000%	0.000%	0.000%	23.117%	23.117%	0.000%	0.000%	26.146%
2017	SPP				-	-	-	-	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
2017	TRE				359,022,162	359,022,162	-	-	100.000%	100.000%	0.000%	0.000%	8.067%	8.067%	0.000%	0.000%	9.124%
2017	WECC				867,701,562	728,328,390	126,140,685	13,232,487	100.000%	83.938%	14.537%	1.525%	19.497%	16.365%	2.834%	0.297%	18.509%
Total					4,450,547,164	3,934,994,393	502,320,284	13,232,487	700.000%	619.785%	78.690%	1.525%	100.000%	88.416%	11.287%	0.297%	100.000%

2017 NEL Calculations and Allocations to Load Serving Entities (or Designee) for the 2019 NERC and RE Assessments

APPENDIX 2-B

Data Year	Regional Entity	ID	Entity	Country	Total ERO Assessments (NERC, RE & WIRAB Costs)				Total NERC Assessments				Total Regional Entity Assessments (Including WIRAB Assessments)			
					Total	US	Canada	Mexico	Total	US	Canada	Mexico	Total	US	Canada	Mexico
2017	FRCC	1074	Alachua, City of	U.S.	5,544	5,544	-	-	2,151	2,151	-	-	3,393	3,393	-	-
2017	FRCC	1075	Bartow, City of	U.S.	12,071	12,071	-	-	4,683	4,683	-	-	7,388	7,388	-	-
2017	FRCC	1076	Chattahoochee, City of	U.S.	1,510	1,510	-	-	586	586	-	-	924	924	-	-
2017	FRCC	1077	Florida Keys Electric Cooperative Assn	U.S.	30,688	30,688	-	-	11,906	11,906	-	-	18,782	18,782	-	-
2017	FRCC	1078	Florida Power & Light Co.	U.S.	4,679,182	4,679,182	-	-	1,815,373	1,815,373	-	-	2,863,809	2,863,809	-	-
2017	FRCC	1079	Florida Public Utilities Company	U.S.	14,321	14,321	-	-	5,556	5,556	-	-	8,765	8,765	-	-
2017	FRCC	1080	Gainesville Regional Utilities	U.S.	74,114	74,114	-	-	28,754	28,754	-	-	45,360	45,360	-	-
2017	FRCC	1081	Homestead, City of	U.S.	24,387	24,387	-	-	9,461	9,461	-	-	14,925	14,925	-	-
2017	FRCC	1082	JEA	U.S.	512,285	512,285	-	-	198,750	198,750	-	-	313,535	313,535	-	-
2017	FRCC	1083	Lakeland Electric	U.S.	126,271	126,271	-	-	48,989	48,989	-	-	77,282	77,282	-	-
2017	FRCC	1626	Lee County Electric Cooperative, Inc	U.S.	166,452	166,452	-	-	64,578	64,578	-	-	101,874	101,874	-	-
2017	FRCC	1661	City of Lake Worth	U.S.	19,231	19,231	-	-	7,461	7,461	-	-	11,770	11,770	-	-
2017	FRCC	1084	Mount Dora, City of	U.S.	3,760	3,760	-	-	1,459	1,459	-	-	2,301	2,301	-	-
2017	FRCC	1085	New Smyrna Beach, Utilities Commission of	U.S.	17,758	17,758	-	-	6,890	6,890	-	-	10,869	10,869	-	-
2017	FRCC	1086	Orlando Utilities Commission	U.S.	249,649	249,649	-	-	96,856	96,856	-	-	152,793	152,793	-	-
2017	FRCC	1087	Duke Energy Florida	U.S.	1,667,303	1,667,303	-	-	646,860	646,860	-	-	1,020,443	1,020,443	-	-
2017	FRCC	1088	Quincy, City of	U.S.	5,348	5,348	-	-	2,075	2,075	-	-	3,273	3,273	-	-
2017	FRCC	1089	Reedy Creek Improvement District	U.S.	49,551	49,551	-	-	19,224	19,224	-	-	30,327	30,327	-	-
2017	FRCC	1090	St. Cloud, City of (OUC)	U.S.	31,465	31,465	-	-	12,208	12,208	-	-	19,258	19,258	-	-
2017	FRCC	1091	Tallahassee, City of	U.S.	112,850	112,850	-	-	43,782	43,782	-	-	69,068	69,068	-	-
2017	FRCC	1092	Tampa Electric Company	U.S.	830,458	830,458	-	-	322,191	322,191	-	-	508,267	508,267	-	-
2017	FRCC	1603	City of Vero Beach	U.S.	30,974	30,974	-	-	12,017	12,017	-	-	18,957	18,957	-	-
2017	FRCC	1093	Wauchula, City of	U.S.	2,660	2,660	-	-	1,032	1,032	-	-	1,628	1,628	-	-
2017	FRCC	1094	Williston, City of	U.S.	1,481	1,481	-	-	575	575	-	-	907	907	-	-
2017	FRCC	1095	Winter Park, City of	U.S.	18,090	18,090	-	-	7,018	7,018	-	-	11,071	11,071	-	-
2017	FRCC	1724	Moore Haven, City of	U.S.	614	614	-	-	238	238	-	-	376	376	-	-
2017	FRCC	1072	Florida Municipal Power Agency	U.S.	244,866	244,866	-	-	95,000	95,000	-	-	149,866	149,866	-	-
2017	FRCC	1073	Seminole Electric Cooperative	U.S.	589,373	589,373	-	-	228,658	228,658	-	-	360,715	360,715	-	-
TOTAL FRCC					9,522,255	9,522,255	-	-	3,694,330	3,694,330	-	-	5,827,925	5,827,925	-	-
2017	MRO	1199	Basin Electric Power Cooperative	U.S.	924,946	924,946	-	-	307,589	307,589	-	-	617,357	617,357	-	-
2017	MRO	1201	Central Iowa Power Cooperative (CIPCO)	U.S.	135,149	135,149	-	-	44,944	44,944	-	-	90,206	90,206	-	-
2017	MRO	1204	Corn Belt Power Cooperative	U.S.	94,031	94,031	-	-	31,270	31,270	-	-	62,761	62,761	-	-
2017	MRO	1207	Dairyland Power Cooperative	U.S.	262,982	262,982	-	-	87,454	87,454	-	-	175,528	175,528	-	-
2017	MRO	1210	Great River Energy	U.S.	627,467	627,467	-	-	208,663	208,663	-	-	418,804	418,804	-	-
2017	MRO	1222	Minnkota Power Cooperative, Inc.	U.S.	182,939	182,939	-	-	60,836	60,836	-	-	122,103	122,103	-	-
2017	MRO	1230	Nebraska Public Power District	U.S.	653,494	653,494	-	-	217,318	217,318	-	-	436,175	436,175	-	-
2017	MRO	1232	Omaha Public Power District	U.S.	533,333	533,333	-	-	177,359	177,359	-	-	355,974	355,974	-	-
2017	MRO	1240	Western Area Power Administration (UM)	U.S.	442,466	442,466	-	-	147,141	147,141	-	-	295,325	295,325	-	-
2017	MRO	1239	Western Area Power Administration (LM)	U.S.	2,190	2,190	-	-	728	728	-	-	1,462	1,462	-	-
2017	MRO	1217	Manitoba Hydro	CAN	1,147,187	-	1,147,187	-	382,641	-	382,641	-	764,546	-	764,546	-
2017	MRO	1235	SaskPower	CAN	1,189,698	-	1,189,698	-	396,820	-	396,820	-	792,877	-	792,877	-
2017	MRO	1195	Alliant Energy (Alliant East - WPL & Alliant West IPL)	U.S.	1,388,929	1,388,929	-	-	461,886	461,886	-	-	927,043	927,043	-	-
2017	MRO	1710	Dahlberg Electric Company	U.S.	5,345	5,345	-	-	1,778	1,778	-	-	3,568	3,568	-	-
2017	MRO	1216	Madison, Gas and Electric	U.S.	161,524	161,524	-	-	53,714	53,714	-	-	107,809	107,809	-	-
2017	MRO	1220	MidAmerican Energy Company	U.S.	1,225,127	1,225,127	-	-	407,414	407,414	-	-	817,713	817,713	-	-
2017	MRO	1221	Minnesota Power	U.S.	616,550	616,550	-	-	205,033	205,033	-	-	411,517	411,517	-	-
2017	MRO	1226	Montana-Dakota Utilities Co.	U.S.	155,216	155,216	-	-	51,617	51,617	-	-	103,599	103,599	-	-
2017	MRO	1711	North Central Power Company	U.S.	1,774	1,774	-	-	590	590	-	-	1,184	1,184	-	-
2017	MRO	1231	NorthWestern Energy	U.S.	74,341	74,341	-	-	24,722	24,722	-	-	49,619	49,619	-	-
2017	MRO	1712	NorthWestern Wisconsin	U.S.	8,869	8,869	-	-	2,949	2,949	-	-	5,920	5,920	-	-
2017	MRO	1233	Otter Tail Power Company	U.S.	237,503	237,503	-	-	78,981	78,981	-	-	158,522	158,522	-	-

2017 NEL Calculations and Allocations to Load Serving Entities (or Designee) for the 2019 NERC and RE Assessments

Data Year	Regional Entity	ID	Entity	Country	Total ERO Assessments (NERC, RE & WIRAB Costs)				Total NERC Assessments				Total Regional Entity Assessments (Including WIRAB Assessments)			
					Total	US	Canada	Mexico	Total	US	Canada	Mexico	Total	US	Canada	Mexico
2017	MRO	1664	Wisconsin Public Service (WPS)	U.S.	558,159	558,159	-	-	185,615	185,615	-	-	372,544	372,544	-	-
2017	MRO	1665	Upper Peninsula Power Company (UPPCO)	U.S.	32,636	32,636	-	-	10,853	10,853	-	-	21,783	21,783	-	-
2017	MRO	1244	Xcel Energy Company (NSP)	U.S.	2,074,430	2,074,430	-	-	689,848	689,848	-	-	1,384,582	1,384,582	-	-
2017	MRO	1196	Ames Municipal Electric System	U.S.	36,092	36,092	-	-	12,002	12,002	-	-	24,090	24,090	-	-
2017	MRO	1604	Atlantic Municipal Utilities	U.S.	3,877	3,877	-	-	1,289	1,289	-	-	2,588	2,588	-	-
2017	MRO	1713	Bloomer Electric & Water Co.	U.S.	2,638	2,638	-	-	877	877	-	-	1,761	1,761	-	-
2017	MRO	1714	Village of Caddott	U.S.	655	655	-	-	218	218	-	-	437	437	-	-
2017	MRO	1200	Cedar Falls Municipal Utilities	U.S.	24,715	24,715	-	-	8,219	8,219	-	-	16,496	16,496	-	-
2017	MRO	1477	Central Minnesota Municipal Power Agency (CMMPA)	U.S.	18,626	18,626	-	-	6,194	6,194	-	-	12,432	12,432	-	-
2017	MRO	1716	Eldridge Electric and Water Utilities	U.S.	2,023	2,023	-	-	673	673	-	-	1,350	1,350	-	-
2017	MRO	1203	City of Escanaba	U.S.	6,579	6,579	-	-	2,188	2,188	-	-	4,391	4,391	-	-
2017	MRO	1205	Falls City Water & Light Department	U.S.	2,810	2,810	-	-	934	934	-	-	1,875	1,875	-	-
2017	MRO	1206	Fremont Department of Utilities	U.S.	20,653	20,653	-	-	6,868	6,868	-	-	13,785	13,785	-	-
2017	MRO	1208	Geneseo Municipal Utilities	U.S.	3,085	3,085	-	-	1,026	1,026	-	-	2,059	2,059	-	-
2017	MRO	1209	Grand Island Utilities Department	U.S.	36,254	36,254	-	-	12,056	12,056	-	-	24,198	24,198	-	-
2017	MRO	1717	Great Lakes Utilities	U.S.	70,478	70,478	-	-	23,437	23,437	-	-	47,041	47,041	-	-
2017	MRO	1718	City of Guttenberg	U.S.	900	900	-	-	299	299	-	-	600	600	-	-
2017	MRO	1606	Harlan Municipal Utilities	U.S.	803	803	-	-	267	267	-	-	536	536	-	-
2017	MRO	1211	Hastings Utilities	U.S.	20,481	20,481	-	-	6,811	6,811	-	-	13,670	13,670	-	-
2017	MRO	1212	Heartland Consumers Power District	U.S.	20,747	20,747	-	-	6,899	6,899	-	-	13,848	13,848	-	-
2017	MRO	1213	Hutchinson Utilities Commission	U.S.	13,872	13,872	-	-	4,613	4,613	-	-	9,259	9,259	-	-
2017	MRO	1719	City of Kasota	U.S.	155	155	-	-	52	52	-	-	104	104	-	-
2017	MRO	1215	Lincoln Electric System	U.S.	152,974	152,974	-	-	50,871	50,871	-	-	102,103	102,103	-	-
2017	MRO	1223	Missouri River Energy Services	U.S.	128,670	128,670	-	-	42,789	42,789	-	-	85,881	85,881	-	-
2017	MRO	1224	MN Municipal Power Agency (MMPA)	U.S.	74,197	74,197	-	-	24,674	24,674	-	-	49,523	49,523	-	-
2017	MRO	1607	Montezuma Municipal Light & Power	U.S.	1,205	1,205	-	-	401	401	-	-	804	804	-	-
2017	MRO	1227	Municipal Energy Agency of Nebraska	U.S.	45,016	45,016	-	-	14,970	14,970	-	-	30,046	30,046	-	-
2017	MRO	1228	Muscatine Power and Water	U.S.	41,921	41,921	-	-	13,941	13,941	-	-	27,980	27,980	-	-
2017	MRO	1229	Nebraska City Utilities	U.S.	6,164	6,164	-	-	2,050	2,050	-	-	4,114	4,114	-	-
2017	MRO	1720	Resale Power Group of Iowa	U.S.	26,899	26,899	-	-	8,945	8,945	-	-	17,954	17,954	-	-
2017	MRO	1721	Rice Lake Utilities	U.S.	7,896	7,896	-	-	2,626	2,626	-	-	5,271	5,271	-	-
2017	MRO	1234	Rochester Public Utilities	U.S.	111	111	-	-	37	37	-	-	74	74	-	-
2017	MRO	1236	Southern Minnesota Municipal Power Agency	U.S.	132,813	132,813	-	-	44,167	44,167	-	-	88,646	88,646	-	-
2017	MRO	1722	City of Spooner	U.S.	1,512	1,512	-	-	503	503	-	-	1,009	1,009	-	-
2017	MRO	1241	Willmar Municipal Utilities	U.S.	11,913	11,913	-	-	3,961	3,961	-	-	7,951	7,951	-	-
2017	MRO	1242	Wisconsin Public Power, Inc. (East and West regions)	U.S.	252,653	252,653	-	-	84,019	84,019	-	-	168,633	168,633	-	-
2017	MRO		Wolverine Power Marketing Cooperative	U.S.	1,711	1,711	-	-	569	569	-	-	1,142	1,142	-	-
2017	SPP-MRO-SERC		Arkansas Electric Cooperative Corporation	U.S.	181,031	181,031	-	-	60,201	60,201	-	-	120,829	120,829	-	-
2017	SPP-MRO	1246	American Electric Power	U.S.	1,767,466	1,767,466	-	-	587,768	587,768	-	-	1,179,698	1,179,698	-	-
2017	SPP-MRO	1707	AEP-VEMCO	U.S.	30,847	30,847	-	-	10,258	10,258	-	-	20,589	20,589	-	-
2017	SPP-MRO	1247	Board of Public Utilities (Kansas City KS)	U.S.	115,593	115,593	-	-	38,440	38,440	-	-	77,152	77,152	-	-
2017	SPP-MRO	1620	Board of Public Utilities, City of McPherson, Kansas	U.S.	50,570	50,570	-	-	16,817	16,817	-	-	33,753	33,753	-	-
2017	SPP-MRO	1647	Carthage City Water & Light	U.S.	14,375	14,375	-	-	4,780	4,780	-	-	9,594	9,594	-	-
2017	SPP-MRO	1469	Central Valley Electric Cooperative	U.S.	39,079	39,079	-	-	12,996	12,996	-	-	26,083	26,083	-	-
2017	SPP-MRO	1556	City of Bentonville	U.S.	33,158	33,158	-	-	11,027	11,027	-	-	22,131	22,131	-	-
2017	SPP-MRO	1709	City of Nixa	U.S.	7,699	7,699	-	-	2,560	2,560	-	-	5,139	5,139	-	-
2017	SPP-MRO	1703	City of Chanute	U.S.	24,041	24,041	-	-	7,995	7,995	-	-	16,046	16,046	-	-
2017	SPP-MRO	1248	Independence Power & Light (Independence, MO)	U.S.	49,701	49,701	-	-	16,528	16,528	-	-	33,173	33,173	-	-
2017	SPP-MRO	1436	City Utilities of Springfield, MO	U.S.	148,389	148,389	-	-	49,347	49,347	-	-	99,043	99,043	-	-
2017	SPP-MRO	1437	East Texas Electric Coop, Inc.	U.S.	20,557	20,557	-	-	6,836	6,836	-	-	13,721	13,721	-	-
2017	SPP-MRO	1250	The Empire District Electric Company	U.S.	246,156	246,156	-	-	81,859	81,859	-	-	164,297	164,297	-	-
2017	SPP-MRO	1470	Farmers' Electric Coop	U.S.	13,744	13,744	-	-	4,571	4,571	-	-	9,173	9,173	-	-

2017 NEL Calculations and Allocations to Load Serving Entities (or Designee) for the 2019 NERC and RE Assessments

APPENDIX 2-B

Data Year	Regional Entity	ID	Entity	Country	Total ERO Assessments (NERC, RE & WIRAB Costs)				Total NERC Assessments				Total Regional Entity Assessments (Including WIRAB Assessments)			
					Total	US	Canada	Mexico	Total	US	Canada	Mexico	Total	US	Canada	Mexico
2017	SPP-MRO	1438	Golden Spread Electric Coop	U.S.	237,259	237,259	-	-	78,900	78,900	-	-	158,359	158,359	-	-
2017	SPP-MRO	1251	Grand River Dam Authority	U.S.	248,861	248,861	-	-	82,758	82,758	-	-	166,103	166,103	-	-
2017	SPP-MRO	1252	Kansas City Power & Light (KCPL)	U.S.	738,791	738,791	-	-	245,684	245,684	-	-	493,108	493,108	-	-
2017	SPP-MRO	1439	Kansas Electric Power Coop., Inc	U.S.	100,682	100,682	-	-	33,482	33,482	-	-	67,200	67,200	-	-
2017	SPP-MRO	1440	Kansas Municipal Energy Agency (KCPL)	U.S.	75,269	75,269	-	-	25,031	25,031	-	-	50,239	50,239	-	-
2017	SPP-MRO	1637	Kansas Power Pool	U.S.	41,724	41,724	-	-	13,875	13,875	-	-	27,849	27,849	-	-
2017	SPP-MRO	1598	KCP&L GMOG (Greater Missouri Operations Company)	U.S.	406,026	406,026	-	-	135,023	135,023	-	-	271,003	271,003	-	-
2017	SPP-MRO	1472	Lea County Electric Coop	U.S.	57,903	57,903	-	-	19,255	19,255	-	-	38,647	38,647	-	-
2017	SPP-MRO	1441	Midwest Energy Inc.	U.S.	85,397	85,397	-	-	28,399	28,399	-	-	56,998	56,998	-	-
2017	SPP-MRO-SERC		Missouri Joint Municipal Electric Utility Commission	U.S.	21,273	21,273	-	-	7,074	7,074	-	-	14,199	14,199	-	-
2017	SPP-MRO	1442	Northeast Texas Electric Cooperative, Inc.	U.S.	149,377	149,377	-	-	49,675	49,675	-	-	99,702	99,702	-	-
2017	SPP-MRO	1255	Oklahoma Gas and Electric Co.	U.S.	1,358,369	1,358,369	-	-	451,723	451,723	-	-	906,646	906,646	-	-
2017	SPP-MRO	1444	Oklahoma Municipal Power Auth	U.S.	135,890	135,890	-	-	45,190	45,190	-	-	90,700	90,700	-	-
2017	SPP-MRO	1651	Paragould Light, Water & Cable	U.S.	27,954	27,954	-	-	9,296	9,296	-	-	18,658	18,658	-	-
2017	SPP-MRO	1725	People's Electric Cooperative	U.S.	23,623	23,623	-	-	7,856	7,856	-	-	15,767	15,767	-	-
2017	SPP-MRO	1473	Roosevelt County Electric Coop	U.S.	7,218	7,218	-	-	2,400	2,400	-	-	4,817	4,817	-	-
2017	SPP-MRO	1257	Xcel Energy Company (Southwestern Public Service)	U.S.	1,025,823	1,025,823	-	-	341,136	341,136	-	-	684,687	684,687	-	-
2017	SPP-MRO	1256	Sunflower Electric Power Cooperative	U.S.	215,044	215,044	-	-	71,513	71,513	-	-	143,532	143,532	-	-
2017	SPP-MRO	1445	Tex - La Electric Cooperative of Texas	U.S.	23,323	23,323	-	-	7,756	7,756	-	-	15,567	15,567	-	-
2017	SPP-MRO	1475	Tri County Electric Coop	U.S.	16,733	16,733	-	-	5,565	5,565	-	-	11,169	11,169	-	-
2017	SPP-MRO	1260	Westar Energy, Inc.	U.S.	1,003,369	1,003,369	-	-	333,669	333,669	-	-	669,701	669,701	-	-
2017	SPP-MRO	1259	Western Farmers Electric Cooperative	U.S.	401,161	401,161	-	-	133,405	133,405	-	-	267,755	267,755	-	-
2017	SPP-MRO	1501	West Texas Municipal Power Agency	U.S.	132,845	132,845	-	-	44,177	44,177	-	-	88,668	88,668	-	-
TOTAL MRO					23,183,705	20,846,820	2,336,885	-	7,712,036	6,932,574	779,462	-	15,471,669	13,914,246	1,557,423	-
2017	NPCC	1336	New England	U.S.	5,924,309	5,924,309	-	-	1,924,320	1,924,320	-	-	3,999,989	3,999,989	-	-
2017	NPCC	1339	New York	U.S.	7,651,580	7,651,580	-	-	2,482,313	2,482,313	-	-	5,169,267	5,169,267	-	-
2017	NPCC	1337	Ontario	Canada	3,582,527	-	3,582,527	-	1,418,177	-	1,418,177	-	2,164,350	-	2,164,350	-
2017	NPCC		Quebec	Canada	5,063,237	-	5,063,237	-	2,004,960	-	2,004,960	-	3,058,277	-	3,058,277	-
2017	NPCC	1705	New Brunswick	Canada	502,544	-	502,544	-	148,152	-	148,152	-	354,392	-	354,392	-
2017	NPCC	1340	Nova Scotia	Canada	431,965	-	431,965	-	174,829	-	174,829	-	257,136	-	257,136	-
TOTAL NPCC					23,156,162	13,575,889	9,580,272	-	8,152,751	4,406,633	3,746,117	-	15,003,411	9,169,256	5,834,155	-
2017	RF	1102	Cannelton Utilities	U.S.	570	570	-	-	225	225	-	-	346	346	-	-
2017	RF	1106	City of Croswell	U.S.	1,581	1,581	-	-	623	623	-	-	957	957	-	-
2017	RF	1490	City of Lansing	U.S.	87,698	87,698	-	-	34,583	34,583	-	-	53,116	53,116	-	-
2017	RF	1120	Cloverland Electric Cooperative	U.S.	29,977	29,977	-	-	11,821	11,821	-	-	18,156	18,156	-	-
2017	RF	1122	CMS ERM Michigan LLC	U.S.	7,088	7,088	-	-	2,795	2,795	-	-	4,293	4,293	-	-
2017	RF	1124	Constellation New Energy (MECS-CONS)	U.S.	48,425	48,425	-	-	19,096	19,096	-	-	29,329	29,329	-	-
2017	RF	1123	Constellation New Energy (MECS-DET)	U.S.	54,334	54,334	-	-	21,426	21,426	-	-	32,908	32,908	-	-
2017	RF	1126	Consumers Energy Company	U.S.	1,338,466	1,338,466	-	-	527,807	527,807	-	-	810,659	810,659	-	-
2017	RF	1128	Detroit Edison Company	U.S.	1,794,924	1,794,924	-	-	707,805	707,805	-	-	1,087,119	1,087,119	-	-
2017	RF	1166	Duke Energy Indiana	U.S.	1,185,648	1,185,648	-	-	467,545	467,545	-	-	718,103	718,103	-	-
2017	RF	1135	Ferdinand Municipal Light & Water	U.S.	1,997	1,997	-	-	787	787	-	-	1,209	1,209	-	-
2017	RF	1646	FirstEnergy Solutions (MECS-CONS)	U.S.	34,504	34,504	-	-	13,606	13,606	-	-	20,898	20,898	-	-
2017	RF	1549	FirstEnergy Solutions (MECS-DET)	U.S.	41,605	41,605	-	-	16,407	16,407	-	-	25,199	25,199	-	-
2017	RF	1145	Hoosier Energy	U.S.	300,995	300,995	-	-	118,694	118,694	-	-	182,302	182,302	-	-
2017	RF	1148	Indiana Municipal Power Agency (DUKE CIN)	U.S.	122,552	122,552	-	-	48,327	48,327	-	-	74,225	74,225	-	-
2017	RF	1485	Indiana Municipal Power Agency (NIPSCO)	U.S.	17,035	17,035	-	-	6,718	6,718	-	-	10,318	10,318	-	-
2017	RF	1486	Indiana Municipal Power Agency (SIGE)	U.S.	23,718	23,718	-	-	9,353	9,353	-	-	14,365	14,365	-	-
2017	RF	1149	Indianapolis Power & Light Co.	U.S.	555,477	555,477	-	-	219,045	219,045	-	-	336,432	336,432	-	-

2017 NEL Calculations and Allocations to Load Serving Entities (or Designee) for the 2019 NERC and RE Assessments

APPENDIX 2-B

Data Year	Regional Entity	ID	Entity	Country	Total ERO Assessments (NERC, RE & WIRAB Costs)				Total NERC Assessments				Total Regional Entity Assessments (Including WIRAB Assessments)			
					Total	US	Canada	Mexico	Total	US	Canada	Mexico	Total	US	Canada	Mexico
2017	RF	1553	Integrus Energy Services (MECS-CONS)	U.S.	17,615	17,615	-	-	6,946	6,946	-	-	10,669	10,669	-	-
2017	RF	1554	Integrus Energy Services (MECS-DET)	U.S.	25,211	25,211	-	-	9,941	9,941	-	-	15,269	15,269	-	-
2017	RF	1666	Integrus Energy Services	U.S.	11,901	11,901	-	-	4,693	4,693	-	-	7,208	7,208	-	-
2017	RF	1614	Just Energy (MECS-DET)	U.S.	344	344	-	-	135	135	-	-	208	208	-	-
2017	RF	1154	Michigan Public Power Agency	U.S.	152,218	152,218	-	-	60,025	60,025	-	-	92,193	92,193	-	-
2017	RF	1155	Michigan South Central Power Agency	U.S.	28,420	28,420	-	-	11,207	11,207	-	-	17,213	17,213	-	-
2017	RF	1158	MidAmerican Energy Company Retail	U.S.	683	683	-	-	269	269	-	-	414	414	-	-
2017	RF	1163	Northern Indiana Public Service Co.	U.S.	705,081	705,081	-	-	278,040	278,040	-	-	427,042	427,042	-	-
2017	RF	1164	Ontonagon County Rural Electrification Assoc.	U.S.	1,119	1,119	-	-	441	441	-	-	678	678	-	-
2017	RF	1265	PJM Interconnection, LLC	U.S.	26,740,677	26,740,677	-	-	10,544,842	10,544,842	-	-	16,195,836	16,195,836	-	-
2017	RF	1172	Calpine Energy Solutions (k.n.a.Noble Americas Energy Solutions (MECS-CONS))	U.S.	15,423	15,423	-	-	6,082	6,082	-	-	9,341	9,341	-	-
2017	RF	1171	Calpine Energy Solutions (k.n.a.Noble Americas Energy Solutions (MECS-DET))	U.S.	24,260	24,260	-	-	9,567	9,567	-	-	14,693	14,693	-	-
2017	RF	1176	Direct Energy (fka:Strategic Energy,LLC) (MECS-CONS)	U.S.	7,710	7,710	-	-	3,040	3,040	-	-	4,669	4,669	-	-
2017	RF	1174	Direct Energy (fka:Strategic Energy,LLC) (MECS-DET)	U.S.	36,567	36,567	-	-	14,420	14,420	-	-	22,147	22,147	-	-
2017	RF	1581	Spartan Renewable Energy	U.S.	3,677	3,677	-	-	1,450	1,450	-	-	2,227	2,227	-	-
2017	RF		Spartan Renewable Energy (MI UP)	U.S.	2,223	2,223	-	-	877	877	-	-	1,347	1,347	-	-
2017	RF	1180	Thumb Electric Cooperative	U.S.	7,250	7,250	-	-	2,859	2,859	-	-	4,391	4,391	-	-
2017	RF	1662	Ohio Valley Electric Corporation	U.S.	16,310	16,310	-	-	6,432	6,432	-	-	9,878	9,878	-	-
2017	RF	1181	Vectren Energy Delivery of IN	U.S.	204,535	204,535	-	-	80,656	80,656	-	-	123,879	123,879	-	-
2017	RF	1184	Wabash Valley Power Association Inc. (DUKE CIN)	U.S.	113,342	113,342	-	-	44,695	44,695	-	-	68,647	68,647	-	-
2017	RF	1488	Wabash Valley Power Association Inc.(NIPSCO)	U.S.	68,279	68,279	-	-	26,925	26,925	-	-	41,354	41,354	-	-
2017	RF	1185	Wisconsin Electric Power Co.	U.S.	1,105,167	1,105,167	-	-	435,808	435,808	-	-	669,359	669,359	-	-
2017	RF	1189	Wolverine Power Marketing Cooperative	U.S.	30,507	30,507	-	-	12,030	12,030	-	-	18,477	18,477	-	-
2017	RF	1191	Wolverine Power Supply Cooperative	U.S.	107,553	107,553	-	-	42,412	42,412	-	-	65,141	65,141	-	-
2017	RF	1190	Wolverine Power Marketing Cooperative(MECS-DET)	U.S.	22,484	22,484	-	-	8,866	8,866	-	-	13,618	13,618	-	-
TOTAL RELIABILITYFIRST					35,095,152	35,095,152	-	-	13,839,321	13,839,321	-	-	21,255,831	21,255,831	-	-
2017	SERC	1267	Alabama Municipal Electric Authority	U.S.	110,021	110,021	-	-	53,313	53,313	-	-	56,708	56,708	-	-
2017	SERC	1268	Alabama Power Company	U.S.	1,838,804	1,838,804	-	-	891,037	891,037	-	-	947,767	947,767	-	-
2017	SERC	1269	Ameren - Illinois	U.S.	1,346,498	1,346,498	-	-	652,478	652,478	-	-	694,020	694,020	-	-
2017	SERC	1271	Ameren - Missouri	U.S.	1,185,254	1,185,254	-	-	574,343	574,343	-	-	610,910	610,910	-	-
2017	SERC	1273	Associated Electric Cooperative Inc.	U.S.	618,861	618,861	-	-	299,884	299,884	-	-	318,977	318,977	-	-
2017	SERC	1582	Beauregard Electric Cooperative, Inc.	U.S.	36,285	36,285	-	-	17,583	17,583	-	-	18,702	18,702	-	-
2017	SERC	1462	Benton Utility District	U.S.	8,194	8,194	-	-	3,970	3,970	-	-	4,223	4,223	-	-
2017	SERC	1274	Big Rivers Electric Corporation	U.S.	120,333	120,333	-	-	58,310	58,310	-	-	62,023	62,023	-	-
2017	SERC	1275	Black Warrior EMC	U.S.	13,088	13,088	-	-	6,342	6,342	-	-	6,746	6,746	-	-
2017	SERC	1276	Blue Ridge EMC	U.S.	44,319	44,319	-	-	21,476	21,476	-	-	22,843	22,843	-	-
2017	SERC	1628	Brazos Electric Power Cooperative, Inc.	U.S.	15,319	15,319	-	-	7,423	7,423	-	-	7,896	7,896	-	-
2017	SERC	1463	Canton, MS	U.S.	4,202	4,202	-	-	2,036	2,036	-	-	2,166	2,166	-	-
2017	SERC	1277	Central Electric Power Cooperative Inc.	U.S.	547,924	547,924	-	-	265,510	265,510	-	-	282,414	282,414	-	-
2017	SERC	1667	Century Aluminum - Hawesville	U.S.	55,377	55,377	-	-	26,834	26,834	-	-	28,543	28,543	-	-
2017	SERC	1668	Century Aluminum - Sebree	U.S.	110,147	110,147	-	-	53,374	53,374	-	-	56,773	56,773	-	-
2017	SERC	1278	City of Blountstown FL	U.S.	1,186	1,186	-	-	575	575	-	-	611	611	-	-
2017	SERC	1279	City of Camden SC	U.S.	6,137	6,137	-	-	2,974	2,974	-	-	3,163	3,163	-	-
2017	SERC	1280	City of Collins MS	U.S.	1,472	1,472	-	-	713	713	-	-	759	759	-	-
2017	SERC	1281	City of Columbia MO	U.S.	38,344	38,344	-	-	18,581	18,581	-	-	19,764	19,764	-	-
2017	SERC	1282	City of Conway AR (Conway Corporation)	U.S.	32,478	32,478	-	-	15,738	15,738	-	-	16,740	16,740	-	-
2017	SERC	1284	City of Evergreen AL	U.S.	1,785	1,785	-	-	865	865	-	-	920	920	-	-
2017	SERC	1285	City of Hampton GA	U.S.	1,006	1,006	-	-	488	488	-	-	519	519	-	-
2017	SERC	1286	City of Hartford AL	U.S.	1,018	1,018	-	-	493	493	-	-	525	525	-	-
2017	SERC	1287	City of Henderson (KY) Municipal Power & Light	U.S.	20,075	20,075	-	-	9,728	9,728	-	-	10,347	10,347	-	-
2017	SERC	1288	City of North Little Rock AR (DENL)	U.S.	30,216	30,216	-	-	14,642	14,642	-	-	15,574	15,574	-	-

2017 NEL Calculations and Allocations to Load Serving Entities (or Designee) for the 2019 NERC and RE Assessments

Data Year	Regional Entity	ID	Entity	Country	Total ERO Assessments (NERC, RE & WIRAB Costs)				Total NERC Assessments				Total Regional Entity Assessments (Including WIRAB Assessments)			
					Total	US	Canada	Mexico	Total	US	Canada	Mexico	Total	US	Canada	Mexico
2017	SERC	1289	City of Orangeburg SC Department of Public Utilities	U.S.	26,634	26,634	-	-	12,906	12,906	-	-	13,728	13,728	-	-
2017	SERC	1290	City of Robertsdale AL	U.S.	2,654	2,654	-	-	1,286	1,286	-	-	1,368	1,368	-	-
2017	SERC	1291	City of Ruston LA (DERS)	U.S.	8,941	8,941	-	-	4,332	4,332	-	-	4,608	4,608	-	-
2017	SERC	1292	Seneca Light & Power	U.S.	5,372	5,372	-	-	2,603	2,603	-	-	2,769	2,769	-	-
2017	SERC	1115	City of Springfield (CWLP)	U.S.	55,959	55,959	-	-	27,116	27,116	-	-	28,843	28,843	-	-
2017	SERC	1465	City of Thayer, MO	U.S.	652	652	-	-	316	316	-	-	336	336	-	-
2017	SERC	1293	City of Troy AL	U.S.	13,618	13,618	-	-	6,599	6,599	-	-	7,019	7,019	-	-
2017	SERC	1294	City of West Memphis AR (West Memphis Utilities)	U.S.	12,473	12,473	-	-	6,044	6,044	-	-	6,429	6,429	-	-
2017	SERC	1583	Claiborne Electric Cooperative, Inc.	U.S.	20,984	20,984	-	-	10,169	10,169	-	-	10,816	10,816	-	-
2017	SERC	1584	Concordia Electric Cooperative, Inc.	U.S.	6,876	6,876	-	-	3,332	3,332	-	-	3,544	3,544	-	-
2017	SERC	1726	Cube Hydro Carolinas	U.S.	474	474	-	-	230	230	-	-	244	244	-	-
2017	SERC	1283	Dalton Utilities	U.S.	59,177	59,177	-	-	28,676	28,676	-	-	30,501	30,501	-	-
2017	SERC	1585	Dixie Electric Membership Corporation	U.S.	70,414	70,414	-	-	34,121	34,121	-	-	36,293	36,293	-	-
2017	SERC	1295	Dominion Virginia Power	U.S.	2,784,965	2,784,965	-	-	1,349,522	1,349,522	-	-	1,435,442	1,435,442	-	-
2017	SERC	1296	Duke Energy Carolinas, LLC	U.S.	2,753,883	2,753,883	-	-	1,334,461	1,334,461	-	-	1,419,422	1,419,422	-	-
2017	SERC	1466	Durant, MS	U.S.	822	822	-	-	398	398	-	-	424	424	-	-
2017	SERC	1478	LG&E and KU Services Co as agent for LG&E Co and KU Co	U.S.	1,101,105	1,101,105	-	-	533,567	533,567	-	-	567,538	567,538	-	-
2017	SERC	1297	East Kentucky Power Cooperative	U.S.	431,000	431,000	-	-	208,852	208,852	-	-	222,149	222,149	-	-
2017	SERC	1298	East Mississippi Electric Power Association	U.S.	13,446	13,446	-	-	6,516	6,516	-	-	6,931	6,931	-	-
2017	SERC	1669	Electricities of North Carolina Inc	U.S.	379,781	379,781	-	-	184,032	184,032	-	-	195,749	195,749	-	-
2017	SERC	1300	EnergyUnited EMC	U.S.	82,461	82,461	-	-	39,958	39,958	-	-	42,502	42,502	-	-
2017	SERC	1301	Entergy	U.S.	3,878,976	3,878,976	-	-	1,879,652	1,879,652	-	-	1,999,324	1,999,324	-	-
2017	SERC	1302	Fayetteville (NC) Public Works Commission	U.S.	68,267	68,267	-	-	33,081	33,081	-	-	35,187	35,187	-	-
2017	SERC	1303	Florida Public Utilities (FL Panhandle Load)	U.S.	10,028	10,028	-	-	4,859	4,859	-	-	5,169	5,169	-	-
2017	SERC	1304	French Broad EMC	U.S.	16,467	16,467	-	-	7,979	7,979	-	-	8,487	8,487	-	-
2017	SERC	1305	Georgia Power Company	U.S.	2,781,144	2,781,144	-	-	1,347,671	1,347,671	-	-	1,433,473	1,433,473	-	-
2017	SERC	1306	Georgia System Optns Corporation	U.S.	1,274,659	1,274,659	-	-	617,667	617,667	-	-	656,992	656,992	-	-
2017	SERC	1479	Greenwood (MS) Utilities Commission	U.S.	9,153	9,153	-	-	4,435	4,435	-	-	4,718	4,718	-	-
2017	SERC	1307	Greenwood (SC) Commissioners of Public Works	U.S.	10,367	10,367	-	-	5,023	5,023	-	-	5,343	5,343	-	-
2017	SERC	1308	Gulf Power Company	U.S.	373,319	373,319	-	-	180,901	180,901	-	-	192,418	192,418	-	-
2017	SERC	1586	Haywood EMC	U.S.	10,046	10,046	-	-	4,868	4,868	-	-	5,178	5,178	-	-
2017	SERC		Hoosier Energy REC, Inc	U.S.	13,142	13,142	-	-	6,368	6,368	-	-	6,774	6,774	-	-
2017	SERC	1309	Illinois Municipal Electric Agency	U.S.	62,087	62,087	-	-	30,086	30,086	-	-	32,001	32,001	-	-
2017	SERC	1480	Itta Bena, MS	U.S.	452	452	-	-	219	219	-	-	233	233	-	-
2017	SERC	1587	Jefferson Davis Electric Cooperative, Inc.	U.S.	8,589	8,589	-	-	4,162	4,162	-	-	4,427	4,427	-	-
2017	SERC	1617	Kentucky Municipal Power	U.S.	21,398	21,398	-	-	10,369	10,369	-	-	11,029	11,029	-	-
2017	SERC	1481	Kosciusko, MS	U.S.	2,395	2,395	-	-	1,161	1,161	-	-	1,235	1,235	-	-
2017	SERC	1482	Leland, MS	U.S.	979	979	-	-	474	474	-	-	505	505	-	-
2017	SERC	1313	McCormick Commission of Public Works	U.S.	535	535	-	-	259	259	-	-	276	276	-	-
2017	SERC	1314	Mississippi Power Company	U.S.	331,861	331,861	-	-	160,811	160,811	-	-	171,050	171,050	-	-
2017	SERC	1630	Mt. Carmel Public Utility	U.S.	3,383	3,383	-	-	1,639	1,639	-	-	1,744	1,744	-	-
2017	SERC	1315	Municipal Electric Authority of Georgia	U.S.	354,102	354,102	-	-	171,589	171,589	-	-	182,513	182,513	-	-
2017	SERC	1316	N.C. Electric Membership Corp.	U.S.	416,123	416,123	-	-	201,642	201,642	-	-	214,480	214,480	-	-
2017	SERC	1588	Northeast Louisiana Power Cooperative, Inc.	U.S.	8,598	8,598	-	-	4,167	4,167	-	-	4,432	4,432	-	-
2017	SERC	1574	Northern Virginia Electric Cooperative	U.S.	154,196	154,196	-	-	74,719	74,719	-	-	79,477	79,477	-	-
2017	SERC	1319	Old Dominion Electric Cooperative	U.S.	162,987	162,987	-	-	78,979	78,979	-	-	84,008	84,008	-	-
2017	SERC	1618	Osceola (Arkansas) Municipal Light and Power	U.S.	5,104	5,104	-	-	2,473	2,473	-	-	2,631	2,631	-	-
2017	SERC	1320	Owensboro (KY) Municipal Utilities	U.S.	26,622	26,622	-	-	12,900	12,900	-	-	13,722	13,722	-	-
2017	SERC	1321	Piedmont EMC in Duke and Progress Areas	U.S.	16,515	16,515	-	-	8,003	8,003	-	-	8,512	8,512	-	-
2017	SERC	1323	Piedmont Municipal Power Agency (PMPA)	U.S.	76,621	76,621	-	-	37,128	37,128	-	-	39,492	39,492	-	-
2017	SERC	1589	Pointe Coupee Electric Memb. Corp.	U.S.	8,512	8,512	-	-	4,125	4,125	-	-	4,387	4,387	-	-
2017	SERC	1266	PowerSouth Energy	U.S.	282,934	282,934	-	-	137,103	137,103	-	-	145,832	145,832	-	-

2017 NEL Calculations and Allocations to Load Serving Entities (or Designee) for the 2019 NERC and RE Assessments

APPENDIX 2-B

Data Year	Regional Entity	ID	Entity	Country	Total ERO Assessments (NERC, RE & WIRAB Costs)				Total NERC Assessments				Total Regional Entity Assessments (Including WIRAB Assessments)			
					Total	US	Canada	Mexico	Total	US	Canada	Mexico	Total	US	Canada	Mexico
2017	SERC	1330	Prairie Power, Inc.	U.S.	50,287	50,287	-	-	24,368	24,368	-	-	25,919	25,919	-	-
2017	SERC	1706	Duke Energy Progress	U.S.	1,503,837	1,503,837	-	-	728,721	728,721	-	-	775,116	775,116	-	-
2017	SERC	1325	Rutherford EMC	U.S.	42,814	42,814	-	-	20,747	20,747	-	-	22,067	22,067	-	-
2017	SERC	1631	Sam Rayburn G&T Electric Cooperative Inc.	U.S.	58,428	58,428	-	-	28,313	28,313	-	-	30,115	30,115	-	-
2017	SERC	1326	South Carolina Electric & Gas Company	U.S.	757,239	757,239	-	-	366,939	366,939	-	-	390,301	390,301	-	-
2017	SERC	1327	South Carolina Public Service Authority	U.S.	281,361	281,361	-	-	136,340	136,340	-	-	145,021	145,021	-	-
2017	SERC	1590	South Louisiana Electric Cooperative Association	U.S.	18,905	18,905	-	-	9,161	9,161	-	-	9,744	9,744	-	-
2017	SERC	1328	Cooperative Energy (formerly SMEPA)	U.S.	315,021	315,021	-	-	152,651	152,651	-	-	162,370	162,370	-	-
2017	SERC	1329	Southern Illinois Power Cooperative	U.S.	51,447	51,447	-	-	24,930	24,930	-	-	26,517	26,517	-	-
2017	SERC	1591	Southwest Louisiana Electric Membership Corporation	U.S.	80,260	80,260	-	-	38,892	38,892	-	-	41,368	41,368	-	-
2017	SERC	1619	Southwestern Electric Cooperative, Inc.	U.S.	13,752	13,752	-	-	6,664	6,664	-	-	7,088	7,088	-	-
2017	SERC	1331	Tennessee Valley Authority	U.S.	5,084,712	5,084,712	-	-	2,463,921	2,463,921	-	-	2,620,791	2,620,791	-	-
2017	SERC	1632	Tex-La Electric Cooperative of Texas, Inc	U.S.	6,829	6,829	-	-	3,309	3,309	-	-	3,520	3,520	-	-
2017	SERC	1332	Tombigbee Electric Cooperative Inc.	U.S.	3,968	3,968	-	-	1,923	1,923	-	-	2,045	2,045	-	-
2017	SERC	1594	Town of Sharpsburg, N.C.	U.S.	637	637	-	-	309	309	-	-	329	329	-	-
2017	SERC	1595	Town of Stantonburg, N.C. JRO	U.S.	1,821	1,821	-	-	882	882	-	-	938	938	-	-
2017	SERC	1333	Town of Waynesville NC	U.S.	3,026	3,026	-	-	1,466	1,466	-	-	1,560	1,560	-	-
2017	SERC	1334	Town of Winnsboro SC	U.S.	2,031	2,031	-	-	984	984	-	-	1,047	1,047	-	-
2017	SERC	1335	Town of Winterville NC	U.S.	1,769	1,769	-	-	857	857	-	-	912	912	-	-
2017	SERC	1597	Washington-St.Tammany Electric Cooperative, Inc.	U.S.	33,718	33,718	-	-	16,339	16,339	-	-	17,379	17,379	-	-
2017	SERC	1435	Arkansas Electric Cooperative Corporation	U.S.	335,816	335,816	-	-	162,728	162,728	-	-	173,088	173,088	-	-
2017	SERC	1557	City of Clarksdale, Mississippi	U.S.	5,124	5,124	-	-	2,483	2,483	-	-	2,641	2,641	-	-
2017	SERC	1708	City of Abbeville	U.S.	4,506	4,506	-	-	2,183	2,183	-	-	2,322	2,322	-	-
2017	SERC	1558	Hope Water & Light (HWL)	U.S.	9,646	9,646	-	-	4,674	4,674	-	-	4,972	4,972	-	-
2017	SERC	1559	City of Minden	U.S.	4,528	4,528	-	-	2,194	2,194	-	-	2,334	2,334	-	-
2017	SERC	1249	Cleco Power LLC	U.S.	367,091	367,091	-	-	177,883	177,883	-	-	189,208	189,208	-	-
2017	SERC	1648	Jonesboro City Water & Light	U.S.	45,514	45,514	-	-	22,055	22,055	-	-	23,459	23,459	-	-
2017	SERC	1649	Kennett Board of Public Works	U.S.	4,475	4,475	-	-	2,169	2,169	-	-	2,307	2,307	-	-
2017	SERC	1471	Lafayette Utilities System	U.S.	67,318	67,318	-	-	32,621	32,621	-	-	34,698	34,698	-	-
2017	SERC	1253	Louisiana Energy & Power Authority (LEPA)	U.S.	31,354	31,354	-	-	15,193	15,193	-	-	16,161	16,161	-	-
2017	SERC	1650	Malden Board of Public Works	U.S.	1,629	1,629	-	-	790	790	-	-	840	840	-	-
2017	SERC	1443	Missouri Joint Municipal Electric Utility Commission	U.S.	67,882	67,882	-	-	32,894	32,894	-	-	34,988	34,988	-	-
2017	SERC	1639	OzMo Ozark Missouri, West Plains MO	U.S.	6,182	6,182	-	-	2,995	2,995	-	-	3,186	3,186	-	-
2017	SERC	1652	Piggott Municipal Light, Water & Sewer	U.S.	1,197	1,197	-	-	580	580	-	-	617	617	-	-
2017	SERC	1653	Poplar Bluff Municipal Utilities	U.S.	12,162	12,162	-	-	5,893	5,893	-	-	6,268	6,268	-	-
2017	SERC	1636	City of Prescott	U.S.	2,686	2,686	-	-	1,301	1,301	-	-	1,384	1,384	-	-
2017	SERC	1561	Public Service Commission of Yazoo City of Mississippi	U.S.	3,832	3,832	-	-	1,857	1,857	-	-	1,975	1,975	-	-
2017	SERC	1654	Sikeston Board of Municipal Utilities	U.S.	12,197	12,197	-	-	5,910	5,910	-	-	6,286	6,286	-	-
TOTAL SERC					33,704,596	33,704,596	-	-	16,332,381	16,332,381	-	-	17,372,215	17,372,215	-	-
TOTAL SPP					-	-	-	-	-	-	-	-	-	-	-	-
2017	TRE	1019	ERCOT	U.S.	18,947,337	18,947,337	-	-	5,699,337	5,699,337	-	-	13,248,000	13,248,000	-	-
TOTAL ERCOT					18,947,337	18,947,337	-	-	5,699,337	5,699,337	-	-	13,248,000	13,248,000	-	-
TOTAL WECC					-	-	-	-	-	-	-	-	-	-	-	-
2017	WECC		Alberta Electric System Operator	Canada	1,533,210	-	1,533,210	-	656,732	-	656,732	-	876,478	-	876,478	-
2017	WECC		British Columbia Hydro & Power Authority	Canada	3,065,465	-	3,065,465	-	1,023,265	-	1,023,265	-	2,042,199	-	2,042,199	-
2017	WECC		Centro Nacional de Control de Energia	Mexico	634,833	-	-	634,833	211,910	-	-	211,910	422,923	-	-	422,923
2017	WECC		Ajo Improvement District	U.S.	513	513	-	-	173	173	-	-	340	340	-	-
2017	WECC		Arizona Public Service Company	U.S.	1,366,389	1,366,389	-	-	461,227	461,227	-	-	905,162	905,162	-	-
2017	WECC		City of Williams	U.S.	2,105	2,105	-	-	711	711	-	-	1,394	1,394	-	-
2017	WECC		Electrical Districts 3	U.S.	4,009	4,009	-	-	1,353	1,353	-	-	2,655	2,655	-	-

2017 NEL Calculations and Allocations to Load Serving Entities (or Designee) for the 2019 NERC and RE Assessments

Data Year	Regional Entity	ID	Entity	Country	Total ERO Assessments (NERC, RE & WIRAB Costs)				Total NERC Assessments				Total Regional Entity Assessments (Including WIRAB Assessments)			
					Total	US	Canada	Mexico	Total	US	Canada	Mexico	Total	US	Canada	Mexico
2017	WECC		Aguila Irrigation District - APS	U.S.	1,558	1,558	-	-	526	526	-	-	1,032	1,032	-	-
2017	WECC		Buckeye Water Conservation and Drainage District - APS	U.S.	1,056	1,056	-	-	356	356	-	-	699	699	-	-
2017	WECC		Electrical District No. 6 of Pinal County - APS	U.S.	101	101	-	-	34	34	-	-	67	67	-	-
2017	WECC		Electrical District No. 7 of Maricopa County - APS	U.S.	2,368	2,368	-	-	799	799	-	-	1,569	1,569	-	-
2017	WECC		Electrical District No. 8 of Maricopa County - APS	U.S.	17,001	17,001	-	-	5,739	5,739	-	-	11,262	11,262	-	-
2017	WECC		Harquahala Valley Power Districts - APS	U.S.	5,383	5,383	-	-	1,817	1,817	-	-	3,566	3,566	-	-
2017	WECC		Maricopa County Municipal Water Conservation Dist No. 1 - APS	U.S.	2,430	2,430	-	-	820	820	-	-	1,610	1,610	-	-
2017	WECC		McMullen Valley Water Conservation & Drainage District - APS	U.S.	5,850	5,850	-	-	1,975	1,975	-	-	3,875	3,875	-	-
2017	WECC		Roosevelt Irrigation District - APS	U.S.	1,924	1,924	-	-	649	649	-	-	1,275	1,275	-	-
2017	WECC		Tonopah Irrigation District - APS	U.S.	1,278	1,278	-	-	431	431	-	-	846	846	-	-
2017	WECC		Navajo Tribal Utility Authority-Arizona	U.S.	2,368	2,368	-	-	799	799	-	-	1,569	1,569	-	-
2017	WECC		Tohono O'Odham Utility Authority	U.S.	2,901	2,901	-	-	979	979	-	-	1,922	1,922	-	-
2017	WECC		Town of Wickenburg	U.S.	1,249	1,249	-	-	422	422	-	-	827	827	-	-
2017	WECC		Avista Corporation	U.S.	455,011	455,011	-	-	153,590	153,590	-	-	301,421	301,421	-	-
2017	WECC		Kaiser Aluminum Fabricated Products LLC	U.S.	14,576	14,576	-	-	4,920	4,920	-	-	9,656	9,656	-	-
2017	WECC		Pend Oreille County PUD No. 1	U.S.	47,858	47,858	-	-	16,155	16,155	-	-	31,704	31,704	-	-
2017	WECC		PUD No. 2 of Grant County	U.S.	4,338	4,338	-	-	1,464	1,464	-	-	2,874	2,874	-	-
2017	WECC		Bonneville Power Administration-Power Services	U.S.	299,242	299,242	-	-	101,010	101,010	-	-	198,232	198,232	-	-
2017	WECC		Bonneville Power Administration-Hydro	U.S.	9,533	9,533	-	-	3,218	3,218	-	-	6,315	6,315	-	-
2017	WECC		Bonneville Power Administration-Transmission	U.S.	2,431,694	2,431,694	-	-	820,822	820,822	-	-	1,610,871	1,610,871	-	-
2017	WECC		City of Redding	U.S.	37,568	37,568	-	-	12,681	12,681	-	-	24,887	24,887	-	-
2017	WECC		City of Roseville	U.S.	58,752	58,752	-	-	19,832	19,832	-	-	38,920	38,920	-	-
2017	WECC		Modesto Irrigation District	U.S.	123,382	123,382	-	-	41,648	41,648	-	-	81,734	81,734	-	-
2017	WECC		Sacramento Municipal Utility District	U.S.	545,469	545,469	-	-	184,124	184,124	-	-	361,345	361,345	-	-
2017	WECC		Western Area Power Administration-Sierra Nevada Region	U.S.	93,485	93,485	-	-	31,556	31,556	-	-	61,929	61,929	-	-
2017	WECC		California Independent System Operator	U.S.	10,775,267	10,775,267	-	-	3,637,209	3,637,209	-	-	7,138,058	7,138,058	-	-
2017	WECC		El Paso Electric Company	U.S.	396,308	396,308	-	-	133,774	133,774	-	-	262,534	262,534	-	-
2017	WECC		Idaho Power Company	U.S.	742,487	742,487	-	-	250,628	250,628	-	-	491,859	491,859	-	-
2017	WECC		Imperial Irrigation District	U.S.	176,052	176,052	-	-	59,427	59,427	-	-	116,626	116,626	-	-
2017	WECC		Los Angeles Department of Water and Power	U.S.	1,354,118	1,354,118	-	-	457,085	457,085	-	-	897,033	897,033	-	-
2017	WECC		City of Henderson	U.S.	1,935	1,935	-	-	653	653	-	-	1,282	1,282	-	-
2017	WECC		City of Las Vegas	U.S.	1,960	1,960	-	-	662	662	-	-	1,298	1,298	-	-
2017	WECC		City of North Las Vegas	U.S.	1,104	1,104	-	-	373	373	-	-	731	731	-	-
2017	WECC		Clark County Water Reclamation District	U.S.	3,831	3,831	-	-	1,293	1,293	-	-	2,538	2,538	-	-
2017	WECC		Colorado River Commission of Nevada	U.S.	22,223	22,223	-	-	7,501	7,501	-	-	14,721	14,721	-	-
2017	WECC		Las Vegas Valley Water District	U.S.	5,092	5,092	-	-	1,719	1,719	-	-	3,373	3,373	-	-
2017	WECC		Nevada Power Company dba NV Energy	U.S.	1,472,296	1,472,296	-	-	496,976	496,976	-	-	975,320	975,320	-	-
2017	WECC		MGM Resorts International	U.S.	44,036	44,036	-	-	14,864	14,864	-	-	29,171	29,171	-	-
2017	WECC		Switch-North	U.S.	272	272	-	-	92	92	-	-	180	180	-	-
2017	WECC		Switch-South	U.S.	13,950	13,950	-	-	4,709	4,709	-	-	9,241	9,241	-	-
2017	WECC		Wynn Las Vegas	U.S.	8,634	8,634	-	-	2,915	2,915	-	-	5,720	5,720	-	-
2017	WECC		Overton Power District No. 5	U.S.	18,612	18,612	-	-	6,282	6,282	-	-	12,329	12,329	-	-
2017	WECC		Southern Nevada Water Authority	U.S.	5,686	5,686	-	-	1,919	1,919	-	-	3,767	3,767	-	-
2017	WECC		Basin Electric Power Cooperative	U.S.	37,591	37,591	-	-	12,689	12,689	-	-	24,902	24,902	-	-
2017	WECC		Big Horn County Electric Cooperative	U.S.	1,808	1,808	-	-	610	610	-	-	1,197	1,197	-	-
2017	WECC		NorthWestern Corp. dba NorthWestern Energy, LLC	U.S.	444,032	444,032	-	-	149,884	149,884	-	-	294,148	294,148	-	-
2017	WECC		Western Area Power Administration-Upper Great Plains Region	U.S.	376	376	-	-	127	127	-	-	249	249	-	-
2017	WECC		PacifiCorp West (PACW)	U.S.	1,014,269	1,014,269	-	-	342,368	342,368	-	-	671,901	671,901	-	-
2017	WECC		Constellation New Energy	U.S.	16,435	16,435	-	-	5,548	5,548	-	-	10,887	10,887	-	-
2017	WECC		3 Phases Renewables	U.S.	10	10	-	-	3	3	-	-	7	7	-	-
2017	WECC		Avangrid Renewables	U.S.	4,856	4,856	-	-	1,639	1,639	-	-	3,217	3,217	-	-
2017	WECC		Calpine Energy Solutions, LLC./Noble Americas Energy Solutions, LLC	U.S.	76,970	76,970	-	-	25,981	25,981	-	-	50,988	50,988	-	-

2017 NEL Calculations and Allocations to Load Serving Entities (or Designee) for the 2019 NERC and RE Assessments

Data Year	Regional Entity	ID	Entity	Country	Total ERO Assessments (NERC, RE & WIRAB Costs)				Total NERC Assessments				Total Regional Entity Assessments (Including WIRAB Assessments)			
					Total	US	Canada	Mexico	Total	US	Canada	Mexico	Total	US	Canada	Mexico
2017	WECC		PacifiCorp (IPC)	U.S.	98	98	-	-	33	33	-	-	65	65	-	-
2017	WECC		PacifiCorp (EasternBalAuth)	U.S.	2,343,630	2,343,630	-	-	791,096	791,096	-	-	1,552,534	1,552,534	-	-
2017	WECC		PacifiCorp (Portland)	U.S.	209	209	-	-	71	71	-	-	138	138	-	-
2017	WECC		PacifiCorp (WAPA-CO-MO)	U.S.	5,459	5,459	-	-	1,843	1,843	-	-	3,616	3,616	-	-
2017	WECC		Portland General Electric Company	U.S.	827,550	827,550	-	-	279,341	279,341	-	-	548,209	548,209	-	-
2017	WECC		Shell Energy North America	U.S.	3,519	3,519	-	-	1,188	1,188	-	-	2,331	2,331	-	-
2017	WECC		Arkansas River Power Authority (ARPA)	U.S.	12,585	12,585	-	-	4,248	4,248	-	-	8,337	8,337	-	-
2017	WECC		Black Hills Colorado Electric	U.S.	96,662	96,662	-	-	32,628	32,628	-	-	64,033	64,033	-	-
2017	WECC		Burlington	U.S.	1,467	1,467	-	-	495	495	-	-	972	972	-	-
2017	WECC		Colorado Springs Utilities	U.S.	2,843	2,843	-	-	960	960	-	-	1,883	1,883	-	-
2017	WECC		Grand Valley Power	U.S.	11,695	11,695	-	-	3,948	3,948	-	-	7,747	7,747	-	-
2017	WECC		Holy Cross Energy	U.S.	48,752	48,752	-	-	16,456	16,456	-	-	32,295	32,295	-	-
2017	WECC		Intermountain Rural Electric Association	U.S.	104,995	104,995	-	-	35,441	35,441	-	-	69,554	69,554	-	-
2017	WECC		Municipal Energy Agency of Nebraska	U.S.	8,014	8,014	-	-	2,705	2,705	-	-	5,309	5,309	-	-
2017	WECC		Platte River Power Authority	U.S.	151,839	151,839	-	-	51,253	51,253	-	-	100,585	100,585	-	-
2017	WECC		Public Service Company of Colorado (Xcel)	U.S.	1,429,600	1,429,600	-	-	482,564	482,564	-	-	947,036	947,036	-	-
2017	WECC		Public Service Company of Colorado (Xcel)-(WAPA-CO-MO)	U.S.	5,422	5,422	-	-	1,830	1,830	-	-	3,592	3,592	-	-
2017	WECC		Raton Public Service	U.S.	2,051	2,051	-	-	692	692	-	-	1,359	1,359	-	-
2017	WECC		Town of Center	U.S.	700	700	-	-	236	236	-	-	464	464	-	-
2017	WECC		Tri-State Generation & Transmission Assoc. Inc - Reliability	U.S.	124,224	124,224	-	-	41,932	41,932	-	-	82,292	82,292	-	-
2017	WECC		Western Area Power - Loveland, CO	U.S.	7,948	7,948	-	-	2,683	2,683	-	-	5,265	5,265	-	-
2017	WECC		Yampa Valley Electric Association	U.S.	26,383	26,383	-	-	8,906	8,906	-	-	17,477	17,477	-	-
2017	WECC		City of Aztec Electric Dept	U.S.	1,719	1,719	-	-	580	580	-	-	1,139	1,139	-	-
2017	WECC		City of Gallup	U.S.	10,415	10,415	-	-	3,516	3,516	-	-	6,900	6,900	-	-
2017	WECC		Jicarilla Apache Nation Power Authority	U.S.	1,084	1,084	-	-	366	366	-	-	718	718	-	-
2017	WECC		Kit Carson Electric Inc	U.S.	13,858	13,858	-	-	4,678	4,678	-	-	9,180	9,180	-	-
2017	WECC		Navajo Tribal Utility Authority-New Mexico	U.S.	9,329	9,329	-	-	3,149	3,149	-	-	6,180	6,180	-	-
2017	WECC		Public Service Company of New Mexico	U.S.	429,911	429,911	-	-	145,117	145,117	-	-	284,794	284,794	-	-
2017	WECC		The Incorporated County of Los Alamos	U.S.	28,790	28,790	-	-	9,718	9,718	-	-	19,072	19,072	-	-
2017	WECC		Tri-State Generation & Transmission Association, Inc.	U.S.	130,252	130,252	-	-	43,967	43,967	-	-	86,285	86,285	-	-
2017	WECC		US Dept of Energy - Kirtland AFB	U.S.	19,990	19,990	-	-	6,748	6,748	-	-	13,242	13,242	-	-
2017	WECC		Public Utility District No. 1 of Chelan County	U.S.	87,462	87,462	-	-	29,523	29,523	-	-	57,939	57,939	-	-
2017	WECC		Okanogan PUD	U.S.	31,226	31,226	-	-	10,540	10,540	-	-	20,685	20,685	-	-
2017	WECC		PUD No. 1 of Douglas County	U.S.	43,146	43,146	-	-	14,564	14,564	-	-	28,582	28,582	-	-
2017	WECC		Douglas Palisades / PUD No. 1 of DC	U.S.	963	963	-	-	325	325	-	-	638	638	-	-
2017	WECC		PUD No. 2 of Grant County	U.S.	224,374	224,374	-	-	75,738	75,738	-	-	148,636	148,636	-	-
2017	WECC		Puget Sound Energy, Inc.	U.S.	1,151,723	1,151,723	-	-	388,766	388,766	-	-	762,957	762,957	-	-
2017	WECC		Salt River Project	U.S.	1,406,254	1,406,254	-	-	474,683	474,683	-	-	931,571	931,571	-	-
2017	WECC		Seattle City Light	U.S.	468,582	468,582	-	-	158,171	158,171	-	-	310,411	310,411	-	-
2017	WECC		Barrick Goldstrike Mines Inc.	U.S.	65,264	65,264	-	-	22,030	22,030	-	-	43,234	43,234	-	-
2017	WECC		City of Fallon	U.S.	4,338	4,338	-	-	1,464	1,464	-	-	2,874	2,874	-	-
2017	WECC		Mt. Wheeler Power	U.S.	26,007	26,007	-	-	8,779	8,779	-	-	17,228	17,228	-	-
2017	WECC		Truckee Donner Public Utility District	U.S.	7,596	7,596	-	-	2,564	2,564	-	-	5,032	5,032	-	-
2017	WECC		Beartooth Electric Cooperative	U.S.	3,621	3,621	-	-	1,222	1,222	-	-	2,399	2,399	-	-
2017	WECC		City of Tacoma DBA Tacoma Power	U.S.	235,452	235,452	-	-	79,477	79,477	-	-	155,975	155,975	-	-
2017	WECC		Tucson Electric Power Company	U.S.	698,302	698,302	-	-	235,713	235,713	-	-	462,589	462,589	-	-
2017	WECC		Merced Irrigation District	U.S.	24,423	24,423	-	-	8,244	8,244	-	-	16,179	16,179	-	-
2017	WECC		Turlock Irrigation District	U.S.	102,476	102,476	-	-	34,591	34,591	-	-	67,885	67,885	-	-
2017	WECC		Basin Electric Power Cooperative	U.S.	109,079	109,079	-	-	36,820	36,820	-	-	72,259	72,259	-	-
2017	WECC		Black Hills Colorado Electric/Cheyenne Light Fuel & Power	U.S.	206,274	206,274	-	-	69,628	69,628	-	-	136,646	136,646	-	-
2017	WECC		Black Hills State University South Dakota	U.S.	985	985	-	-	333	333	-	-	653	653	-	-
2017	WECC		City of Page	U.S.	3,401	3,401	-	-	1,148	1,148	-	-	2,253	2,253	-	-

2017 NEL Calculations and Allocations to Load Serving Entities (or Designee) for the 2019 NERC and RE Assessments

APPENDIX 2-B

Data Year	Regional Entity	ID	Entity	Country	Total ERO Assessments (NERC, RE & WIRAB Costs)				Total NERC Assessments				Total Regional Entity Assessments (Including WIRAB Assessments)			
					Total	US	Canada	Mexico	Total	US	Canada	Mexico	Total	US	Canada	Mexico
2017	WECC		Colorado Springs Utilities	U.S.	216,708	216,708	-	-	73,150	73,150	-	-	143,558	143,558	-	-
2017	WECC		Deseret Generation & Transmission Cooperative	U.S.	5,465	5,465	-	-	1,845	1,845	-	-	3,620	3,620	-	-
2017	WECC		City of Farmington	U.S.	46,701	46,701	-	-	15,764	15,764	-	-	30,937	30,937	-	-
2017	WECC		Municipal Energy Agency of Nebraska	U.S.	29,644	29,644	-	-	10,007	10,007	-	-	19,638	19,638	-	-
2017	WECC		Navajo Tribal Utility Authority-Colorado	U.S.	10,174	10,174	-	-	3,434	3,434	-	-	6,740	6,740	-	-
2017	WECC		Navajo Agricultural Products Industry (NAPI)	U.S.	154	154	-	-	52	52	-	-	102	102	-	-
2017	WECC		Nebraska Public Power Marketing	U.S.	311	311	-	-	105	105	-	-	206	206	-	-
2017	WECC		Francis E. Warren Air Force Base	U.S.	569	569	-	-	192	192	-	-	377	377	-	-
2017	WECC		Town of Fredonia	U.S.	491	491	-	-	166	166	-	-	326	326	-	-
2017	WECC		Tri-State Generation & Transmission Assoc. Inc - Reliability	U.S.	369,938	369,938	-	-	124,873	124,873	-	-	245,065	245,065	-	-
2017	WECC		Western Area Power Administration - CRSP	U.S.	90,213	90,213	-	-	30,451	30,451	-	-	59,761	59,761	-	-
2017	WECC		Western Area Power - Loveland, CO	U.S.	86,251	86,251	-	-	29,114	29,114	-	-	57,137	57,137	-	-
2017	WECC		Wyoming Municipal Power Agency	U.S.	10,309	10,309	-	-	3,480	3,480	-	-	6,829	6,829	-	-
2017	WECC		Basin Electric Power Cooperative	U.S.	6,920	6,920	-	-	2,336	2,336	-	-	4,584	4,584	-	-
2017	WECC		Montana-Dakota Utilities Co.	U.S.	1,069	1,069	-	-	361	361	-	-	708	708	-	-
2017	WECC		NorthWestern Corp. dba NorthWestern Energy, LLC	U.S.	14,228	14,228	-	-	4,803	4,803	-	-	9,425	9,425	-	-
2017	WECC		Western Area Power Administration-Upper Great Plains Region	U.S.	16,732	16,732	-	-	5,648	5,648	-	-	11,084	11,084	-	-
2017	WECC		Aha Macav Power Service	U.S.	689	689	-	-	233	233	-	-	457	457	-	-
2017	WECC		Bureau of Reclamation (Desalter) - c/o DSW EMMO	U.S.	5	5	-	-	2	2	-	-	3	3	-	-
2017	WECC		Bureau of Reclamation (Wellfield)	U.S.	323	323	-	-	109	109	-	-	214	214	-	-
2017	WECC		Central Arizona Water Conservation District	U.S.	107,200	107,200	-	-	36,185	36,185	-	-	71,014	71,014	-	-
2017	WECC		City of Mesa	U.S.	12,571	12,571	-	-	4,243	4,243	-	-	8,327	8,327	-	-
2017	WECC		Needles Public Utilities Authority	U.S.	1,491	1,491	-	-	503	503	-	-	988	988	-	-
2017	WECC		Colorado River Agency-Bureau of Indian Affairs	U.S.	833	833	-	-	281	281	-	-	552	552	-	-
2017	WECC		Electrical District #2 - Coolidge Generating Station	U.S.	433	433	-	-	146	146	-	-	287	287	-	-
2017	WECC		Electrical District #2	U.S.	8,912	8,912	-	-	3,008	3,008	-	-	5,904	5,904	-	-
2017	WECC		Silver State Energy Association	U.S.	30,870	30,870	-	-	10,420	10,420	-	-	20,450	20,450	-	-
2017	WECC		Arizona Electric Power Cooperative, Inc	U.S.	163,865	163,865	-	-	55,313	55,313	-	-	108,552	108,552	-	-
2017	WECC		U.S. Army Yuma Proving Ground	U.S.	924	924	-	-	312	312	-	-	612	612	-	-
2017	WECC		Wellton-Mohawk Irrigation & Drainage District	U.S.	239	239	-	-	81	81	-	-	158	158	-	-
2017	WECC		Western Area Power Administration-Desert Southwest Region	U.S.	76,559	76,559	-	-	25,843	25,843	-	-	50,716	50,716	-	-
TOTAL WECC					39,485,838	34,252,330	4,598,675	634,833	13,453,838	11,561,930	1,679,998	211,910	26,032,000	22,690,400	2,918,677	422,923
TOTAL ERO					183,095,046	165,944,381	16,515,832	634,833	68,883,995	62,466,508	6,205,577	211,910	114,211,051	103,477,873	10,310,255	422,923
Summary by Regional Entity																
2017	FRCC				9,522,255	9,522,255	-	-	3,694,330	3,694,330	-	-	5,827,925	5,827,925	-	-
2017	MRO				23,183,705	20,846,820	2,336,885	-	7,712,036	6,932,574	779,462	-	15,471,669	13,914,246	1,557,423	-
2017	NPCC				23,156,162	13,575,889	9,580,272	-	8,152,751	4,406,633	3,746,117	-	15,003,411	9,169,256	5,834,155	-
2017	RF				35,095,152	35,095,152	-	-	13,839,321	13,839,321	-	-	21,255,831	21,255,831	-	-
2017	SERC				33,704,596	33,704,596	-	-	16,332,381	16,332,381	-	-	17,372,215	17,372,215	-	-
2017	SPP				-	-	-	-	-	-	-	-	-	-	-	-
2017	TRE				18,947,337	18,947,337	-	-	5,699,337	5,699,337	-	-	13,248,000	13,248,000	-	-
2017	WECC				39,485,838	34,252,330	4,598,675	634,833	13,453,838	11,561,930	1,679,998	211,910	26,032,000	22,690,400	2,918,677	422,923
Total					183,095,046	165,944,381	16,515,832	634,833	68,883,995	62,466,508	6,205,577	211,910	114,211,051	103,477,873	10,310,255	422,923

2017 NEL Calculations and Allocations to Load Serving Entities (or Designee) for the 2019 NERC and RE Assessments

Data Year	Regional Entity	ID	Entity	Country	Total NERC Assessments				NERC NEL Assessments				Penalty Sanctions		NERC Compliance Credits			
					Total	US	Canada	Mexico	Total	US	Canada	Mexico	Total	US	Total	US	Canada	Mexico
2017	FRCC	1074	Alachua, City of	U.S.	2,151	2,151	-	-	2,114	2,114	-	-	(19)	(19)	56	56	-	-
2017	FRCC	1075	Bartow, City of	U.S.	4,683	4,683	-	-	4,602	4,602	-	-	(41)	(41)	122	122	-	-
2017	FRCC	1076	Chattahoochee, City of	U.S.	586	586	-	-	576	576	-	-	(5)	(5)	15	15	-	-
2017	FRCC	1077	Florida Keys Electric Cooperative Assn	U.S.	11,906	11,906	-	-	11,701	11,701	-	-	(105)	(105)	310	310	-	-
2017	FRCC	1078	Florida Power & Light Co.	U.S.	1,815,373	1,815,373	-	-	1,784,109	1,784,109	-	-	(15,984)	(15,984)	47,247	47,247	-	-
2017	FRCC	1079	Florida Public Utilities Company	U.S.	5,556	5,556	-	-	5,460	5,460	-	-	(49)	(49)	145	145	-	-
2017	FRCC	1080	Gainesville Regional Utilities	U.S.	28,754	28,754	-	-	28,259	28,259	-	-	(253)	(253)	748	748	-	-
2017	FRCC	1081	Homestead, City of	U.S.	9,461	9,461	-	-	9,298	9,298	-	-	(83)	(83)	246	246	-	-
2017	FRCC	1082	JEA	U.S.	198,750	198,750	-	-	195,327	195,327	-	-	(1,750)	(1,750)	5,173	5,173	-	-
2017	FRCC	1083	Lakeland Electric	U.S.	48,989	48,989	-	-	48,145	48,145	-	-	(431)	(431)	1,275	1,275	-	-
2017	FRCC	1626	Lee County Electric Cooperative, Inc	U.S.	64,578	64,578	-	-	63,466	63,466	-	-	(569)	(569)	1,681	1,681	-	-
2017	FRCC	1661	City of Lake Worth	U.S.	7,461	7,461	-	-	7,333	7,333	-	-	(66)	(66)	194	194	-	-
2017	FRCC	1084	Mount Dora, City of	U.S.	1,459	1,459	-	-	1,434	1,434	-	-	(13)	(13)	38	38	-	-
2017	FRCC	1085	New Smyrna Beach, Utilities Commission of	U.S.	6,890	6,890	-	-	6,771	6,771	-	-	(61)	(61)	179	179	-	-
2017	FRCC	1086	Orlando Utilities Commission	U.S.	96,856	96,856	-	-	95,188	95,188	-	-	(853)	(853)	2,521	2,521	-	-
2017	FRCC	1087	Duke Energy Florida	U.S.	646,860	646,860	-	-	635,720	635,720	-	-	(5,695)	(5,695)	16,835	16,835	-	-
2017	FRCC	1088	Quincy, City of	U.S.	2,075	2,075	-	-	2,039	2,039	-	-	(18)	(18)	54	54	-	-
2017	FRCC	1089	Reedy Creek Improvement District	U.S.	19,224	19,224	-	-	18,893	18,893	-	-	(169)	(169)	500	500	-	-
2017	FRCC	1090	St. Cloud, City of (OUC)	U.S.	12,208	12,208	-	-	11,997	11,997	-	-	(107)	(107)	318	318	-	-
2017	FRCC	1091	Tallahassee, City of	U.S.	43,782	43,782	-	-	43,028	43,028	-	-	(385)	(385)	1,139	1,139	-	-
2017	FRCC	1092	Tampa Electric Company	U.S.	322,191	322,191	-	-	316,642	316,642	-	-	(2,837)	(2,837)	8,385	8,385	-	-
2017	FRCC	1603	City of Vero Beach	U.S.	12,017	12,017	-	-	11,810	11,810	-	-	(106)	(106)	313	313	-	-
2017	FRCC	1093	Wauchula, City of	U.S.	1,032	1,032	-	-	1,014	1,014	-	-	(9)	(9)	27	27	-	-
2017	FRCC	1094	Williston, City of	U.S.	575	575	-	-	565	565	-	-	(5)	(5)	15	15	-	-
2017	FRCC	1095	Winter Park, City of	U.S.	7,018	7,018	-	-	6,897	6,897	-	-	(62)	(62)	183	183	-	-
2017	FRCC	1724	Moore Haven, City of	U.S.	238	238	-	-	234	234	-	-	(2)	(2)	6	6	-	-
2017	FRCC	1072	Florida Municipal Power Agency	U.S.	95,000	95,000	-	-	93,364	93,364	-	-	(836)	(836)	2,472	2,472	-	-
2017	FRCC	1073	Seminole Electric Cooperative	U.S.	228,658	228,658	-	-	224,720	224,720	-	-	(2,013)	(2,013)	5,951	5,951	-	-
TOTAL FRCC					3,694,330	3,694,330	-	-	3,630,708	3,630,708	-	-	(32,528)	(32,528)	96,150	96,150	-	-
-					-	-	-	-	-	-	-	-	-	-	-	-	-	-
2017	MRO	1199	Basin Electric Power Cooperative	U.S.	307,589	307,589	-	-	302,292	302,292	-	-	(2,708)	(2,708)	8,005	8,005	-	-
2017	MRO	1201	Central Iowa Power Cooperative (CIPCO)	U.S.	44,944	44,944	-	-	44,170	44,170	-	-	(396)	(396)	1,170	1,170	-	-
2017	MRO	1204	Corn Belt Power Cooperative	U.S.	31,270	31,270	-	-	30,731	30,731	-	-	(275)	(275)	814	814	-	-
2017	MRO	1207	Dairyland Power Cooperative	U.S.	87,454	87,454	-	-	85,948	85,948	-	-	(770)	(770)	2,276	2,276	-	-
2017	MRO	1210	Great River Energy	U.S.	208,663	208,663	-	-	205,069	205,069	-	-	(1,837)	(1,837)	5,431	5,431	-	-
2017	MRO	1222	Minnkota Power Cooperative, Inc.	U.S.	60,836	60,836	-	-	59,788	59,788	-	-	(536)	(536)	1,583	1,583	-	-
2017	MRO	1230	Nebraska Public Power District	U.S.	217,318	217,318	-	-	213,576	213,576	-	-	(1,913)	(1,913)	5,656	5,656	-	-
2017	MRO	1232	Omaha Public Power District	U.S.	177,359	177,359	-	-	174,305	174,305	-	-	(1,562)	(1,562)	4,616	4,616	-	-
2017	MRO	1240	Western Area Power Administration (UM)	U.S.	147,141	147,141	-	-	144,607	144,607	-	-	(1,296)	(1,296)	3,830	3,830	-	-
2017	MRO	1239	Western Area Power Administration (LM)	U.S.	728	728	-	-	716	716	-	-	(6)	(6)	19	19	-	-
2017	MRO	1217	Manitoba Hydro	CAN	382,641	-	382,641	-	372,769	-	372,769	-	-	-	9,872	-	9,872	-
2017	MRO	1235	SaskPower	CAN	396,820	-	396,820	-	386,583	-	386,583	-	-	-	10,238	-	10,238	-
2017	MRO	1195	Alliant Energy (Alliant East - WPL & Alliant West IPL)	U.S.	461,886	461,886	-	-	453,932	453,932	-	-	(4,067)	(4,067)	12,021	12,021	-	-
2017	MRO	1710	Dahlberg Electric Company	U.S.	1,778	1,778	-	-	1,747	1,747	-	-	(16)	(16)	46	46	-	-
2017	MRO	1216	Madison, Gas and Electric	U.S.	53,714	53,714	-	-	52,789	52,789	-	-	(473)	(473)	1,398	1,398	-	-
2017	MRO	1220	MidAmerican Energy Company	U.S.	407,414	407,414	-	-	400,398	400,398	-	-	(3,587)	(3,587)	10,603	10,603	-	-
2017	MRO	1221	Minnesota Power	U.S.	205,033	205,033	-	-	201,502	201,502	-	-	(1,805)	(1,805)	5,336	5,336	-	-
2017	MRO	1226	Montana-Dakota Utilities Co.	U.S.	51,617	51,617	-	-	50,728	50,728	-	-	(454)	(454)	1,343	1,343	-	-
2017	MRO	1711	North Central Power Company	U.S.	590	590	-	-	580	580	-	-	(5)	(5)	15	15	-	-
2017	MRO	1231	NorthWestern Energy	U.S.	24,722	24,722	-	-	24,296	24,296	-	-	(218)	(218)	643	643	-	-
2017	MRO	1712	NorthWestern Wisconsin	U.S.	2,949	2,949	-	-	2,899	2,899	-	-	(26)	(26)	77	77	-	-
2017	MRO	1233	Otter Tail Power Company	U.S.	78,981	78,981	-	-	77,621	77,621	-	-	(695)	(695)	2,056	2,056	-	-
2017	MRO	1664	Wisconsin Public Service (WPS)	U.S.	185,615	185,615	-	-	182,418	182,418	-	-	(1,634)	(1,634)	4,831	4,831	-	-
2017	MRO	1665	Upper Peninsula Power Company (UPPCO)	U.S.	10,853	10,853	-	-	10,666	10,666	-	-	(96)	(96)	282	282	-	-
2017	MRO	1244	Xcel Energy Company (NSP)	U.S.	689,848	689,848	-	-	677,968	677,968	-	-	(6,074)	(6,074)	17,954	17,954	-	-
2017	MRO	1196	Ames Municipal Electric System	U.S.	12,002	12,002	-	-	11,796	11,796	-	-	(106)	(106)	312	312	-	-
2017	MRO	1604	Atlantic Municipal Utilities	U.S.	1,289	1,289	-	-	1,267	1,267	-	-	(11)	(11)	34	34	-	-

2017 NEL Calculations and Allocations to Load Serving Entities (or Designee) for the 2019 NERC and RE Assessments

Data Year	Regional Entity	ID	Entity	Country	Total NERC Assessments				NERC NEL Assessments				Penalty Sanctions		NERC Compliance Credits			
					Total	US	Canada	Mexico	Total	US	Canada	Mexico	Total	US	Total	US	Canada	Mexico
2017	MRO	1713	Bloomer Electric & Water Co.	U.S.	877	877	-	-	862	862	-	-	(8)	(8)	23	23	-	-
2017	MRO	1714	Village of Caddott	U.S.	218	218	-	-	214	214	-	-	(2)	(2)	6	6	-	-
2017	MRO	1200	Cedar Falls Municipal Utilities	U.S.	8,219	8,219	-	-	8,077	8,077	-	-	(72)	(72)	214	214	-	-
2017	MRO	1477	Central Minnesota Municipal Power Agency (CMMPA)	U.S.	6,194	6,194	-	-	6,087	6,087	-	-	(55)	(55)	161	161	-	-
2017	MRO	1716	Eldridge Electric and Water Utilities	U.S.	673	673	-	-	661	661	-	-	(6)	(6)	18	18	-	-
2017	MRO	1203	City of Escanaba	U.S.	2,188	2,188	-	-	2,150	2,150	-	-	(19)	(19)	57	57	-	-
2017	MRO	1205	Falls City Water & Light Department	U.S.	934	934	-	-	918	918	-	-	(8)	(8)	24	24	-	-
2017	MRO	1206	Fremont Department of Utilities	U.S.	6,868	6,868	-	-	6,750	6,750	-	-	(60)	(60)	179	179	-	-
2017	MRO	1208	Geneseo Municipal Utilities	U.S.	1,026	1,026	-	-	1,008	1,008	-	-	(9)	(9)	27	27	-	-
2017	MRO	1209	Grand Island Utilities Department	U.S.	12,056	12,056	-	-	11,849	11,849	-	-	(106)	(106)	314	314	-	-
2017	MRO	1717	Great Lakes Utilities	U.S.	23,437	23,437	-	-	23,034	23,034	-	-	(206)	(206)	610	610	-	-
2017	MRO	1718	City of Guttenberg	U.S.	299	299	-	-	294	294	-	-	(3)	(3)	8	8	-	-
2017	MRO	1606	Harlan Municipal Utilities	U.S.	267	267	-	-	262	262	-	-	(2)	(2)	7	7	-	-
2017	MRO	1211	Hastings Utilities	U.S.	6,811	6,811	-	-	6,694	6,694	-	-	(60)	(60)	177	177	-	-
2017	MRO	1212	Heartland Consumers Power District	U.S.	6,899	6,899	-	-	6,781	6,781	-	-	(61)	(61)	180	180	-	-
2017	MRO	1213	Hutchinson Utilities Commission	U.S.	4,613	4,613	-	-	4,534	4,534	-	-	(41)	(41)	120	120	-	-
2017	MRO	1719	City of Kasota	U.S.	52	52	-	-	51	51	-	-	(0)	(0)	1	1	-	-
2017	MRO	1215	Lincoln Electric System	U.S.	50,871	50,871	-	-	49,995	49,995	-	-	(448)	(448)	1,324	1,324	-	-
2017	MRO	1223	Missouri River Energy Services	U.S.	42,789	42,789	-	-	42,052	42,052	-	-	(377)	(377)	1,114	1,114	-	-
2017	MRO	1224	MN Municipal Power Agency (MMPA)	U.S.	24,674	24,674	-	-	24,249	24,249	-	-	(217)	(217)	642	642	-	-
2017	MRO	1607	Montezuma Municipal Light & Power	U.S.	401	401	-	-	394	394	-	-	(4)	(4)	10	10	-	-
2017	MRO	1227	Municipal Energy Agency of Nebraska	U.S.	14,970	14,970	-	-	14,712	14,712	-	-	(132)	(132)	390	390	-	-
2017	MRO	1228	Muscatine Power and Water	U.S.	13,941	13,941	-	-	13,701	13,701	-	-	(123)	(123)	363	363	-	-
2017	MRO	1229	Nebraska City Utilities	U.S.	2,050	2,050	-	-	2,014	2,014	-	-	(18)	(18)	53	53	-	-
2017	MRO	1720	Resale Power Group of Iowa	U.S.	8,945	8,945	-	-	8,791	8,791	-	-	(79)	(79)	233	233	-	-
2017	MRO	1721	Rice Lake Utilities	U.S.	2,626	2,626	-	-	2,581	2,581	-	-	(23)	(23)	68	68	-	-
2017	MRO	1234	Rochester Public Utilities	U.S.	37	37	-	-	36	36	-	-	(0)	(0)	1	1	-	-
2017	MRO	1236	Southern Minnesota Municipal Power Agency	U.S.	44,167	44,167	-	-	43,406	43,406	-	-	(389)	(389)	1,149	1,149	-	-
2017	MRO	1722	City of Spooner	U.S.	503	503	-	-	494	494	-	-	(4)	(4)	13	13	-	-
2017	MRO	1241	Willmar Municipal Utilities	U.S.	3,961	3,961	-	-	3,893	3,893	-	-	(35)	(35)	103	103	-	-
2017	MRO	1242	Wisconsin Public Power, Inc. (East and West regions)	U.S.	84,019	84,019	-	-	82,572	82,572	-	-	(740)	(740)	2,187	2,187	-	-
2017	MRO		Wolverine Power Marketing Cooperative	U.S.	569	569	-	-	559	559	-	-	(5)	(5)	15	15	-	-
2017	SPP-MRO-SERC		Arkansas Electric Cooperative Corporation	U.S.	60,201	60,201	-	-	59,165	59,165	-	-	(530)	(530)	1,567	1,567	-	-
2017	SPP-MRO	1246	American Electric Power	U.S.	587,768	587,768	-	-	577,646	577,646	-	-	(5,175)	(5,175)	15,297	15,297	-	-
2017	SPP-MRO	1707	AEP-VEMCO	U.S.	10,258	10,258	-	-	10,082	10,082	-	-	(90)	(90)	267	267	-	-
2017	SPP-MRO	1247	Board of Public Utilities (Kansas City KS)	U.S.	38,440	38,440	-	-	37,778	37,778	-	-	(338)	(338)	1,000	1,000	-	-
2017	SPP-MRO	1620	Board of Public Utilities, City of McPherson, Kansas	U.S.	16,817	16,817	-	-	16,527	16,527	-	-	(148)	(148)	438	438	-	-
2017	SPP-MRO	1647	Carthage City Water & Light	U.S.	4,780	4,780	-	-	4,698	4,698	-	-	(42)	(42)	124	124	-	-
2017	SPP-MRO	1469	Central Valley Electric Cooperative	U.S.	12,996	12,996	-	-	12,772	12,772	-	-	(114)	(114)	338	338	-	-
2017	SPP-MRO	1556	City of Bentonville	U.S.	11,027	11,027	-	-	10,837	10,837	-	-	(97)	(97)	287	287	-	-
2017	SPP-MRO	1709	City of Nixa	U.S.	2,560	2,560	-	-	2,516	2,516	-	-	(23)	(23)	67	67	-	-
2017	SPP-MRO	1703	City of Chanute	U.S.	7,995	7,995	-	-	7,857	7,857	-	-	(70)	(70)	208	208	-	-
2017	SPP-MRO	1248	Independence Power & Light (Independence, MO)	U.S.	16,528	16,528	-	-	16,243	16,243	-	-	(146)	(146)	430	430	-	-
2017	SPP-MRO	1436	City Utilities of Springfield, MO	U.S.	49,347	49,347	-	-	48,497	48,497	-	-	(434)	(434)	1,284	1,284	-	-
2017	SPP-MRO	1437	East Texas Electric Coop, Inc.	U.S.	6,836	6,836	-	-	6,719	6,719	-	-	(60)	(60)	178	178	-	-
2017	SPP-MRO	1250	The Empire District Electric Company	U.S.	81,859	81,859	-	-	80,449	80,449	-	-	(721)	(721)	2,130	2,130	-	-
2017	SPP-MRO	1470	Farmers' Electric Coop	U.S.	4,571	4,571	-	-	4,492	4,492	-	-	(40)	(40)	119	119	-	-
2017	SPP-MRO	1438	Golden Spread Electric Coop	U.S.	78,900	78,900	-	-	77,541	77,541	-	-	(695)	(695)	2,053	2,053	-	-
2017	SPP-MRO	1251	Grand River Dam Authority	U.S.	82,758	82,758	-	-	81,333	81,333	-	-	(729)	(729)	2,154	2,154	-	-
2017	SPP-MRO	1252	Kansas City Power & Light (KCPL)	U.S.	245,684	245,684	-	-	241,453	241,453	-	-	(2,163)	(2,163)	6,394	6,394	-	-
2017	SPP-MRO	1439	Kansas Electric Power Coop., Inc	U.S.	33,482	33,482	-	-	32,905	32,905	-	-	(295)	(295)	871	871	-	-
2017	SPP-MRO	1440	Kansas Municipal Energy Agency (KCPL)	U.S.	25,031	25,031	-	-	24,600	24,600	-	-	(220)	(220)	651	651	-	-
2017	SPP-MRO	1637	Kansas Power Pool	U.S.	13,875	13,875	-	-	13,636	13,636	-	-	(122)	(122)	361	361	-	-
2017	SPP-MRO	1598	KCP&L GMOOC (Greater Missouri Operations Company)	U.S.	135,023	135,023	-	-	132,698	132,698	-	-	(1,189)	(1,189)	3,514	3,514	-	-
2017	SPP-MRO	1472	Lea County Electric Coop	U.S.	19,255	19,255	-	-	18,924	18,924	-	-	(170)	(170)	501	501	-	-
2017	SPP-MRO	1441	Midwest Energy Inc.	U.S.	28,399	28,399	-	-	27,910	27,910	-	-	(250)	(250)	739	739	-	-
2017	SPP-MRO-SERC		Missouri Joint Municipal Electric Utility Commission	U.S.	7,074	7,074	-	-	6,953	6,953	-	-	(62)	(62)	184	184	-	-

2017 NEL Calculations and Allocations to Load Serving Entities (or Designee) for the 2019 NERC and RE Assessments

Data Year	Regional Entity	ID	Entity	Country	Total NERC Assessments				NERC NEL Assessments				Penalty Sanctions		NERC Compliance Credits			
					Total	US	Canada	Mexico	Total	US	Canada	Mexico	Total	US	Total	US	Canada	Mexico
2017	SPP-MRO	1442	Northeast Texas Electric Cooperative, Inc.	U.S.	49,675	49,675	-	-	48,820	48,820	-	-	(437)	(437)	1,293	1,293	-	-
2017	SPP-MRO	1255	Oklahoma Gas and Electric Co.	U.S.	451,723	451,723	-	-	443,944	443,944	-	-	(3,977)	(3,977)	11,757	11,757	-	-
2017	SPP-MRO	1444	Oklahoma Municipal Power Auth	U.S.	45,190	45,190	-	-	44,412	44,412	-	-	(398)	(398)	1,176	1,176	-	-
2017	SPP-MRO	1651	Paragould Light, Water & Cable	U.S.	9,296	9,296	-	-	9,136	9,136	-	-	(82)	(82)	242	242	-	-
2017	SPP-MRO	1725	People's Electric Cooperative	U.S.	7,856	7,856	-	-	7,721	7,721	-	-	(69)	(69)	204	204	-	-
2017	SPP-MRO	1473	Roosevelt County Electric Coop	U.S.	2,400	2,400	-	-	2,359	2,359	-	-	(21)	(21)	62	62	-	-
2017	SPP-MRO	1257	Xcel Energy Company (Southwestern Public Service)	U.S.	341,136	341,136	-	-	335,261	335,261	-	-	(3,004)	(3,004)	8,878	8,878	-	-
2017	SPP-MRO	1256	Sunflower Electric Power Cooperative	U.S.	71,513	71,513	-	-	70,281	70,281	-	-	(630)	(630)	1,861	1,861	-	-
2017	SPP-MRO	1445	Tex - La Electric Cooperative of Texas	U.S.	7,756	7,756	-	-	7,622	7,622	-	-	(68)	(68)	202	202	-	-
2017	SPP-MRO	1475	Tri County Electric Coop	U.S.	5,565	5,565	-	-	5,469	5,469	-	-	(49)	(49)	145	145	-	-
2017	SPP-MRO	1260	Westar Energy, Inc.	U.S.	333,669	333,669	-	-	327,923	327,923	-	-	(2,938)	(2,938)	8,684	8,684	-	-
2017	SPP-MRO	1259	Western Farmers Electric Cooperative	U.S.	133,405	133,405	-	-	131,108	131,108	-	-	(1,175)	(1,175)	3,472	3,472	-	-
2017	SPP-MRO	1501	West Texas Municipal Power Agency	U.S.	44,177	44,177	-	-	43,417	43,417	-	-	(389)	(389)	1,150	1,150	-	-
TOTAL MRO					7,712,036	6,932,574	779,462	-	7,572,537	6,813,185	759,352	-	(61,039)	(61,039)	200,538	180,429	20,109	-
-					-	-	-	-	-	-	-	-	-	-	-	-	-	-
2017	NPCC	1336	New England	U.S.	1,924,320	1,924,320	-	-	1,891,181	1,891,181	-	-	(16,943)	(16,943)	50,083	50,083	-	-
2017	NPCC	1339	New York	U.S.	2,482,313	2,482,313	-	-	2,439,564	2,439,564	-	-	(21,856)	(21,856)	64,605	64,605	-	-
2017	NPCC	1337	Ontario	Canada	1,418,177	-	1,418,177	-	2,060,782	-	2,060,782	-	-	-	(642,605)	-	(642,605)	-
2017	NPCC		Quebec	Canada	2,004,960	-	2,004,960	-	2,663,176	-	2,663,176	-	-	-	(658,216)	-	(658,216)	-
2017	NPCC	1705	New Brunswick	Canada	148,152	-	148,152	-	215,235	-	215,235	-	-	-	(67,083)	-	(67,083)	-
2017	NPCC	1340	Nova Scotia	Canada	174,829	-	174,829	-	170,319	-	170,319	-	-	-	4,510	-	4,510	-
TOTAL NPCC					8,152,751	4,406,633	3,746,117	-	9,440,255	4,330,745	5,109,511	-	(38,799)	(38,799)	(1,248,705)	114,688	(1,363,394)	-
-					-	-	-	-	-	-	-	-	-	-	-	-	-	-
2017	RF	1102	Cannelton Utilities	U.S.	225	225	-	-	221	221	-	-	(2)	(2)	6	6	-	-
2017	RF	1106	City of Croswell	U.S.	623	623	-	-	613	613	-	-	(5)	(5)	16	16	-	-
2017	RF	1490	City of Lansing	U.S.	34,583	34,583	-	-	33,987	33,987	-	-	(304)	(304)	900	900	-	-
2017	RF	1120	Cloverland Electric Cooperative	U.S.	11,821	11,821	-	-	11,618	11,618	-	-	(104)	(104)	308	308	-	-
2017	RF	1122	CMS ERM Michigan LLC	U.S.	2,795	2,795	-	-	2,747	2,747	-	-	(25)	(25)	73	73	-	-
2017	RF	1124	Constellation New Energy (MECS-CONS)	U.S.	19,096	19,096	-	-	18,767	18,767	-	-	(168)	(168)	497	497	-	-
2017	RF	1123	Constellation New Energy (MECS-DET)	U.S.	21,426	21,426	-	-	21,057	21,057	-	-	(189)	(189)	558	558	-	-
2017	RF	1126	Consumers Energy Company	U.S.	527,807	527,807	-	-	518,717	518,717	-	-	(4,647)	(4,647)	13,737	13,737	-	-
2017	RF	1128	Detroit Edison Company	U.S.	707,805	707,805	-	-	695,616	695,616	-	-	(6,232)	(6,232)	18,422	18,422	-	-
2017	RF	1166	Duke Energy Indiana	U.S.	467,545	467,545	-	-	459,493	459,493	-	-	(4,117)	(4,117)	12,168	12,168	-	-
2017	RF	1135	Ferdinand Municipal Light & Water	U.S.	787	787	-	-	774	774	-	-	(7)	(7)	20	20	-	-
2017	RF	1646	FirstEnergy Solutions (MECS-CONS)	U.S.	13,606	13,606	-	-	13,372	13,372	-	-	(120)	(120)	354	354	-	-
2017	RF	1549	FirstEnergy Solutions (MECS-DET)	U.S.	16,407	16,407	-	-	16,124	16,124	-	-	(144)	(144)	427	427	-	-
2017	RF	1145	Hoosier Energy	U.S.	118,694	118,694	-	-	116,649	116,649	-	-	(1,045)	(1,045)	3,089	3,089	-	-
2017	RF	1148	Indiana Municipal Power Agency (DUKE CIN)	U.S.	48,327	48,327	-	-	47,494	47,494	-	-	(426)	(426)	1,258	1,258	-	-
2017	RF	1485	Indiana Municipal Power Agency (NIPSCO)	U.S.	6,718	6,718	-	-	6,602	6,602	-	-	(59)	(59)	175	175	-	-
2017	RF	1486	Indiana Municipal Power Agency (SIGE)	U.S.	9,353	9,353	-	-	9,192	9,192	-	-	(82)	(82)	243	243	-	-
2017	RF	1149	Indianapolis Power & Light Co.	U.S.	219,045	219,045	-	-	215,273	215,273	-	-	(1,929)	(1,929)	5,701	5,701	-	-
2017	RF	1553	Integrus Energy Services (MECS-CONS)	U.S.	6,946	6,946	-	-	6,827	6,827	-	-	(61)	(61)	181	181	-	-
2017	RF	1554	Integrus Energy Services (MECS-DET)	U.S.	9,941	9,941	-	-	9,770	9,770	-	-	(88)	(88)	259	259	-	-
2017	RF	1666	Integrus Energy Services	U.S.	4,693	4,693	-	-	4,612	4,612	-	-	(41)	(41)	122	122	-	-
2017	RF	1614	Just Energy (MECS-DET)	U.S.	135	135	-	-	133	133	-	-	(1)	(1)	4	4	-	-
2017	RF	1154	Michigan Public Power Agency	U.S.	60,025	60,025	-	-	58,992	58,992	-	-	(529)	(529)	1,562	1,562	-	-
2017	RF	1155	Michigan South Central Power Agency	U.S.	11,207	11,207	-	-	11,014	11,014	-	-	(99)	(99)	292	292	-	-
2017	RF	1158	MidAmerican Energy Company Retail	U.S.	269	269	-	-	265	265	-	-	(2)	(2)	7	7	-	-
2017	RF	1163	Northern Indiana Public Service Co.	U.S.	278,040	278,040	-	-	273,252	273,252	-	-	(2,448)	(2,448)	7,236	7,236	-	-
2017	RF	1164	Ontonagon County Rural Electrification Assoc.	U.S.	441	441	-	-	434	434	-	-	(4)	(4)	11	11	-	-
2017	RF	1265	PJM Interconnection, LLC	U.S.	10,544,842	10,544,842	-	-	10,363,243	10,363,243	-	-	(92,844)	(92,844)	274,443	274,443	-	-
2017	RF	1172	Calpine Energy Solutions (k.n.a.Noble Americas Energy Solutions (MECS-CONS))	U.S.	6,082	6,082	-	-	5,977	5,977	-	-	(54)	(54)	158	158	-	-
2017	RF	1171	Calpine Energy Solutions (k.n.a.Noble Americas Energy Solutions (MECS-DET))	U.S.	9,567	9,567	-	-	9,402	9,402	-	-	(84)	(84)	249	249	-	-
2017	RF	1176	Direct Energy (fka:Strategic Energy,LLC) (MECS-CONS)	U.S.	3,040	3,040	-	-	2,988	2,988	-	-	(27)	(27)	79	79	-	-
2017	RF	1174	Direct Energy (fka:Strategic Energy,LLC) (MECS-DET)	U.S.	14,420	14,420	-	-	14,171	14,171	-	-	(127)	(127)	375	375	-	-
2017	RF	1581	Spartan Renewable Energy	U.S.	1,450	1,450	-	-	1,425	1,425	-	-	(13)	(13)	38	38	-	-
2017	RF		Spartan Renewable Energy (MI UP)	U.S.	877	877	-	-	862	862	-	-	(8)	(8)	23	23	-	-

2017 NEL Calculations and Allocations to Load Serving Entities (or Designee) for the 2019 NERC and RE Assessments

Data Year	Regional Entity	ID	Entity	Country	Total NERC Assessments				NERC NEL Assessments				Penalty Sanctions		NERC Compliance Credits			
					Total	US	Canada	Mexico	Total	US	Canada	Mexico	Total	US	Total	US	Canada	Mexico
2017	RF	1180	Thumb Electric Cooperative	U.S.	2,859	2,859	-	-	2,810	2,810	-	-	(25)	(25)	74	74	-	-
2017	RF	1662	Ohio Valley Electric Corporation	U.S.	6,432	6,432	-	-	6,321	6,321	-	-	(57)	(57)	167	167	-	-
2017	RF	1181	Vectren Energy Delivery of IN	U.S.	80,656	80,656	-	-	79,267	79,267	-	-	(710)	(710)	2,099	2,099	-	-
2017	RF	1184	Wabash Valley Power Association Inc. (DUKE CIN)	U.S.	44,695	44,695	-	-	43,925	43,925	-	-	(394)	(394)	1,163	1,163	-	-
2017	RF	1488	Wabash Valley Power Association Inc.(NIPSCO)	U.S.	26,925	26,925	-	-	26,461	26,461	-	-	(237)	(237)	701	701	-	-
2017	RF	1185	Wisconsin Electric Power Co.	U.S.	435,808	435,808	-	-	428,303	428,303	-	-	(3,837)	(3,837)	11,342	11,342	-	-
2017	RF	1189	Wolverine Power Marketing Cooperative	U.S.	12,030	12,030	-	-	11,823	11,823	-	-	(106)	(106)	313	313	-	-
2017	RF	1191	Wolverine Power Supply Cooperative	U.S.	42,412	42,412	-	-	41,682	41,682	-	-	(373)	(373)	1,104	1,104	-	-
2017	RF	1190	Wolverine Power Marketing Cooperative(MECS-DET)	U.S.	8,866	8,866	-	-	8,714	8,714	-	-	(78)	(78)	231	231	-	-
TOTAL RELIABILITYFIRST					13,839,321	13,839,321	-	-	13,600,987	13,600,987	-	-	(121,851)	(121,851)	360,186	360,186	-	-
2017	SERC	1267	Alabama Municipal Electric Authority	U.S.	53,313	53,313	-	-	52,395	52,395	-	-	(469)	(469)	1,388	1,388	-	-
2017	SERC	1268	Alabama Power Company	U.S.	891,037	891,037	-	-	875,692	875,692	-	-	(7,845)	(7,845)	23,190	23,190	-	-
2017	SERC	1269	Ameren - Illinois	U.S.	652,478	652,478	-	-	641,242	641,242	-	-	(5,745)	(5,745)	16,982	16,982	-	-
2017	SERC	1271	Ameren - Missouri	U.S.	574,343	574,343	-	-	564,452	564,452	-	-	(5,057)	(5,057)	14,948	14,948	-	-
2017	SERC	1273	Associated Electric Cooperative Inc.	U.S.	299,884	299,884	-	-	294,720	294,720	-	-	(2,640)	(2,640)	7,805	7,805	-	-
2017	SERC	1582	Beauregard Electric Cooperative, Inc.	U.S.	17,583	17,583	-	-	17,280	17,280	-	-	(155)	(155)	458	458	-	-
2017	SERC	1462	Benton Utility District	U.S.	3,970	3,970	-	-	3,902	3,902	-	-	(35)	(35)	103	103	-	-
2017	SERC	1274	Big Rivers Electric Corporation	U.S.	58,310	58,310	-	-	57,306	57,306	-	-	(513)	(513)	1,518	1,518	-	-
2017	SERC	1275	Black Warrior EMC	U.S.	6,342	6,342	-	-	6,233	6,233	-	-	(56)	(56)	165	165	-	-
2017	SERC	1276	Blue Ridge EMC	U.S.	21,476	21,476	-	-	21,106	21,106	-	-	(189)	(189)	559	559	-	-
2017	SERC	1628	Brazos Electric Power Cooperative, Inc.	U.S.	7,423	7,423	-	-	7,295	7,295	-	-	(65)	(65)	193	193	-	-
2017	SERC	1463	Canton, MS	U.S.	2,036	2,036	-	-	2,001	2,001	-	-	(18)	(18)	53	53	-	-
2017	SERC	1277	Central Electric Power Cooperative Inc.	U.S.	265,510	265,510	-	-	260,937	260,937	-	-	(2,338)	(2,338)	6,910	6,910	-	-
2017	SERC	1667	Century Aluminum - Hawesville	U.S.	26,834	26,834	-	-	26,372	26,372	-	-	(236)	(236)	698	698	-	-
2017	SERC	1668	Century Aluminum - Sebree	U.S.	53,374	53,374	-	-	52,455	52,455	-	-	(470)	(470)	1,389	1,389	-	-
2017	SERC	1278	City of Blountstown FL	U.S.	575	575	-	-	565	565	-	-	(5)	(5)	15	15	-	-
2017	SERC	1279	City of Camden SC	U.S.	2,974	2,974	-	-	2,923	2,923	-	-	(26)	(26)	77	77	-	-
2017	SERC	1280	City of Collins MS	U.S.	713	713	-	-	701	701	-	-	(6)	(6)	19	19	-	-
2017	SERC	1281	City of Columbia MO	U.S.	18,581	18,581	-	-	18,261	18,261	-	-	(164)	(164)	484	484	-	-
2017	SERC	1282	City of Conway AR (Conway Corporation)	U.S.	15,738	15,738	-	-	15,467	15,467	-	-	(139)	(139)	410	410	-	-
2017	SERC	1284	City of Evergreen AL	U.S.	865	865	-	-	850	850	-	-	(8)	(8)	23	23	-	-
2017	SERC	1285	City of Hampton GA	U.S.	488	488	-	-	479	479	-	-	(4)	(4)	13	13	-	-
2017	SERC	1286	City of Hartford AL	U.S.	493	493	-	-	485	485	-	-	(4)	(4)	13	13	-	-
2017	SERC	1287	City of Henderson (KY) Municipal Power & Light	U.S.	9,728	9,728	-	-	9,560	9,560	-	-	(86)	(86)	253	253	-	-
2017	SERC	1288	City of North Little Rock AR (DENL)	U.S.	14,642	14,642	-	-	14,390	14,390	-	-	(129)	(129)	381	381	-	-
2017	SERC	1289	City of Orangeburg SC Department of Public Utilities	U.S.	12,906	12,906	-	-	12,684	12,684	-	-	(114)	(114)	336	336	-	-
2017	SERC	1290	City of Robertsdale AL	U.S.	1,286	1,286	-	-	1,264	1,264	-	-	(11)	(11)	33	33	-	-
2017	SERC	1291	City of Ruston LA (DERS)	U.S.	4,332	4,332	-	-	4,258	4,258	-	-	(38)	(38)	113	113	-	-
2017	SERC	1292	Seneca Light & Power	U.S.	2,603	2,603	-	-	2,558	2,558	-	-	(23)	(23)	68	68	-	-
2017	SERC	1115	City of Springfield (CWLP)	U.S.	27,116	27,116	-	-	26,649	26,649	-	-	(239)	(239)	706	706	-	-
2017	SERC	1465	City of Thayer, MO	U.S.	316	316	-	-	311	311	-	-	(3)	(3)	8	8	-	-
2017	SERC	1293	City of Troy AL	U.S.	6,599	6,599	-	-	6,485	6,485	-	-	(58)	(58)	172	172	-	-
2017	SERC	1294	City of West Memphis AR (West Memphis Utilities)	U.S.	6,044	6,044	-	-	5,940	5,940	-	-	(53)	(53)	157	157	-	-
2017	SERC	1583	Claiborne Electric Cooperative, Inc.	U.S.	10,169	10,169	-	-	9,993	9,993	-	-	(90)	(90)	265	265	-	-
2017	SERC	1584	Concordia Electric Cooperative, Inc.	U.S.	3,332	3,332	-	-	3,275	3,275	-	-	(29)	(29)	87	87	-	-
2017	SERC	1726	Cube Hydro Carolinas	U.S.	230	230	-	-	226	226	-	-	(2)	(2)	6	6	-	-
2017	SERC	1283	Dalton Utilities	U.S.	28,676	28,676	-	-	28,182	28,182	-	-	(252)	(252)	746	746	-	-
2017	SERC	1585	Dixie Electric Membership Corporation	U.S.	34,121	34,121	-	-	33,533	33,533	-	-	(300)	(300)	888	888	-	-
2017	SERC	1295	Dominion Virginia Power	U.S.	1,349,522	1,349,522	-	-	1,326,282	1,326,282	-	-	(11,882)	(11,882)	35,123	35,123	-	-
2017	SERC	1296	Duke Energy Carolinas, LLC	U.S.	1,334,461	1,334,461	-	-	1,311,479	1,311,479	-	-	(11,750)	(11,750)	34,731	34,731	-	-
2017	SERC	1466	Durant, MS	U.S.	398	398	-	-	391	391	-	-	(4)	(4)	10	10	-	-
2017	SERC	1478	LG&E and KU Services Co as agent for LG&E Co and KU Co	U.S.	533,567	533,567	-	-	524,378	524,378	-	-	(4,698)	(4,698)	13,887	13,887	-	-
2017	SERC	1297	East Kentucky Power Cooperative	U.S.	208,852	208,852	-	-	205,255	205,255	-	-	(1,839)	(1,839)	5,436	5,436	-	-
2017	SERC	1298	East Mississippi Electric Power Association	U.S.	6,516	6,516	-	-	6,404	6,404	-	-	(57)	(57)	170	170	-	-
2017	SERC	1669	Electricities of North Carolina Inc	U.S.	184,032	184,032	-	-	180,863	180,863	-	-	(1,620)	(1,620)	4,790	4,790	-	-
2017	SERC	1300	EnergyUnited EMC	U.S.	39,958	39,958	-	-	39,270	39,270	-	-	(352)	(352)	1,040	1,040	-	-

2017 NEL Calculations and Allocations to Load Serving Entities (or Designee) for the 2019 NERC and RE Assessments

Data Year	Regional Entity	ID	Entity	Country	Total NERC Assessments				NERC NEL Assessments				Penalty Sanctions		NERC Compliance Credits			
					Total	US	Canada	Mexico	Total	US	Canada	Mexico	Total	US	Total	US	Canada	Mexico
2017	SERC	1301	Entergy	U.S.	1,879,652	1,879,652	-	-	1,847,282	1,847,282	-	-	(16,550)	(16,550)	48,920	48,920	-	-
2017	SERC	1302	Fayetteville (NC) Public Works Commission	U.S.	33,081	33,081	-	-	32,511	32,511	-	-	(291)	(291)	861	861	-	-
2017	SERC	1303	Florida Public Utilities (FL Panhandle Load)	U.S.	4,859	4,859	-	-	4,775	4,775	-	-	(43)	(43)	126	126	-	-
2017	SERC	1304	French Broad EMC	U.S.	7,979	7,979	-	-	7,842	7,842	-	-	(70)	(70)	208	208	-	-
2017	SERC	1305	Georgia Power Company	U.S.	1,347,671	1,347,671	-	-	1,324,462	1,324,462	-	-	(11,866)	(11,866)	35,075	35,075	-	-
2017	SERC	1306	Georgia System Optns Corporation	U.S.	617,667	617,667	-	-	607,030	607,030	-	-	(5,438)	(5,438)	16,076	16,076	-	-
2017	SERC	1479	Greenwood (MS) Utilities Commission	U.S.	4,435	4,435	-	-	4,359	4,359	-	-	(39)	(39)	115	115	-	-
2017	SERC	1307	Greenwood (SC) Commissioners of Public Works	U.S.	5,023	5,023	-	-	4,937	4,937	-	-	(44)	(44)	131	131	-	-
2017	SERC	1308	Gulf Power Company	U.S.	180,901	180,901	-	-	177,785	177,785	-	-	(1,593)	(1,593)	4,708	4,708	-	-
2017	SERC	1586	Haywood EMC	U.S.	4,868	4,868	-	-	4,784	4,784	-	-	(43)	(43)	127	127	-	-
2017	SERC		Hoosier Energy REC, Inc	U.S.	6,368	6,368	-	-	6,259	6,259	-	-	(56)	(56)	166	166	-	-
2017	SERC	1309	Illinois Municipal Electric Agency	U.S.	30,086	30,086	-	-	29,567	29,567	-	-	(265)	(265)	783	783	-	-
2017	SERC	1480	Itta Bena, MS	U.S.	219	219	-	-	215	215	-	-	(2)	(2)	6	6	-	-
2017	SERC	1587	Jefferson Davis Electric Cooperative, Inc.	U.S.	4,162	4,162	-	-	4,090	4,090	-	-	(37)	(37)	108	108	-	-
2017	SERC	1617	Kentucky Municipal Power	U.S.	10,369	10,369	-	-	10,191	10,191	-	-	(91)	(91)	270	270	-	-
2017	SERC	1481	Kosciusko, MS	U.S.	1,161	1,161	-	-	1,141	1,141	-	-	(10)	(10)	30	30	-	-
2017	SERC	1482	Leland, MS	U.S.	474	474	-	-	466	466	-	-	(4)	(4)	12	12	-	-
2017	SERC	1313	McCormick Commission of Public Works	U.S.	259	259	-	-	255	255	-	-	(2)	(2)	7	7	-	-
2017	SERC	1314	Mississippi Power Company	U.S.	160,811	160,811	-	-	158,042	158,042	-	-	(1,416)	(1,416)	4,185	4,185	-	-
2017	SERC	1630	Mt. Carmel Public Utility	U.S.	1,639	1,639	-	-	1,611	1,611	-	-	(14)	(14)	43	43	-	-
2017	SERC	1315	Municipal Electric Authority of Georgia	U.S.	171,589	171,589	-	-	168,634	168,634	-	-	(1,511)	(1,511)	4,466	4,466	-	-
2017	SERC	1316	N.C. Electric Membership Corp.	U.S.	201,642	201,642	-	-	198,170	198,170	-	-	(1,775)	(1,775)	5,248	5,248	-	-
2017	SERC	1588	Northeast Louisiana Power Cooperative, Inc.	U.S.	4,167	4,167	-	-	4,095	4,095	-	-	(37)	(37)	108	108	-	-
2017	SERC	1574	Northern Virginia Electric Cooperative	U.S.	74,719	74,719	-	-	73,433	73,433	-	-	(658)	(658)	1,945	1,945	-	-
2017	SERC	1319	Old Dominion Electric Cooperative	U.S.	78,979	78,979	-	-	77,619	77,619	-	-	(695)	(695)	2,056	2,056	-	-
2017	SERC	1618	Osceola (Arkansas) Municipal Light and Power	U.S.	2,473	2,473	-	-	2,431	2,431	-	-	(22)	(22)	64	64	-	-
2017	SERC	1320	Owensboro (KY) Municipal Utilities	U.S.	12,900	12,900	-	-	12,678	12,678	-	-	(114)	(114)	336	336	-	-
2017	SERC	1321	Piedmont EMC in Duke and Progress Areas	U.S.	8,003	8,003	-	-	7,865	7,865	-	-	(70)	(70)	208	208	-	-
2017	SERC	1323	Piedmont Municipal Power Agency (PMPA)	U.S.	37,128	37,128	-	-	36,489	36,489	-	-	(327)	(327)	966	966	-	-
2017	SERC	1589	Pointe Coupee Electric Memb. Corp.	U.S.	4,125	4,125	-	-	4,054	4,054	-	-	(36)	(36)	107	107	-	-
2017	SERC	1266	PowerSouth Energy	U.S.	137,103	137,103	-	-	134,742	134,742	-	-	(1,207)	(1,207)	3,568	3,568	-	-
2017	SERC	1330	Prairie Power, Inc.	U.S.	24,368	24,368	-	-	23,948	23,948	-	-	(215)	(215)	634	634	-	-
2017	SERC	1706	Duke Energy Progress	U.S.	728,721	728,721	-	-	716,171	716,171	-	-	(6,416)	(6,416)	18,966	18,966	-	-
2017	SERC	1325	Rutherford EMC	U.S.	20,747	20,747	-	-	20,389	20,389	-	-	(183)	(183)	540	540	-	-
2017	SERC	1631	Sam Rayburn G&T Electric Cooperative Inc.	U.S.	28,313	28,313	-	-	27,825	27,825	-	-	(249)	(249)	737	737	-	-
2017	SERC	1326	South Carolina Electric & Gas Company	U.S.	366,939	366,939	-	-	360,619	360,619	-	-	(3,231)	(3,231)	9,550	9,550	-	-
2017	SERC	1327	South Carolina Public Service Authority	U.S.	136,340	136,340	-	-	133,992	133,992	-	-	(1,200)	(1,200)	3,548	3,548	-	-
2017	SERC	1590	South Louisiana Electric Cooperative Association	U.S.	9,161	9,161	-	-	9,003	9,003	-	-	(81)	(81)	238	238	-	-
2017	SERC	1328	Cooperative Energy (formerly SMEPA)	U.S.	152,651	152,651	-	-	150,022	150,022	-	-	(1,344)	(1,344)	3,973	3,973	-	-
2017	SERC	1329	Southern Illinois Power Cooperative	U.S.	24,930	24,930	-	-	24,501	24,501	-	-	(220)	(220)	649	649	-	-
2017	SERC	1591	Southwest Louisiana Electric Membership Corporation	U.S.	38,892	38,892	-	-	38,222	38,222	-	-	(342)	(342)	1,012	1,012	-	-
2017	SERC	1619	Southwestern Electric Cooperative, Inc.	U.S.	6,664	6,664	-	-	6,549	6,549	-	-	(59)	(59)	173	173	-	-
2017	SERC	1331	Tennessee Valley Authority	U.S.	2,463,921	2,463,921	-	-	2,421,488	2,421,488	-	-	(21,694)	(21,694)	64,127	64,127	-	-
2017	SERC	1632	Tex-La Electric Cooperative of Texas, Inc	U.S.	3,309	3,309	-	-	3,252	3,252	-	-	(29)	(29)	86	86	-	-
2017	SERC	1332	Tombigbee Electric Cooperative Inc.	U.S.	1,923	1,923	-	-	1,890	1,890	-	-	(17)	(17)	50	50	-	-
2017	SERC	1594	Town of Sharpsburg, N.C.	U.S.	309	309	-	-	304	304	-	-	(3)	(3)	8	8	-	-
2017	SERC	1595	Town of Stantonsburg, N.C. JRO	U.S.	882	882	-	-	867	867	-	-	(8)	(8)	23	23	-	-
2017	SERC	1333	Town of Waynesville NC	U.S.	1,466	1,466	-	-	1,441	1,441	-	-	(13)	(13)	38	38	-	-
2017	SERC	1334	Town of Winnsboro SC	U.S.	984	984	-	-	967	967	-	-	(9)	(9)	26	26	-	-
2017	SERC	1335	Town of Winterville NC	U.S.	857	857	-	-	843	843	-	-	(8)	(8)	22	22	-	-
2017	SERC	1597	Washington-St.Tammany Electric Cooperative, Inc.	U.S.	16,339	16,339	-	-	16,058	16,058	-	-	(144)	(144)	425	425	-	-
2017	SERC	1435	Arkansas Electric Cooperative Corporation	U.S.	162,728	162,728	-	-	159,926	159,926	-	-	(1,433)	(1,433)	4,235	4,235	-	-
2017	SERC	1557	City of Clarksdale, Mississippi	U.S.	2,483	2,483	-	-	2,440	2,440	-	-	(22)	(22)	65	65	-	-
2017	SERC	1708	City of Abbeville	U.S.	2,183	2,183	-	-	2,146	2,146	-	-	(19)	(19)	57	57	-	-
2017	SERC	1558	Hope Water & Light (HWL)	U.S.	4,674	4,674	-	-	4,593	4,593	-	-	(41)	(41)	122	122	-	-
2017	SERC	1559	City of Minden	U.S.	2,194	2,194	-	-	2,156	2,156	-	-	(19)	(19)	57	57	-	-
2017	SERC	1249	Cleco Power LLC	U.S.	177,883	177,883	-	-	174,819	174,819	-	-	(1,566)	(1,566)	4,630	4,630	-	-

2017 NEL Calculations and Allocations to Load Serving Entities (or Designee) for the 2019 NERC and RE Assessments

Data Year	Regional Entity	ID	Entity	Country	Total NERC Assessments				NERC NEL Assessments				Penalty Sanctions		NERC Compliance Credits			
					Total	US	Canada	Mexico	Total	US	Canada	Mexico	Total	US	Total	US	Canada	Mexico
2017	SERC	1648	Jonesboro City Water & Light	U.S.	22,055	22,055	-	-	21,675	21,675	-	-	(194)	(194)	574	574	-	-
2017	SERC	1649	Kennett Board of Public Works	U.S.	2,169	2,169	-	-	2,131	2,131	-	-	(19)	(19)	56	56	-	-
2017	SERC	1471	Lafayette Utilities System	U.S.	32,621	32,621	-	-	32,059	32,059	-	-	(287)	(287)	849	849	-	-
2017	SERC	1253	Louisiana Energy & Power Authority (LEPA)	U.S.	15,193	15,193	-	-	14,932	14,932	-	-	(134)	(134)	395	395	-	-
2017	SERC	1650	Malden Board of Public Works	U.S.	790	790	-	-	776	776	-	-	(7)	(7)	21	21	-	-
2017	SERC	1443	Missouri Joint Municipal Electric Utility Commission	U.S.	32,894	32,894	-	-	32,328	32,328	-	-	(290)	(290)	856	856	-	-
2017	SERC	1639	OzMo Ozark Missouri, West Plains MO	U.S.	2,995	2,995	-	-	2,944	2,944	-	-	(26)	(26)	78	78	-	-
2017	SERC	1652	Piggott Municipal Light, Water & Sewer	U.S.	580	580	-	-	570	570	-	-	(5)	(5)	15	15	-	-
2017	SERC	1653	Poplar Bluff Municipal Utilities	U.S.	5,893	5,893	-	-	5,792	5,792	-	-	(52)	(52)	153	153	-	-
2017	SERC	1636	City of Prescott	U.S.	1,301	1,301	-	-	1,279	1,279	-	-	(11)	(11)	34	34	-	-
2017	SERC	1561	Public Service Commission of Yazoo City of Mississippi	U.S.	1,857	1,857	-	-	1,825	1,825	-	-	(16)	(16)	48	48	-	-
2017	SERC	1654	Sikeston Board of Municipal Utilities	U.S.	5,910	5,910	-	-	5,808	5,808	-	-	(52)	(52)	154	154	-	-
TOTAL SERC					16,332,381	16,332,381	-	-	16,051,113	16,051,113	-	-	(143,802)	(143,802)	425,071	425,071	-	-
TOTAL SPP					-	-	-	-	-	-	-	-	-	-	-	-	-	-
2017	TRE	1019	ERCOT	U.S.	5,699,337	5,699,337	-	-	5,601,186	5,601,186	-	-	(50,181)	(50,181)	148,332	148,332	-	-
TOTAL ERCOT					5,699,337	5,699,337	-	-	5,601,186	5,601,186	-	-	(50,181)	(50,181)	148,332	148,332	-	-
2017	WECC		Alberta Electric System Operator	Canada	656,732	-	656,732	-	971,083	-	971,083	-	-	-	(314,351)	-	(314,351)	-
2017	WECC		British Columbia Hydro & Power Authority	Canada	1,023,265	-	1,023,265	-	996,866	-	996,866	-	-	-	26,399	-	26,399	-
2017	WECC		Centro Nacional de Control de Energia	Mexico	211,910	-	-	211,910	206,443	-	206,443	-	-	-	5,467	-	-	5,467
2017	WECC		Ajo Improvement District	U.S.	173	173	-	-	170	170	-	-	(2)	(2)	5	5	-	-
2017	WECC		Arizona Public Service Company	U.S.	461,227	461,227	-	-	453,284	453,284	-	-	(4,061)	(4,061)	12,004	12,004	-	-
2017	WECC		City of Williams	U.S.	711	711	-	-	698	698	-	-	(6)	(6)	18	18	-	-
2017	WECC		Electrical Districts 3	U.S.	1,353	1,353	-	-	1,330	1,330	-	-	(12)	(12)	35	35	-	-
2017	WECC		Aguila Irrigation District - APS	U.S.	526	526	-	-	517	517	-	-	(5)	(5)	14	14	-	-
2017	WECC		Buckeye Water Conservation and Drainage District - APS	U.S.	356	356	-	-	350	350	-	-	(3)	(3)	9	9	-	-
2017	WECC		Electrical District No. 6 of Pinal County - APS	U.S.	34	34	-	-	34	34	-	-	(0)	(0)	1	1	-	-
2017	WECC		Electrical District No. 7 of Maricopa County - APS	U.S.	799	799	-	-	786	786	-	-	(7)	(7)	21	21	-	-
2017	WECC		Electrical District No. 8 of Maricopa County - APS	U.S.	5,739	5,739	-	-	5,640	5,640	-	-	(51)	(51)	149	149	-	-
2017	WECC		Harquahala Valley Power Districts - APS	U.S.	1,817	1,817	-	-	1,786	1,786	-	-	(16)	(16)	47	47	-	-
2017	WECC		Maricopa County Municipal Water Conservation Dist No. 1 - APS	U.S.	820	820	-	-	806	806	-	-	(7)	(7)	21	21	-	-
2017	WECC		McMullen Valley Water Conservation & Drainage District - APS	U.S.	1,975	1,975	-	-	1,941	1,941	-	-	(17)	(17)	51	51	-	-
2017	WECC		Roosevelt Irrigation District - APS	U.S.	649	649	-	-	638	638	-	-	(6)	(6)	17	17	-	-
2017	WECC		Tonopah Irrigation District - APS	U.S.	431	431	-	-	424	424	-	-	(4)	(4)	11	11	-	-
2017	WECC		Navajo Tribal Utility Authority-Arizona	U.S.	799	799	-	-	786	786	-	-	(7)	(7)	21	21	-	-
2017	WECC		Tohono O'Odham Utility Authority	U.S.	979	979	-	-	963	963	-	-	(9)	(9)	25	25	-	-
2017	WECC		Town of Wickenburg	U.S.	422	422	-	-	414	414	-	-	(4)	(4)	11	11	-	-
2017	WECC		Avista Corporation	U.S.	153,590	153,590	-	-	150,945	150,945	-	-	(1,352)	(1,352)	3,997	3,997	-	-
2017	WECC		Kaiser Aluminum Fabricated Products LLC	U.S.	4,920	4,920	-	-	4,836	4,836	-	-	(43)	(43)	128	128	-	-
2017	WECC		Pend Oreille County PUD No. 1	U.S.	16,155	16,155	-	-	15,876	15,876	-	-	(142)	(142)	420	420	-	-
2017	WECC		PUD No. 2 of Grant County	U.S.	1,464	1,464	-	-	1,439	1,439	-	-	(13)	(13)	38	38	-	-
2017	WECC		Bonneville Power Administration-Power Services	U.S.	101,010	101,010	-	-	99,270	99,270	-	-	(889)	(889)	2,629	2,629	-	-
2017	WECC		Bonneville Power Administration-Hydro	U.S.	3,218	3,218	-	-	3,162	3,162	-	-	(28)	(28)	84	84	-	-
2017	WECC		Bonneville Power Administration-Transmission	U.S.	820,822	820,822	-	-	806,686	806,686	-	-	(7,227)	(7,227)	21,363	21,363	-	-
2017	WECC		City of Redding	U.S.	12,681	12,681	-	-	12,463	12,463	-	-	(112)	(112)	330	330	-	-
2017	WECC		City of Roseville	U.S.	19,832	19,832	-	-	19,490	19,490	-	-	(175)	(175)	516	516	-	-
2017	WECC		Modesto Irrigation District	U.S.	41,648	41,648	-	-	40,931	40,931	-	-	(367)	(367)	1,084	1,084	-	-
2017	WECC		Sacramento Municipal Utility District	U.S.	184,124	184,124	-	-	180,953	180,953	-	-	(1,621)	(1,621)	4,792	4,792	-	-
2017	WECC		Western Area Power Administration-Sierra Nevada Region	U.S.	31,556	31,556	-	-	31,013	31,013	-	-	(278)	(278)	821	821	-	-
2017	WECC		California Independent System Operator	U.S.	3,637,209	3,637,209	-	-	3,574,571	3,574,571	-	-	(32,025)	(32,025)	94,663	94,663	-	-
2017	WECC		El Paso Electric Company	U.S.	133,774	133,774	-	-	131,471	131,471	-	-	(1,178)	(1,178)	3,482	3,482	-	-
2017	WECC		Idaho Power Company	U.S.	250,628	250,628	-	-	246,311	246,311	-	-	(2,207)	(2,207)	6,523	6,523	-	-
2017	WECC		Imperial Irrigation District	U.S.	59,427	59,427	-	-	58,403	58,403	-	-	(523)	(523)	1,547	1,547	-	-
2017	WECC		Los Angeles Department of Water and Power	U.S.	457,085	457,085	-	-	449,213	449,213	-	-	(4,025)	(4,025)	11,896	11,896	-	-
2017	WECC		City of Henderson	U.S.	653	653	-	-	642	642	-	-	(6)	(6)	17	17	-	-

2017 NEL Calculations and Allocations to Load Serving Entities (or Designee) for the 2019 NERC and RE Assessments

Data Year	Regional Entity	ID	Entity	Country	Total NERC Assessments				NERC NEL Assessments				Penalty Sanctions		NERC Compliance Credits			
					Total	US	Canada	Mexico	Total	US	Canada	Mexico	Total	US	Total	US	Canada	Mexico
2017	WECC		City of Las Vegas	U.S.	662	662	-	-	650	650	-	-	(6)	(6)	17	17	-	-
2017	WECC		City of North Las Vegas	U.S.	373	373	-	-	366	366	-	-	(3)	(3)	10	10	-	-
2017	WECC		Clark County Water Reclamation District	U.S.	1,293	1,293	-	-	1,271	1,271	-	-	(11)	(11)	34	34	-	-
2017	WECC		Colorado River Commission of Nevada	U.S.	7,501	7,501	-	-	7,372	7,372	-	-	(66)	(66)	195	195	-	-
2017	WECC		Las Vegas Valley Water District	U.S.	1,719	1,719	-	-	1,689	1,689	-	-	(15)	(15)	45	45	-	-
2017	WECC		Nevada Power Company dba NV Energy	U.S.	496,976	496,976	-	-	488,417	488,417	-	-	(4,376)	(4,376)	12,934	12,934	-	-
2017	WECC		MGM Resorts International	U.S.	14,864	14,864	-	-	14,608	14,608	-	-	(131)	(131)	387	387	-	-
2017	WECC		Switch-North	U.S.	92	92	-	-	90	90	-	-	(1)	(1)	2	2	-	-
2017	WECC		Switch-South	U.S.	4,709	4,709	-	-	4,628	4,628	-	-	(41)	(41)	123	123	-	-
2017	WECC		Wynn Las Vegas	U.S.	2,915	2,915	-	-	2,864	2,864	-	-	(26)	(26)	76	76	-	-
2017	WECC		Overton Power District No. 5	U.S.	6,282	6,282	-	-	6,174	6,174	-	-	(55)	(55)	164	164	-	-
2017	WECC		Southern Nevada Water Authority	U.S.	1,919	1,919	-	-	1,886	1,886	-	-	(17)	(17)	50	50	-	-
2017	WECC		Basin Electric Power Cooperative	U.S.	12,689	12,689	-	-	12,471	12,471	-	-	(112)	(112)	330	330	-	-
2017	WECC		Big Horn County Electric Cooperative	U.S.	610	610	-	-	600	600	-	-	(5)	(5)	16	16	-	-
2017	WECC		NorthWestern Corp. dba NorthWestern Energy, LLC	U.S.	149,884	149,884	-	-	147,302	147,302	-	-	(1,320)	(1,320)	3,901	3,901	-	-
2017	WECC		Western Area Power Administration-Upper Great Plains Region	U.S.	127	127	-	-	125	125	-	-	(1)	(1)	3	3	-	-
2017	WECC		PacifiCorp West (PACW)	U.S.	342,368	342,368	-	-	336,472	336,472	-	-	(3,014)	(3,014)	8,911	8,911	-	-
2017	WECC		Constellation New Energy	U.S.	5,548	5,548	-	-	5,452	5,452	-	-	(49)	(49)	144	144	-	-
2017	WECC		3 Phases Renewables	U.S.	3	3	-	-	3	3	-	-	(0)	(0)	0	0	-	-
2017	WECC		Avangrid Renewables	U.S.	1,639	1,639	-	-	1,611	1,611	-	-	(14)	(14)	43	43	-	-
2017	WECC		Calpine Energy Solutions, LLC./Noble Americas Energy Solutions, LLC	U.S.	25,981	25,981	-	-	25,534	25,534	-	-	(229)	(229)	676	676	-	-
2017	WECC		PacifiCorp (IPC)	U.S.	33	33	-	-	33	33	-	-	(0)	(0)	1	1	-	-
2017	WECC		PacifiCorp (EasternBalAuth)	U.S.	791,096	791,096	-	-	777,472	777,472	-	-	(6,965)	(6,965)	20,589	20,589	-	-
2017	WECC		PacifiCorp (Portland)	U.S.	71	71	-	-	69	69	-	-	(1)	(1)	2	2	-	-
2017	WECC		PacifiCorp (WAPA-CO-MO)	U.S.	1,843	1,843	-	-	1,811	1,811	-	-	(16)	(16)	48	48	-	-
2017	WECC		Portland General Electric Company	U.S.	279,341	279,341	-	-	274,530	274,530	-	-	(2,460)	(2,460)	7,270	7,270	-	-
2017	WECC		Shell Energy North America	U.S.	1,188	1,188	-	-	1,167	1,167	-	-	(10)	(10)	31	31	-	-
2017	WECC		Arkansas River Power Authority (ARPA)	U.S.	4,248	4,248	-	-	4,175	4,175	-	-	(37)	(37)	111	111	-	-
2017	WECC		Black Hills Colorado Electric	U.S.	32,628	32,628	-	-	32,066	32,066	-	-	(287)	(287)	849	849	-	-
2017	WECC		Burlington	U.S.	495	495	-	-	487	487	-	-	(4)	(4)	13	13	-	-
2017	WECC		Colorado Springs Utilities	U.S.	960	960	-	-	943	943	-	-	(8)	(8)	25	25	-	-
2017	WECC		Grand Valley Power	U.S.	3,948	3,948	-	-	3,880	3,880	-	-	(35)	(35)	103	103	-	-
2017	WECC		Holy Cross Energy	U.S.	16,456	16,456	-	-	16,173	16,173	-	-	(145)	(145)	428	428	-	-
2017	WECC		Intermountain Rural Electric Association	U.S.	35,441	35,441	-	-	34,831	34,831	-	-	(312)	(312)	922	922	-	-
2017	WECC		Municipal Energy Agency of Nebraska	U.S.	2,705	2,705	-	-	2,658	2,658	-	-	(24)	(24)	70	70	-	-
2017	WECC		Platte River Power Authority	U.S.	51,253	51,253	-	-	50,371	50,371	-	-	(451)	(451)	1,334	1,334	-	-
2017	WECC		Public Service Company of Colorado (Xcel)	U.S.	482,564	482,564	-	-	474,253	474,253	-	-	(4,249)	(4,249)	12,559	12,559	-	-
2017	WECC		Public Service Company of Colorado (Xcel)-(WAPA-CO-MO)	U.S.	1,830	1,830	-	-	1,799	1,799	-	-	(16)	(16)	48	48	-	-
2017	WECC		Raton Public Service	U.S.	692	692	-	-	680	680	-	-	(6)	(6)	18	18	-	-
2017	WECC		Town of Center	U.S.	236	236	-	-	232	232	-	-	(2)	(2)	6	6	-	-
2017	WECC		Tri-State Generation & Transmission Assoc. Inc - Reliability	U.S.	41,932	41,932	-	-	41,210	41,210	-	-	(369)	(369)	1,091	1,091	-	-
2017	WECC		Western Area Power - Loveland, CO	U.S.	2,683	2,683	-	-	2,637	2,637	-	-	(24)	(24)	70	70	-	-
2017	WECC		Yampa Valley Electric Association	U.S.	8,906	8,906	-	-	8,752	8,752	-	-	(78)	(78)	232	232	-	-
2017	WECC		City of Aztec Electric Dept	U.S.	580	580	-	-	570	570	-	-	(5)	(5)	15	15	-	-
2017	WECC		City of Gallup	U.S.	3,516	3,516	-	-	3,455	3,455	-	-	(31)	(31)	92	92	-	-
2017	WECC		Jicarilla Apache Nation Power Authority	U.S.	366	366	-	-	360	360	-	-	(3)	(3)	10	10	-	-
2017	WECC		Kit Carson Electric Inc	U.S.	4,678	4,678	-	-	4,597	4,597	-	-	(41)	(41)	122	122	-	-
2017	WECC		Navajo Tribal Utility Authority-New Mexico	U.S.	3,149	3,149	-	-	3,095	3,095	-	-	(28)	(28)	82	82	-	-
2017	WECC		Public Service Company of New Mexico	U.S.	145,117	145,117	-	-	142,618	142,618	-	-	(1,278)	(1,278)	3,777	3,777	-	-
2017	WECC		The Incorporated County of Los Alamos	U.S.	9,718	9,718	-	-	9,551	9,551	-	-	(86)	(86)	253	253	-	-
2017	WECC		Tri-State Generation & Transmission Association, Inc.	U.S.	43,967	43,967	-	-	43,210	43,210	-	-	(387)	(387)	1,144	1,144	-	-
2017	WECC		US Dept of Energy - Kirtland AFB	U.S.	6,748	6,748	-	-	6,631	6,631	-	-	(59)	(59)	176	176	-	-
2017	WECC		Public Utility District No. 1 of Chelan County	U.S.	29,523	29,523	-	-	29,015	29,015	-	-	(260)	(260)	768	768	-	-
2017	WECC		Okanogan PUD	U.S.	10,540	10,540	-	-	10,359	10,359	-	-	(93)	(93)	274	274	-	-
2017	WECC		PUD No. 1 of Douglas County	U.S.	14,564	14,564	-	-	14,313	14,313	-	-	(128)	(128)	379	379	-	-
2017	WECC		Douglas Palisades / PUD No. 1 of DC	U.S.	325	325	-	-	319	319	-	-	(3)	(3)	8	8	-	-
2017	WECC		PUD No. 2 of Grant County	U.S.	75,738	75,738	-	-	74,434	74,434	-	-	(667)	(667)	1,971	1,971	-	-

2017 NEL Calculations and Allocations to Load Serving Entities (or Designee) for the 2019 NERC and RE Assessments

Data Year	Regional Entity	ID	Entity	Country	Total NERC Assessments				NERC NEL Assessments				Penalty Sanctions		NERC Compliance Credits			
					Total	US	Canada	Mexico	Total	US	Canada	Mexico	Total	US	Total	US	Canada	Mexico
2017	WECC		Puget Sound Energy, Inc.	U.S.	388,766	388,766	-	-	382,071	382,071	-	-	(3,423)	(3,423)	10,118	10,118	-	-
2017	WECC		Salt River Project	U.S.	474,683	474,683	-	-	466,509	466,509	-	-	(4,179)	(4,179)	12,354	12,354	-	-
2017	WECC		Seattle City Light	U.S.	158,171	158,171	-	-	155,447	155,447	-	-	(1,393)	(1,393)	4,117	4,117	-	-
2017	WECC		Barrick Goldstrike Mines Inc.	U.S.	22,030	22,030	-	-	21,650	21,650	-	-	(194)	(194)	573	573	-	-
2017	WECC		City of Fallon	U.S.	1,464	1,464	-	-	1,439	1,439	-	-	(13)	(13)	38	38	-	-
2017	WECC		Mt. Wheeler Power	U.S.	8,779	8,779	-	-	8,627	8,627	-	-	(77)	(77)	228	228	-	-
2017	WECC		Truckee Donner Public Utility District	U.S.	2,564	2,564	-	-	2,520	2,520	-	-	(23)	(23)	67	67	-	-
2017	WECC		Beartooth Electric Cooperative	U.S.	1,222	1,222	-	-	1,201	1,201	-	-	(11)	(11)	32	32	-	-
2017	WECC		City of Tacoma DBA Tacoma Power	U.S.	79,477	79,477	-	-	78,109	78,109	-	-	(700)	(700)	2,068	2,068	-	-
2017	WECC		Tucson Electric Power Company	U.S.	235,713	235,713	-	-	231,654	231,654	-	-	(2,075)	(2,075)	6,135	6,135	-	-
2017	WECC		Merced Irrigation District	U.S.	8,244	8,244	-	-	8,102	8,102	-	-	(73)	(73)	215	215	-	-
2017	WECC		Turlock Irrigation District	U.S.	34,591	34,591	-	-	33,995	33,995	-	-	(305)	(305)	900	900	-	-
2017	WECC		Basin Electric Power Cooperative	U.S.	36,820	36,820	-	-	36,186	36,186	-	-	(324)	(324)	958	958	-	-
2017	WECC		Black Hills Colorado Electric/Cheyenne Light Fuel & Power	U.S.	69,628	69,628	-	-	68,429	68,429	-	-	(613)	(613)	1,812	1,812	-	-
2017	WECC		Black Hills State University South Dakota	U.S.	333	333	-	-	327	327	-	-	(3)	(3)	9	9	-	-
2017	WECC		City of Page	U.S.	1,148	1,148	-	-	1,128	1,128	-	-	(10)	(10)	30	30	-	-
2017	WECC		Colorado Springs Utilities	U.S.	73,150	73,150	-	-	71,890	71,890	-	-	(644)	(644)	1,904	1,904	-	-
2017	WECC		Deseret Generation & Transmission Cooperative	U.S.	1,845	1,845	-	-	1,813	1,813	-	-	(16)	(16)	48	48	-	-
2017	WECC		City of Farmington	U.S.	15,764	15,764	-	-	15,493	15,493	-	-	(139)	(139)	410	410	-	-
2017	WECC		Municipal Energy Agency of Nebraska	U.S.	10,007	10,007	-	-	9,834	9,834	-	-	(88)	(88)	260	260	-	-
2017	WECC		Navajo Tribal Utility Authority-Colorado	U.S.	3,434	3,434	-	-	3,375	3,375	-	-	(30)	(30)	89	89	-	-
2017	WECC		Navajo Agricultural Products Industry (NAPI)	U.S.	52	52	-	-	51	51	-	-	(0)	(0)	1	1	-	-
2017	WECC		Nebraska Public Power Marketing	U.S.	105	105	-	-	103	103	-	-	(1)	(1)	3	3	-	-
2017	WECC		Francis E. Warren Air Force Base	U.S.	192	192	-	-	189	189	-	-	(2)	(2)	5	5	-	-
2017	WECC		Town of Fredonia	U.S.	166	166	-	-	163	163	-	-	(1)	(1)	4	4	-	-
2017	WECC		Tri-State Generation & Transmission Assoc. Inc - Reliability	U.S.	124,873	124,873	-	-	122,723	122,723	-	-	(1,099)	(1,099)	3,250	3,250	-	-
2017	WECC		Western Area Power Administration - CRSP	U.S.	30,451	30,451	-	-	29,927	29,927	-	-	(268)	(268)	793	793	-	-
2017	WECC		Western Area Power - Loveland, CO	U.S.	29,114	29,114	-	-	28,613	28,613	-	-	(256)	(256)	758	758	-	-
2017	WECC		Wyoming Municipal Power Agency	U.S.	3,480	3,480	-	-	3,420	3,420	-	-	(31)	(31)	91	91	-	-
2017	WECC		Basin Electric Power Cooperative	U.S.	2,336	2,336	-	-	2,296	2,296	-	-	(21)	(21)	61	61	-	-
2017	WECC		Montana-Dakota Utilities Co.	U.S.	361	361	-	-	355	355	-	-	(3)	(3)	9	9	-	-
2017	WECC		NorthWestern Corp. dba NorthWestern Energy, LLC	U.S.	4,803	4,803	-	-	4,720	4,720	-	-	(42)	(42)	125	125	-	-
2017	WECC		Western Area Power Administration-Upper Great Plains Region	U.S.	5,648	5,648	-	-	5,551	5,551	-	-	(50)	(50)	147	147	-	-
2017	WECC		Aha Macav Power Service	U.S.	233	233	-	-	229	229	-	-	(2)	(2)	6	6	-	-
2017	WECC		Bureau of Reclamation (Desalter) - c/o DSW EMMO	U.S.	2	2	-	-	2	2	-	-	(0)	(0)	0	0	-	-
2017	WECC		Bureau of Reclamation (Wellfield)	U.S.	109	109	-	-	107	107	-	-	(1)	(1)	3	3	-	-
2017	WECC		Central Arizona Water Conservation District	U.S.	36,185	36,185	-	-	35,562	35,562	-	-	(319)	(319)	942	942	-	-
2017	WECC		City of Mesa	U.S.	4,243	4,243	-	-	4,170	4,170	-	-	(37)	(37)	110	110	-	-
2017	WECC		Needles Public Utilities Authority	U.S.	503	503	-	-	495	495	-	-	(4)	(4)	13	13	-	-
2017	WECC		Colorado River Agency-Bureau of Indian Affairs	U.S.	281	281	-	-	276	276	-	-	(2)	(2)	7	7	-	-
2017	WECC		Electrical District #2 - Coolidge Generating Station	U.S.	146	146	-	-	144	144	-	-	(1)	(1)	4	4	-	-
2017	WECC		Electrical District #2	U.S.	3,008	3,008	-	-	2,957	2,957	-	-	(26)	(26)	78	78	-	-
2017	WECC		Silver State Energy Association	U.S.	10,420	10,420	-	-	10,241	10,241	-	-	(92)	(92)	271	271	-	-
2017	WECC		Arizona Electric Power Cooperative, Inc	U.S.	55,313	55,313	-	-	54,360	54,360	-	-	(487)	(487)	1,440	1,440	-	-
2017	WECC		U.S. Army Yuma Proving Ground	U.S.	312	312	-	-	306	306	-	-	(3)	(3)	8	8	-	-
2017	WECC		Wellton-Mohawk Irrigation & Drainage District	U.S.	81	81	-	-	79	79	-	-	(1)	(1)	2	2	-	-
2017	WECC		Western Area Power Administration-Desert Southwest Region	U.S.	25,843	25,843	-	-	25,398	25,398	-	-	(228)	(228)	673	673	-	-
TOTAL WECC					13,453,838	11,561,930	1,679,998	211,910	13,537,209	11,362,816	1,967,949	206,443	(101,800)	(101,800)	18,429	300,914	(287,952)	5,467
TOTAL ERO					68,883,995	62,466,508	6,205,577	211,910	69,433,995	61,390,740	7,836,813	206,443	(550,000)	(550,000)	(0)	1,625,769	(1,631,236)	5,467

2017 NEL Calculations and Allocations to Load Serving Entities (or Designee) for the 2019 NERC and RE Assessments

Data Year	Regional Entity	ID	Entity	Country	Total NERC Assessments				NERC NEL Assessments				Penalty Sanctions		NERC Compliance Credits				
					Total	US	Canada	Mexico	Total	US	Canada	Mexico	Total	US	Total	US	Canada	Mexico	
Summary by Regional Entity																			
2017	FRCC				3,694,330	3,694,330	-	-	3,630,708	3,630,708	-	-	(32,528)	(32,528)	96,150	96,150	-	-	
2017	MRO				7,712,036	6,932,574	779,462	-	7,572,537	6,813,185	759,352	-	(61,039)	(61,039)	200,538	180,429	20,109	-	
2017	NPCC				8,152,751	4,406,633	3,746,117	-	9,440,255	4,330,745	5,109,511	-	(38,799)	(38,799)	(1,248,705)	114,688	(1,363,394)	-	
2017	RF				13,839,321	13,839,321	-	-	13,600,987	13,600,987	-	-	(121,851)	(121,851)	360,186	360,186	-	-	
2017	SERC				16,332,381	16,332,381	-	-	16,051,113	16,051,113	-	-	(143,802)	(143,802)	425,071	425,071	-	-	
2017	SPP				-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2017	TRE				5,699,337	5,699,337	-	-	5,601,186	5,601,186	-	-	(50,181)	(50,181)	148,332	148,332	-	-	
2017	WECC				13,453,838	11,561,930	1,679,998	211,910	13,537,209	11,362,816	1,967,949	206,443	(101,800)	(101,800)	18,429	300,914	(287,952)	5,467	
Total					68,883,995	62,466,508	6,205,577	211,910	69,433,995	61,390,740	7,836,813	206,443	(550,000)	(550,000)	(0)	1,625,769	(1,631,236)	5,467	

2017 NEL Calculations and Allocations to Load Serving Entities (or Designee) for the 2019 NERC and RE Assessments

Data Year	Regional Entity	ID	Entity	Country	Total Regional Entity Assessments (Including WIRAB Assessments)				Regional Entity NEL Assessments				Penalty Sanctions - US Only		NPCC CORC Program			WECC Compliance Assessments (ex.AESO)				WIRAB Assessments			
					Total	US	Canada	Mexico	Total	US	Canada	Mexico	Total	US	Total	US	Canada	Total	US	Canada	Mexico	Total	US	Canada	Mexico
2017	SERC	1288	City of North Little Rock AR (DENL)	U.S.	15,574	15,574	-	-	15,649	15,649	-	-	(74)	(74)											
2017	SERC	1289	City of Orangeburg SC Department of Public Utilities	U.S.	13,728	13,728	-	-	13,793	13,793	-	-	(66)	(66)											
2017	SERC	1290	City of Robertsdale AL	U.S.	1,368	1,368	-	-	1,374	1,374	-	-	(7)	(7)											
2017	SERC	1291	City of Ruston LA (DERS)	U.S.	4,608	4,608	-	-	4,630	4,630	-	-	(22)	(22)											
2017	SERC	1292	Seneca Light & Power	U.S.	2,769	2,769	-	-	2,782	2,782	-	-	(13)	(13)											
2017	SERC	1115	City of Springfield (CWLP)	U.S.	28,843	28,843	-	-	28,980	28,980	-	-	(138)	(138)											
2017	SERC	1465	City of Thayer, MO	U.S.	336	336	-	-	338	338	-	-	(2)	(2)											
2017	SERC	1293	City of Troy AL	U.S.	7,019	7,019	-	-	7,053	7,053	-	-	(34)	(34)											
2017	SERC	1294	City of West Memphis AR (West Memphis Utilities)	U.S.	6,429	6,429	-	-	6,460	6,460	-	-	(31)	(31)											
2017	SERC	1583	Claiborne Electric Cooperative, Inc.	U.S.	10,816	10,816	-	-	10,868	10,868	-	-	(52)	(52)											
2017	SERC	1584	Concordia Electric Cooperative, Inc.	U.S.	3,544	3,544	-	-	3,561	3,561	-	-	(17)	(17)											
2017	SERC	1726	Cube Hydro Carolinas	U.S.	244	244	-	-	245	245	-	-	(1)	(1)											
2017	SERC	1283	Dalton Utilities	U.S.	30,501	30,501	-	-	30,647	30,647	-	-	(146)	(146)											
2017	SERC	1585	Dixie Electric Membership Corporation	U.S.	36,293	36,293	-	-	36,466	36,466	-	-	(173)	(173)											
2017	SERC	1295	Dominion Virginia Power	U.S.	1,435,442	1,435,442	-	-	1,442,301	1,442,301	-	-	(6,858)	(6,858)											
2017	SERC	1296	Duke Energy Carolinas, LLC	U.S.	1,419,422	1,419,422	-	-	1,426,204	1,426,204	-	-	(6,782)	(6,782)											
2017	SERC	1466	Durant, MS	U.S.	424	424	-	-	426	426	-	-	(2)	(2)											
2017	SERC	1478	LG&E and KU Services Co as agent for LG&E Co and KU Co	U.S.	567,538	567,538	-	-	570,249	570,249	-	-	(2,712)	(2,712)											
2017	SERC	1297	East Kentucky Power Cooperative	U.S.	222,149	222,149	-	-	223,210	223,210	-	-	(1,061)	(1,061)											
2017	SERC	1298	East Mississippi Electric Power Association	U.S.	6,931	6,931	-	-	6,964	6,964	-	-	(33)	(33)											
2017	SERC	1669	Electricities of North Carolina Inc	U.S.	195,749	195,749	-	-	196,684	196,684	-	-	(935)	(935)											
2017	SERC	1300	EnergyUnited EMC	U.S.	42,502	42,502	-	-	42,706	42,706	-	-	(203)	(203)											
2017	SERC	1301	Entergy	U.S.	1,999,324	1,999,324	-	-	2,008,876	2,008,876	-	-	(9,552)	(9,552)											
2017	SERC	1302	Fayetteville (NC) Public Works Commission	U.S.	35,187	35,187	-	-	35,355	35,355	-	-	(168)	(168)											
2017	SERC	1303	Florida Public Utilities (Fl Panhandle Load)	U.S.	5,169	5,169	-	-	5,193	5,193	-	-	(25)	(25)											
2017	SERC	1304	French Broad EMC	U.S.	8,487	8,487	-	-	8,528	8,528	-	-	(41)	(41)											
2017	SERC	1305	Georgia Power Company	U.S.	1,433,473	1,433,473	-	-	1,440,322	1,440,322	-	-	(6,849)	(6,849)											
2017	SERC	1306	Georgia System Optns Corporation	U.S.	656,992	656,992	-	-	660,131	660,131	-	-	(3,139)	(3,139)											
2017	SERC	1479	Greenwood (MS) Utilities Commission	U.S.	4,718	4,718	-	-	4,740	4,740	-	-	(23)	(23)											
2017	SERC	1307	Greenwood (SC) Commissioners of Public Works	U.S.	5,343	5,343	-	-	5,369	5,369	-	-	(26)	(26)											
2017	SERC	1308	Gulf Power Company	U.S.	192,418	192,418	-	-	193,337	193,337	-	-	(919)	(919)											
2017	SERC	1586	Haywood EMC	U.S.	5,178	5,178	-	-	5,203	5,203	-	-	(25)	(25)											
2017	SERC		Hoosier Energy REC, Inc	U.S.	6,774	6,774	-	-	6,806	6,806	-	-	(32)	(32)											
2017	SERC	1309	Illinois Municipal Electric Agency	U.S.	32,001	32,001	-	-	32,154	32,154	-	-	(153)	(153)											
2017	SERC	1480	Itta Bena, MS	U.S.	233	233	-	-	234	234	-	-	(1)	(1)											
2017	SERC	1587	Jefferson Davis Electric Cooperative, Inc.	U.S.	4,427	4,427	-	-	4,448	4,448	-	-	(21)	(21)											
2017	SERC	1617	Kentucky Municipal Power	U.S.	11,029	11,029	-	-	11,082	11,082	-	-	(53)	(53)											
2017	SERC	1481	Kosciusko, MS	U.S.	1,235	1,235	-	-	1,241	1,241	-	-	(6)	(6)											
2017	SERC	1482	Leland, MS	U.S.	505	505	-	-	507	507	-	-	(2)	(2)											
2017	SERC	1313	McCormick Commission of Public Works	U.S.	276	276	-	-	277	277	-	-	(1)	(1)											
2017	SERC	1314	Mississippi Power Company	U.S.	171,050	171,050	-	-	171,867	171,867	-	-	(817)	(817)											
2017	SERC	1630	Mt. Carmel Public Utility	U.S.	1,744	1,744	-	-	1,752	1,752	-	-	(8)	(8)											
2017	SERC	1315	Municipal Electric Authority of Georgia	U.S.	182,513	182,513	-	-	183,385	183,385	-	-	(872)	(872)											
2017	SERC	1316	N.C. Electric Membership Corp.	U.S.	214,480	214,480	-	-	215,505	215,505	-	-	(1,025)	(1,025)											
2017	SERC	1588	Northeast Louisiana Power Cooperative, Inc.	U.S.	4,432	4,432	-	-	4,453	4,453	-	-	(21)	(21)											
2017	SERC	1574	Northern Virginia Electric Cooperative	U.S.	79,477	79,477	-	-	79,856	79,856	-	-	(380)	(380)											
2017	SERC	1319	Old Dominion Electric Cooperative	U.S.	84,008	84,008	-	-	84,409	84,409	-	-	(401)	(401)											
2017	SERC	1618	Osceola (Arkansas) Municipal Light and Power	U.S.	2,631	2,631	-	-	2,643	2,643	-	-	(13)	(13)											
2017	SERC	1320	Owensboro (KY) Municipal Utilities	U.S.	13,722	13,722	-	-	13,787	13,787	-	-	(66)	(66)											
2017	SERC	1321	Piedmont EMC in Duke and Progress Areas	U.S.	8,512	8,512	-	-	8,553	8,553	-	-	(41)	(41)											
2017	SERC	1323	Piedmont Municipal Power Agency (PMPA)	U.S.	39,492	39,492	-	-	39,681	39,681	-	-	(189)	(189)											
2017	SERC	1589	Pointe Coupee Electric Memb. Corp.	U.S.	4,387	4,387	-	-	4,408	4,408	-	-	(21)	(21)											
2017	SERC	1266	PowerSouth Energy	U.S.	145,832	145,832	-	-	146,528	146,528	-	-	(697)	(697)											
2017	SERC	1330	Prairie Power, Inc.	U.S.	25,919	25,919	-	-	26,043	26,043	-	-	(124)	(124)											
2017	SERC	1706	Duke Energy Progress	U.S.	775,116	775,116	-	-	778,819	778,819	-	-	(3,703)	(3,703)											
2017	SERC	1325	Rutherford EMC	U.S.	22,067	22,067	-	-	22,173	22,173	-	-	(105)	(105)											
2017	SERC	1631	Sam Rayburn G&T Electric Cooperative Inc.	U.S.	30,115	30,115	-	-	30,259	30,259	-	-	(144)	(144)											
2017	SERC	1326	South Carolina Electric & Gas Company	U.S.	390,301	390,301	-	-	392,165	392,165	-	-	(1,865)	(1,865)											
2017	SERC	1327	South Carolina Public Service Authority	U.S.	145,021	145,021	-	-	145,713	145,713	-	-	(693)	(693)											
2017	SERC	1590	South Louisiana Electric Cooperative Association	U.S.	9,744	9,744	-	-	9,791	9,791	-	-	(47)	(47)											
2017	SERC	1328	Cooperative Energy (formerly SMEPA)	U.S.	162,370	162,370	-	-	163,146	163,146	-	-	(776)	(776)											
2017	SERC	1329	Southern Illinois Power Cooperative	U.S.	26,517	26,517	-	-	26,644	26,644	-	-	(127)	(127)											
2017	SERC	1591	Southwest Louisiana Electric Membership Corporation	U.S.	41,368	41,368	-	-	41,566	41,566	-	-	(198)	(198)											
2017	SERC	1619	Southwestern Electric Cooperative, Inc.	U.S.	7,088	7,088	-	-	7,122	7,122	-	-	(34)	(34)											
2017	SERC	1331	Tennessee Valley Authority	U.S.	2,620,791	2,620,791	-	-	2,633,313	2,633,313	-	-	(12,521)	(12,521)											
2017	SERC	1632	Tex-La Electric Cooperative of Texas, Inc	U.S.	3,520	3,520	-	-	3,537	3,537	-	-	(17)	(17)											
2017	SERC	1332	Tombigbee Electric Cooperative Inc.	U.S.	2,045	2,045	-	-	2,055	2,055	-	-	(10)	(10)											
2017	SERC	1594	Town of Sharpsburg, N.C.	U.S.	329	329	-	-	330	330	-	-	(2)	(2)											
2017	SERC	1595	Town of Stantonburg, N.C. JRO	U.S.	938	938	-	-	943	943	-	-	(4)	(4)											
2017	SERC	1333	Town of Waynesville NC	U.S.	1,560	1,560	-	-	1,567	1,567	-	-	(7)	(7)											

2017 NEL Calculations and Allocations to Load Serving Entities (or Designee) for the 2019 NERC and RE Assessments

Data Year	Regional Entity	ID	Entity	Country	Total Regional Entity Assessments (Including WIRAB Assessments)				Regional Entity NEL Assessments				Penalty Sanctions - US Only		NPCC CORC Program			WECC Compliance Assessments (ex.AESO)				WIRAB Assessments			
					Total	US	Canada	Mexico	Total	US	Canada	Mexico	Total	US	Total	US	Canada	Total	US	Canada	Mexico	Total	US	Canada	Mexico
2017	SERC	1334	Town of Winnsboro SC	U.S.	1,047	1,047	-	-	1,052	1,052	-	-	(5)	(5)											
2017	SERC	1335	Town of Winterville NC	U.S.	912	912	-	-	916	916	-	-	(4)	(4)											
2017	SERC	1597	Washington-St.Tammany Electric Cooperative, Inc.	U.S.	17,379	17,379	-	-	17,462	17,462	-	-	(83)	(83)											
2017	SERC	1435	Arkansas Electric Cooperative Corporation	U.S.	173,088	173,088	-	-	173,915	173,915	-	-	(827)	(827)											
2017	SERC	1557	City of Clarksdale, Mississippi	U.S.	2,641	2,641	-	-	2,654	2,654	-	-	(13)	(13)											
2017	SERC	1708	City of Abbeville	U.S.	2,322	2,322	-	-	2,333	2,333	-	-	(11)	(11)											
2017	SERC	1558	Hope Water & Light (HWL)	U.S.	4,972	4,972	-	-	4,995	4,995	-	-	(24)	(24)											
2017	SERC	1559	City of Minden	U.S.	2,334	2,334	-	-	2,345	2,345	-	-	(11)	(11)											
2017	SERC	1249	Cleco Power LLC	U.S.	189,208	189,208	-	-	190,112	190,112	-	-	(904)	(904)											
2017	SERC	1648	Jonesboro City Water & Light	U.S.	23,459	23,459	-	-	23,571	23,571	-	-	(112)	(112)											
2017	SERC	1649	Kennett Board of Public Works	U.S.	2,307	2,307	-	-	2,318	2,318	-	-	(11)	(11)											
2017	SERC	1471	Lafayette Utilities System	U.S.	34,698	34,698	-	-	34,863	34,863	-	-	(166)	(166)											
2017	SERC	1253	Louisiana Energy & Power Authority (LEPA)	U.S.	16,161	16,161	-	-	16,238	16,238	-	-	(77)	(77)											
2017	SERC	1650	Malden Board of Public Works	U.S.	840	840	-	-	844	844	-	-	(4)	(4)											
2017	SERC	1443	Missouri Joint Municipal Electric Utility Commission	U.S.	34,988	34,988	-	-	35,155	35,155	-	-	(167)	(167)											
2017	SERC	1639	OzMo Ozark Missouri, West Plains MO	U.S.	3,186	3,186	-	-	3,201	3,201	-	-	(15)	(15)											
2017	SERC	1652	Piggott Municipal Light, Water & Sewer	U.S.	617	617	-	-	620	620	-	-	(3)	(3)											
2017	SERC	1653	Poplar Bluff Municipal Utilities	U.S.	6,268	6,268	-	-	6,298	6,298	-	-	(30)	(30)											
2017	SERC	1636	City of Prescott	U.S.	1,384	1,384	-	-	1,391	1,391	-	-	(7)	(7)											
2017	SERC	1561	Public Service Commission of Yazoo City of Mississippi	U.S.	1,975	1,975	-	-	1,984	1,984	-	-	(9)	(9)											
2017	SERC	1654	Sikeston Board of Municipal Utilities	U.S.	6,286	6,286	-	-	6,317	6,317	-	-	(30)	(30)											
TOTAL SERC					17,372,215	17,372,215	-	-	17,455,215	17,455,215	-	-	(83,000)	(83,000)											
TOTAL SPP																									
2017	TRE	1019	ERCOT	U.S.	13,248,000	13,248,000	-	-	13,362,449	13,362,449	-	-	(114,449)	(114,449)											
TOTAL ERCOT					13,248,000	13,248,000	-	-	13,362,449	13,362,449	-	-	(114,449)	(114,449)											
2017	WECC		Alberta Electric System Operator	Canada	876,478	-	876,478	-	1,855,746	-	1,855,746	-	-	-	-			(1,033,069)	(1,033,069)		53,801	53,801			
2017	WECC		British Columbia Hydro & Power Authority	Canada	2,042,199	-	2,042,199	-	1,905,017	-	1,905,017	-	-	-	-			81,953	81,953		55,229	55,229			
2017	WECC		Centro Nacional de Control de Energia	Mexico	422,923	-	-	422,923	394,514	-	-	394,514	-	-	-	-		16,972	-	16,972	11,438	-	-	11,438	
2017	WECC		Ajo Improvement District	U.S.	340	340	-	-	325	325	-	-	(9)	(9)			14	14		9	9				
2017	WECC		Arizona Public Service Company	U.S.	905,162	905,162	-	-	866,228	866,228	-	-	(23,444)	(23,444)			37,265	37,265		25,113	25,113				
2017	WECC		City of Williams	U.S.	1,394	1,394	-	-	1,334	1,334	-	-	(36)	(36)			57	57		39	39				
2017	WECC		Electrical Districts 3	U.S.	2,655	2,655	-	-	2,541	2,541	-	-	(69)	(69)			109	109		74	74				
2017	WECC		Aguila Irrigation District - APS	U.S.	1,032	1,032	-	-	988	988	-	-	(27)	(27)			42	42		29	29				
2017	WECC		Buckeye Water Conservation and Drainage District - APS	U.S.	699	699	-	-	669	669	-	-	(18)	(18)			29	29		19	19				
2017	WECC		Electrical District No. 6 of Pinal County - APS	U.S.	67	67	-	-	64	64	-	-	(2)	(2)			3	3		2	2				
2017	WECC		Electrical District No. 7 of Maricopa County - APS	U.S.	1,569	1,569	-	-	1,501	1,501	-	-	(41)	(41)			65	65		44	44				
2017	WECC		Electrical District No. 8 of Maricopa County - APS	U.S.	11,262	11,262	-	-	10,778	10,778	-	-	(292)	(292)			464	464		312	312				
2017	WECC		Harquahala Valley Power Districts - APS	U.S.	3,566	3,566	-	-	3,412	3,412	-	-	(92)	(92)			147	147		99	99				
2017	WECC		Maricopa County Municipal Water Conservation Dist No. 1 - APS	U.S.	1,610	1,610	-	-	1,541	1,541	-	-	(42)	(42)			66	66		45	45				
2017	WECC		McMullen Valley Water Conservation & Drainage District - APS	U.S.	3,875	3,875	-	-	3,709	3,709	-	-	(100)	(100)			160	160		108	108				
2017	WECC		Roosevelt Irrigation District - APS	U.S.	1,275	1,275	-	-	1,220	1,220	-	-	(33)	(33)			52	52		35	35				
2017	WECC		Tonopah Irrigation District - APS	U.S.	846	846	-	-	810	810	-	-	(22)	(22)			35	35		23	23				
2017	WECC		Navajo Tribal Utility Authority-Arizona	U.S.	1,569	1,569	-	-	1,501	1,501	-	-	(41)	(41)			65	65		44	44				
2017	WECC		Tohono O'Odham Utility Authority	U.S.	1,922	1,922	-	-	1,839	1,839	-	-	(50)	(50)			79	79		53	53				
2017	WECC		Town of Wickenburg	U.S.	827	827	-	-	792	792	-	-	(21)	(21)			34	34		23	23				
2017	WECC		Avista Corporation	U.S.	301,421	301,421	-	-	288,456	288,456	-	-	(7,807)	(7,807)			12,409	12,409		8,363	8,363				
2017	WECC		Kaiser Aluminum Fabricated Products LLC	U.S.	9,656	9,656	-	-	9,241	9,241	-	-	(250)	(250)			398	398		268	268				
2017	WECC		Pend Oreille County PUD No. 1	U.S.	31,704	31,704	-	-	30,340	30,340	-	-	(821)	(821)			1,305	1,305		880	880				
2017	WECC		PUD No. 2 of Grant County	U.S.	2,874	2,874	-	-	2,750	2,750	-	-	(74)	(74)			118	118		80	80				
2017	WECC		Bonneville Power Administration-Power Services	U.S.	198,232	198,232	-	-	189,705	189,705	-	-	(5,134)	(5,134)			8,161	8,161		5,500	5,500				
2017	WECC		Bonneville Power Administration-Hydro	U.S.	6,315	6,315	-	-	6,043	6,043	-	-	(164)	(164)			260	260		175	175				
2017	WECC		Bonneville Power Administration-Transmission	U.S.	1,610,871	1,610,871	-	-	1,541,582	1,541,582	-	-	(41,722)	(41,722)			66,318	66,318		44,693	44,693				
2017	WECC		City of Redding	U.S.	24,887	24,887	-	-	23,817	23,817	-	-	(645)	(645)			1,025	1,025		690	690				
2017	WECC		City of Roseville	U.S.	38,920	38,920	-	-	37,246	37,246	-	-	(1,008)	(1,008)			1,602	1,602		1,080	1,080				
2017	WECC		Modesto Irrigation District	U.S.	81,734	81,734	-	-	78,219	78,219	-	-	(2,117)	(2,117)			3,365	3,365		2,268	2,268				
2017	WECC		Sacramento Municipal Utility District	U.S.	361,345	361,345	-	-	345,802	345,802	-	-	(9,359)	(9,359)			14,876	14,876		10,025	10,025				
2017	WECC		Western Area Power Administration-Sierra Nevada Region	U.S.	61,929	61,929	-	-	59,265	59,265	-	-	(1,604)	(1,604)			2,550	2,550		1,718	1,718				
2017	WECC		California Independent System Operator	U.S.	7,138,058	7,138,058	-	-	6,831,026	6,831,026	-	-	(184,877)	(184,877)			293,868	293,868		198,041	198,041				
2017	WECC		El Paso Electric Company	U.S.	262,534	262,534	-	-	251,241	251,241	-	-	(6,800)	(6,800)			10,808	10,808		7,284	7,284				
2017	WECC		Idaho Power Company	U.S.	491,859	491,859	-	-	470,703	470,703	-	-	(12,739)	(12,739)			20,249	20,249		13,646	13,646				
2017	WECC		Imperial Irrigation District	U.S.	116,626	116,626	-	-	111,609	111,609	-	-	(3,021)	(3,021)			4,801	4,801		3,236	3,236				
2017	WECC		Los Angeles Department of Water and Power	U.S.	897,033	897,033	-	-	858,449	858,449	-	-	(23,233)	(23,233)			36,930	36,930		24,888	24,888				
2017	WECC		City of Henderson	U.S.	1,282	1,282	-	-	1,227	1,227	-	-	(33)	(33)			53	53		36	36				
2017	WECC		City of Las Vegas	U.S.	1,298	1,298	-	-	1,243	1,243	-	-	(34)	(34)			53	53		36	36				
2017	WECC		City of North Las Vegas	U.S.	731	731	-	-	700	700	-	-	(19)	(19)			30	30		20	20				
2017	WECC		Clark County Water Reclamation District	U.S.	2,538	2,538	-	-	2,429	2,429	-	-	(66)	(66)			104	104		70	70				
2017	WECC		Colorado River Commission of Nevada	U.S.	14,721	14,721	-	-	14,088	14,088	-	-	(381)	(381)			606	606		408	408				

2017 NEL Calculations and Allocations to Load Serving Entities (or Designee) for the 2019 NERC and RE Assessments

Data Year	Regional Entity	ID	Entity	Country	Total Regional Entity Assessments (Including WIRAB Assessments)				Regional Entity NEL Assessments				Penalty Sanctions - US Only		NPCC CORC Program			WECC Compliance Assessments (ex.AESO)				WIRAB Assessments			
					Total	US	Canada	Mexico	Total	US	Canada	Mexico	Total	US	Total	US	Canada	Total	US	Canada	Mexico	Total	US	Canada	Mexico
2017	WECC		Las Vegas Valley Water District	U.S.	3,373	3,373	-	-	3,228	3,228	-	-	(87)	(87)				139	139			94	94		
2017	WECC		Nevada Power Company dba NV Energy	U.S.	975,320	975,320	-	-	933,368	933,368	-	-	(25,261)	(25,261)				40,153	40,153			27,060	27,060		
2017	WECC		MGM Resorts International	U.S.	29,171	29,171	-	-	27,917	27,917	-	-	(756)	(756)				1,201	1,201			809	809		
2017	WECC		Switch-North	U.S.	180	180	-	-	172	172	-	-	(5)	(5)				7	7			5	5		
2017	WECC		Switch-South	U.S.	9,241	9,241	-	-	8,843	8,843	-	-	(239)	(239)				380	380			256	256		
2017	WECC		Wynn Las Vegas	U.S.	5,720	5,720	-	-	5,474	5,474	-	-	(148)	(148)				235	235			159	159		
2017	WECC		Overton Power District No. 5	U.S.	12,329	12,329	-	-	11,799	11,799	-	-	(319)	(319)				508	508			342	342		
2017	WECC		Southern Nevada Water Authority	U.S.	3,767	3,767	-	-	3,605	3,605	-	-	(98)	(98)				155	155			105	105		
2017	WECC		Basin Electric Power Cooperative	U.S.	24,902	24,902	-	-	23,831	23,831	-	-	(645)	(645)				1,025	1,025			691	691		
2017	WECC		Big Horn County Electric Cooperative	U.S.	1,197	1,197	-	-	1,146	1,146	-	-	(31)	(31)				49	49			33	33		
2017	WECC		NorthWestern Corp. dba NorthWestern Energy, LLC	U.S.	294,148	294,148	-	-	281,496	281,496	-	-	(7,618)	(7,618)				12,110	12,110			8,161	8,161		
2017	WECC		Western Area Power Administration-Upper Great Plains Region	U.S.	249	249	-	-	239	239	-	-	(6)	(6)				10	10			7	7		
2017	WECC		PacifiCorp West (PACW)	U.S.	671,901	671,901	-	-	643,000	643,000	-	-	(17,402)	(17,402)				27,662	27,662			18,642	18,642		
2017	WECC		Constellation New Energy	U.S.	10,887	10,887	-	-	10,419	10,419	-	-	(282)	(282)				448	448			302	302		
2017	WECC		3 Phases Renewables	U.S.	7	7	-	-	7	7	-	-	(0)	(0)				0	0			0	0		
2017	WECC		Avangrid Renewables	U.S.	3,217	3,217	-	-	3,078	3,078	-	-	(83)	(83)				132	132			89	89		
2017	WECC		Calpine Energy Solutions, LLC./Noble Americas Energy Solutions, LLC	U.S.	50,988	50,988	-	-	48,795	48,795	-	-	(1,321)	(1,321)				2,099	2,099			1,415	1,415		
2017	WECC		PacifiCorp (IPC)	U.S.	65	65	-	-	62	62	-	-	(2)	(2)				3	3			2	2		
2017	WECC		PacifiCorp (EasternBalAuth)	U.S.	1,552,534	1,552,534	-	-	1,485,754	1,485,754	-	-	(40,211)	(40,211)				63,916	63,916			43,074	43,074		
2017	WECC		PacifiCorp (Portland)	U.S.	138	138	-	-	133	133	-	-	(4)	(4)				6	6			4	4		
2017	WECC		PacifiCorp (WAPA-CO-MO)	U.S.	3,616	3,616	-	-	3,461	3,461	-	-	(94)	(94)				149	149			100	100		
2017	WECC		Portland General Electric Company	U.S.	548,209	548,209	-	-	524,629	524,629	-	-	(14,199)	(14,199)				22,569	22,569			15,210	15,210		
2017	WECC		Shell Energy North America	U.S.	2,331	2,331	-	-	2,231	2,231	-	-	(60)	(60)				96	96			65	65		
2017	WECC		Arkansas River Power Authority (ARPA)	U.S.	8,337	8,337	-	-	7,978	7,978	-	-	(216)	(216)				343	343			231	231		
2017	WECC		Black Hills Colorado Electric	U.S.	64,033	64,033	-	-	61,279	61,279	-	-	(1,658)	(1,658)				2,636	2,636			1,777	1,777		
2017	WECC		Burlington	U.S.	972	972	-	-	930	930	-	-	(25)	(25)				40	40			27	27		
2017	WECC		Colorado Springs Utilities	U.S.	1,883	1,883	-	-	1,802	1,802	-	-	(49)	(49)				78	78			52	52		
2017	WECC		Grand Valley Power	U.S.	7,747	7,747	-	-	7,414	7,414	-	-	(201)	(201)				319	319			215	215		
2017	WECC		Holy Cross Energy	U.S.	32,295	32,295	-	-	30,906	30,906	-	-	(836)	(836)				1,330	1,330			896	896		
2017	WECC		Intermountain Rural Electric Association	U.S.	69,554	69,554	-	-	66,562	66,562	-	-	(1,801)	(1,801)				2,863	2,863			1,930	1,930		
2017	WECC		Municipal Energy Agency of Nebraska	U.S.	5,309	5,309	-	-	5,080	5,080	-	-	(137)	(137)				219	219			147	147		
2017	WECC		Platte River Power Authority	U.S.	100,585	100,585	-	-	96,259	96,259	-	-	(2,605)	(2,605)				4,141	4,141			2,791	2,791		
2017	WECC		Public Service Company of Colorado (Xcel)	U.S.	947,036	947,036	-	-	906,301	906,301	-	-	(24,528)	(24,528)				38,989	38,989			26,275	26,275		
2017	WECC		Public Service Company of Colorado (Xcel)-(WAPA-CO-MO)	U.S.	3,592	3,592	-	-	3,437	3,437	-	-	(93)	(93)				148	148			100	100		
2017	WECC		Raton Public Service	U.S.	1,359	1,359	-	-	1,300	1,300	-	-	(35)	(35)				56	56			38	38		
2017	WECC		Town of Center	U.S.	464	464	-	-	444	444	-	-	(12)	(12)				19	19			13	13		
2017	WECC		Tri-State Generation & Transmission Assoc. Inc - Reliability	U.S.	82,292	82,292	-	-	78,752	78,752	-	-	(2,131)	(2,131)				3,388	3,388			2,283	2,283		
2017	WECC		Western Area Power - Loveland, CO	U.S.	5,265	5,265	-	-	5,039	5,039	-	-	(136)	(136)				217	217			146	146		
2017	WECC		Yampa Valley Electric Association	U.S.	17,477	17,477	-	-	16,726	16,726	-	-	(453)	(453)				720	720			485	485		
2017	WECC		City of Aztec Electric Dept	U.S.	1,139	1,139	-	-	1,090	1,090	-	-	(29)	(29)				47	47			32	32		
2017	WECC		City of Gallup	U.S.	6,900	6,900	-	-	6,603	6,603	-	-	(179)	(179)				284	284			191	191		
2017	WECC		Jicarilla Apache Nation Power Authority	U.S.	718	718	-	-	687	687	-	-	(19)	(19)				30	30			20	20		
2017	WECC		Kit Carson Electric Inc	U.S.	9,180	9,180	-	-	8,786	8,786	-	-	(238)	(238)				378	378			255	255		
2017	WECC		Navajo Tribal Utility Authority-New Mexico	U.S.	6,180	6,180	-	-	5,914	5,914	-	-	(160)	(160)				254	254			171	171		
2017	WECC		Public Service Company of New Mexico	U.S.	284,794	284,794	-	-	272,544	272,544	-	-	(7,376)	(7,376)				11,725	11,725			7,901	7,901		
2017	WECC		The Incorporated County of Los Alamos	U.S.	19,072	19,072	-	-	18,251	18,251	-	-	(494)	(494)				785	785			529	529		
2017	WECC		Tri-State Generation & Transmission Association, Inc.	U.S.	86,285	86,285	-	-	82,574	82,574	-	-	(2,235)	(2,235)				3,552	3,552			2,394	2,394		
2017	WECC		US Dept of Energy - Kirtland AFB	U.S.	13,242	13,242	-	-	12,673	12,673	-	-	(343)	(343)				545	545			367	367		
2017	WECC		Public Utility District No. 1 of Chelan County	U.S.	57,939	57,939	-	-	55,447	55,447	-	-	(1,501)	(1,501)				2,385	2,385			1,607	1,607		
2017	WECC		Okanogan PUD	U.S.	20,685	20,685	-	-	19,796	19,796	-	-	(536)	(536)				852	852			574	574		
2017	WECC		PUD No. 1 of Douglas County	U.S.	28,582	28,582	-	-	27,353	27,353	-	-	(740)	(740)				1,177	1,177			793	793		
2017	WECC		Douglas Palisades / PUD No. 1 of DC	U.S.	638	638	-	-	610	610	-	-	(17)	(17)				26	26			18	18		
2017	WECC		PUD No. 2 of Grant County	U.S.	148,636	148,636	-	-	142,243	142,243	-	-	(3,850)	(3,850)				6,119	6,119			4,124	4,124		
2017	WECC		Puget Sound Energy, Inc.	U.S.	762,957	762,957	-	-	730,140	730,140	-	-	(19,761)	(19,761)				31,410	31,410			21,168	21,168		
2017	WECC		Salt River Project	U.S.	931,571	931,571	-	-	891,501	891,501	-	-	(24,128)	(24,128)				38,352	38,352			25,846	25,846		
2017	WECC		Seattle City Light	U.S.	310,411	310,411	-	-	297,059	297,059	-	-	(8,040)	(8,040)				12,779	12,779			8,612	8,612		
2017	WECC		Barrick Goldstrike Mines Inc.	U.S.	43,234	43,234	-	-	41,374	41,374	-	-	(1,120)	(1,120)				1,780	1,780			1,199	1,199		
2017	WECC		City of Fallon	U.S.	2,874	2,874	-	-	2,750	2,750	-	-	(74)	(74)				118	118			80	80		
2017	WECC		Mt. Wheeler Power	U.S.	17,228	17,228	-	-	16,487	16,487	-	-	(446)	(446)				709	709			478	478		
2017	WECC		Truckee Donner Public Utility District	U.S.	5,032	5,032	-	-	4,816	4,816	-	-	(130)	(130)				207	207			140	140		
2017	WECC		Beartooth Electric Cooperative	U.S.	2,399	2,399	-	-	2,296	2,296	-	-	(62)	(62)				99	99			67	67		
2017	WECC		City of Tacoma DBA Tacoma Power	U.S.	155,975	155,975	-	-	149,266	149,266	-	-	(4,040)	(4,040)				6,421	6,421			4,327	4,327		
2017	WECC		Tucson Electric Power Company	U.S.	462,589	462,589	-	-	442,691	442,691	-	-	(11,981)	(11,981)				19,044	19,044			12,834	12,834		
2017	WECC		Merced Irrigation District	U.S.	16,179	16,179	-	-	15,483	15,483	-	-	(419)	(419)				666	666			449	449		
2017	WECC		Turlock Irrigation District	U.S.	67,885	67,885	-	-	64,965	64,965	-	-	(1,758)	(1,758)				2,795	2,795			1,883	1,883		
2017	WECC		Basin Electric Power Cooperative	U.S.	72,259	72,259	-	-	69,151	69,151	-	-	(1,872)	(1,872)				2,975	2,975			2,005	2,005		
2017	WECC		Black Hills Colorado Electric/Cheyenne Light Fuel & Power	U.S.	136,646	136,646	-	-	130,768	130,768	-	-	(3,539)	(3,539)				5,626	5,626			3,791	3,791		
2017	WECC		Black Hills State University South Dakota	U.S.	653	653	-	-	625	625	-	-	(17)	(17											

2017 NEL Calculations and Allocations to Load Serving Entities (or Designee) for the 2019 NERC and RE Assessments

Data Year	Regional Entity	ID	Entity	Country	Total Regional Entity Assessments (Including WIRAB Assessments)				Regional Entity NEL Assessments				Penalty Sanctions - US Only		NPCC CORC Program			WECC Compliance Assessments (ex.AESO)				WIRAB Assessments			
					Total	US	Canada	Mexico	Total	US	Canada	Mexico	Total	US	Total	US	Canada	Total	US	Canada	Mexico	Total	US	Canada	Mexico
2017	WECC		Deseret Generation & Transmission Cooperative	U.S.	3,620	3,620	-	-	3,464	3,464	-	-	(94)	(94)				149	149			100	100		
2017	WECC		City of Farmington	U.S.	30,937	30,937	-	-	29,606	29,606	-	-	(801)	(801)				1,274	1,274			858	858		
2017	WECC		Municipal Energy Agency of Nebraska	U.S.	19,638	19,638	-	-	18,793	18,793	-	-	(509)	(509)				808	808			545	545		
2017	WECC		Navajo Tribal Utility Authority-Colorado	U.S.	6,740	6,740	-	-	6,450	6,450	-	-	(175)	(175)				277	277			187	187		
2017	WECC		Navajo Agricultural Products Industry (NAPI)	U.S.	102	102	-	-	98	98	-	-	(3)	(3)				4	4			3	3		
2017	WECC		Nebraska Public Power Marketing	U.S.	206	206	-	-	197	197	-	-	(5)	(5)				8	8			6	6		
2017	WECC		Francis E. Warren Air Force Base	U.S.	377	377	-	-	361	361	-	-	(10)	(10)				16	16			10	10		
2017	WECC		Town of Fredonia	U.S.	326	326	-	-	312	312	-	-	(8)	(8)				13	13			9	9		
2017	WECC		Tri-State Generation & Transmission Assoc. Inc - Reliability	U.S.	245,065	245,065	-	-	234,524	234,524	-	-	(6,347)	(6,347)				10,089	10,089			6,799	6,799		
2017	WECC		Western Area Power Administration - CRSP	U.S.	59,761	59,761	-	-	57,191	57,191	-	-	(1,548)	(1,548)				2,460	2,460			1,658	1,658		
2017	WECC		Western Area Power - Loveland, CO	U.S.	57,137	57,137	-	-	54,679	54,679	-	-	(1,480)	(1,480)				2,352	2,352			1,585	1,585		
2017	WECC		Wyoming Municipal Power Agency	U.S.	6,829	6,829	-	-	6,536	6,536	-	-	(177)	(177)				281	281			189	189		
2017	WECC		Basin Electric Power Cooperative	U.S.	4,584	4,584	-	-	4,387	4,387	-	-	(119)	(119)				189	189			127	127		
2017	WECC		Montana-Dakota Utilities Co.	U.S.	708	708	-	-	678	678	-	-	(18)	(18)				29	29			20	20		
2017	WECC		NorthWestern Corp. dba NorthWestern Energy, LLC	U.S.	9,425	9,425	-	-	9,020	9,020	-	-	(244)	(244)				388	388			262	262		
2017	WECC		Western Area Power Administration-Upper Great Plains Region	U.S.	11,084	11,084	-	-	10,607	10,607	-	-	(287)	(287)				456	456			308	308		
2017	WECC		Aha Macav Power Service	U.S.	457	457	-	-	437	437	-	-	(12)	(12)				19	19			13	13		
2017	WECC		Bureau of Reclamation (Desalter) - c/o DSW EMMO	U.S.	3	3	-	-	3	3	-	-	(0)	(0)				0	0			0	0		
2017	WECC		Bureau of Reclamation (Wellfield)	U.S.	214	214	-	-	205	205	-	-	(6)	(6)				9	9			6	6		
2017	WECC		Central Arizona Water Conservation District	U.S.	71,014	71,014	-	-	67,960	67,960	-	-	(1,839)	(1,839)				2,924	2,924			1,970	1,970		
2017	WECC		City of Mesa	U.S.	8,327	8,327	-	-	7,969	7,969	-	-	(216)	(216)				343	343			231	231		
2017	WECC		Needles Public Utilities Authority	U.S.	988	988	-	-	945	945	-	-	(26)	(26)				41	41			27	27		
2017	WECC		Colorado River Agency-Bureau of Indian Affairs	U.S.	552	552	-	-	528	528	-	-	(14)	(14)				23	23			15	15		
2017	WECC		Electrical District #2 - Coolidge Generating Station	U.S.	287	287	-	-	275	275	-	-	(7)	(7)				12	12			8	8		
2017	WECC		Electrical District #2	U.S.	5,904	5,904	-	-	5,650	5,650	-	-	(153)	(153)				243	243			164	164		
2017	WECC		Silver State Energy Association	U.S.	20,450	20,450	-	-	19,570	19,570	-	-	(530)	(530)				842	842			567	567		
2017	WECC		Arizona Electric Power Cooperative, Inc	U.S.	108,552	108,552	-	-	103,883	103,883	-	-	(2,812)	(2,812)				4,469	4,469			3,012	3,012		
2017	WECC		U.S. Army Yuma Proving Ground	U.S.	612	612	-	-	586	586	-	-	(16)	(16)				25	25			17	17		
2017	WECC		Wellton-Mohawk Irrigation & Drainage District	U.S.	158	158	-	-	152	152	-	-	(4)	(4)				7	7			4	4		
2017	WECC		Western Area Power Administration-Desert Southwest Region	U.S.	50,716	50,716	-	-	48,535	48,535	-	-	(1,314)	(1,314)				2,088	2,088			1,407	1,407		
TOTAL WECC					26,032,000	22,690,400	2,918,677	422,923	25,869,686	21,714,409	3,760,763	394,514	(587,686)	(587,686)				0	934,144	(951,116)	16,972	750,000	629,532	109,030	11,438
TOTAL ERO					114,211,051	103,477,873	10,310,255	422,923	106,449,109	97,045,322	9,009,273	394,514	(1,171,873)	(1,171,873)	8,183,815	6,040,747	2,143,068	0	934,144	(951,116)	16,972	750,000	629,532	109,030	11,438
Summary by Regional Entity																									
2017	FRCC				5,827,925	5,827,925	-	-	5,827,925	5,827,925	-	-	-	-				-	-			-	-		
2017	MRO				15,471,669	13,914,246	1,557,423	-	15,531,192	13,973,769	1,557,423	-	(59,523)	(59,523)				-	-			-	-		
2017	NPCC				15,003,411	9,169,256	5,834,155	-	6,819,596	3,128,509	3,691,086	-	-	-	8,183,815	6,040,747	2,143,068	-	-			-	-		
2017	RF				21,255,831	21,255,831	-	-	21,583,046	21,583,046	-	-	(327,215)	(327,215)				-	-			-	-		
2017	SERC				17,372,215	17,372,215	-	-	17,455,215	17,455,215	-	-	(83,000)	(83,000)				-	-			-	-		
2017	SPP				-	-	-	-	-	-	-	-	-	-				-	-			-	-		
2017	TRE				13,248,000	13,248,000	-	-	13,362,449	13,362,449	-	-	(114,449)	(114,449)				-	-			-	-		
2017	WECC				26,032,000	22,690,400	2,918,677	422,923	25,869,686	21,714,409	3,760,763	394,514	(587,686)	(587,686)				0	934,144	(951,116)	16,972	750,000	629,532	109,030	11,438
Total					114,211,051	103,477,873	10,310,255	422,923	106,449,109	97,045,322	9,009,273	394,514	(1,171,873)	(1,171,873)	8,183,815	6,040,747	2,143,068	0	934,144	(951,116)	16,972	750,000	629,532	109,030	11,438

DOCKET NO. RR18-__-000

**NORTH AMERICAN ELECTRIC RELIABILITY
CORPORATION**

2019 BUSINESS PLAN AND BUDGET FILING

ATTACHMENT 3

FLORIDA RELIABILITY COORDINATING COUNCIL

PROPOSED 2019 BUSINESS PLAN AND BUDGET



FLORIDA RELIABILITY COORDINATING COUNCIL, INC.
3000 BAYPORT DRIVE, SUITE 600
TAMPA, FLORIDA 33607-8410
PHONE 813.289.5644 • FAX 813.289.5646
WWW.FRCC.COM

2019 Business Plan and Budget

Florida Reliability Coordinating Council, Inc.

FRCC Board Approved: 06-19-2018

Table of Contents

Introduction.....	3
Organizational Overview	3
Membership and Governance	4
Statutory Functional Scope	5
2019 Key Strategic Goals	6
2018 Statutory Budget and Projection and 2019 Budget Comparisons.....	11
Section A – Statutory Programs.....	12
Reliability Standards Development Program.....	13
Compliance Monitoring and Enforcement Program and Organization Registration and Certification Program.....	16
Reliability Assessment and Performance Analysis Program.....	21
Training, Education and Operator Certification Program.....	26
Situation Awareness and Infrastructure Security Program.....	30
General and Administrative	33
Section B – Supplemental Financial Information	37
Breakdown by Statement of Activity Sections	39
Section C – Non-Statutory Activities	47
Non-Statutory Members Services Division	48
Non-Statutory Functional Scope.....	48
2018 Member Services Budget and Projection and 2019 Budget Comparisons	54
Section D – Additional Consolidated Financial Statements	57
Statement of Financial Position	59
Statutory Organizational Chart	60

Introduction

TOTAL RESOURCES (in whole dollars)				
	2019 Budget	U.S.	Canada	Mexico
Statutory FTEs	20.75			
Non-statutory FTEs	20.07			
Total FTEs	40.82			
Statutory Expenses	\$ 6,709,129			
Non-Statutory Expenses	\$ 12,675,735			
Total Expenses	\$ 19,384,864			
Statutory Inc(Dec) in Fixed Assets	\$ (13,342)			
Non-Statutory Inc(Dec) in Fixed Assets	\$ (23,727)			
Total Inc(Dec) in Fixed Assets	\$ (37,070)			
Statutory Working Capital Requirement*	(775,862)			
Non-Statutory Working Capital Requirement**	0			
Total Working Capital Requirement	(775,862)			
Total Statutory Funding Requirement	\$ 5,919,925			
Total Non-Statutory Funding Requirement	\$ 12,652,008			
Total Funding Requirement	\$ 18,571,933			
Statutory Funding Assessments	\$ 5,827,925	\$ 5,827,925		
Non-Statutory Fees	\$ 12,388,798	\$ 12,388,798		
NEL	232,720,000	232,720,000		
NEL%				

*Refer to Table B-1 on page 38 in Section B.

**Refer to the Reserve Analysis on page 56 in Section C.

Organizational Overview

The Florida Reliability Coordinating Council (FRCC) is a Florida not-for-profit corporation that was formed in 1996 and is one of the eight regions of the North American Electric Reliability Corporation (NERC). FRCC's mission is to assure effective and efficient reduction of risk to the reliability and security of the peninsular Florida Bulk Power System (BPS). FRCC's web site is www.frcc.com. The FRCC Region is comprised of all of Florida east of the Apalachicola River. Florida's unique geography and its highly integrated transmission system coupled with its single interface boundary to the rest of the Eastern Interconnection required the development of a reliability focus in the FRCC Region. Membership in the FRCC's Regional Entity Division is open to any entity, without cost, that has a material interest in the reliability of the Bulk Electric System (BES) in the FRCC Region. Currently there are 40 Registered Entities within the FRCC Region. FRCC is governed by a balanced stakeholder Board of Directors and accomplishes its activities through qualified professional staff and standing committees which also have balanced stakeholder governance.

FRCC provides the statutory functions and services for the FRCC Region through its Regional Entity Division. Non-statutory services for the FRCC Region are provided through its Member Services Division. This divisional structure is an efficient and effective means of clearly

separating statutory and non-statutory activities and related funding for each. The FRCC Bylaws, creating this divisional structure, were first approved by the Federal Energy Regulatory Commission (FERC) on March 21, 2008.

The FRCC Regional Entity Division works to enhance the reliability of the BES in the FRCC Region pursuant to the approved Regional Delegation Agreement (RDA) with NERC, as the Electric Reliability Organization (ERO), under the authority of the FERC. The functions performed by the FRCC Regional Entity Division include regional reliability standards development, compliance monitoring and enforcement of Reliability Standards, reliability assessment and performance analysis, event analysis and reliability improvement, training and education, situation awareness and infrastructure security. The Regional Entity Division of the FRCC has one standing committee, the FRCC Regional Entity Committee and Compliance Forum (RECCF). This committee provides input to the FRCC in support of the delegated activities and functions. The RECCF actively participates in the development of the Regional Entity Business Plan and Budget by reviewing and providing comments on assumptions, goals, resources and verbiage to the FRCC staff and to the Board of Directors.

The Member Services Division of the FRCC provides, coordinates and administers a variety of services relating to the reliable planning and operation of the BES within the FRCC Region. These services are carried out by the FRCC Planning Committee (PC) and the FRCC Operating Committee (OC) and their various subcommittees, task forces and working groups, as well as FRCC Staff.

The FRCC PC and OC actively participate in the development and approval of their respective committee's budget. The budget reflects the activity of each committee's responsibilities, such as reliability coordination, resource adequacy, stability studies, transmission studies, operations tools, telecommunication tools and infrastructure.

Each year, the total FRCC budget is presented to the FRCC Board of Directors early in the second quarter for informational purposes prior to final approval in June. This process gives all FRCC members advanced indication of the funding level, both statutory and non-statutory, which will be required for the coming fiscal year (January 1 – December 31). This allows for timely inclusion of each member's funding responsibility in their individual budgeting process. The final budget is presented for approval to the FRCC Board of Directors in June of each year and is then submitted to NERC for approval by the NERC Board of Trustees and then by FERC.

Membership and Governance

The FRCC's members include investor-owned utilities, cooperative utilities, municipal utilities, power marketers, independent power producers and others. Membership is currently 31 FRCC members in the Regional Entity Division and 23 FRCC members in the Member Services Division including affiliate and adjunct members.

FRCC has six (6) membership sectors which include the following:

- Non-Investor Owned Utility Wholesale
- Load Serving Entity
- Generating Load Serving Entity
- Investor Owned Utility

- Suppliers
- General

The activities of FRCC are governed by its Board of Directors (Board). The Board is comprised of senior level executives from members of FRCC.

As part of its responsibilities, NERC, as the ERO, delegates its authority to Regional Entities to perform certain functions through delegation agreements. On November 4, 2015, FERC approved revised delegation agreements between NERC and the eight (8) Regional Entities that became effective January 1, 2016 and will expire at the end of 2020. These delegation agreements describe the responsibility and authority delegated to the Regional Entities. NERC and the Regional Entities worked collaboratively to revise the delegation agreements which were presented to the NERC Board of Trustees for approval mid-2015 and were approved by FERC and became effective January 1, 2016. The funding for Regional Entities is approved separately with each Regional Entity submitting its own business plan and budget for consideration by NERC and FERC.

Statutory Functional Scope

The FRCC carries out its delegated functions as outlined and detailed in the delegation agreement. NERC and the Regional Entities will continue to work under the existing regulatory framework governing the establishment and enforcement of Reliability Standards for BPS. The delegated functions as defined by the NERC Rules of Procedures include:

- Reliability Standards Development (RSD) - Section 300
- Compliance Monitoring and Enforcement (CMEP) - Section 400
- Organization Registration and Certification - Section 500 (This program budget has been combined with the Compliance Monitoring and Enforcement function budget.)
- Reliability Assessment and Performance Analysis (RA) - Section 800 (including necessary data gathering activities and Events Analysis)
- Training, Education and Operator Certification (TE) - Section 900
- Situation Awareness and Infrastructure Security (SA) - Section 1000

2019 Key Assumptions

In addition to supporting the ERO Enterprise Long-term Strategy and the ERO Enterprise Operating Plan, the significant assumptions underlying FRCC's 2019 business plan include:

- NERC and the Regional Entities will continue to work under the existing regulatory framework governing the establishment and enforcement of Reliability Standards for the BES.
- NERC and the Regional Entities collaboration to refine and revise processes and procedures to eliminate duplication, increase operational efficiencies, enhance ERO-wide consistency and achieve measurable reliability outcomes will continue.
- NERC and the Regional Entities will continue to develop their Business Plan and Budgets based upon the assumption of continued stakeholder participation in support of key program areas, while recognizing that stakeholder resource limitations may affect specific levels of participation in any given activity.

2019 Key Strategic Goals

NERC and the Regional Entities' business plans and budgets reflect the collaborative development of the ERO Enterprise Long-term Strategy and the ERO Enterprise Operating Plan (See <https://www.nerc.com/AboutNERC/Pages/Strategic-Documents.aspx>). FRCC supports both the long-term strategy and operating plan as well as deliverables specific to FRCC and described in each statutory program area in Section A.

Working collaboratively, the ERO Enterprise has established six perennial goals, each of which is supported by key contributing activities of the combined ERO Enterprise, that address:

1. Risk-responsive Reliability Standards;
2. Objective, risk-informed compliance monitoring, mitigation, enforcement and entity registration;
3. Reduction of known reliability risks;
4. Identification and assessment of emerging reliability risks;
5. Identification and reduction of cyber and physical security risks; and
6. Effective and efficient ERO Enterprise operations.

In addition to supporting the ERO Enterprise goals, FRCC has adopted an additional goal to address:

- Effective response during severe operating conditions

2019 Overview of Cost Impacts

FRCC's proposed 2019 Regional Entity budgeted expenses and net fixed assets (see page 11) is \$6,695,787 which is a \$818,325 or 10.9% decrease compared to the 2018 budget. The major drivers of the decrease are the net effect of:

- The assumption that the current vacancies will remain unfilled, partially offset by increased use of consultants and retention bonuses.
- A 13% attrition factor.

2019 Key Focus Areas by Program

In 2019, FRCC will achieve the following key objectives:

- **Reliability Standards Development** — Continue support of the ERO Enterprise in its efforts to further improve the quality and content of Reliability Standards, including using feedback loops as part of enhanced periodic reviews that are focused on conducting measured, in-depth reviews using the enhanced periodic review template. Support ERO activities necessary to incorporate Regional Standards into continent-wide standards as variances as standards are reviewed through the enhanced periodic review process. Support outreach during standard development and assist in the transition of standards to compliance monitoring and enforcement.
- **Compliance Monitoring and Enforcement** — Continue implementation of the risk-based compliance monitoring and enforcement program, including the completion of Inherent Risk Assessments, Internal Controls Evaluations, controls reviews during monitoring engagements and the development of Compliance Oversight Plans using consistent practices that are focused on higher reliability risks. Ensure timely and

thorough mitigation of all violations of mandatory Reliability Standards with the most focus on those violations that create serious risk to the Bulk Electric System. Promote a strong culture of compliance excellence, reliability improvement and risk-based methods among all Registered Entities in the FRCC Region.

- **Organization Registration and Certification** – Continue implementation of the risk-based registration activities with a focus on the collaborative development of a consistent registration program throughout the ERO Enterprise. Continue the regional efforts to utilize risk and materiality in the decision process for entity registrations and support the activities of the NERC-led Review Panel to focus on continent-wide resolutions for registration issues, while addressing individual entity issues concerning registration. Support the ERO activities to improve consistency in the Certification and Certification Review process. Focus Certification Review activities on areas of risk and tailor engagements based on entity performance and the results of Inherent Risk Assessments. Work with NERC and the other Regional Entities to support the BES Exception Process execution, technical validation of the definition and exception requests, self-determined notification submittals and periodic reviews of network changes affecting BES determinations.
- **Event Analysis** — Continue to support improved reliability through reporting and categorizing of system events and security incidents. Consistently analyze events for sequence, cause, system performance, remediation and improvement opportunities. Continue to identify potential reliability risks and gaps in standards, compliance monitoring effectiveness, registration and risk controls effectiveness. Work to ensure that the industry is well informed of large system events, emerging trends, risk analysis and lessons learned. Provide timely written lessons learned and recommendations from events (or occurrences) and provide to industry through various sharing methods (i.e. website posting and briefings at committee meetings).
- **Critical Infrastructure Protection and Cyber Security** — Facilitate, educate and support Registered Entities in their understanding of the CIP Reliability Standards and responding to cyber security alerts. Provide education and outreach to stakeholders to ensure their understanding of the technical aspects of the requirements CIP V5, CIP-013 and CIP-014.
- **Reliability Assessments** — Provide annual, seasonal, probabilistic and Short-Term special reliability assessments of the reliability of the FRCC BES in accordance with NERC definitions and requirements. Conduct special reliability assessments as necessary and provide input to NERC studies specific to the conditions and needs of the FRCC region. In support of NERC and FRCC objectives, advance analytical capabilities for identifying and determining reliability risks and conducting various reliability assessments. Work with NERC and the other Regional Entities to develop and track performance metrics that demonstrate the accuracy of the powerflow and dynamics models to replicate actual system conditions and reliability behavior. Work with NERC and the other Regional Entities to support the BES Exception Process execution, technical validation of the definition and exception requests, self-determined notification submittals, and periodic reviews of network changes affecting BES determinations.
- **Training, Education and Operator Certification** — Continue to conduct System Operator Training seminars to improve collaboration and communication between FRCC System Operators, conduct restoration drills and maintain reliability excellence. Continue to hold Compliance and Standards workshops and webinars to provide support

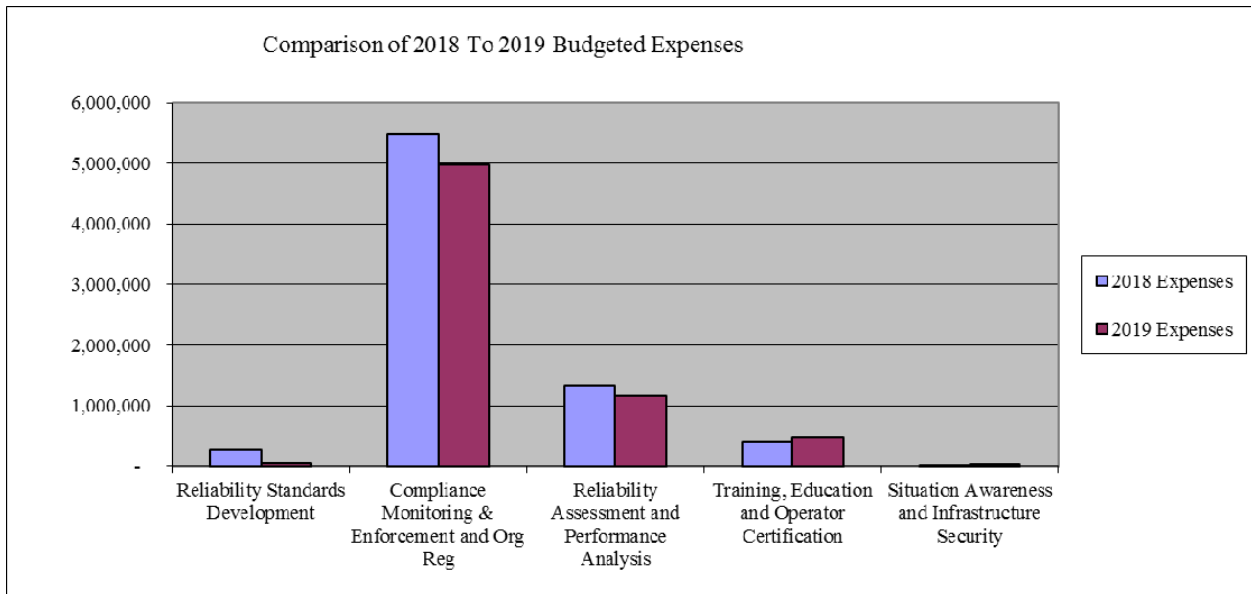
for stakeholders in understanding and implementing reliability standards requirements. Provide and maintain administrative support to the FRCC portion of the ERO Enterprise Learning Portal.

- **Situation Awareness** — Continue to support NERC in maintaining and enhancing the current and future situation awareness capabilities that include near real-time information and communications protocols that meet the needs of FERC, NERC and the Regional Entities (SAFNRv2). Issue and track security recommendations to protect the BPS. Share information learned in Situation Awareness with the Events Analysis program to develop relevant lessons learned and identify gaps in standards, compliance effectiveness, registration and risk control effectiveness. Support and promote rapid and appropriate sharing of situational awareness information regarding security occurrences.
- **Effective Financial Controls** — Continue to provide rigorous cost controls and efficient management of resources to remain an efficient provider of ERO delegated functions.

Detailed Business Plans and Budgets by Program

Details of the planning, operation, review and adjustment for each program area are included in Section A. The corresponding budget details are shown in Section B. Below is an overall summary of the changes by program area.

Program Funding	Budget 2018	Projection 2018	Budget 2019	Variance	
				2019 Budget v 2018 Budget	Variance %
Reliability Standards Development	\$ 270,452	270,453	\$ 37,193	\$ (233,259)	-86.2%
Compliance Monitoring & Enforcement and Org Reg	5,498,173	5,498,173	4,984,329	(513,844)	-9.3%
Reliability Assessment and Performance Analysis	1,337,329	1,337,330	1,160,663	(176,666)	-13.2%
Training, Education and Operator Certification	394,743	394,743	477,502	82,759	21.0%
Situation Awareness and Infrastructure Security	13,414	13,414	36,099	22,685	169.1%
Total Budget	\$ 7,514,112	\$ 7,514,112	\$ 6,695,787	\$ (818,325)	-10.9%



This graphical representation does not include an allocation of working capital requirements among the Program Areas.

Total FTE's by Program Area	Budget	Projection	Direct	Shared	Total FTEs	Change
	2018	2018	FTEs 2019 Budget	FTEs ¹ 2019 Budget	2019 Budget	from 2018 Budget
STATUTORY						
Operational Programs						
Reliability Standards Development	0.94	0.35	0.10		0.10	-0.84
Compliance Monitoring & Enforcement and Org Reg	19.65	14.36	12.18		12.18	-7.47
Reliability Assessment and Performance Analysis	4.31	3.09	1.21	1.71	2.92	-1.39
Training, Education and Operator Certification	1.07	1.04	1.07		1.07	0.00
Situation Awareness and Infrastructure Security	0.04	0.04	0.10		0.10	0.06
Total FTEs Operational Programs	26.01	18.88	14.66	1.71	16.37	-9.64
Administrative Programs						
General & Administrative	4.62	4.76		4.38	4.38	-0.24
Total FTEs Administrative Programs	4.62	4.76	0.00	4.38	4.38	-0.24
Total FTEs	30.63	23.64	14.66	6.09	20.75	-9.88

¹A shared FTE is defined by NERC as an employee who performs both Statutory and Non-Statutory functions.

² 2019 FTEs are calculated using a new method that captures attrition assumptions; in 2018 attrition assumptions were captured in the salary expense but not reported FTEs. 2018 FTEs calculated using the new methodology would have resulted in a total FTE count of 28.17. This results in a reduction of 7.42 FTEs from 2018 to 2019.

2018 Statutory Budget and Projection and 2019 Budget Comparisons

Statement of Activities, Fixed Assets Expenditures and Change in Working Capital 2018 Budget & Projection, and 2019 Budget

STATUTORY					
	2018 Budget	2018 Projection	Variance 2018 Projection v 2018 Budget Over(Under)	2019 Budget	Variance 2019 Budget v 2018 Budget Over(Under)
Funding					
ERO Funding					
ERO Assessments	\$ 6,660,518	\$ 6,660,518	\$ 0	5,827,925	\$ (832,593)
Penalty Sanctions	253,145	253,145	-	-	(253,145)
Total ERO Funding	\$ 6,913,663	\$ 6,913,663	\$ 0	\$ 5,827,925	\$ (1,085,738)
Membership Dues	\$ -	\$ -	\$ -	\$ -	\$ -
Testing Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Workshops	92,000	92,000	-	92,000	-
Interest	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Total Funding (A)	\$ 7,005,663	\$ 7,005,663	\$ 0	\$ 5,919,925	\$ (1,085,738)
Expenses					
Personnel Expenses					
Salaries	\$ 4,289,416	4,033,343	\$ (256,073)	\$ 3,595,017	\$ (694,399)
Payroll Taxes	249,708	251,526	1,818	221,845	(27,863)
Benefits	684,682	535,304	(149,378)	523,400	(161,282)
Retirement Costs	654,985	559,804	(95,181)	470,029	(184,956)
Total Personnel Expenses	\$ 5,878,791	\$ 5,379,977	\$ (498,814)	\$ 4,810,290	\$ (1,068,501)
Meeting Expenses					
Meetings	\$ 72,593	\$ 64,790	\$ (7,803)	\$ 68,826	\$ (3,767)
Travel	164,498	116,359	(48,139)	146,262	(18,236)
Conference Calls	15,150	14,655	(495)	10,319	(4,831)
Total Meeting Expenses	\$ 252,241	\$ 195,804	\$ (56,437)	\$ 225,407	\$ (26,834)
Operating Expenses					
Consultants & Contracts	\$ 481,554	\$ 579,076	\$ 97,522	\$ 875,842	\$ 394,288
Office Rent	625,292	586,079	(39,213)	565,921	(59,371)
Office Costs	113,073	115,784	2,711	106,862	(6,211)
Professional Services	35,824	37,694	1,870	44,071	8,247
Miscellaneous	-	-	-	-	-
Depreciation	113,181	109,894	(3,287)	80,736	(32,445)
Total Operating Expenses	\$ 1,368,924	\$ 1,428,527	\$ 59,603	\$ 1,673,432	\$ 304,508
Total Direct Expenses	\$ 7,499,956	\$ 7,004,308	\$ (495,648)	\$ 6,709,129	\$ (790,827)
Indirect Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses (B)	\$ 7,499,956	\$ 7,004,308	\$ (495,648)	\$ 6,709,129	\$ (790,827)
Change in Assets	\$ (494,293)	\$ 1,355	\$ 495,648	\$ (789,204)	\$ (294,911)
Fixed Assets					
Depreciation	\$ (113,181)	\$ (109,894)	\$ 3,287	\$ (80,736)	\$ 32,445
Total Fixed Asset Purchases	127,337	98,873	(28,464)	67,393	(59,944)
(Inc)Dec in Fixed Assets (C)	(14,156)	11,021	25,177	13,342	27,498
TOTAL BUDGET (=B-C)	\$ 7,514,112	\$ 6,993,287	\$ (520,825)	\$ 6,695,787	\$ (818,325)
TOTAL CHANGE IN WORKING CAPITAL	\$ (508,449)	\$ 12,376	\$ 520,825	\$ (775,862)	\$ (267,413)
FTEs	30.63	23.64	(6.99)	20.75	(9.88)

Section A – Statutory Programs 2019 Business Plan and Budget

Reliability Standards Development Program

Reliability Standards Development Program (in whole dollars)			
	2018 Budget	2019 Budget	Increase (Decrease)
Total FTEs	0.94	0.10	(0.84)
Direct Expenses	\$ 233,589	\$ 33,242	\$ (200,347)
Indirect Expenses	\$ 36,411	\$ 6,486	\$ (29,925)
Inc(Dec) in Fixed Assets	\$ 452	\$ (2,534)	\$ (2,986)
Total Funding Requirement	\$ 270,452	\$ 37,193	\$ (233,259)

Program Scope and Functional Description

FRCC may develop, through the FRCC Regional Reliability Standards Development Process, separate Regional Reliability Standards that are specific to the FRCC Region and go beyond, add detail to, or implement NERC Reliability Standards. FRCC Regional Reliability Standards will not be inconsistent with or less stringent than NERC Reliability Standards.

The FRCC Regional Reliability Standards Development Process is an open, balanced and fair process that ensures all interested and affected parties have an opportunity to participate in the development of FRCC Regional Reliability Standards for the FRCC Region.

While FRCC may develop separate Regional Reliability Standards, the preference is to support the development of continent wide Reliability Standards. FRCC staff follows and participates in NERC's Standards Development Process. FRCC supports and encourages stakeholder awareness and participation in the NERC standards development process through educational outreach efforts at workshops, webinars and committee meetings.

2019 Key Assumptions

The key assumptions included in the Shared Business Plan and Budget Assumptions affecting the Reliability Standards Program include:

- The number of continent-wide standards development projects is expected to remain relatively stable, except as required to address any new FERC directives to create or modify Reliability Standards, or industry submittals of standard authorization requests.
- Continent-wide standards projects will consist primarily of conducting enhanced periodic reviews to improve the content and quality of existing standards, responding to identified risks to reliability (including those that may be identified in the implementation of risk-based CMEP activities) and addressing FERC directives that may arise.
- The number of interpretation requests is expected to remain low, however the guidance requests associated with the implementation of Standards may increase.
- FRCC has no Regional Reliability Standards and none are currently planned for the future.

- FRCC has worked with registered entities to ensure that they can remain engaged and informed as standards are developed and following FERC approval of new and revised standards. Additionally, following FERC approval, FRCC will assist the transition of standards to compliance monitoring and enforcement by providing knowledge that supports industry and auditor training.
- As the FRCC registered entity engagement with NERC Standards process has increased, FRCC will reduce the FRCC staff involvement in the NERC standards development process.

2019 Goals and Key Focus Areas

The Standards Program objectives for 2019 are to follow and participate in the NERC Standards Development Process, continue to encourage stakeholder awareness and participation in the NERC Standards Development process to address reliability and stakeholder issues that may arise within the FRCC region and support the development of Standard's guidance requests as appropriate.

- Continue to monitor the need for development of Regional Reliability Standards or regional variances that are required by NERC Reliability Standards or are needed for reliability within the FRCC region.
- Assist FRCC members and Registered Entities in following and understanding NERC standards development activities by continuing education and outreach programs to include:
 - Development and presentation at workshops, webinars and committee meetings to address continent-wide and regional reliability issues.
 - Develop and deliver project level communications, education and training for new or revised Reliability Standards.
 - Review, analyze, and identify potential regional concerns and solutions associated with NERC Reliability Standards under development.
 - Continue to support the FRCC RECCF to fully vet and identify any concerns and assist in articulating the concern and possible solution to standard drafting teams as appropriate.
- Continue to utilize the regional feedback loop process to conduct measured, in-depth reviews to improve Reliability Standards in support of the Enhanced Periodic Review process.

Reliability Standards Development Program

Funding sources and related expenses for the Reliability Standards section of the 2019 business plan are shown in the table below.

Statement of Activities, Fixed Assets Expenditures and Change in Working Capital 2018 Budget & Projection, and 2019 Budget					
Reliability Standards Development					
	2018 Budget	2018 Projection	Variance 2018 Projection v 2018 Budget Over(Under)	2019 Budget	Variance 2019 Budget v 2018 Budget Over(Under)
Funding					
ERO Funding					
ERO Assessments	\$ 261,304	\$ 261,304	\$ 0	\$ 37,193	\$ (224,110)
Penalty Sanctions	\$ 9,149	\$ 9,149	\$ -	-	(9,149)
Total ERO Funding	\$ 270,452	\$ 270,453	\$ 0	\$ 37,193	\$ (233,259)
Membership Dues	\$ -	\$ -	\$ -	\$ -	\$ -
Testing Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Workshops	-	-	-	-	-
Interest	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Total Funding (A)	\$ 270,452	\$ 270,453	\$ 0	\$ 37,193	\$ (233,259)
Expenses					
Personnel Expenses					
Salaries	\$ 143,677	\$ 62,827	\$ (80,850)	\$ 19,111	\$ (124,566)
Payroll Taxes	8,428	3,948	(4,480)	1,190	(7,238)
Benefits	25,711	7,974	(17,737)	4,440	(21,271)
Retirement Costs	21,554	8,199	(13,355)	2,452	(19,102)
Total Personnel Expenses	\$ 199,370	\$ 82,948	\$ (116,422)	\$ 27,194	\$ (172,176)
Meeting Expenses					
Meetings	\$ 772	\$ 534	\$ (238)	\$ 39	\$ (733)
Travel	5,468	476	(4,992)	144	(5,324)
Conference Calls	3,138	3,010	(128)	7	(3,131)
Total Meeting Expenses	\$ 9,378	\$ 4,020	\$ (5,358)	\$ 190	\$ (9,188)
Operating Expenses					
Consultants & Contracts	\$ 3,992	\$ 1,910	\$ (2,082)	\$ 541	\$ (3,451)
Office Rent	14,044	6,197	(7,847)	1,870	(12,174)
Office Costs	3,874	3,017	(857)	555	(3,319)
Professional Services	1,301	703	(598)	265	(1,036)
Miscellaneous	-	-	-	-	-
Depreciation	1,630	3,269	1,639	2,627	997
Total Operating Expenses	\$ 24,841	\$ 15,096	\$ (9,745)	\$ 5,858	\$ (18,983)
Total Direct Expenses	\$ 233,589	\$ 102,064	\$ (131,525)	\$ 33,242	\$ (200,347)
Indirect Expenses	\$ 36,411	\$ 20,020	\$ (16,391)	\$ 6,486	\$ (29,926)
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses (B)	\$ 270,000	\$ 122,084	\$ (147,916)	\$ 39,728	\$ (230,273)
Change in Assets	\$ 452	\$ 148,369	\$ 147,917	\$ (2,534)	\$ (2,986)
Fixed Assets					
Depreciation	\$ (1,630)	\$ (3,269)	\$ (1,639)	\$ (2,627)	\$ (997)
Total Fixed Asset Purchases	2,082	936	(1,146)	93	(1,989)
(Inc)Dec in Fixed Assets (C)	\$ (452)	\$ 2,333	\$ 2,785	\$ 2,534	\$ 2,986
TOTAL BUDGET (=B-C)	\$ 270,452	\$ 119,751	\$ (150,701)	\$ 37,193	\$ (233,259)
TOTAL CHANGE IN WORKING CAPITAL	\$ -	\$ 150,702	\$ 150,702	\$ -	\$ -
FTEs	0.94	0.35	(0.59)	0.10	(0.84)

Compliance Monitoring and Enforcement Program and Organization Registration and Certification Program

Compliance Monitoring and Enforcement and Organization Registration and Certification Program (in whole dollars)			
	2018 Budget	2019 Budget	Increase (Decrease)
Total FTEs	19.65	12.18	(7.47)
Direct Expenses	\$ 4,732,295	\$ 4,201,001	\$ (531,294)
Indirect Expenses	\$ 761,150	\$ 789,945	\$ 28,795
Inc(Dec) in Fixed Assets	\$ 4,728	\$ (6,617)	\$ (11,345)
Total Funding Requirement	\$ 5,498,173	\$ 4,984,329	\$ (513,844)

Program Scope and Functional Description

Implementation of a risk-based Compliance Monitoring and Enforcement program supports FRCC's mission to assure effective and efficient reduction of risk to the reliability and security of the peninsular Florida BPS. Appropriate registration and certification of entities also supports the mission of reliability. Reliable operation of the BES is in the public interest, because it will benefit all owners, operators and users of the BES and, ultimately, all users and consumers of electric power in the FRCC Region.

Organization Registration and Certification activities are carried out by the Reliability Performance and Registration staff and by utilizing the results of the regional BES assessments and the Inherent Risk Assessments (IRA) to properly register entities within the FRCC region based on risk and materiality. Certifications and Certification Reviews ensure the operational readiness of the Transmission Operators (TOP) and Balancing Authorities (BA) in the FRCC region. FRCC has focused the Certification and Certification Review activities on areas of risk and tailors engagements based on the entity's performance and the results of IRAs. The FRCC Reliability Performance and Registration staff work in collaboration with the Registration and Certification staff of the other Regional Entities and with NERC to consistently implement the Statement of Compliance Registry Criteria, detailed in Appendix 5B of the NERC Rules of Procedure and the ERO Organization Certification Program.

Compliance and Enforcement activities are independent of all users, owners and operators of the BES for which FRCC maintains CEA responsibility. Through a risk-based program that places the focus on those risks that are most important to the reliability of the BES, FRCC will strive to increase the level of reliable operation of the BES in the FRCC Region.

The NERC Compliance Monitoring and Enforcement Program (CMEP) is the program used by the FRCC to monitor, assess and enforce compliance with Reliability Standards within the FRCC Region. FRCC compliance and enforcement staff works with the compliance and enforcement staff of the other Regional Entities and with NERC to strive for consistency in the implementation of the CMEP.

2019 Highlights of Compliance Monitoring and Enforcement Processes

The implementation of risk-based compliance monitoring and enforcement will include an analysis of risk to develop an appropriate compliance oversight plan for each Registered Entity. Balancing Authorities and Transmission Operators will continue to be reviewed at least every 3 years. However, the application of risk-based principles will likely result in certain FRCC entities being monitored more frequently. The review of a Registered Entity's inherent risk will be the foundation in the development of each entity's specific compliance oversight plan. FRCC staff will continue to review and encourage registered entities toward the development and maintenance of entity internal controls that lower risk to compliance, reliability and security. Compliance staff will continue a strong outreach program to assist registered entities in their understanding of the risk-based compliance program as well as the details of CIP V5 Reliability Standards.

Organization Registration and Certification

FRCC has registered the organizations responsible for complying with Reliability Standards in accordance with Section 500 of the NERC Rules of Procedure and the Statement of Compliance Registry Criteria, detailed in Appendix 5B of the NERC Rules of Procedure. After implementing the reforms as part of the Risk-Based Registration effort in 2016, there are currently 40 Registered Entities with a total of 159 registered functions. Maintaining a complete and accurate registration database will be an ongoing activity. FRCC will develop, maintain and provide to NERC accurate information on entity registration within the FRCC Region with updates as changes occur. FRCC staff will continue to support and participate in the evaluation of appropriate levels of registration of Registered Entities. FRCC will support as needed, the implementation of the NERC-led review panel as part of the continuing efforts of the Risk-Based Registration program. FRCC will participate in certifications or certification reviews as circumstances warrant.

Enforcement and Mitigation

FRCC has implemented risk-based enforcement and actions may include the imposition of remedial action directives, sanctions and penalties for those risks that pose a more serious risk to reliability. FRCC will utilize other enforcement disposition methods, such as Compliance Exceptions and FFT's for those violations that pose less risk to reliability. Mitigation of violations of the approved Reliability Standards and the prevention of recurrence, remains central to FRCC's reliability focus. Registered Entities found in violation of a Reliability Standard will be required to fully mitigate the violation regardless of the type of enforcement actions taken.

2019 Key Assumptions - Compliance Monitoring and Enforcement

- As a minimum, audits are expected to continue under the current three-year schedule for BAs and TOPs. However, reliability risk profiles for all Registered Entities will be developed and compliance oversight plans will be tailored to the risk profiles which may increase the frequency, depth and complexity of monitoring for some entities and decrease the frequency, depth and complexity of others. The FRCC will continue implementing plans to complete and update IRAs, conducting voluntary Internal Control Evaluations (ICEs), conducting controls reviews during monitoring engagements, and ensuring that Compliance Oversight Plans (COPs) are addressing the appropriate risks for each Registered Entity.

-
- The use of Spot Checks and Self-Certifications is expected to increase as risk-based monitoring is implemented. Self-Certifications will remain risk focused and will require information from the entities that will be reviewed by the Monitoring staff to achieve reasonable assurance of compliance.
 - The effective date for compliance with the CIP Version 5 standards was July 1, 2016 for High and Medium impact assets and July 1, 2017 for Low impact assets. FRCC plans to continue to support CIP Version 5 outreach efforts.
 - A Compliance Monitoring and Enforcement Process Tool project will include an evaluation of software systems used for compliance, registration, analysis and tracking which will likely result in replacing existing systems in the 2020 timeframe. Regional Entities are expected to allocate resources to support the specification, development and testing of these software system changes over the next several years. Until the project is complete, Regional Entities will continue to budget to maintain current systems and tools.
 - NERC and the Regional Entities will continue ERO Enterprise-wide collaboration to implement more consistent compliance monitoring and enforcement practices and focus on higher reliability risks to increase efficiency and mitigate overall compliance costs.
 - NERC and the Regional Entities must plan to support the training and education requirements and guidelines necessary to meet the criteria set forth by the ERO Enterprise Compliance Monitoring and Enforcement Manual. NERC will continue to budget and incur the cost of an ERO Enterprise Learning Portal. NERC will work with the Regional Entities to consolidate training resources and promote better coordination, planning, delivery and management of training efforts across the ERO.
 - Regional Entities are expected to allocate resources and funds to meet the training requirements for the compliance and enforcement staff that are associated with the implementation of the risk-based compliance monitoring and enforcement.
 - FRCC plans to use more consultants to complement its current staff to complete work that would have previously been completed by FRCC staff.

2019 Goals and Key Focus Areas - Compliance Monitoring and Enforcement

The Compliance Monitoring and Enforcement Program objectives for 2019 are outlined below:

- Support and continue the implementation of Risk-based Compliance Monitoring and Enforcement, including implementing plans to complete and update Inherent Risk Assessments (IRA), implement refinements to Internal Controls Evaluations (ICEs) conduct control reviews during monitoring engagements and assure that Compliance Oversight Plans (COPs) are addressing appropriate risks for all Registered Entities in the FRCC Region.
- Continue collaboration with NERC and the other Regional Entities to improve consistency, quality and timeliness of compliance monitoring and enforcement practices that focus on higher risks to the reliability of the BES.
- Continue to promote the self-identification of non-compliance by Registered Entities and utilize increased risk-based discretion as appropriate. Ensure timely and thorough mitigation of all violations of mandatory Reliability Standards with a specific focus on the prevention of reoccurrence.

- Promote a culture of compliance excellence through education, transparency and information sharing.

2019 Key Assumptions - Organization Registration and Certification

- Results from the risk-based registration initiative have been prioritized and the following work will be completed per the Organization Registration and Certification group (ORCG) workplan:
 - The ORCG will develop Rules of Procedure (RoP) enhancements related to the NERC-led review panel processes, procedures and lessons learned from the implementation of the NERC-led Review Panel.
 - The ORCG will continue enhancing the Joint Registration Organizations (JROs)/Coordinated Functional Registrations (CFRs) processes and procedures.

2019 Goals and Key Focus Areas - Organization Registration and Certification

The Organization Registration and Certification Program objectives for 2019 are outlined below:

- Continue implementation of the risk-based registration activities with a focus on the collaborative development of a consistent registration program throughout the ERO enterprise.
- Continue the regional efforts to utilize risk and materiality in the decision process for entity registrations and support the activities of the NERC-led Panel to focus on continent-wide resolutions for registration issues, while addressing individual entity issues concerning registration.
- Support the ERO activities to improve consistency in the Certification and Certification Review process. Focus Certification Review activities on areas of risk and tailor engagements based on entity performance and the results of Inherent Risk Assessments.
- Work with NERC and the other Regional Entities to support the BES Exception Process execution, technical validation of the definition and exception requests, self-determined notification submittals and periodic reviews of network changes affecting BES determinations. Recertification for exceptions begins in 2019.

Compliance Monitoring and Enforcement Program and Organization Registration and Certification Program

Funding sources and related expenses for the compliance enforcement and organization registration and certification section of the 2019 business plan are shown in the table below.

Statement of Activities, Fixed Assets Expenditures and Change in Working Capital					
2018 Budget & Projection, and 2019 Budget					
Compliance Monitoring & Enforcement and Organization Registration & Certification					
	2018 Budget	2018 Projection	Variance 2018 Projection v 2018 Budget Over(Under)	2019 Budget	Variance 2019 Budget v 2018 Budget Over(Under)
Funding					
ERO Funding					
ERO Assessments	\$ 5,306,927	\$ 5,306,927	\$ (0)	\$ 4,984,329	\$ (322,598)
Penalty Sanctions	191,246	191,246	-	-	(191,246)
Total ERO Funding	\$ 5,498,173	\$ 5,498,173	\$ (0)	\$ 4,984,329	\$ (513,844)
Membership Dues	\$ -	\$ -	\$ -	\$ -	\$ -
Federal Grants	-	-	-	-	-
Services & Software	-	-	-	-	-
Workshops	-	-	-	-	-
Interest	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Total Funding (A)	\$ 5,498,173	\$ 5,498,173	\$ (0)	\$ 4,984,329	\$ (513,844)
Expenses					
Personnel Expenses					
Salaries	\$ 2,617,862	\$ 2,489,393	\$ (128,469)	\$ 2,053,977	\$ (563,885)
Payroll Taxes	151,653	156,064	4,411	127,564	(24,089)
Benefits	428,736	337,452	(91,284)	320,743	(107,993)
Retirement Costs	404,225	343,533	(60,692)	256,863	(147,362)
Total Personnel Expenses	\$ 3,602,476	\$ 3,326,442	\$ (276,034)	\$ 2,759,148	\$ (843,328)
Meeting Expenses					
Meetings	\$ 12,096	\$ 10,635	\$ (1,461)	\$ 11,127	\$ (969)
Travel	90,644	55,978	(34,666)	88,786	(1,858)
Conference Calls	6,602	6,373	(229)	6,357	(245)
Total Meeting Expenses	\$ 109,342	\$ 72,986	\$ (36,356)	\$ 106,270	\$ (3,072)
Operating Expenses					
Consultants & Contracts	\$ 343,034	\$ 442,948	\$ 99,914	\$ 751,034	\$ 408,000
Office Rent	461,903	422,631	(39,272)	403,411	(58,492)
Office Costs	82,718	84,748	2,030	78,255	(4,463)
Professional Services	27,052	28,671	1,619	32,807	5,755
Miscellaneous	-	-	-	-	-
Depreciation	105,770	98,221	(7,549)	70,076	(35,694)
Total Operating Expenses	\$ 1,020,477	\$ 1,077,219	\$ 56,742	\$ 1,335,583	\$ 315,106
Total Direct Expenses	\$ 4,732,295	\$ 4,476,647	\$ (255,648)	\$ 4,201,001	\$ (531,294)
Indirect Expenses	\$ 761,150	\$ 816,902	\$ 55,752	\$ 789,945	\$ 28,795
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses (B)	\$ 5,493,445	\$ 5,293,549	\$ (199,896)	\$ 4,990,946	\$ (502,499)
Change in Assets	\$ 4,728	\$ 204,624	\$ 199,896	\$ (6,617)	\$ (11,345)
Fixed Assets					
Depreciation	\$ (105,770)	\$ (98,221)	\$ 7,549	\$ (70,076)	\$ 35,694
Total Fixed Asset Purchases	110,498	86,854	(23,644)	63,459	(47,039)
(Inc)Dec in Fixed Assets (C)	\$ (4,728)	\$ 11,367	\$ 16,095	\$ 6,617	\$ 11,345
TOTAL BUDGET (=B-C)	\$ 5,498,173	\$ 5,282,182	\$ (215,991)	\$ 4,984,329	\$ (513,844)
TOTAL CHANGE IN WORKING CAPITAL	\$ -	\$ 215,991	\$ 215,991	\$ -	\$ -
FTEs	19.65	14.36	(5.29)	12.18	(7.47)

Reliability Assessment and Performance Analysis Program

Reliability Assessment and Performance Analysis Program (in whole dollars)			
	2018 Budget	2019 Budget	Increase (Decrease)
Total FTEs	4.31	2.92	(1.39)
Direct Expenses	\$ 1,162,748	\$ 974,368	\$ (188,380)
Indirect Expenses	\$ 166,949	\$ 189,379	\$ 22,430
Inc(Dec) in Fixed Assets	\$ 7,632	\$ (3,084)	\$ (10,716)
Total Funding Requirement	\$ 1,337,329	\$ 1,160,663	\$ (176,666)

Program Scope and Functional Description

FRCC will perform high quality assessments of the reliability of the BES in the FRCC region and will continue to ensure that the planned system is robust, reliable and stable. FRCC will continue to participate in Event Analysis teams to analyze any disturbances that may occur within the FRCC region.

FRCC performs transmission reliability studies in order to provide an assessment to NERC for its periodic NERC Reliability Assessments. These studies evaluate regional and inter-regional facilities. FRCC prepares a minimum of three reliability assessments each year and a probabilistic assessment every other year and will assist NERC with Short-Term Special Assessments as needed:

- A 10-year long-term reliability assessment report
- Seasonal assessments (Summer & Winter)
- Assist with Short-Term Special Assessments (up to four per year)
- A probabilistic long-term reliability assessment (biennial)

These reports evaluate electricity demand, the adequacy of supply and its deliverability, fuel reliability and the adequacy of the transmission system within the FRCC. FRCC will prepare special reliability assessment reports as conditions warrant and provide input to NERC studies specific to the conditions and needs of the FRCC region.

The FRCC Reliability Assessment and Performance Analysis Program (RA) will support NERC's efforts to move toward and implement high quality reliability assessments and performance analysis to achieve measurable improvements in the BES reliability. Risks will be identified and prioritized based on reliability impacts, cost/practicality of assessments, projected resources and emerging issues. This will help support the prioritization of risks to share with standards development and compliance and enforcement activities.

FRCC will continue to support NERC's efforts to develop and implement expanded and enhanced enterprise-based data collection and analysis systems and capabilities for performance analysis. In addition, the FRCC will support development of resource capabilities and tools,

including probabilistic and scenario evaluations, which address the impacts of new technologies, changing resource or demand resource composition and environmental related regulations or legislation.

FRCC will support the ERO Essential Reliability Services Working Group (ERSWG) focused on identifying and integrating essential reliability services and measures into the Long-Term Reliability Assessment, including identification of reliability issues due to a changing resource mix.

FRCC actively participates in the Eastern Interconnection Reliability Assessment Group (ERAG) which will continue to oversee and fund the development of the Eastern Interconnection transmission models and conduct Eastern Interconnection reliability assessments. FRCC Events Analysis Program will analyze or support the analysis of significant events and system performance that impact the BES within the FRCC Region. The FRCC will consistently analyze events for identification of sequence, root cause, system performance, remediation, and improvement opportunities to identify reliability risks, trends and lessons learned. FRCC's analysis may result in the identification of gaps in standards, compliance effectiveness, registration or risk controls effectiveness. FRCC will provide lessons learned and recommendations from events and identified risks keeping industry well informed of large system events, emerging trends, risk analysis, and lessons learned. FRCC will utilize various sharing methods (i.e. website posting and briefings at committee meetings) to ensure FRCC entities are exposed to the latest information in this area.

FRCC will also support NERC to continue to improve consistency, quality, time lines and cost effectiveness of NERC and Regional Entity data collection, analysis systems and capabilities through process improvements and more effective coordination and collaboration.

2019 Key Assumptions

- NERC and the Regional Entities will continue to focus resources on high quality reliability assessments that address goals and their associated contributing activities identified in the ERO Enterprise Operating Plan for Goal 3 – Reduction of Known Risks to Reliability and Goal 4 – Identification and Assessment of Emerging Risks to Reliability.
- NERC and the Regional Entities will continue to support a common approach for NERC reliability assessments and ensure consistent evaluation, aligned with the ROP Section 800, ERO Reliability Assessment Process Document and the Reliability Assessment Oversight Plan being finalized in 2018.
- NERC and the Regional Entities will advance data management strategies and analytical capabilities for identifying and determining reliability risks and conducting reliability assessments by:
 - Integrating the analysis and measures of essential reliability services (ERS) into the Long-Term Reliability Assessment. The process encompasses new data collection and analysis approaches needed to address assessment objectives of identifying reliability issues due to a changing resource mix.
 - Provide technical resources to examine transmission and deliverability studies and provide high-level evaluation for the Long-Term Reliability Assessment.

- Providing technical resources, advanced statistical analysis tools, objective expert input and reliability leadership for the advancement of probabilistic analyses supporting the Long-Term Reliability Assessment.
- Support the NERC Enterprise Reporting Project to ensure Reliability Assessment data is integrated and supported by analytical reporting, data checking and validation tools.
- Support the NERC Enterprise Reporting Project to ensure Performance Analysis data is integrated into consolidated system and supported by analytical reporting tools, as well as feedback loops to other parts of the ERO Enterprise such as compliance, standards, enforcement, etc.
- NERC and the Regions are advancing their analytical capabilities to assess and report on the reliability of the BPS. Additionally, newer and maturing technologies, such as synchro-phasor measurement unit (PMU) technology, are enabling innovative approaches for event analysis, power system analysis and model validation. NERC and the Regions are uniquely situated to perform analyses that require a wide-area view of the interconnections, as well as supporting industry in advancing software and analytical capabilities where appropriate. Support and leadership to the System Analysis Subcommittee and any of the subcommittees, working groups and task forces will continue.

2019 Goals and Key Focus Areas

The Reliability Assessment and Performance Analysis Objectives for 2019 are outlined below:

- Perform reliability assessments of the FRCC Region to determine if the planned resources and proposed transmission expansion plans will meet the needs of the projected demand throughout the planning horizon.
- Support NERC in preparing its reliability assessment reports.
- Support the existing BES Exception Process. This will include providing a technical review of exception requests that are submitted by the registered entities and periodic reviews of network changes affecting BES determinations.
- Support the integration of essential reliability services analysis and measures into the Long-Term Reliability Assessment, including use of new data collection and analysis approaches needed to address assessment objectives of identifying reliability issues due to a changing resource mix.
- Support ERO activities to identify key reliability risks and appropriate risk control projects designed to enhance reliability or mitigate risks.
- Support data gathering and reporting efforts for the Generating Availability Data System (GADS), the Transmission Availability Data System (TADS), Spare Equipment Database (SED) and Demand Response Availability Data System (DADS).
- Review and/or analyze significant events that impact the FRCC BES and work with NERC to identify the root causes of events that may be precursors of potentially more serious events.

- Support enhancement of risk analysis capabilities through integration of risk data sources, such as event analysis, Transmission Availability Data Systems (TADS), Generating Availability Data System (GADS) and relay misoperations.
- Assess past reliability performance for potential lessons learned.
- Maintain relationships with NERC, regulatory and governmental organizations involved with BES reliability (e.g., Florida Public Service Commission (FPSC), Department of Energy (DOE), FERC, Energy Information Administration (EIA), etc.).
- Ensure a databank of power flow, short circuit and dynamic models to use in planning and evaluating future systems and current operating conditions is available to the FRCC Regional Entity.
- Conduct Loss of Load Probability and the Scenario Analysis studies as needed.

Reliability Assessment and Performance Analysis Program

Funding sources and related expenses for the reliability assessment and performance analysis section of the 2019 business plan are shown in the table below.

Statement of Activities, Fixed Assets Expenditures and Change in Working Capital					
2018 Budget & Projection, and 2019 Budget					
Reliability Assessment and Performance Analysis					
	2018 Budget	2018 Projection	Variance 2018 Projection v 2018 Budget Over(Under)	2019 Budget	Variance 2019 Budget v 2018 Budget Over(Under)
Funding					
ERO Funding					
ERO Assessments	\$ 1,295,382	\$ 1,295,382	\$ 0	\$ 1,160,663	\$ (134,718)
Penalty Sanctions	41,948	41,948	-	-	(41,948)
Total ERO Funding	\$ 1,337,329	\$ 1,337,330	\$ 0	\$ 1,160,663	\$ (176,666)
Membership Dues	\$ -	\$ -	\$ -	\$ -	\$ -
Testing Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Workshops	-	-	-	-	-
Interest	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Total Funding (A)	\$ 1,337,329	\$ 1,337,330	\$ 0	\$ 1,160,663	\$ (176,666)
Expenses					
Personnel Expenses					
Salaries	\$ 655,870	\$ 551,541	\$ (104,329)	\$ 565,884	\$ (89,986)
Payroll Taxes	38,474	34,654	(3,820)	35,248	(3,226)
Benefits	121,229	73,283	(47,946)	79,255	(41,974)
Retirement Costs	98,391	71,978	(26,413)	72,610	(25,781)
Total Personnel Expenses	\$ 913,964	\$ 731,456	\$ (182,508)	\$ 752,997	\$ (160,967)
Meeting Expenses					
Meetings	\$ 1,999	\$ 1,648	\$ (351)	\$ 1,158	\$ (841)
Travel	59,678	52,377	(7,301)	50,612	(9,066)
Conference Calls	380	353	(27)	205	(175)
Total Meeting Expenses	\$ 62,057	\$ 54,378	\$ (7,679)	\$ 51,975	\$ (10,082)
Operating Expenses					
Consultants & Contracts	\$ 97,819	\$ 96,366	\$ (1,453)	\$ 85,866	\$ (11,953)
Office Rent	64,109	54,398	(9,711)	55,355	(8,754)
Office Costs	14,192	14,197	5	14,487	295
Professional Services	5,937	6,168	231	7,859	1,922
Miscellaneous	-	-	-	-	-
Depreciation	4,670	6,269	1,599	5,828	1,158
Total Operating Expenses	\$ 186,727	\$ 177,398	\$ (9,329)	\$ 169,396	\$ (17,331)
Total Direct Expenses	\$ 1,162,748	\$ 963,232	\$ (199,516)	\$ 974,368	\$ (188,380)
Indirect Expenses	\$ 166,949	\$ 175,748	\$ 8,799	\$ 189,379	\$ 22,430
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses (B)	\$ 1,329,697	\$ 1,138,980	\$ (190,717)	\$ 1,163,747	\$ (165,950)
Change in Assets	\$ 7,632	\$ 198,350	\$ 190,718	\$ (3,084)	\$ (10,716)
Fixed Assets					
Depreciation	\$ (4,670)	\$ (6,269)	\$ (1,599)	\$ (5,828)	(1,158)
Total Fixed Asset Purchases	12,302	8,216	(4,086)	2,745	(9,557)
(Inc)Dec in Fixed Assets (C)	\$ (7,632)	\$ (1,947)	\$ 5,685	\$ 3,084	\$ 10,716
TOTAL BUDGET (=B-C)	\$ 1,337,329	\$ 1,140,927	\$ (196,402)	\$ 1,160,663	\$ (176,666)
TOTAL CHANGE IN WORKING CAPITAL	\$ -	\$ 196,403	\$ 196,403	\$ -	\$ 0
FTEs	4.31	3.09	(1.22)	2.92	(1.39)

Training, Education and Operator Certification Program

Training, Education and Operator Certification Program (in whole dollars)			
	2018 Budget	2019 Budget	Increase (Decrease)
Total FTEs	1.07	1.07	-
Direct Expenses	\$ 352,006	\$ 409,122	\$ 57,116
Indirect Expenses	\$ 41,447	\$ 69,396	\$ 27,949
Inc(Dec) in Fixed Assets	\$ 1,290	\$ (1,016)	\$ (2,306)
Total Funding Requirement	\$ 394,743	\$ 477,502	\$ 82,759

Program Scope and Functional Description

Maintaining the reliability of the BES requires informed and trained personnel. FRCC supports training activities through its staff and its System Operator Subcommittee (SOS) which reports to the FRCC Operating Committee. FRCC is a NERC-approved Continuing Education (CE) Provider. FRCC works with the SOS to develop and deliver training in which FRCC grants NERC CE hours (CEH) to those individuals who successfully complete a course.

FRCC provides educational workshops and web based seminars to improve Registered Entity understanding of the FRCC CMEP, NERC Standards Development and CIP topics and trends. In addition, the FRCC facilitates one-on-one face to face meetings with Registered Entities to help provide individual entity information. These outreach efforts are aimed at improving the effectiveness, understanding of and adherence to NERC reliability initiatives. The workshops also improve the working relationships between the FRCC Regional Entity program areas and the Registered Entities within the FRCC region.

System Operator Training Program

The FRCC SOS identifies and manages annual training activities for the FRCC System Operators and provides information to FRCC members regarding the NERC training standards and any issues they may have related to system operators obtaining/retaining required NERC Certification.

The training and education program activities are carried out by FRCC's professional/technical staff and FRCC members possessing the appropriate technical knowledge and competencies. In addition, vendors that specialize in System Operator training may be used. Providing the FRCC training and education programs helps to improve collaboration and communication between System Operators (and other operating personnel), conduct restoration drills and maintain reliability excellence. FRCC staff will work with the FRCC SOS to continue to improve the Training and Education Program by:

- Incorporating Human Performance improvement and critical thinking and reasoning into training modules
- Incorporating a simulator with a model of the FRCC system
- Preparing the scenarios for the restoration drills and performing the restoration drills using FRCC staff and FRCC SOS to better reflect operations in FRCC

FRCC staff in collaboration and coordination with the FRCC SOS plans to continue to make improvements in 2019 and future years to expand learning and sharing amongst System Operators.

Regional Entity Workshops

Regional Entity workshops (workshops) are typically held in the spring and fall of each year. The compliance portion of these workshops are aimed at providing information and updates to the Registered Entities on compliance program activities including information on new procedures, instructions on changes to FRCC compliance tools, lessons learned from previous violations and providing sufficient and appropriate evidence in a compliance audit. Each workshop will address technical aspects of the CIP Reliability Standards, including providing quality evidence, lessons learned and compliance processes specific to the monitoring and enforcement of the CIP standards.

The Reliability Performance and Registration portion of the workshop will be designed primarily to promote stakeholder awareness of Reliability Standards, Registration and Certification activities. In addition, workshops or webinars may be held to educate stakeholders on the NERC Risk-Based Registration program, Certification program enhancements and activities associated with the NERC led Review Panel.

In addition to the face to face venues, in 2019 FRCC compliance staff projects holding webinars that will address specific topics that may be identified by Registered Entities or by emerging trends within the FRCC.

2019 Key Assumptions

- The FRCC System Operator Certification Program and Continuing Education Program will continue to be self-funded through a fee based structure for the exams and applications for approval of continuing education activities.
- The Regional Entities, in collaboration with NERC, are expected to help assess and determine training needs. This includes flexibility in approach between Regional Entities and anticipating areas of support for their staffs and stakeholders for standards, compliance monitoring and enforcement, situation awareness and event analysis, and information technology.

2019 Goals and Key Focus Areas

The training, education and operator certification program objectives for 2019 are outlined below:

- Provide assistance to Regional Entity members in any issues they may have related to System Operator Certification.
- Conduct the annual System Operator training seminars over a five (5) week period, with two (2) days each for the training. The training seminars involve two (2) to four (4) FRCC staff members, as well as many industry volunteers who participate as presenters. This activity is funded primarily through registration fees.
- Host workshops and webinars open to all FRCC Members and Registered Entities aimed at providing updates on compliance procedures, instructions on changes to compliance

tools, changes associated with the implementation of risk-based compliance monitoring, enforcement, information concerning Reliability Standards and the associated Implementation Plans, the Risk-Based Registration program, Certification program enhancements and activities associated with the NERC led Review Panel.

- Work with NERC and the other Regional Entities to achieve improvements in the coordination, content and manner of internal and external training programs.

Training, Education and Operator Certification Program

Funding sources and related expenses for the training, education and operator certification section of the 2019 business plan are shown in the table below.

Statement of Activities, Fixed Assets Expenditures and Change in Working Capital					
2018 Budget & Projection, and 2019 Budget					
Training, Education and Operator Certification					
	2018 Budget	2018 Projection	Variance 2018 Projection v 2018 Budget Over(Under)	2019 Budget	Variance 2019 Budget v 2018 Budget Over(Under)
Funding					
ERO Funding					
ERO Assessments	\$ 292,329	\$ 292,329	\$ 0	\$ 385,502	\$ 93,173
Penalty Sanctions	10,414	10,414	-	-	(10,414)
Total ERO Funding	\$ 302,743	\$ 302,743	\$ 0	\$ 385,502	\$ 82,759
Membership Dues	-	-	-	-	-
Testing Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Workshops	92,000	92,000	-	92,000	-
Interest	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Total Funding (A)	\$ 394,743	\$ 394,743	\$ 0	\$ 477,502	\$ 82,759
Expenses					
Personnel Expenses					
Salaries	\$ 162,980	\$ 184,791	\$ 21,811	\$ 207,429	\$ 44,449
Payroll Taxes	9,561	11,611	2,050	12,920	3,359
Benefits	21,307	21,866	559	24,546	3,239
Retirement Costs	24,450	24,116	(334)	26,616	2,166
Total Personnel Expenses	\$ 218,298	\$ 242,384	\$ 24,086	\$ 271,511	\$ 53,213
Meeting Expenses					
Meetings	\$ 57,707	\$ 51,952	\$ (5,755)	\$ 56,464	\$ (1,243)
Travel	8,665	7,470	(1,195)	6,581	(2,084)
Conference Calls	5,026	4,914	(112)	3,742	(1,284)
Total Meeting Expenses	\$ 71,398	\$ 64,336	\$ (7,062)	\$ 66,787	\$ (4,611)
Operating Expenses					
Consultants & Contracts	\$ 36,528	\$ 37,619	\$ 1,091	\$ 37,873	\$ 1,345
Office Rent	15,931	18,226	2,295	20,291	4,360
Office Costs	7,305	8,280	975	7,757	452
Professional Services	1,475	2,067	592	2,881	1,406
Miscellaneous	-	-	-	-	-
Depreciation	1,071	2,053	982	2,022	951
Total Operating Expenses	\$ 62,310	\$ 68,245	\$ 5,935	\$ 70,824	\$ 8,514
Total Direct Expenses	\$ 352,006	\$ 374,965	\$ 22,959	\$ 409,122	\$ 57,116
Indirect Expenses	\$ 41,447	\$ 58,883	\$ 17,436	\$ 69,396	\$ 27,949
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses (B)	\$ 393,453	\$ 433,848	\$ 40,395	\$ 478,518	\$ 85,065
Change in Assets	\$ 1,290	\$ (39,105)	\$ (40,395)	\$ (1,016)	\$ (2,306)
Fixed Assets					
Depreciation	\$ (1,071)	\$ (2,053)	\$ (982)	\$ (2,022)	\$ (951)
Total Fixed Asset Purchases	2,361	2,753	392	1,006	(1,355)
(Inc)Dec in Fixed Assets (C)	\$ (1,290)	\$ (700)	\$ 590	\$ 1,016	\$ 2,306
TOTAL BUDGET (=B-C)	\$ 394,743	\$ 434,548	\$ 39,805	\$ 477,502	\$ 82,759
TOTAL CHANGE IN WORKING CAPITAL	\$ -	\$ (39,805)	\$ (39,805)	\$ -	\$ -
FTEs	1.07	1.04	(0.03)	1.07	-

Situation Awareness and Infrastructure Security Program

Situation Awareness and Infrastructure Security Program (in whole dollars)			
	2018 Budget	2019 Budget	Increase (Decrease)
Total FTEs	0.04	0.10	0.06
Direct Expenses	\$ 11,811	\$ 29,705	\$ 17,894
Indirect Expenses	\$ 1,549	\$ 6,486	\$ 4,936
Inc(Dec) in Fixed Assets	\$ 54	\$ (91)	\$ (145)
Total Funding Requirement	\$ 13,414	\$ 36,099	\$ 22,685

Program Scope and Functional Description

FRCC and the other Regional Entities continue to support the ERO's situation awareness, cyber security preparedness and to provide independent reliability information to policy makers and regulators. The FRCC Reliability Coordinator Reliability Plan documents the various reliability roles and functions that are coordinated, monitored and established by FRCC to provide situation awareness of the reliability of the FRCC BES. Two of the primary reliability goals of the FRCC are continuous improvement of the situation awareness of the operators within the FRCC and ensuring that adequate physical, operational and cyber security objectives are in place for the Regions' shared communications networks.

FRCC continues to support and participate in NERC's Situation Awareness/Event Analysis coordination conference calls, supports the Situation Awareness for FERC, NERC and the Regions (SAFNR) Version 2 project and maintains the FRCC satellite phone for situation awareness across the FRCC Region.

The NERC Rules of Procedure, Section 1000, requires that NERC monitor present conditions on the BES and provide leadership coordination, technical expertise and assistance to the industry in responding to events as necessary.

The Situation Awareness process will be used to support NERC and FERC's efforts to maintain situation awareness of BES conditions.

2019 Key Assumptions

- NERC and the Regions will continue to provide required support and leadership for the Operating Committee and the Critical Infrastructure Protection Committee and standing committees' subcommittees, working groups and task forces serving the standing committees. Regional Entity involvement is expected to remain at current levels with no additional resources required from the Regional Entities.
- NERC will continue to budget and incur costs to operate and maintain the software applications and systems known as Situational Awareness for NERC, FERC and the Regional Entities (SAFNRv2). Additional resource investments are expected to be required to maintain the capabilities of SAFNRv2 throughout the planning period. Any

such investments will be NERC funded and not result in an allocation of cost to the Regional Entities.

- NERC will continue to fund the Grid Security Exercise (GridEx) with no increased cost to the Regional Entities. The Regional Entities will participate as appropriate in the wide-area exercises.
- NERC will continue to fund, operate and maintain the Electricity Information Sharing and Analysis Center (E-ISAC), with no increased cost to Regional Entities.
- There will be continued focus on detecting off-normal events to be analyzed by the responsible entity, FRCC or NERC.

2019 Goals and Key Focus Areas

- Ensure that FRCC goals and activities support the mission to provide FERC, NERC and the staffs from the eight Regional Entities a visualization tool that enables the appropriate level of situation awareness for the near real-time conditions on the BES. Continue to work with the FRCC Reliability Coordinator to ensure that SAFNRv2 and appropriate hardware and software resources are allocated. Continue to support future development of the situation awareness project capabilities.
- Issue and track security recommendations to protect the BES. Share information learned and recommendations in Situation Awareness with the Events Analysis program to develop relevant lessons learned.
- Support critical infrastructure security by promoting rapid and appropriate sharing of situational awareness information regarding security occurrences.
- Participate as appropriate in periodic wide-area grid security exercises.
- Participate in the analysis of significant events to identify gaps in standards, compliance effectiveness, registration and risk controls effectiveness.

Situation Awareness and Infrastructure Security Program

Funding sources and related expenses for the situation awareness and infrastructure security section of the 2019 business plan are shown in the table below.

Statement of Activities, Fixed Assets Expenditures and Change in Working Capital					
2018 Budget & Projection, and 2019 Budget					
Situation Awareness and Infrastructure Security					
	2018 Budget	2018 Projection	Variance 2018 Projection v 2018 Budget Over(Under)	2019 Budget	Variance 2019 Budget v 2018 Budget Over(Under)
Funding					
ERO Funding					
ERO Assessments	\$ 13,025	\$ 13,025	\$ (0)	\$ 36,099	\$ 23,074
Penalty Sanctions	389	389	-	-	(389)
Total ERO Funding	\$ 13,414	\$ 13,414	\$ (0)	\$ 36,099	\$ 22,685
Membership Dues	-	-	-	-	-
Testing Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Workshops	-	-	-	-	-
Interest	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Total Funding (A)	\$ 13,414	\$ 13,414	\$ (0)	\$ 36,099	\$ 22,685
Expenses					
Personnel Expenses					
Salaries	\$ 6,508	\$ 7,639	\$ 1,131	\$ 18,645	\$ 12,137
Payroll Taxes	382	480	98	1,161	779
Benefits	851	904	53	2,206	1,355
Retirement Costs	976	997	21	2,392	1,416
Total Personnel Expenses	\$ 8,717	\$ 10,020	\$ 1,303	\$ 24,405	\$ 15,688
Meeting Expenses					
Meetings	\$ 19	\$ 21	\$ 2	\$ 38	\$ 19
Travel	43	58	15	140	97
Conference Calls	4	5	1	7	3
Total Meeting Expenses	\$ 66	\$ 84	\$ 18	\$ 185	\$ 119
Operating Expenses					
Consultants & Contracts	\$ 181	\$ 233	\$ 52	\$ 528	\$ 347
Office Rent	636	753	117	1,824	1,188
Office Costs	2,112	2,156	44	2,322	210
Professional Services	59	85	26	259	200
Miscellaneous	-	-	-	-	-
Depreciation	40	82	42	182	142
Total Operating Expenses	\$ 3,028	\$ 3,309	\$ 281	\$ 5,115	\$ 2,087
Total Direct Expenses	\$ 11,811	\$ 13,413	\$ 1,602	\$ 29,705	\$ 17,894
Indirect Expenses	\$ 1,549	\$ 2,434	\$ 885	\$ 6,486	\$ 4,936
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses (B)	\$ 13,360	\$ 15,847	\$ 2,487	\$ 36,190	\$ 22,830
Change in Assets	\$ 54	\$ (2,433)	\$ (2,487)	\$ (91)	\$ (145)
Fixed Assets					
Depreciation	\$ (40)	\$ (82)	\$ (42)	\$ (182)	\$ (142)
Total Fixed Asset Purchases	94	114	20	90	(4)
(Inc)Dec in Fixed Assets (C)	\$ (54)	\$ (32)	\$ 22	\$ 91	\$ 145
TOTAL BUDGET (=B-C)	\$ 13,414	\$ 15,879	\$ 2,465	\$ 36,099	\$ 22,685
TOTAL CHANGE IN WORKING CAPITAL	\$ -	\$ (2,465)	\$ (2,465)	\$ -	\$ -
FTEs	0.04	0.04	-	0.10	0.06

General and Administrative

General and Administrative (in whole dollars)						
	Direct Expenses and Fixed Assets			FTEs		
	2018 Budget	2019 Budget	Increase (Decrease)	2018 Budget	2019 Budget	Increase (Decrease)
General and Administrative	\$ 1,007,507	\$ 1,061,691	\$ 54,184	4.62	4.38	(0.24)

Program Scope and Functional Description Background

Charges included in General and Administrative are general legal expenses, executive time and expenses, human resources, information technology and accounting and finance. Every effort is made to charge items and time directly to activities and to designate as statutory or non-statutory. Undesignated items are shared costs between the Regional Entity Division and the Member Services Division and are allocated based on actual labor hours charged.

Legal and Regulatory Background

FRCC General Counsel serves as the chief legal advisor to the President and CEO, Board of Directors, staff and stakeholders on all legal and regulatory matters affecting the FRCC. FRCC may use additional specialized legal resources on an as-needed basis, such as for tax matters, employee benefit plan issues and significant policy or FERC matters.

2019 Goals and Key Focus Areas

- Assist the FRCC in carrying out its responsibilities as required by the approved delegation agreement between NERC and FRCC.
- Provide general corporate legal advice, legal training and timely, accurate filings to Regulatory authorities.

2019 Assumptions

In the 2019 Budget, as in recent budgets, there are no specific funds for hearings under CMEP Rules.

Information Technology Background

FRCC maintains a number of tools and other support services for the benefit of its members, Registered Entities, Reliability Coordinator agent(s) and other system operators. These services include the FRCC Load and Resource Database (LRDB), the Compliance Tracking System (CTS), Compliance Issues Tracking System (CITS), the FRCC corporate website, as well as other systems for collaboration, communication, data gathering and analysis.

FRCC supports the ERO Enterprise efforts to implement, operate and maintain software tools and applications supporting common enterprise wide operations which have been approved by the ERO Executive Management Group (EROEMG), which is comprised of the senior leadership of NERC and each of the Regional Entities. FRCC's budget assumes the availability of enterprise software tools and applications as described in NERC's business plan and budget. If implementation of these software applications are delayed or otherwise not available as planned, FRCC could incur additional costs to conduct operations pending the availability of these applications.

NERC and the Regional Entities are committed to working collaboratively to minimize duplication of effort and investments and to improve operational efficiency. This collaboration continues to refine existing strategies, governance and procurement practices applicable to the development, operation and maintenance of enterprise architecture, software and data systems supporting combined NERC and Regional Entity operations.

The NERC information technology budget does not supplant the FRCC's need for IT expenditures for specific regional projects and internal region-specific IT support needs. FRCC's 2019 Business Plan and Budget assumes agreed-upon ERO Enterprise applications will be available and includes only costs for internal region-specific support needs.

2019 Goals and Key Focus Areas

- Improve the reliability, security and capability of FRCC IT systems by enhancing business critical IT infrastructure.
- Continue the implementation of needed changes to improve the FRCC corporate security posture; improve overall security in all programs, enhance access controls with improved processes and procedures.
- Continue to improve disaster recovery and business continuity capabilities by continuing to test and refine implemented geographically diverse data recovery solutions.

Human Resources Background

FRCC has assembled an exceptional team of highly qualified employees to carry out the activities of the FRCC. The human resources department, in adherence with applicable federal and state laws, develops plans and implements human resources policies and procedures, including staffing, compensation, benefits, employee relations, and training and development.

2019 Goals and Key Focus Areas

- Recruit and retain successful employees;
- Improve human resource policies and procedures;
- Provide management and training programs; and
- Ensure competitive employee compensation and benefits.

Finance and Accounting Background

FRCC will submit its annual budget for statutory and non-statutory activities to the FRCC Board of Directors for approval and then file the approved annual budget to NERC. This includes supporting materials such as a complete business plan and organizational chart and the proposed expenditure of funds collected in sufficient detail to justify the requested funding collection and budget expenditures.

The Finance and Accounting Department will: direct the overall financial plans and accounting practices of the organization; oversee treasury, accounting, budget preparation and reporting, tax and audit activities; and oversee financial and accounting system controls and standards.

2019 Goals and Key Focus Areas

- Prepare the 2020 statutory and non-statutory budgets
- Report budget variances to the FRCC Corporate Compliance Finance and Audit Committee, the FRCC Board and to NERC on a quarterly basis
- Prepare the 2019 audited financial statements
- Continue to provide on-going training to employees to ensure employees charge their time and expenses correctly

General and Administrative

Funding sources and related expenses for the general and administrative section of the 2019 business plan are shown in the table below.

Statement of Activities, Fixed Assets Expenditures and Change in Working Capital					
2018 Budget & Projection, and 2019 Budget					
General and Administrative					
	2018 Budget	2018 Projection	Variance 2018 Projection v 2018 Budget Over(Under)	2019 Budget	Variance 2019 Budget v 2018 Budget Over(Under)
Funding					
ERO Funding					
ERO Assessments	\$ (508,449)	\$ (508,449)	\$ -	\$ (775,862)	\$ (267,413)
Penalty Sanctions	-	-	-	-	-
Total ERO Funding	\$ (508,449)	\$ (508,449)	\$ -	\$ (775,862)	\$ (267,413)
Membership Dues	\$ -	\$ -	\$ -	\$ -	\$ -
Testing Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Workshops	-	-	-	-	-
Interest	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Total Funding (A)	\$ (508,449)	\$ (508,449)	\$ -	\$ (775,862)	\$ (267,413)
Expenses					
Personnel Expenses					
Salaries	\$ 702,519	\$ 737,152	\$ 34,633	\$ 729,971	\$ 27,452
Payroll Taxes	41,210	44,769	3,559	43,760	2,550
Benefits	86,848	93,825	6,977	92,210	5,362
Retirement Costs	105,389	110,981	5,592	109,095	3,706
Total Personnel Expenses	\$ 935,966	\$ 986,727	\$ 50,761	\$ 975,035	\$ 39,069
Meeting Expenses					
Meetings	\$ -	\$ -	\$ -	\$ -	\$ -
Travel	-	-	-	-	-
Conference Calls	-	-	-	-	-
Total Meeting Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Operating Expenses					
Consultants & Contracts	\$ -	\$ -	\$ -	\$ -	\$ -
Office Rent	68,669	83,874	15,205	83,170	14,501
Office Costs	2,872	3,386	514	3,486	614
Professional Services	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Depreciation	-	-	-	-	-
Total Operating Expenses	\$ 71,541	\$ 87,260	\$ 15,719	\$ 86,656	\$ 15,115
Total Direct Expenses	\$ 1,007,507	\$ 1,073,987	\$ 66,480	\$ 1,061,691	\$ 54,184
Indirect Expenses	\$ (1,007,507)	\$ (1,073,987)	\$ (66,480)	\$ (1,061,691)	\$ (54,184)
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses (B)	\$ -	\$ -	\$ -	\$ -	\$ (0)
Change in Assets	\$ (508,449)	\$ (508,449)	\$ -	\$ (775,862)	\$ (267,413)
Fixed Assets					
Depreciation	\$ -	\$ -	\$ -	\$ -	\$ -
Total Fixed Asset Purchases	-	-	-	-	-
(Inc)Dec in Fixed Assets (C)	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL BUDGET (=B-C)	\$ -	\$ -	\$ -	\$ -	\$ (0)
TOTAL CHANGE IN WORKING CAPITAL	\$ (508,449)	\$ (508,449)	\$ -	\$ (775,862)	\$ (267,413)
FTEs	4.62	4.76	0.14	4.38	(0.24)

Section B – Supplemental Financial Information 2019 Business Plan and Budget

Reserve Balance

Table B-1

Working Capital Reserve Analysis 2018-2019	
STATUTORY	
Beginning Working Capital Reserve (Deficit), December 31, 2017	1,321,468
Plus: 2018 ERO Funding (from LSEs or designees)	6,660,518
Plus: Projected 2018 Other funding sources	92,000
Plus: Penalty Sanctions Applied	253,145
Less: 2018 Projected expenses & capital expenditures	(6,993,287)
Projected Working Capital Reserve Surplus/(Deficit), December 31, 2018	<u>1,333,844</u>
Desired Working Capital Reserve, December 31, 2019	² 557,982
Less: Projected Working Capital Reserve, December 31, 2018	(1,333,844)
Increase(decrease) in assessments to achieve desired Working Capital Reserve	<u>(775,862)</u>
2019 Expenses and Capital Expenditures	6,695,787
Less: Penalty Sanctions ¹	0
Less: Other Funding Sources	(92,000)
Adjustment to achieve desired Working Capital Reserve	(775,862)
2019 Assessment	<u>5,827,925</u>

¹ Represents collections prior to June 30, 2018.

² On June 26, 2013, the FRCC Board of Directors set a working capital and operating working capital and operating reserve requirement of one (1) month of the total annual budget. The FRCC has a \$1.5 million line of credit. This reserve was established to ensure sufficient operating reserves and contingency reserves taking into account the risk of unbudgeted expenditures occurring in the period. The company also considered the policies adopted by the other regions.

Breakdown by Statement of Activity Sections

The following detailed schedules are in support of the Table on page 11, of the 2019 FRCC Business Plan and Budget.

Penalty Sanctions

Penalty monies received prior to June 30, 2018 are to be used to offset assessments in the 2019 Budget, as documented in the NERC Policy – ACCOUNTING, FINANCIAL STATEMENT AND BUDGETARY TREATMENT OF PENALTIES IMPOSED AND RECEIVED FOR VIOLATIONS OF RELIABILITY STANDARD. Penalty monies received from July 1, 2018 through June 30, 2019 will be used to offset assessments in the 2020 Budget.

All penalties received prior to June 30, 2018 are detailed below.

Allocation Method: Penalty sanctions received have been allocated to the following statutory programs to reduce assessments: Reliability Standards; Compliance Monitoring & Enforcement and Organization Registration & Certification; Reliability Assessments and Performance Analysis; Training, Education and Operator Certification; and Situation Awareness and Infrastructure Security. Penalty sanctions are allocated based upon the number of FTEs in the Program divided by the aggregate total FTEs in the Programs receiving the allocation.

Table B-2

Penalty Sanctions Received On or Prior to June 30, 2018	Date Received	Amount Received
Penalty #1		\$ -
Penalty #2		\$ -
Penalty #3		\$ -
Penalty #4		\$ -
Penalty #5		\$ -
Penalty #6		\$ -
Total Penalties Received		\$ -

Supplemental Funding

Table B-3

Outside Funding Breakdown By Program	Budget		Projection		Variance	
	2018	2019	2018	2019	2019 Budget v 2018 Budget	
Reliability Standards Development						
Total	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Compliance Monitoring, Enforcement & Org. Registration						
Total	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Reliability Assessment and Performance Analysis						
Services & Software Fees	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Training, Education and Operator Certification						
Workshops	\$ 92,000	\$ 92,000	\$ 92,000	\$ 92,000	\$ -	\$ -
Total	\$ 92,000	\$ 92,000	\$ 92,000	\$ 92,000	\$ -	\$ -
Situation Awareness and Infrastructure Security						
Total	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
General and Administrative*						
Interest	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Outside Funding	\$ 92,000	\$ 92,000	\$ 92,000	\$ 92,000	\$ -	\$ -

Assumes that no appreciable excess cash will be in the Bank Accounts and due to current low interest rates, no Interest is being budgeted.

Personnel Expenses

Table B-4

Personnel Expenses	Budget 2018	Projection 2018	Budget 2019	Variance	
				2019 Budget v 2018 Budget	Variance %
Salaries					
Total Salaries	\$ 4,289,416	\$ 4,033,343	\$ 3,595,017	\$ (694,399)	-16.19%
Total Payroll Taxes	\$ 249,708	\$ 251,526	\$ 221,845	\$ (27,863)	-11.16%
Benefits					
Workers Compensation	\$ 11,839	\$ 11,092	\$ 9,922	\$ (1,917)	-16.19%
Medical, LTD, STD Insurances	505,493	435,368	372,887	(132,606)	-26.23%
Temp to Perm Fees	-	-	-	-	-
Education	114,213	63,131	112,170	(2,043)	-1.79%
Employee Welfare & Contract Labor	28,136	25,714	28,421	285	1.01%
Relocation	25,000	-	-	(25,000)	-100.00%
Total Benefits	\$ 684,681	\$ 535,305	\$ 523,400	\$ (161,281)	-23.56%
Retirement					
Retirement Costs	\$ 654,985	\$ 559,804	\$ 470,029	\$ (184,956)	-28.24%
Total Retirement	\$ 654,985	\$ 559,804	\$ 470,029	\$ (184,956)	-28.24%
Total Personnel Costs	\$ 5,878,790	\$ 5,379,978	\$ 4,810,290	\$ (1,068,500)	-18.18%
FTEs	30.63	23.64	20.75	(9.9)	-32.26%
Cost per FTE					
Salaries	\$ 140,040	\$ 170,615	\$ 173,254	33,214	23.72%
Payroll Taxes	8,152	10,640	10,691	2,539	31.14%
Benefits	22,353	22,644	25,224	2,871	12.84%
Retirement	21,384	23,680	22,652	1,268	5.93%
Total Cost per FTE¹	\$ 191,929	\$ 227,579	\$ 231,821	\$ 39,892	20.78%

¹2019 FTEs are calculated using a new method that captures attrition assumptions; in 2018 attrition assumptions were captured in the salary expense but not reported FTEs

Salaries are budgeted to decrease primarily due to the decrease in FTEs, partially offset by the assumption of a 3% salary increase plus promotions, adjustments and retention bonus.

Payroll taxes are budgeted to decrease primarily due to the decrease in FTEs.

Medical Insurance is assumed to decrease due to the decrease in FTEs, partially offset by an assumed rate increase of 5%.

Relocation is budgeted to decrease due to no new hires requiring relocation.

Retirement costs are budgeted to decrease primarily due to the decrease in FTEs.

Meetings, Travel & Conference Calls**Table B-5**

Meetings, Travel and Conference Calls	Budget 2018	Projection 2018	Budget 2019	Variance	
				2019 Budget v 2018 Budget	Variance %
Meetings	\$ 72,593	\$ 64,790	\$ 68,826	\$ (3,767)	-5.19%
Travel	164,498	116,359	146,262	\$ (18,236)	-11.09%
Conference Calls	15,150	14,655	10,319	\$ (4,831)	-31.89%
Total Meetings, Travel & Conf Calls	\$ 252,241	\$ 195,804	\$ 225,407	\$ (26,834)	-10.64%

Meeting costs are budgeted to decrease due to a reduction in the number of meetings held for compliance.

Travel costs are budgeted to decrease due to reducing the travel budget to reflect vacancies.

Consultants and Contracts**Table B-6**

Contracts & Consultants and Software & Licenses	Budget 2018	Projection 2018	Budget 2019	Variance	
				2019 Budget v 2018	Variance %
Contracts & Consultants and Software & Licenses					
Reliability Standards Development	\$ 3,992	\$ 1,910	\$ 541	\$ (3,451)	-86.45%
Compliance Monitoring & Enforcement and Org Reg	343,034	442,948	751,034	408,000	118.94%
Reliability Assessment and Performance Analysis	97,819	96,366	85,866	(11,953)	-12.22%
Training, Education and Operator Certification	36,528	37,619	37,873	1,345	3.68%
Situation Awareness and Infrastructure Security	181	233	528	347	191.71%
General and Administrative	-	-	-	-	
Total Contracts & Consultants and Software & Licenses	\$ 481,554	\$ 579,076	\$ 875,842	\$ 394,288	81.88%

The Compliance Monitoring & Enforcement Program's Contracts & Consulting budget has increased due to the expected increased use of consultants with the projected staff vacancies .

The Reliability Assessment and Performance Analysis Program's budget has decreased due to new RE Gas Supply Studies not planned in 2019.

Office Rent**Table B-7**

Office Rent	Budget 2018	Projection 2018	Budget 2019	Variance	
				2019 Budget v 2018 Budget	Variance %
Office Rent	\$ 625,292	\$ 586,079	\$ 565,921	\$ (59,371)	-9.49%
Total Office Rent	\$ 625,292	\$ 586,079	\$ 565,921	\$ (59,371)	-9.49%

Rent is budgeted to decrease due to less allocated costs as a result of the reduction in FTEs.

Office Costs**Table B-8**

Office Costs	Budget 2018	Projection 2018	Budget 2019	Variance	
				2019 Budget v2018	Variance %
Telephone	\$ 42,866	\$ 40,851	\$ 42,986	\$ 120	0.28%
Internet	1,913	1,749	1,610	\$ (303)	-15.85%
Office Supplies	14,405	25,391	13,131	\$ (1,274)	-8.84%
Computer Supplies	6,195	5,959	5,840	\$ (355)	-5.73%
Publications, Subscriptions & Dues	11,291	8,074	10,288	\$ (1,003)	-8.89%
Postage	2,300	2,282	2,182	\$ (118)	-5.13%
Equipment Maintenance	4,009	3,140	2,666	\$ (1,343)	-33.50%
Copying				\$ -	
Printing	14,154	13,771	14,328	\$ 174	1.23%
Stationary Forms				\$ -	
Commerical Insurance	15,939	14,567	13,833	\$ (2,106)	-13.21%
Miscellaneous				\$ -	
Total Office Costs	\$ 113,072	\$ 115,784	\$ 106,863	\$ (6,209)	-5.49%

Professional Services**Table B-9**

Professional Services	Budget 2018	Projection 2018	Budget 2019	Variance	
				2019 Budget v 2018 Budget	Variance %
Outside Legal	\$ 15,735	\$ 14,639	\$ 23,715	\$ 7,980	50.71%
Accounting & Auditing Fees	20,089	23,056	20,357	\$ 268	1.33%
Total Services	\$ 35,824	\$ 37,695	\$ 44,071	\$ 8,247	23.02%

Miscellaneous Expenses**Table B-10**

Miscellaneous Expenses are not budgeted in 2018 or 2019.

Other Non-Operating Expenses**Table B-11**

Other Non-Operating Expenses	Budget 2018	Projection 2018	Budget 2019	Variance	
				2019 Budget v 2018 Budget	Variance %
Interest Expense	\$ -	\$ -		\$ -	
Office Relocation	-	-		\$ -	
Total Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	

Interest Rates are assumed to continue being so low that they remain immaterial.

Fixed Assets**Table B-12**

Professional Services	Budget 2018	Projection 2018	Budget 2019	Variance	
				2019 Budget v 2018 Budget	Variance %
Depreciation	\$ (113,181)	\$ (109,894)	\$ (80,736)	\$ 32,445	-28.67%
Total Fixed Asset Purchases	\$ 127,337	\$ 98,873	\$ 67,393	\$ (59,944)	-47.07%
Total Services	\$ (14,156)	\$ 11,021	\$ 13,342	\$ 27,498	-194.25%

Fixed Asset Purchases are budgeted to decrease in 2019 due to decreased Compliance Portal Software enhancements anticipating the development and implementation of the ERO CMEP Tool over the next several years.

2020 and 2021 Projected Expenses

The following table showing 2020 and 2021 budget projections is based on the following assumptions:

Personnel Expenses

- A 3% increase in personnel costs due to salary increases in both 2020 and 2021
- Estimated medical expense increase of 5% in both 2020 and 2021
- An attrition factor of 13% was used in both 2020 and 2021
- The current vacancies will remain unfilled, partially offset by increased use of consultants.
- Retention bonuses are included in 2020 but not in 2021

Meeting Expenses

- Travel and Meeting expenses increase by a 3% inflation factor in both 2020 and 2021

Operating Expenses

- Office Costs remains flat in both 2020 and 2021
- Office Rent includes increases due to Common Area Maintenance charges projected to increase, estimates for new lease for the 4th quarter of 2020 and yearly contracted rate increases
- Depreciation remains flat in both 2020 and 2021

Indirect Expenses – Administrative costs increase approximately 3% each year in 2020 and 2021

Fixed Assets

- Compliance Portal Software decreases in 2020 due to fewer planned enhancements and fewer FRCC software purchases for the SQL Server and SIEM Log Aggregation and Analysis System.

2019, 2020 and 2021 Projections

Table B-13

Statement of Activities and Capital Expenditures 2019, 2020 and 2021 Projections										
Regional Entity										
	2018 Budget	2019 Budget	\$ Change 2019:2018 Over(Under)	% Chg 2019:2018 Over(Under)	2020 Projection	\$ Change 2020:2019 Over(Under)	% Chg 2020:2019 Over(Under)	2021 Projection	\$ Change 2021:2020 Over(Under)	% Chg 2021:2020 Over(Under)
Funding										
ERO Funding										
ERO Assessments	\$ 6,660,518	\$ 5,827,925	\$ (832,593)	-12.50%	\$ 6,467,104	\$ 639,179	10.97%	\$ 6,305,416	\$ (161,689)	-2.50%
Penalty Sanctions	253,145	-	(253,145)	-100.00%	-	-	-	-	-	-
Total ERO Funding	\$ 6,913,663	\$ 5,827,925	\$ (1,085,738)	-15.70%	\$ 6,467,104	\$ 639,179	10.97%	\$ 6,305,416	\$ (161,689)	-2.50%
Membership Dues	\$ -	\$ -	\$ -	-	\$ -	\$ -	-	\$ -	\$ -	-
Testing Fees	-	-	-	-	-	-	-	-	-	-
Services & Software	-	-	-	-	-	-	-	-	-	-
Workshops	92,000	92,000	-	0.00%	92,000	-	0.00%	92,000	-	0.00%
Interest	-	-	-	-	-	-	-	-	-	-
Miscellaneous	-	-	-	-	-	-	-	-	-	-
Total Funding (A)	\$ 7,005,663	\$ 5,919,925	\$ (1,085,738)	-15.50%	\$ 6,559,104	\$ 639,179	10.80%	\$ 6,397,416	\$ (161,689)	-2.47%
Expenses										
Personnel Expenses										
Salaries	\$ 4,289,416	\$ 3,595,017	\$ (694,399)	-16.19%	\$ 3,553,295	\$ (41,721)	-1.16%	\$ 3,346,132	\$ (207,163)	-5.83%
Payroll Taxes	249,708	221,845	(27,863)	-11.16%	210,572	(11,274)	-5.08%	190,141	(20,431)	-9.70%
Benefits	684,682	523,400	(161,282)	-23.56%	544,040	20,640	3.94%	564,305	20,265	3.72%
Retirement Costs	654,985	470,029	(184,956)	-28.24%	486,898	16,870	3.59%	501,068	14,170	2.91%
Total Personnel Expenses	\$ 5,878,791	\$ 4,810,290	\$ (1,068,501)	-18.18%	\$ 4,794,805	\$ (15,485)	-0.32%	\$ 4,601,646	\$ (193,159)	-4.03%
Meeting Expenses										
Meetings	\$ 72,593	\$ 68,826	\$ (3,767)	-5.19%	\$ 70,893	\$ 2,067	3.00%	\$ 73,019	\$ 2,126	3.00%
Travel	164,498	146,262	(18,236)	-11.09%	150,683	4,421	3.02%	155,203	4,521	3.00%
Conference Calls	15,150	10,319	(4,831)	-31.89%	10,324	5	0.05%	10,324	-	0.00%
Total Meeting Expenses	\$ 252,241	\$ 225,407	\$ (26,834)	-10.64%	\$ 231,900	\$ 6,493	2.88%	\$ 238,546	\$ 6,647	2.87%
Operating Expenses										
Consultants & Contracts	\$ 481,554	\$ 875,842	\$ 394,288	81.88%	\$ 754,118	\$ (121,724)	-13.90%	\$ 758,179	\$ 4,061	0.54%
Office Rent	625,292	565,921	(59,371)	-9.49%	576,008	10,087	1.78%	592,341	16,333	2.84%
Office Costs	113,073	106,862	(6,211)	-5.49%	106,047	(815)	-0.76%	107,400	1,353	1.28%
Professional Services	35,824	44,071	8,247	23.02%	44,053	(18)	-0.04%	43,743	(310)	-0.70%
Miscellaneous	-	-	-	-	-	-	-	-	-	-
Depreciation	113,181	80,736	(32,445)	-28.67%	88,808	8,073	10.00%	97,031	8,223	9.26%
Total Operating Expenses	\$ 1,368,924	\$ 1,673,432	\$ 304,508	22.24%	\$ 1,569,034	\$ (104,398)	-6.24%	\$ 1,598,694	\$ 29,660	1.89%
Total Direct Expenses	\$ 7,499,956	\$ 6,709,129	\$ (790,827)	-10.54%	\$ 6,595,739	\$ (113,390)	-1.69%	\$ 6,438,886	\$ (156,852)	-2.38%
Indirect Expenses	\$ -	\$ -	\$ -	-	\$ -	\$ -	-	\$ -	\$ -	-
Other Non-Operating Expenses	\$ -	\$ -	\$ -	-	\$ -	\$ -	-	\$ -	\$ -	-
Total Expenses (B)	\$ 7,499,956	\$ 6,709,129	\$ (790,827)	-10.54%	\$ 6,595,739	\$ (113,390)	-1.69%	\$ 6,438,886	\$ (156,852)	-2.38%
Change in Assets	\$ (494,293)	\$ (789,204)	\$ (294,911)	59.66%	\$ (36,634)	\$ 752,570	-95.36%	\$ (41,470)	\$ (4,836)	
Fixed Assets										
Depreciation	\$ (113,181)	\$ (80,736)	\$ 32,445	-28.67%	\$ (88,808)	\$ (8,073)	10.00%	\$ (97,031)	\$ (8,223)	9.26%
Total Fixed Asset Purchases	127,337	67,393	(59,944)	-47.07%	52,174	(15,219)	-22.58%	55,561	3,387	6.49%
(Inc)Dec in Fixed Assets (C)	\$ (14,156)	\$ 13,342	\$ 27,498	-194.25%	\$ 36,634	\$ 23,292	174.58%	\$ 41,470	\$ 4,836	
TOTAL BUDGET (=B-C)	\$ 7,514,112	\$ 6,695,787	\$ (818,325)	-10.89%	\$ 6,559,104	\$ (136,682)	-2.04%	\$ 6,397,416	\$ (161,689)	-2.47%
TOTAL CHANGE IN WORKING CAPITAL	\$ (508,449)	\$ (775,862)	\$ (267,413)	52.59%	\$ -	\$ 775,862	-100.00%	\$ -	\$ (0)	
FTEs	30.63	20.75	(9.88)	-32.26%	20.75	-	0.00%	20.75	-	0.00%

Section C – Non-Statutory Activities
2019 Business Plan and Budget

Non-Statutory Members Services Division

Member Services Activities (in whole dollars)			
	2018 Budget	2019 Budget	Increase (Decrease)
Total FTEs	20.21	20.07	(0.14)
Direct Expenses	11,325,743	12,675,735	1,349,992
Indirect Expenses	-	-	-
Inc(Dec) in Fixed Assets	409,284	(23,727)	(433,011)
Total Funding Requirement	11,735,027	12,652,008	916,981

Non-Statutory Functional Scope

The FRCC MS Division provides services that enhance the reliable coordination of planning and operations relating to the BPS within the FRCC Region. These services are carried out on behalf of FRCC MS members with oversight by two of the standing committees. The Planning Committee (PC) and Operating Committee (OC) and their various subcommittees, task forces and working groups, as well as the FRCC Planning and Operations (P&O) staff, support the MS activities of the Region. Two key activities include oversight of the two registered functions for which FRCC is a NERC registered entity: the FRCC Planning Authority (PA) and the FRCC Reliability Coordinator (RC). The PC has primary oversight of the FRCC PA function while the OC has primary oversight of the FRCC RC function.

Current Member Services Division Activities

Planning Committee (PC)

The PC reports directly to the FRCC Board of Directors and is charged with the responsibility to promote the reliability of the BES within the FRCC Region by assessing and encouraging generation and transmission adequacy. The PC assesses generation adequacy by performing a reliability assessment taking into account projected load and resources. The PC, through the FRCC Regional Transmission Planning Process, provides a vehicle for ensuring that transmission planning within the FRCC will provide for the development of a robust transmission network within the FRCC Region. The Regional Transmission Planning Process is a coordinated transmission planning process that evaluates all BES and non-BES transmission facilities. The major goal of this process is to ensure that the planning of transmission facilities will meet the needs of all market participants in a coordinated, open and transparent transmission planning environment.

The FRCC will continue to develop, on an annual basis, a Regional Transmission Plan following the Regional Transmission Planning Process. The Regional Transmission Planning process has been revised to incorporate the planning principles from FERC Order 1000. The Regional Plan is based on the Ten-Year Site Plans that are required to be submitted to the Florida Public Service Commission (FPSC) on April 1st of each year. The FRCC participates in an annual Ten-Year Site Plan Workshop held by the FPSC where the results of resource and transmission adequacy assessments are presented.

The FRCC PC relies on the following subordinate groups to achieve its goals: Regional Projects Subcommittee (RPS), Resource Subcommittee (RS), Stability Analysis Subcommittee (SAS), and the Transmission Technical Subcommittee (TTS).

Regional Projects Subcommittee (RPS)

The RPS has a focused team of experienced individuals dedicated towards implementing and carrying out the Biennial Transmission Planning Process (BTPP) portion of the overall FRCC Regional Transmission Planning Process (RTPP) under the advice and direction of the FRCC PC. Several of the responsibilities that the RPS would be assigned include: (1) analyze the Board approved regional plan, (2) pro-actively develop potential Cost Effective and Efficient Regional Transmission Solution (CEERTS) projects (and/or review proposed CEERTS project submittals) that provide regional benefits, (3) identify all project beneficiaries and impacted entities, (4) quantify the benefits and impacts, and (5) deliver the CEERTS project recommendations to the PC, at least biennially, in accordance with the timelines established in the RTPP and schedules set by the PC, which take into consideration jurisdictional utilities' OATT requirements and timing.

Resource Subcommittee (RS)

The RS updates the Load and Resource Database annually and develops an aggregated Load & Resource Plan. The RS performs reliability assessments of FRCC resource adequacy for the future 10-year period for peninsular Florida based on individual entity information that is the basis of their respective Ten-Year Site Plan filings with the Florida Public Service Commission. The RS compiles entity information in support of the FERC 715 filing. In addition, the RS collects and provides EIA-411 information to NERC.

Stability Analysis Subcommittee (SAS)

The SAS is responsible for assessing the dynamic performance of the FRCC BES under various credible system conditions. In addition, the SAS performs the following assessments and studies: Coordination and performance of Special Protection Systems, the effectiveness of FRCC under frequency load shedding (UFLS) program, coordination with other protection and control systems, Extreme Event Study and other assessments in support of the FRCC Regional Transmission Planning Process. The SAS annually develops FRCC dynamic models. In addition, the SAS develops evidentiary documentation to demonstrate compliance with applicable NERC Standards such as TPL-001-4, PRC-006.

Transmission Technical Subcommittee (TTS)

The TTS engages in active coordination of transmission planning within the FRCC Region under the direction of the FRCC Planning Committee in support of the FRCC Regional Transmission Planning Process. The TTS annually performs a FRCC Long Range Study, sensitivity studies as directed by the PC, evaluates Transmission Service Requests and evaluates Generator Interconnection Service Requests. The TTS annually develops a FRCC Transmission Map, FRCC power flow models and FRCC short circuit models. In addition, the TTS develops evidentiary documentation to demonstrate compliance with applicable NERC Standards such as FAC-010, FAC-013, PRC-023, and TPL-001-4.

FRCC Planning Authority (PA) Registered Function

The FRCC is a NERC registered Planning Authority that, by FERC order, comes under the jurisdiction of the SERC Regional Entity as its Compliance Enforcement Authority (CEA). In addition to the committee work and oversight of its subordinate groups, the PC supports

reliability assessment activities through the implementation and oversight of those FRCC PA functions for the reliability of the FRCC Bulk Electric System.

The PC, supported by FRCC MS staff, has the primary responsibility of the Planning Authority (PA) function including implementation of all applicable PA NERC Reliability Standards as outlined in the Coordinated Functional Agreement with the other Planning Authority entities within the FRCC.

Operating Committee (OC)

The FRCC Operating Committee (OC) has been established to carry out Member Services Activities on behalf of the Membership. The OC reports directly to the FRCC Board of Directors and is charged with responsibility for providing for the reliable operations of the BPS in the FRCC Region through coordination activities of operations and maintenance. The OC is responsible for the coordination, operations planning, operation and maintenance of the interconnected systems operating in the Region. The OC's primary reliability goals include effective implementation of the *Reliability Coordinator Reliability Plan* document by all operators within the Region. This includes oversight of the FRCC Reliability Coordinator (RC) registered entity function, development and approval of processes and procedures that support reliability and compliance with applicable regulations, including NERC Reliability Standards and support of the FRCC Internal Compliance Program (ICP) for the RC registered function. In addition, the OC supports continuous improvement of operations coordination, an effective and secure communications network, the Next-Day operations planning function, a robust operations planning study program as well as various training activities and initiatives. The OC relies on several subordinate groups to implement its objectives. These include the Operating Reliability Subcommittee (ORS), Data Exchange Working Group (DEWG), Fuel Reliability Working Group (FRWG), Operations Planning Working Group (OPWG), Telecommunications Subcommittee (TS), System Protection and Control Subcommittee (SPCS), Critical Infrastructure Protection Subcommittee (CIPS) and the System Operator Subcommittee (SOS).

Operating Reliability Subcommittee (ORS)

The ORS provides overall administration for the development and implementation of operating procedures and other reliability matters including the oversight of the FRCC RC function for Operating and Planning (non-CIP) NERC Standards and direct support of the FRCC Internal Compliance Program for the RC registered function. The ORS reviews and assesses regional import and export limits, scheduled transmission outages, real-time system reliability, events analysis, information and data exchange and other reliability issues. The ORS provides formal oversight and implementation of the *Reliability Coordinator Reliability Plan* document which establishes the reliability responsibilities of the various operating entities within the Region and specifically monitors the agent responsible for performing the RC functions.

Data Exchange Working Group (DEWG)

The DEWG, subordinate to the ORS, supports the real-time data needs of the FRCC RC and other operating entities. It is also responsible for developing methodologies to facilitate the exchange of real-time, modeling and other operational data to help ensure reliable BPS operations. Accurate data exchange and modeling of the FRCC is essential to maintaining situation awareness and ensuring reliability. Within the FRCC, operating entities provide system data via the FRCC Reliability Data Link (RDL). The FRCC RDL is used to share electric system reliability data from the operating entities on a real-time basis.

Fuel Reliability Working Group (FRWG)

The FRWG, subordinate to the ORS, has been established to deal with matters relating to fuel and impacts to BES reliability. Specifically, the FRWG provides the administrative oversight of a Regional fuel reliability forum that studies the interdependencies of fuel availability and electric reliability and supports coordinated Regional responses to fuel issues and fuel emergencies.

Operations Planning Working Group (OPWG)

The OPWG, also subordinate to the ORS, was established to provide oversight, guidelines and procedures to the FRCC Operations Planning Coordinator (OPC) function in accordance with the *Reliability Coordinator Reliability Plan* document. The OPWG focuses on BES reliability and developing operations planning processes and study protocols that support regional reliability and adherence to the NERC Reliability Standards as they relate to the OPC function.

Telecommunications Subcommittee (TS)

The primary purpose of the TS is to ensure that adequate and redundant communications facilities are made available to the operating entities within the FRCC, including the FRCC RC. The TS administers the FRCC Hotline program, Satellite phone program, and ensures that reliable and redundant communications are maintained within, and external to, the FRCC RC footprint. All TS programs are non-statutory and support the RC and operating entity functions; with the exception of the FRCC satellite phone (located at the FRCC office) which is a tool that can be used by the Regional Entity to enhance situation awareness and thus is budgeted as statutory.

System Protection and Control Subcommittee (SPCS)

The FRCC System Protection and Control Subcommittee (SPCS) has primary responsibility for supporting the coordination of protection and control systems within the FRCC region, including regional disturbance monitoring equipment, review of protective system mis-operations, protection related disturbance analysis and implementation of specific regional programs and procedures including the annual assessments of the FRCC Under-Frequency Load Shedding Program. The SPCS also reviews and coordinates system protection and control equipment installations, settings, protection philosophies and testing criteria within the Region when installations can impact multiple entities. The SPCS serves as an important forum for sharing subject matter expert guidance and lessons learned / best practices for equipment issues and protection coordination.

Critical Infrastructure Protection Subcommittee (CIPS)

The purpose of the FRCC CIPS is to recommend improvements to enhance the physical and cyber security of the critical BES infrastructure in the FRCC Region, with an emphasis on protecting, preventing, limiting and recovering from malicious activities directed at the FRCC critical energy infrastructure. The CIPS provides guidance to the OC on matters of critical energy infrastructure security, including cyber and physical security. The CIPS provides advice to the OC including impact and implementation of CIP NERC Reliability Standards that apply to the FRCC Reliability Coordinator registered function.

Event Analysis Working Group (EAWG)

The FRCC Event Analysis Working Group (EAWG) has been established as a peer review process within the FRCC Region to encourage consistency and quality of entity event reports submitted through the ERO Event Analysis Process. The EAWG also serves as a forum for FRCC registered entities to voluntarily disseminate individual entity lessons learned in a timely

manner as well as serve as an interface with the ERO to receive other relevant event and “lessons learned” information. The EAWG primarily supports the Regional Entity efforts in Event Analysis and Reliability Improvements.

System Operator Subcommittee (SOS)

The FRCC System Operator Subcommittee (SOS) develops and delivers training in which FRCC grants NERC Continuing Education Hours (CEHs) to those individuals who successfully complete sanctioned courses through the SOS organized activities. The SOS is made up of member company training personnel and supports FRCC training activities by reviewing and providing training content. While most of the activities of the SOS support FRCC Regional Entity efforts, the SOS reports to the FRCC Operating Committee.

FRCC Reliability Coordinator (RC) Registered Function

The FRCC is a NERC registered Reliability Coordinator that, by FERC order, comes under the jurisdiction of the SERC Regional Entity as its Compliance Enforcement Authority (CEA). In addition to the committee work and oversight of its subordinate groups, the OC supports reliable operations and maintenance activities through the implementation and oversight of those FRCC Reliability Coordinator (RC) functions as established in the *Reliability Coordinator Reliability Plan*. The FRCC RC responsibilities include the real-time operating function and the next-day operations planning function. The RC tasks are performed by a designated agent of the FRCC with direction and oversight by FRCC committees and support staff. The designated agent performs real-time operations and next-day planning operations. FRCC staff further supports Regional reliability by performing the roles of the Operations Planning Coordinator (OPC), and State Capacity Emergency Coordinator (SCEC) as defined in the *Reliability Coordinator Reliability Plan document*.

The FRCC RC function is accountable to the FRCC OC who has overall responsibility of the administration, development and implementation of RC and some non-RC operating procedures approved by the OC. Many of the policies and procedures developed by the OC and its sub groups, support Regional reliability as well as entity compliance with NERC Operations & Planning Reliability Standards.

Regulatory Oversight of Registered Functions

The FRCC continues to improve FRCC PA and RC compliance management programs under the Member Services Division. The Division along with its committees, support an independent Member Services Regulatory Department with a dedicated Regulatory Director who reports directly to the FRCC President and CEO and who has direct access to the FRCC Board of Directors. This position is responsible for the implementation, maintenance and oversight of the FRCC Internal Compliance Program (ICP) including all compliance activities for the FRCC registered entity functions and is the primary interface for all regulatory activities associated with the FRCC Member Services committees and is the FRCC liaison between external Compliance Enforcement Authorities.

Major 2019 Cost Impacts

The FRCC’s proposed 2019 Members Services budgeted expenses and net fixed assets are \$12,652,008 which is a \$916,979 or 7.8% increase over the 2018 budgeted expenses.

Planning Committee (PC)

The Member Services Planning Committee (PC) expenses for 2019 are made up of the PC Committee budget, as well as the administrative costs to provide support personnel for implementation of the FRCC Planning Authority (PA) functions and all other Member Services PC activities.

The 2019 PC budget is developed based on the activities of the Regional Projects Subcommittee (RPS), the Resource Subcommittee (RS), the Stability Analysis Subcommittee (SAS) and the Transmission Technical Subcommittee (TTS). These budgets are primarily for the labor involved in coordination activities performed by member representatives, software and meeting costs.

Operating Committee (OC)

The Member Services Operating Committee (OC) expenses for 2019 are made up of a 2019 OC technical budget as well as the Member Services Department related administrative costs to provide support personnel for implementation of the FRCC Reliability Coordinator (RC) functions and other Member Services (Non RC) activities. In 2019, the OC, along with staff, will continue to directly support implementation of the RC function, support RC and entity training, improve the compliance posture of the RC function as well as continue coordinating the activities of member companies to ensure continued reliability of the FRCC RC footprint.

The 2019 OC budget was developed based primarily on the activities of the Operating Reliability Subcommittee (ORS), the Telecommunications Subcommittee (TS), the Fuel Reliability Working Group (FRWG) and the Critical Infrastructure Protection Subcommittee (CIPS). These budgets are related to, or in support of both the FRCC Reliability Coordinator (RC) and Member Services entity's reliability functions and include consulting costs, contract costs, computer software purchases and expenses to support the associated activities. The technical budgets do not include FRCC staff salaries or associated personnel costs.

The staff includes dedicated employees as well as shared employees.

2018 Member Services Budget and Projection and 2019 Budget Comparisons

Statement of Activities, Fixed Assets Expenditures and Change in Working Capital					
2018 Budget & Projection, and 2019 Budget					
NON-STATUTORY MEMBER SERVICES					
	2018 Budget	2018 Projection	Variance 2018 Projection v 2018 Budget Over(Under)	2019 Budget	Variance 2019 Budget v 2018 Budget Over(Under)
Funding					
ERO Funding					
ERO Assessments	\$ -	\$ -	\$ -	\$ -	\$ -
Penalty Sanctions	-	-	-	-	-
Total ERO Funding	\$ -	\$ -	\$ -	\$ -	\$ -
Membership Dues	\$ 11,584,228	\$ 11,584,228	\$ (0)	12,388,798	804,570
Testing Fees	-	-	-	-	-
Services & Software	204,100	204,100	-	263,210	59,110
Workshops	-	-	-	-	-
Interest	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Total Funding (A)	\$ 11,788,328	\$ 11,788,328	\$ (0)	\$ 12,652,008	\$ 863,680
Expenses					
Personnel Expenses					
Salaries	\$ 3,003,436	\$ 2,913,005	\$ (90,431)	\$ 3,275,185	\$ 271,749
Payroll Taxes	175,873	176,618	745	195,805	19,932
Benefits	470,332	517,736	47,404	504,491	34,159
Retirement Costs	450,564	438,598	(11,966)	489,554	38,990
Total Personnel Expenses	\$ 4,100,205	\$ 4,045,957	\$ (54,248)	\$ 4,465,035	\$ 364,830
Meeting Expenses					
Meetings	\$ 34,999	\$ 34,642	\$ (357)	\$ 33,780	\$ (1,219)
Travel	113,458	117,191	3,733	109,291	(4,167)
Conference Calls	38,838	37,834	(1,004)	44,664	5,826
Total Meeting Expenses	\$ 187,295	\$ 189,667	\$ 2,372	\$ 187,735	\$ 440
Operating Expenses					
Consultants & Contracts	\$ 6,213,956	\$ 6,449,769	\$ 235,813	\$ 7,155,119	\$ 941,163
Office Rent	300,612	338,713	38,101	380,720	80,108
Office Costs	318,520	421,908	103,388	380,794	62,274
Professional Services	62,276	39,501	(22,775)	60,897	(1,379)
Miscellaneous	-	-	-	-	-
Depreciation	142,879	43,141	(99,738)	45,435	(97,444)
Total Operating Expenses	\$ 7,038,243	\$ 7,293,032	\$ 254,789	\$ 8,022,965	\$ 984,722
Total Direct Expenses	\$ 11,325,743	\$ 11,528,656	\$ 202,913	\$ 12,675,735	\$ 1,349,992
Indirect Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses (B)	\$ 11,325,743	\$ 11,528,656	\$ 202,913	\$ 12,675,735	\$ 1,349,992
Change in Assets	\$ 462,585	\$ 259,672	\$ (202,913)	\$ (23,727)	\$ 486,313
Fixed Assets					
Depreciation	\$ (142,879)	\$ (43,141)	\$ 99,738	\$ (45,435)	\$ 97,444
Total Fixed Asset Purchases	552,163	49,743	(502,420)	21,707	(530,456)
(Inc)Dec in Fixed Assets (C)	\$ (409,284)	\$ (6,602)	\$ 402,682	\$ 23,727	\$ 433,011
TOTAL BUDGET (=B-C)	\$ 11,735,027	\$ 11,535,258	\$ (199,769)	\$ 12,652,008	\$ 916,981
TOTAL CHANGE IN WORKING CAPITAL	\$ 53,301	\$ 253,070	\$ 199,769	\$ -	\$ (53,301)
FTEs	20.21	19.23	(0.98)	20.07	-0.14

Personnel Analysis

Total FTEs by Program Area	Budget 2018	Projection 2018	Direct FTEs 2019 Budget	Shared FTEs ¹ 2019 Budget	Total FTEs 2019 Budget	Change from 2018 Budget
NON-STATUTORY						
Operational Programs						
Operating Committee	10.43	9.75	9.89		9.89	-0.54
Planning Committee	5.60	5.36		5.72	5.72	0.12
Total FTEs Operational Programs	16.03	15.11	9.89	5.72	15.61	-0.42
Administrative Programs						
General & Administrative	4.18	4.13		4.46	4.46	0.28
Total FTEs Administrative Programs	4.18	4.13	0.00	4.46	4.46	0.28
Total FTEs	20.21	19.24	9.89	10.18	20.07	-0.14

¹A shared FTE is defined by NERC as an employee who performs both Statutory and Non-Statutory functions.

Member Services Reserve Analysis — 2018-2019

Working Capital Reserve Analysis 2018-2019	
NON-STATUTORY MEMBER SERVICES	
Beginning Working Capital Reserve (Deficit), December 31, 2017	1,376,649
	2018 Funding (from members) 11,584,228
	2018 Projected Other funding sources 204,100
Total Cash Available 2018	13,164,977
Less: '2018 Projected expenses & capital expenditures	(11,535,258)
Projected Working Capital Reserve Surplus/(Deficit), December 31, 2018	1,629,719
Desired Working Capital Reserve, December 31, 2019	¹ 1,054,334
Less: Projected Working Capital Reserve, December 31, 2018	(1,629,719)
Increase(decrease) in assessments to achieve desired Working Capital Reserve	(575,385)
	2019 Expenses and Capital Expenditures 12,652,008
	Less: Other Funding Sources (263,210)
Adjustment to achieve desired Working Capital Reserve	-
2019 Funding (reserve adjustment)	12,388,798

¹ On June 26, 2013, the FRCC Board of Directors set a working capital and operating working capital and operating reserve requirement of one (1) month of the total annual budget. The FRCC has a \$1.5 million line of credit. This reserve was established to ensure sufficient operating reserves and contingency reserves taking into account the risk of unbudgeted expenditures occurring in the period. The company also considered the policies adopted by the other regions.

**Section D – Additional Consolidated Financial
Statements**

2019 Business Plan and Budget

Section D — 2019 Additional Consolidated Financial Information

Statement of Activities and Capital Expenditures by Program 2019 Budget	Functions in Delegation Agreement										Non-Statutory Functions		
	Total	Statutory Total	Non-Statutory Total	Statutory Total	Reliability Standards Development (Section 300)	Compliance Monitoring and Org Reg % Cert (Section 400 & 500)	Reliability Assessment and Performance Analysis (Section 800)	Training and Education (Section 900)	Situation Awareness and Infrastructure Security (Section 1000)	General and Administrative	Non-Statutory Total	Operating Committee	Planning Committee
Funding													
ERO Funding													
ERO Assessments	\$ 5,827,925	\$ 5,827,925	\$ -	\$ 5,827,925	\$ 37,193	\$ 4,984,329	\$ 1,160,663	\$ 385,502	\$ 36,099	\$ (775,862)	\$ -	\$ -	\$ -
Penalty Sanctions	-	-	-	-	-	-	-	-	-	-	-	-	-
Total ERO Funding	5,827,925	5,827,925	-	5,827,925	37,193	4,984,329	1,160,663	385,502	36,099	(775,862)	-	-	-
Membership Dues	\$ 12,388,798	\$ -	\$ 12,388,798	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 12,388,798	\$ 10,162,385	\$ 2,226,413
Testing Fees	-	-	-	-	-	-	-	-	-	-	-	-	-
Services & Software	263,210	-	263,210	-	-	-	-	-	-	-	263,210	239,210	24,000
Workshops	92,000	92,000	-	92,000	-	-	-	92,000	-	-	-	-	-
Interest	-	-	-	-	-	-	-	-	-	-	-	-	-
Miscellaneous	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Funding	\$ 18,571,933	\$ 5,919,925	\$ 12,652,008	\$ 5,919,925	\$ 37,193	\$ 4,984,329	\$ 1,160,663	\$ 477,502	\$ 36,099	\$ (775,862)	\$ 12,652,008	\$ 10,401,595	\$ 2,250,413
Expenses													
Personnel Expenses													
Salaries	\$ 6,870,202	\$ 3,595,017	\$ 3,275,185	\$ 3,595,017	\$ 19,111	\$ 2,053,977	\$ 565,884	\$ 207,429	\$ 18,645	\$ 729,971	\$ 3,275,185	\$ 2,078,208	\$ 1,196,977
Payroll Taxes	417,650	221,845	195,805	221,845	1,190	127,564	35,248	12,920	1,161	43,760	195,805	124,274	71,531
Benefits	1,027,891	523,400	504,491	523,400	4,440	320,743	79,255	24,546	2,206	92,210	504,491	327,624	176,867
Retirement Costs	959,583	470,029	489,554	470,029	2,452	256,863	72,610	26,616	2,392	109,095	489,554	310,633	178,921
Total Personnel Expenses	\$ 9,275,326	\$ 4,810,290	\$ 4,465,035	\$ 4,810,290	\$ 27,194	\$ 2,759,148	\$ 752,997	\$ 271,511	\$ 24,405	\$ 975,035	\$ 4,465,035	\$ 2,840,739	\$ 1,624,296
Meeting Expenses													
Meetings	\$ 102,606	\$ 68,826	\$ 33,780	\$ 68,826	\$ 39	\$ 11,127	\$ 1,158	\$ 56,464	\$ 38		\$ 33,780	\$ 18,620	\$ 15,160
Travel	255,553	146,262	109,291	146,262	144	88,786	50,612	6,581	140		109,291	85,661	23,630
Conference Calls	54,982	10,319	44,664	10,319	7	6,357	205	3,742	7		44,664	23,483	21,181
Total Meeting Expenses	\$ 413,142	\$ 225,407	\$ 187,735	\$ 225,407	\$ 190	\$ 106,270	\$ 51,975	\$ 66,787	\$ 185	\$ -	\$ 187,735	\$ 127,764	\$ 59,971
Operating Expenses													
Consultants & Contracts	\$ 8,030,961	\$ 875,842	\$ 7,155,119	\$ 875,842	\$ 541	\$ 751,034	\$ 85,866	\$ 37,873	\$ 528		\$ 7,155,119	\$ 6,809,415	\$ 345,704
Office Rent	946,642	565,921	380,720	565,921	1,870	403,411	55,355	20,291	1,824	83,170	380,720	241,165	139,555
Office Costs	487,656	106,862	380,794	106,862	555	78,255	14,487	7,757	2,322	3,486	380,794	345,198	35,596
Professional Services	104,968	44,071	60,897	44,071	265	32,807	7,859	2,881	259		60,897	25,670	35,227
Miscellaneous	-	-	-	-	-	-	-	-	-		-	-	-
Depreciation	126,170	80,736	45,435	80,736	2,627	70,076	5,828	2,022	182		45,435	28,706	16,729
Total Operating Expenses	\$ 9,696,397	\$ 1,673,432	\$ 8,022,965	\$ 1,673,432	\$ 5,858	\$ 1,335,583	\$ 169,396	\$ 70,824	\$ 5,115	\$ 86,656	\$ 8,022,965	\$ 7,450,154	\$ 572,811
Total Direct Expenses	\$ 19,384,864	\$ 6,709,129	\$ 12,675,735	\$ 6,709,129	\$ 33,242	\$ 4,201,001	\$ 974,368	\$ 409,122	\$ 29,705	\$ 1,061,691	\$ 12,675,735	\$ 10,418,657	\$ 2,257,078
Indirect Expenses	-	-	-	-	6,486	789,945	189,379	69,396	6,486	(1,061,691)	-	-	-
Other Non-Operating Expenses	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Expenses	\$ 19,384,864	\$ 6,709,129	\$ 12,675,735	\$ 6,709,129	\$ 39,728	\$ 4,990,946	\$ 1,163,747	\$ 478,518	\$ 36,190	\$ -	\$ 12,675,735	\$ 10,418,657	\$ 2,257,078
Change in Assets	\$ (812,931)	\$ (789,204)	\$ (23,727)	\$ (789,204)	\$ (2,534)	\$ (6,617)	\$ (3,084)	\$ (1,016)	\$ (91)	\$ (775,862)	\$ (23,727)	\$ (17,062)	\$ (6,665)
Fixed Assets													
Depreciation	\$ (126,170)	\$ (80,736)	\$ (45,435)	\$ (80,736)	\$ (2,627)	\$ (70,076)	\$ (5,828)	\$ (2,022)	\$ (182)	\$ -	\$ (45,435)	\$ (28,706)	\$ (16,729)
Total Fixed Asset Purchases	89,101	67,393	21,707	67,393	93	63,459	2,745	1,006	90	-	21,707	11,644	10,064
(Inc)Dec in Fixed Assets	\$ 37,070	\$ 13,342	\$ 23,727	\$ 13,342	\$ 2,534	\$ 6,617	\$ 3,084	\$ 1,016	\$ 91	\$ -	\$ 23,727	\$ 17,062	\$ 6,665
TOTAL CHANGE IN WORKING CAPITAL	\$ (775,862)	\$ (775,862)	\$ (0)	\$ (775,862)	\$ -	\$ 0	\$ 0	\$ 0	\$ (0)	\$ (775,862)	\$ (0)	\$ (0)	\$ 0
Total Budget	\$ 19,347,794	\$ 6,695,787	\$ 12,652,008	\$ 6,695,787	\$ 37,193	\$ 4,984,329	\$ 1,160,663	\$ 477,502	\$ 36,099	\$ -	\$ 12,652,008	\$ 10,401,595	\$ 2,250,413

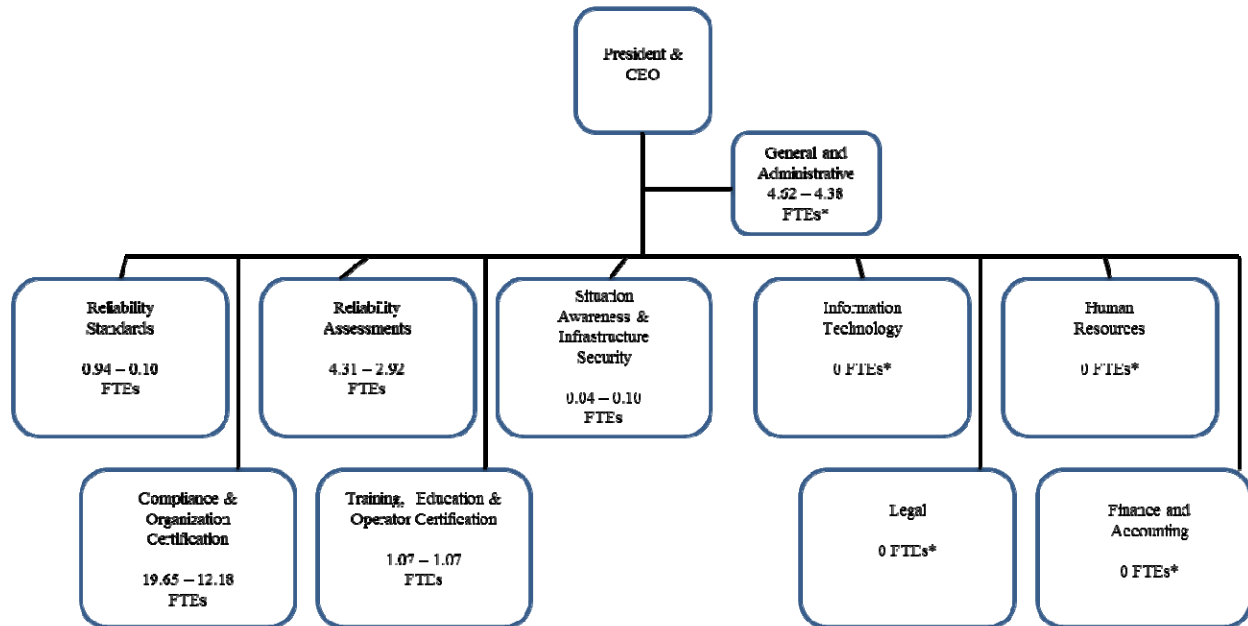
Statement of Financial Position

Statement of Financial Position				
2017 Audited, 2018 Projection, 2019 Budget and 2020 Projected				
STATUTORY and NON-STATUTORY				
	(Per Audit)	Projected	Budget	Projected
	12/31/2017	12/31/2018	12/31/2019	12/31/2020
ASSETS				
Cash	7,350,036	7,615,482	6,839,620	7,139,620
Accounts receivable	4,022,149	4,072,149	3,997,149	4,047,149
Other receivables	-	-	-	-
Prepaid expenses and other current assets	146,351	156,351	181,351	206,351
Other Assets	390,068	400,068	407,568	415,068
Property and equipment (net of depreciation)	393,413	398,413	358,413	308,413
Total Assets	12,302,017	12,642,463	11,784,101	12,116,601
LIABILITIES AND NET ASSETS				
Liabilities				
Accounts payable and accrued expenses	4,311,714	4,761,714	5,211,714	4,311,714
Deferred income	4,564,945	4,561,187	4,554,181	4,627,847
Compliance Penalty Assessment	253,145	253,145	-	-
Accrued postretirement benefits obligation	417,760	223,048	192,615	162,182
Total Liabilities	9,547,564	9,799,094	9,958,510	9,101,743
Net Assets - unrestricted	2,754,453	2,843,370	1,825,592	3,014,859
Total Liabilities and Net Assets	12,302,017	12,642,463	11,784,101	12,116,601

Statutory Organizational Chart

**Florida Reliability Coordinating Council, Inc.
Statutory Organization Chart**

**2018 Budgeted FTEs 30.63
2019 Budgeted FTEs 20.75**



*All FTEs for Information Technology, Legal, Finance and Human Resources are recorded within General and Administrative

DOCKET NO. RR18-__-000

**NORTH AMERICAN ELECTRIC RELIABILITY
CORPORATION**

2019 BUSINESS PLAN AND BUDGET FILING

ATTACHMENT 4

MIDWEST RELIABILITY ORGANIZATION

PROPOSED 2019 BUSINESS PLAN AND BUDGET



**MIDWEST
RELIABILITY
ORGANIZATION**

380 St Peter Street, #800
Saint Paul, MN 55102
651-855-1760/651-855-1712
www.midwestreliability.org

Midwest Reliability Organization

2019 Business Plan and Budget

Date:

June 21, 2018

TABLE OF CONTENTS

Introduction

- Organizational Overview..... 3
- Membership and Governance 5
- Business Plan and Budget Development 7
- Accounting and Recordkeeping..... 8
- Organizational Structure and Staffing 8
- Compensation Process and Standards of Conduct, Confidentiality and Conflict of Interest Policies..... 9
- 2019 Goals and Key Metrics 10
- 2019 Overview of Cost Impacts..... 11
- 2018 Budget and Projection and 2019 Budget Comparisons..... 17

Section A – Statutory Programs 19

- Reliability Standards, Organization Registration and Certification Program 19
- Compliance Monitoring and Enforcement Program 24
- Compliance Monitoring and Enforcement Program Budget Detail 27
- Reliability Assessment and Performance Analysis Program 28
- Training and Education Program..... 33
- Training and Education Budget Detail..... 35
- Situation Awareness and Infrastructure Security Program 36
- Situation Awareness and Infrastructure Security Budget Detail 39
- Administrative Services..... 40
- General and Administrative 41
- General and Administrative Budget Detail 42
- Legal and Regulatory 43
- Legal and Regulatory Budget Detail..... 44
- Information Technology 45
- Information Technology Budget Detail 46
- Human Resources, Finance and Accounting..... 47
- Human Resources, Finance, and Accounting Budget Detail..... 49

Section B – Supplemental Financial Information 51

- Reserve Balance..... 51
- Breakdown by Statement of Activity Sections..... 52

Section C – Non-Statutory Activities..... 67

- 2019 Non-Statutory Business Plan and Budget..... 67

Section D – Additional Consolidated Financial Statements..... 69

- 2019 Consolidated Statement of Activities by Program, Statutory and Non-Statutory ... 69
- Statement of Financial Position 71

Appendix A..... 72
Appendix B..... 73
Appendix C 75

Introduction

The following table summarizes the 2019 Midwest Reliability Organization (MRO) budget.

TOTAL RESOURCES (in whole dollars)				
	2019 Budget	U.S.	Canada	Mexico
Statutory FTEs	59.00			
Non-statutory FTEs				
Total FTEs	59.00			
Statutory Expenses	\$ 16,361,354			
Non-Statutory Expenses	\$ -			
Total Expenses	\$ 16,361,354			
Statutory Inc(Dec) in Fixed Assets	\$ (381,000)			
Non-Statutory Inc(Dec) in Fixed Assets	\$ -			
Total Inc(Dec) in Fixed Assets	\$ (381,000)			
Statutory Working Capital Requirement	\$ (449,432)			
Non-Statutory Working Capital Requirement				
Total Working Capital Requirement	\$ (449,432)			
Total Statutory Funding Requirement	\$ 15,530,922			
Total Non-Statutory Funding Requirement	\$ -			
Total Funding Requirement	\$ 15,530,922			
Statutory Funding Assessments	\$ 15,471,669	\$ 13,914,273	\$ 1,557,396	-
Non-Statutory Fees				
NEL	485,380,880	436,708,281	48,672,599	-
NEL%	100.00%	89.97%	10.03%	0.00%

Table 1. MRO 2019 Budget

Organizational Overview

MRO is a Delaware nonprofit¹ corporation that is a cross-border Regional Entity² operating under a delegation agreement (Delegation Agreement) with the North American Electric Reliability Corporation (NERC)³ and in accordance with the MRO Bylaws. After the integration of registered entities from the SPP RE Region, the MRO Region will cover central North America and includes

¹ MRO is tax exempt under Internal Revenue Service Section 501(c)(3) and under applicable State of Minnesota provisions.

² 16 U.S.C. § 824o(a)(7)

³ The Commission certified NERC as the electric reliability organization ("ERO") in accordance with Section 215 of the Federal Power Act on July 20, 2006. *N. Am. Elec. Reliability Corp.*, 116 FERC ¶ 61, 062 (2006) ("ERO Certification Order"), *order on reh'g and compliance*, 117 FERC ¶ 61, 126 (2006), *aff'd sub nom. Alcoa Inc. v. FERC*, 564 F.3d 342 (D.C. Cir. 2009).

all or portions of 16 states within the United States,⁴ and the Saskatchewan and Manitoba provinces in Canada. MRO's Delegation Agreement was approved by the Federal Energy Regulatory Commission (FERC)⁵ pursuant to FERC's authority under the Federal Power Act (FPA)⁶ and is effective through December 31, 2020.

MRO's Vision is:

"A highly reliable and secure North American bulk power system."

MRO's mission is:

"To identify, prioritize and assure effective and efficient mitigation of risks to the reliability and security of the North American bulk power system by promoting Highly Effective Reliability Organizations (HEROs)."

MRO's vision and mission align with, and support, the Electric Reliability Organization (ERO) Enterprise's⁷ vision and mission.⁸

Further, MRO supports the ERO Enterprise Long-Term Strategy,⁹ the ERO Enterprise Operating Plan¹⁰, and, as applicable, the ERO Enterprise Metrics¹¹. In addition, working closely with registered entities and subject matter experts in the MRO Region, MRO continually identifies and assesses risks to reliability of the regional bulk power system. Region-specific activities to support the ERO Enterprise direction and address regional risks are reflected in MRO's Strategic Plan and Metrics.¹²

⁴ The MRO Region covers Oklahoma, Kansas, Nebraska, Iowa, Wisconsin, Minnesota, North Dakota and South Dakota, and portions of New Mexico, Texas, Louisiana, Arkansas, Missouri, Illinois, Michigan, and Montana.

⁵ *Order Conditionally Approving Revised Pro Forma Delegation Agreement and Revised Delegation Agreements with Regional Entities* 153 FERC ¶61,135 (November 2015); *Letter Order Accepting Compliance Filing* (March 2016). Revision to the MRO Delegation Agreement is pending FERC approval of the *Joint Petition of the North American Electric Reliability Corporation for Approvals in Connection with the Dissolution of the Southwest Power Pool Regional Entity* (March 2018), which will revise the MRO footprint to address MRO's consolidation with the SPP RE Region.

⁶ 16 U.S.C. 824 o (e)(4)

⁷ The ERO Enterprise refers to NERC and the Regional Entities collectively.

⁸ MRO expands upon the ERO Enterprise mission statement *"To assure the effective and efficient reduction of risks to the reliability and security of the grid"* adding the concepts of identifying and prioritizing mitigation of risks and to include the Highly Reliable Organization (HRO) theories, which MRO brands as "HERO." Although this is not explicitly included in the ERO Enterprise mission statement, NERC also promotes the HRO theories.

⁹ ERO Enterprise Long-Term Strategy as approved by the NERC Board of Trustees November 9, 2017.

¹⁰ ERO Enterprise Operating Plan as approved by the NERC Board of Trustees November 9, 2017. The ERO Enterprise Operating Plan, guided by the long-term strategy, identifies the ERO Enterprise's vision, mission, core principals, and goals, and provides a list of key contributing activities by the combined ERO Enterprise, NERC, and the Regional Entities as applicable to inform a rolling three-year operational planning horizon. The operating plan is reviewed biennially, in the same year the Reliability Issues Steering Committee (RISC) reviews and updates its report, and is updated as needed.

¹¹ The ERO Enterprise Metrics were updated by the NERC Board on February 8, 2018. The 2018 ERO Enterprise Metrics, absent any unforeseen reliability issues or changes in priorities, are projected to remain relatively stable from year to year and are used for the purposes of projecting budget requirements.

¹² The MRO Strategic Plan and Metrics (March 2018) were approved by the MRO Board of Directors on April 5, 2018. The MRO Strategic Plan and Metrics align with the ERO Enterprise Operating Plan and ERO Enterprise Metrics and, absent any unforeseen reliability issues or changes in priorities, are projected to remain relatively stable from year to year and are used for the purposes of projecting budget requirements.

In the MRO Strategic Plan, MRO adopted the ERO Enterprise Core Principles¹³ to guide its conduct and behaviors. These principles incorporate the MRO themes of clarity, assurance, and results.

MRO Core Principles

We are accountable for results, providing clarity and assurance of procedures, processes and controls to improve the reliability of the bulk power system. The following core principles guide our conduct and behavior:

- **Accountability**
 - *Maintain the public trust in fulfilling responsibilities and use our funding wisely.*
 - *Act in a timely manner on the basis of facts to address issues related to events, emerging reliability risks, the needs of stakeholders, and the public interest.*
- **Independence**
 - *Be impartial, objective, fair, and intellectually honest.*
 - *Ensure governance practices that provide both regulatory independence and inclusion of stakeholder expertise to address reliability and security matters.*
- **Inclusiveness and Transparency**
 - *Create opportunities for stakeholder engagement.*
 - *Consider and balance the diverse interests of all stakeholders, including costs imposed to the consumer.*
 - *Leverage industry expertise and avoid unnecessary duplication.*
- **Innovation**
 - *Assess emerging risks and adapt to change.*
 - *Encourage new ideas and prioritize efforts that contribute to improving productivity and reliable operations.*
- **Excellence**
 - *Strive for operational excellence by being rigorous, accurate, and exacting.*
 - *Promote the active participation of the best technical experts.*
 - *Make informed decisions regarding efficient use and allocation of resources.*
- **Integrity**
 - *Maintain the highest levels of ethical conduct.*
 - *Maintain respectful relationships.*
 - *Protect the security of confidential information.*

Membership and Governance

MRO membership consists of members and adjunct members.¹⁴ Adjunct members are entities that are not eligible to belong to an industry sector but have a material interest in reliability issues in the MRO Region. In mid-2018, MRO had 57 members and 6 non-voting adjunct members, which are projected to increase through the remainder of 2018 and 2019 as entities that were transferred to MRO from the SPP RE become members. Each member organization belongs to one of seven industry sectors:

- Transmission System Operators

¹³ MRO enhanced the ERO Enterprise Core Principles with three additions: 1) the addition of accountability for clarity, assurance, and results; 2) an addition to articulate using funding wisely; and 3) a description of how to strive for operational excellence.

¹⁴ Membership is voluntary and provides members with voting rights. There is no fee for membership.

- Generators and Power Marketers
- Investor Owned Utilities
- Cooperatives
- Municipal Utilities
- Federal Power Marketing Agencies
- Canadian Utilities

Members are encouraged to participate in MRO organizational groups.

MRO's Board of Directors is a combination of independent and stakeholder directors. In 2019 the MRO board will consist of 17 directors elected by members from the 7 industry sectors, plus 4 independent directors and 2 regional directors elected by all members. This is an increase of 4 board members from 2018. Pursuant to MRO's Bylaws, no two industry sectors can control a vote. In addition, the board has adopted procedures to ensure it carries out its responsibilities free of conflicts of interest.

The board's duties include, but are not limited to, the following:

- Govern the corporation and oversee all of its activities
- Establish and oversee all organizational groups
- Oversee accomplishment of all functions set forth in any delegation or other agreement with NERC or any governmental entity related to development, monitoring, and enforcement of Reliability Standards and related matters
- Approve, revise, and enforce member data and information requirements and related confidentiality requirements
- Establish and approve an annual budget
- Represent MRO in legal and regulatory proceedings
- Hire the President and CEO
- Establish board committees as necessary

The board has four committees:

- Dispute Resolution Committee
- Finance and Audit Committee
- Governance and Personnel Committee
- Hearing Body Committee

The Hearing Body fulfills the obligations to conduct hearings, a mandated function under NERC's Compliance Monitoring and Enforcement Program (CMEP) Hearing Procedures.¹⁵ The board makes no determinations on compliance or enforcement matters.

The board has established five primary organizational groups comprised of stakeholder members:

- Compliance Committee
- Operating Committee
- Planning Committee
- Security Advisory Council

¹⁵ Approval of revisions to the NERC Rules of Procedure to incorporate ERO Uniform Hearing Procedures is pending with FERC in Docket No. RR17-2-000. FERC's approval of these procedures may change the structure of this committee.

- Standards Committee

Each organizational group's charter is published on MRO's website. Board-approved *Policy and Procedure 3: Establishment, Responsibilities, and Procedures of Organizational Groups and MRO Representation on NERC Committees* sets out the processes for the organizational groups.

Business Plan and Budget Development

Each year, MRO prepares an annual Business Plan and Budget for the following calendar year. The Business Plan and Budget takes into account the ERO Enterprise Long-Term Strategy, the ERO Enterprise Operating Plan, the ERO Enterprise Metrics, and the MRO Strategic Plan and Metrics. MRO staff develops the Business Plan and Budget with board and stakeholder input. The Business Plan and Budget process is a coordinated effort with NERC and the other Regional Entities.

The draft Business Plan and Budget is reviewed by the MRO Finance and Audit Committee (FAC) and the board, and is subsequently posted for stakeholder comment. After consideration of stakeholder comments but prior to obtaining final approval from its Board of Directors, MRO seeks NERC input. The MRO board considers the final version of the Business Plan and Budget at its June meeting, and upon approval, staff submits it to NERC for approval by NERC's Board of Trustees. Upon approval of NERC's Business Plan and Budget and all seven Regional Entities' Business Plans and Budgets, a filing is submitted to FERC for approval, which is obtained in October or November of the year preceding the budget year.

Financial Policies and Controls

An independent auditing firm annually audits MRO's financial statements. The FAC Charter states: "The FAC evaluates the performance of the external auditor and, if so determined, recommends to the board the reappointment of the external auditor or steps to replace the external auditor. Once hired, the independent auditor communicates directly with the FAC Chair and committee regarding audit matters." The FAC and MRO staff perform an annual review of the auditing firm's performance.

MRO's Purchase Requisition Policy and Contract Management Procedure govern the procurement of goods and services in excess of \$500. These protocols require that a purchase order be approved by MRO's Vice President Finance and Administration and the departmental vice president for all purchases in excess of \$500. Additionally, purchases in excess of \$10,000 must be approved by MRO's President and CEO.

MRO's Expense Statement Guidelines provide guidance on reasonable, reimbursable travel expenses. Expenses are reviewed for proper documentation and reasonableness by the employee's supervisor, the Accounting Specialist, and MRO's Vice President Finance and Administration.

MRO utilizes a system to track and report time by program area, project, and registered entity, when applicable. This system is also used to report and approve expenses.

In addition to its operating expenses, MRO's budget includes a cash reserve as specified in *Policy and Procedure 13: Operating and Working Capital Reserves Policy*.

Accounting and Recordkeeping

MRO uses Generally Accepted Accounting Principles (GAAP) to budget, and uses a Chart of Accounts based on NERC's System of Accounts, as required in the Delegation Agreement. Additionally, MRO maintains an accounting manual to provide instructions to its accounting staff on accounting transactions and functions. MRO maintains its books on an accrual basis with monthly closings, recognizing revenues when earned and expenses when incurred. The majority of MRO expenses are labor and benefit costs. General and Administrative costs are allocated to each MRO program area based on the number of full-time equivalents (FTEs) in each program area.

Organizational Structure and Staffing

MRO has four statutory departments, each of which is dedicated to one or more statutory functions or program areas, and four general and administrative departments. Costs are tracked both by department and in the MRO Chart of Accounts. MRO employees track the time spent working in each program area, and labor costs are charged to the appropriate program area.

Statutory Departments

- The Compliance Monitoring Department encompasses MRO's oversight activities (including the development of Compliance Oversight Plans and conducting oversight activities such as audits, spot checks, and self-certifications). This department also manages Regulatory Affairs related to Canada, and is managed by a vice president.
- The Risk Assessment and Mitigation (RAM) Department and the Registration and Reliability Standards Department report to one vice president. These groups are responsible for risk assessments used to plan MRO's compliance activities; determine risk and evaluate mitigation of noncompliance; and support registration and certification of registered entities. These groups also lead MRO's outreach efforts to registered entities to support compliance, reliability, and security.
- The Enforcement Department is responsible for the disposition and enforcement of noncompliance with Reliability Standards and is managed by a vice president.
- The Operations Department is responsible for reliability assessment, performance analysis, event analysis, situational awareness, infrastructure security, IT, and event planning functions. This department is managed by a vice president.

General and Administrative Departments

- The Information Technology Department is responsible for providing a secure network infrastructure, and information technology systems that support the users. Systems include cyber and physical security. This department reports to the vice president of operations.
- The Legal Department is led by the Vice President, General Counsel, Corporate Secretary and Director of External Affairs who provides legal advice to MRO, serves as the corporate secretary, and leads MRO's communications efforts and external affairs function.
- The Finance and Administration Department performs human resources, accounting, finance, budget, and treasury functions and is managed by a vice president.
- The General and Administrative Department reports to MRO's President and CEO and includes normal administrative functions for the president and CEO of the organization.

Compensation Process and Standards of Conduct, Confidentiality, and Conflict of Interest Policies

MRO bases employee compensation on eight pay principles. The current compensation structure uses a five-tiered structure with each tier divided into four scales reflecting experience and degree of knowledge, skills and abilities. MRO periodically engages a third party compensation expert to review this structure.

Each MRO employee is required to annually sign a Standards of Conduct, Confidentiality and Conflict of Interest form, attesting that he or she has read and understood these policies and will always act in MRO's interests and avoid conduct that may compromise his or her MRO responsibilities. MRO employees are prohibited from having a financial interest in any registered entity and must avoid any financial ownership interests that will or might compromise their responsibilities to MRO.

2019 Strategic Priorities

The MRO board has established three strategic priorities for MRO staff in 2019:

- Integrate new SPP RE registered entities into MRO¹⁶
- Perform quality execution of NERC-delegated functions including oversight, analysis, and assessment for the entire expanded MRO footprint
- Align with the ERO Enterprise and provide support to the ERO Enterprise goals

Integrate new registered entities. Integration of new registered entities follows MRO principles, and MRO will be actively working to ensure that all of the new registered entities have the opportunity to consider membership in the Region, get to know the MRO staff, be included in stakeholder committees, and have opportunities to share their expertise with MRO staff and other stakeholders in the Region.

Perform quality execution of NERC-delegated functions. MRO will continue to identify, prioritize, and ensure effective and efficient mitigation of risks to the reliability and security of the North American bulk power system during the integration of newly registered entities into the Region. MRO must continue to conduct high-quality execution of its delegated functions pursuant to its principles for all MRO registered entities, including CMEP activities, event analysis, performance analysis, and reliability assessments. This will encompass working with the new registered entities to understand their strengths and vulnerabilities, while continuing to provide the previously registered MRO entities with the same quality of service and oversight as in previous years. MRO expects to learn practices and approaches from, as well as share these with, the new registered entities.

Align with ERO Enterprise. MRO is aligned with the ERO Enterprise and will continue to provide support to the ERO Enterprise goals. To that end, MRO supports the ERO Enterprise Long-Term Strategy, the ERO Enterprise Operating Plan and, as applicable to Regional Entities, the ERO Enterprise Metrics. This is reflected in the MRO Strategic Plan and Metrics that was approved by the MRO board in April 2018. The ERO Enterprise Long-Term Strategy identifies six focus areas that guide MRO's 2019 activities:

1. Achieve and Maintain Risk-Based Operations;
2. Be More Effective and Efficient;

¹⁶ This includes entities that were previously registered in the SPP RE Region as well as any other newly registered entity in the MRO Region.

3. Identify and Assess Emerging Risks;
4. Promote Leading Security Practices, Information Sharing and Analysis, and Resilience;
5. Knowledge Transfer and Effective Communications; and
6. Strengthen Engagement across North America.

2019 Key Strategic Goals and Metrics

MRO's 2019 Business Plan and Budget and MRO's Strategic Plan and Metrics reflect NERC and the Regional Entities' collaborative development of the ERO Enterprise Long-Term Strategy and the ERO Enterprise Operating Plan. The ERO Enterprise Long-Term Strategy looks ahead five to seven years to examine how changes in the industry and reliability ecosystem will affect how the ERO Enterprise achieves its vision and mission in the future. The ERO Enterprise Operating Plan is guided by the Long-Term Strategy and identifies the ERO Enterprise's vision, mission, core principles, and goals, and provides a list of key contributing activities to be performed by NERC or the Regional Entities, as applicable, to inform a rolling three-year operational planning horizon.¹⁷ MRO's business and strategic planning incorporate the ERO Enterprise Operating Plan goals, which are:

1. Risk-responsive Reliability Standards;
2. Objective, risk-informed compliance monitoring, mitigation, enforcement, and entity registration;
3. Reduction of known reliability risks;
4. Identification and assessment of emerging reliability risks;
5. Identification and reduction of cyber and physical security risks; and
6. Effective and efficient ERO Enterprise operations.

MRO has also adopted the ERO Enterprise Metrics as provided in the MRO Strategic Plan, which modifies the generic Key Regional Entity Contributing Activities to specific activities for MRO. Specific measures are included below for each MRO function, as indicated.

Metric 1: Fewer, less severe events (supports ERO Operating Plan Goals 1-5)

- Reliability Assessments and Performance Analysis
- Situation Awareness and Infrastructure Security Program

Metric 2: No gaps in Reliability Standards and compliance monitoring (supports ERO Enterprise Operating Plan Goals 1–3)

- Reliability Standards
- Situation Awareness and Infrastructure Security Program

Metric 3: Any resource deficiencies are foreseen (supports ERO Enterprise Operating Plan Goals 1, 3, and 4)

- Reliability Assessments and Performance Analysis
- Situation Awareness and Infrastructure Security Program

Metric 4: Reduced reliability risk from unauthorized physical or electronic access (supports ERO Enterprise Operating Plan Goals 1–3 and 5)

- Situation Awareness and Infrastructure Security Program

¹⁷ The operating plan is reviewed biennially and updated as needed.

Metric 5: Reduced reliability risk from noncompliance (supports ERO Enterprise Operating Plan Goals 1 and 2)

- Compliance Monitoring and Enforcement Program

Metric 6: Reduced risks in targeted areas (supports ERO Enterprise Operating Plan Goals 1–4)

- Reliability Assessments and Performance Analysis

Metric 7: ERO Enterprise's efficiency and effectiveness (supports ERO Enterprise Operating Plan Goal 6)

- Human Resources, Finance and Accounting

2019 Overview of Cost Impacts

In developing the MRO 2019 Business Plan and Budget, MRO, NERC, and the other Regional Entities collaborated and agreed upon a common set of goals and contributing activities that are documented in the ERO Enterprise Operating Plan. These replace the previous common operational and program assumptions contained in the Shared Business Plan and Budget Assumptions for the 2016-2019 Planning Period (2018 Budget Cycle).¹⁸ MRO adopted the ERO Enterprise goals, and modified the contributing activities and metrics to be applicable to the MRO Region in the MRO Strategic Plan. These activities, as well as the impact of the 2018 integration of new registered entities from the SPP RE dissolution into the MRO Region, were considered in developing the 2019 Business Plan and Budget.

The SPP RE dissolution and the increase in costs to integrate the 98 registered entities into the ongoing Regional Entity activities in the MRO Region¹⁹ is the largest impact, and is a significant increase, to the 2019 MRO budget. However, the consolidation provides an estimated 23 percent total budget reduction to the ERO Enterprise. Comparatively:

- The total 2018 budget for MRO and 84% of the 2018 budget for SPP RE²⁰ was \$20.8m
- The total 2019 MRO budget is \$16.0m
- Cost savings from the total of the 2018 budgets for MRO and SPP RE to the MRO 2019 budget is \$4.8m, or a 23 percent reduction²¹

As a result of the budget savings for the ERO Enterprise, load serving entities (LSEs) will save on Net-Energy-for-Load (NEL) based assessments. In 2018, MRO's statutory assessment (\$10.7m) and 84 percent of the 2018 SPP RE statutory assessment (\$8.2m.)²² totaled \$18.9m. The 2019 MRO Region assessment is \$15.5m, a savings of \$3.4m. This translates to a savings

¹⁸ Exhibit A to the NERC 2018 Business Plan and Budget.

¹⁹ This does not include the one-time transition costs.

²⁰ Eighty-seven percent of the total SPP RE 2018 budget was used for these comparisons to account for 14 out of 123 SPP RE registered entities transitioning into the SERC Region, and the resulting difference in NEL going to MRO and SERC.

²¹ This is a comparison from the total of the 2018 MRO budget plus 84 percent of the 2018 SPP RE budget to the 2019 MRO budget, so is a year over year comparison. It does not consider the full savings of consolidation within the same year; in this instance the increases each Region would have required for 2019 was not considered in the comparison. Had each of the individual MRO and SPP RE budgets increased by three percent, the savings to the 2019 MRO budget would be \$5,436,456 or 25 percent.

²² Eighty-seven percent of the SPP RE 2018 statutory assessment was used for these comparisons to account for 14 of 123 SPP RE registered entities transitioning into the SERC Region.

of 14.6 percent (for incumbent LSEs in MRO) or 22.8 percent (for LSEs formerly in SPP RE) on Net-Energy-for-Load (NEL) based assessments:

- In 2018, LSEs in MRO had an assessment of \$0.037090915 per MWh of NEL and LSEs in SPP RE had an assessment of \$0.041074045 per MWh of NEL.
- In 2019, LSEs in MRO will have a \$0.031875316 per MWh of NEL assessment. This is a:
 - 14.6 percent decrease per MWh of NEL for LSEs that were in MRO in 2018
 - 22.8 percent decrease per MWh of NEL for LSEs that were in SPP RE in 2018

Comparisons between the 2019 budget for MRO, which includes a 86.7 percent increase in the number of registered entities (113 to 211 registered entities), and the 2018 budget for MRO are not meaningful. However, overall the MRO 2019 budget (\$16.0m), with 98 additional registered entities, increased by 36.3 percent from the MRO 2018 budget (\$11.7m). The MRO 2019 assessment (\$15.5m) represents an increase of 44.9 percent from the MRO 2018 assessment (\$10.7m). A year-over-year comparison illustrates the efficiencies achievable by a larger organization. In 2019 for MRO:

- The number of registered entities increased by 86.7 percent
- Staff increased by 31.1 percent
- Budget increased by 36.3 percent
- Total amount of assessments increased by 44.2 percent

Other significant statutory expense changes (including capital expenditures) in MRO's 2019 budget compared to its 2018 budget include:

- **Impact of 2018 Transition Costs on the 2019 Budget.** MRO's one-time costs²³ due to the transition of new entities into MRO in 2018 is estimated at \$1.5m, which will not have a direct impact on the overall 2019 budget, as it is projected to be offset by transferring 2018 funding from SPP RE. The MRO board has determined that MRO will be able to recover the transition costs through receipt of MRO's allocated share of the SPP RE assessments from the second half of 2018. It is anticipated that the SPP RE assessments for the second half of 2018 allocated to MRO, less SPP RE wind-down expenses, will exceed the estimated MRO 2018 transition costs of \$1.5m. NERC will determine the use of any funds remaining after SPP RE wind-down costs and MRO and SERC transition costs have been reimbursed. MRO's estimated 2018 SPP RE-related transition costs and transition funding is reflected in the "2018 Projection" columns of tables and schedules in this Business Plan and Budget.
- **Increase in FTEs.** MRO intends that, although the number of registered entities in the Region is approximately doubling due to the SPP RE dissolution, MRO staff increases would be held to a minimum, with a re-evaluation of required resources in 2019. This resulted in a projected 31.1 percent increase in staff and a 36.1 percent increase in statutory expenses in 2019 from the 2018 budget, as compared to the 86.7 percent increase in registered entities.

The increase in staff reflects MRO's expectation to integrate the transferred SPP RE registered entities with an increase of 14 FTEs. This is an increase of two FTEs from the NERC-MRO-SERC joint filing with FERC regarding the dissolution of the SPP RE, which stated that MRO intended to add up to 12 FTEs to accommodate the increased

²³ MRO will incur an increase in statutory expenses for ongoing operating costs which are reflected in the 2019 budget and discussed in the previous section.

workload.²⁴ The additional FTE will provide administrative assistance in Operations. MRO is also adding another FTE dedicated to a new Infrastructure Security Department to manage non-CMEP cyber and physical security activities, which was unrelated to the transition. MRO will continue to critically evaluate staffing needs as it creates efficiencies and adjusts to increased responsibilities with the increased number of registered entities and as it continues to maintain a strong level of support for the ERO Enterprise goals and metrics.

In 2019, total personnel expenses are increasing by 35.1 percent from the 2018 budget. Salary expenses increase by 34.2 percent from the 2018 budget due to the 14 additional FTEs and an overall average salary increase for existing employees of 3 percent. The benefits expense is increasing 40.1 percent, mainly due to the additional FTEs and also because health plan expenses are trending at a 6 percent increase according to actuarial studies.

- **Increase in Workload Requiring Contractor Support.** Workload increases due to the integration of 98 entities into the MRO Region have been addressed through the increase of 14 FTEs. The additional FTEs will be needed for the increase in the number of oversight activities, as well as mitigation and disposition processing for any noncompliances. However, there will be additional work to fully integrate the newly registered entities into the MRO Region, such as conducting Inherent Risk Assessments (IRAs), developing Compliance Oversight Plans (COPs) and including entities in the Self-Logging Program. Further, MRO has committed to supporting the ERO Enterprise's goals and metrics, which will require dedication of personnel to these activities. Examples include participation in the CMEP Technology Project and the Standards Efficiency Review (SER). The 2019 Consultants and Contracts budget has a projected increase of 105.6 percent from the 2018 budget to address the increase in workload while MRO assumes the initial transition work and evaluates the need for additional FTEs. This increase also contributes to the increase in information technology expenses as discussed below.
- **Increase in Travel.** Total Meeting and Travel expenses are increasing by 40.3 percent from the 2018 budget, primarily related to the transition of registered entities from SPP RE and MRO's commitment to support ERO Enterprise goals, as described in the statutory function sections below. MRO is projecting travel for increased efforts in outreach, an increased number of oversight activities (including nearly triple the number of audits - there are 34²⁵ anticipated in 2019 compared to 12 MRO-led audits in 2018), additional working group activities, and additional registered entity visits in 2019. There is some offset to these costs as member travel is decreasing due to greater utilization of webinars and video conferencing.
- **Increase in Information Technology Expenses.** There is an increase in the cost of MRO's current CMEP database support contract, as MRO's contract is based on the number of entities supported. With the integration of 98 registered entities, MRO's monthly costs will increase.
- **Increase in Operating Expenses.** Total Operating Expenses are increasing by 38.3 percent from the 2018 budget. The Consultants and Contracts category is increasing by

²⁴ *Joint Petition of the North American Electric Reliability Corporation, Midwest Reliability Organization, and SERC Reliability Corporation for Approvals in Connection with the Dissolution of the Southwest Power Pool Regional Entity*, Docket No. RR18-3-000 (March, 2018).

²⁵ The increase in the number of audits reflects both a larger number of registered entities and the implementation of more frequent, smaller scope oversight under the risk-based approach to compliance monitoring.

\$565k, \$400k of which is for CMEP consulting in the event that the increased number of FTEs is inadequate to handle the increased workload resulting from the addition of 98 registered entities. Office Costs, which are projected to be higher than budget in 2018 to accommodate the new FTEs, are expected to be lower in 2019 than 2018 actual costs, with a 36.6 percent increase in 2019 from the 2018 budget.

Other Non-Operating Expenses

None

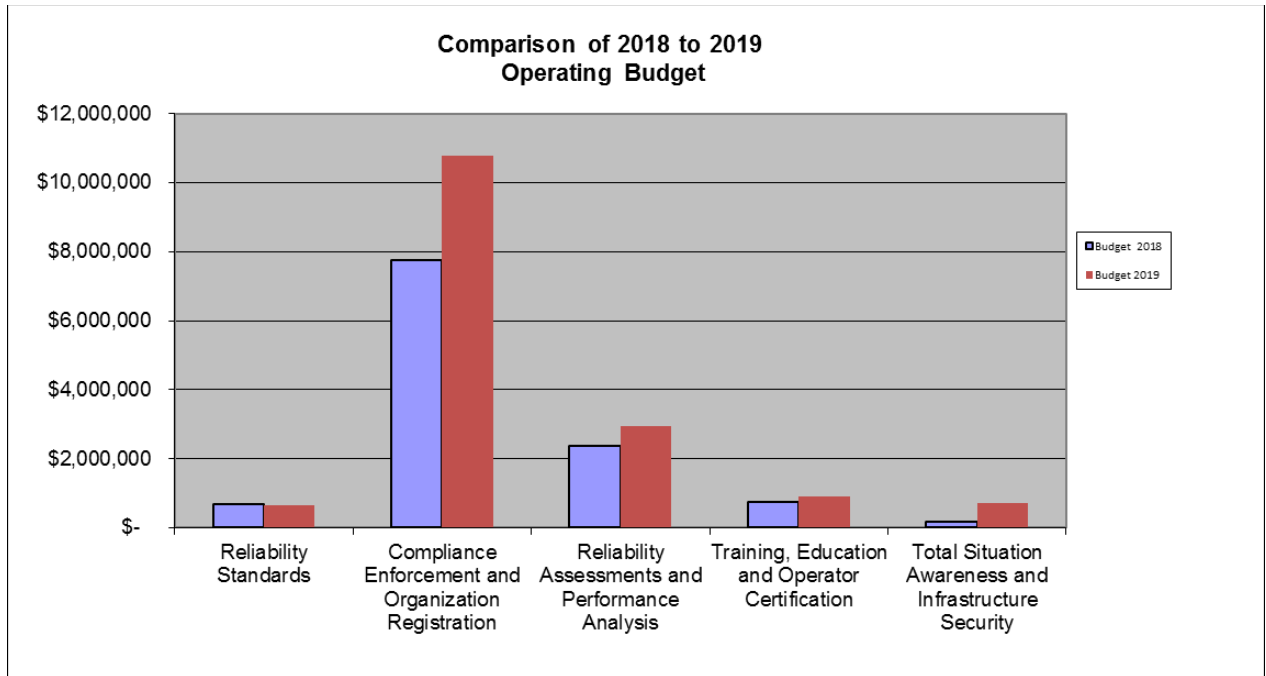
Comparison of 2018 and 2019 Statutory Budgets

The following table and figure summarize and illustrate the MRO budget by program area.

Base Operating Budget	2018 Budget	2018 Projection	2019 Budget	Variance	
				2019 Budget v 2018 Budget	Variance %
Reliability Standards	696,449	676,906	657,230	(39,219)	-5.6%
Compliance Enforcement and Organization Registration	7,756,470	9,102,498	10,763,709	3,007,239	38.8%
Reliability Assessments and Performance Analysis	2,361,808	2,557,764	2,955,071	593,263	25.1%
Training, Education and Operator Certification	753,932	733,514	897,792	143,860	19.1%
Total Situation Awareness and Infrastructure Security	158,078	154,869	706,552	548,474	347.0%
Total By Program	11,726,736	13,225,551	15,980,354	4,253,618	36.3%

This table does not include an allocation of working capital requirements or transition costs among the program areas. It combines Compliance Monitoring, Risk Assessment and Mitigation and Enforcement.

Table 2. Budget by Program Area



This graphical representation does not include an allocation of working capital requirements among the program areas.

Figure 1. Budget by Program Area Chart

The following table displays total FTEs by program area.

Total FTEs by Program Area	2018	2018	Direct FTEs	Shared	Total FTEs	Variance
	Budget	Projection	2019 Budget	FTEs 2019 Budget ¹	2019 Budget	from 2018 Budget
STATUTORY						
Operational Programs						
Reliability Standards and Organization and Certification	2.01	2.01	1.88		1.88	(0.13)
Compliance	10.06	11.78	16.72		16.72	6.66
Compliance Risk Assessment and Mitigation	9.97	11.69	12.62		12.62	2.65
Compliance Enforcement	2.99	2.99	3.01		3.01	0.02
Training and Education	2.10	2.10	2.58		2.58	0.48
Reliability Assessment and Performance Analysis	6.13	6.69	8.33		8.33	2.20
Situation Awareness and Infrastructure Security	0.33	0.33	2.64		2.64	2.31
Total FTEs Operational Programs	33.59	37.59	47.78	-	47.78	14.19
Administrative Programs						
Technical Committees and Member Forums	-	-	-		-	-
General and Administrative	2.85	2.85	2.84		2.84	(0.01)
Legal and Regulatory	0.92	0.92	0.86		0.86	(0.06)
Information Technology	4.02	4.02	3.97		3.97	(0.05)
Human Resources	-	-	-		-	-
Finance and Accounting	3.62	3.62	3.55		3.55	(0.07)
Total FTEs Administrative Programs	11.41	11.41	11.22	-	11.22	(0.19)
Total FTEs	45.00	49.00	59.00	-	59.00	14.00

¹A shared FTE is defined as an employee who performs both Statutory and Non-Statutory functions.

Table 3. Total FTEs by Program Area

For an explanation of the variances, refer to the Resource Requirements section in each program area in Section A.

2018 Budget and Projection and 2019 Budget Comparisons

The following table lists the 2018 budget and projection compared to the 2019 budget.

Statement of Activities, Fixed Assets Expenditures and Change in Working Capital					
2018 Budget & Projection, and 2019 Budget					
STATUTORY					
	2018 Budget	2018 Projection	Variance 2018 Projection v 2018 Budget Over(Under)	2019 Budget	Variance 2019 Budget v 2018 Budget Over(Under)
Funding					
ERO Funding					
NERC Assessments	\$ 10,730,104	\$ 10,730,104	\$ -	\$ 15,471,669	\$ 4,741,565
Penalty Sanctions	142,000	142,000	-	59,253	(82,747)
Total NERC Funding	\$ 10,872,104	\$ 10,872,104	\$ -	\$ 15,530,922	\$ 4,658,818
Membership Dues	-	-	-	-	-
Testing Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Workshops	-	-	-	-	-
Interest	-	-	-	-	-
Miscellaneous	-	1,498,815	1,498,815	-	-
Total Funding (A)	\$ 10,872,104	\$ 12,370,919	\$ 1,498,815	\$ 15,530,922	\$ 4,658,818
Expenses					
Personnel Expenses					
Salaries	\$ 6,250,448	\$ 6,806,044	\$ 555,596	\$ 8,386,511	\$ 2,136,063
Payroll Taxes	391,324	426,108	34,784	539,356	148,032
Benefits	663,221	722,172	58,951	928,884	265,663
Retirement Costs	1,259,803	1,371,787	111,984	1,714,916	455,113
Total Personnel Expenses	\$ 8,564,796	\$ 9,326,111	\$ 761,315	\$ 11,569,667	\$ 3,004,871
Meeting Expenses					
Meetings	\$ 93,950	\$ 93,950	\$ -	\$ 145,850	\$ 51,900
Travel	655,430	700,430	45,000	905,314	249,884
Conference Calls	-	-	-	-	-
Total Meeting Expenses	\$ 749,380	\$ 794,380	\$ 45,000	\$ 1,051,164	\$ 301,784
Operating Expenses					
Consultants & Contracts	\$ 535,127	\$ 635,127	\$ 100,000	\$ 1,100,010	\$ 564,883
Office Rent	733,700	733,700	-	743,500	9,800
Office Costs	628,013	968,013	340,000	858,013	230,000
Professional Services	229,550	317,050	87,500	413,000	183,450
Miscellaneous	-	-	-	-	-
Depreciation	578,000	578,000	-	626,000	48,000
Total Operating Expenses	\$ 2,704,390	\$ 3,231,890	\$ 527,500	\$ 3,740,523	\$ 1,036,133
Total Direct Expenses	\$ 12,018,566	\$ 13,352,381	\$ 1,333,815	\$ 16,361,354	\$ 4,342,788
Indirect Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses (B)	\$ 12,018,566	\$ 13,352,381	\$ 1,333,815	\$ 16,361,354	\$ 4,342,788
Change in Assets	\$ (1,146,462)	\$ (981,462)	\$ 165,000	\$ (830,432)	\$ 316,030
Fixed Assets					
Depreciation	\$ (578,000)	\$ (578,000)	\$ -	\$ (626,000)	\$ (48,000)
Computer & Software CapEx	286,170	331,170	45,000	245,000	(41,170)
Furniture & Fixtures CapEx	-	30,000	30,000	-	-
Equipment CapEx	-	30,000	30,000	-	-
Leasehold Improvements	-	60,000	60,000	-	-
Allocation of Fixed Assets	-	-	-	-	0
Inc(Dec) in Fixed Assets (C)	(291,830)	(126,830)	165,000	(381,000)	(89,170)
TOTAL BUDGET (=B + C)	\$ 11,726,736	\$ 13,225,551	\$ 1,498,815	\$ 15,980,354	\$ 4,253,618
TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)	\$ (854,632)	\$ (854,632)	-	\$ (449,432)	\$ 405,200
FTEs	45.00	49.00	4.00	59.00	14.00

Table 4. 2018 Budget and Projection and 2019 Comparisons

Section A – Statutory Programs

2019 Business Plan and Budget



Section A – Statutory Programs

Reliability Standards, Organization Registration and Certification Program

The following table shows funding sources and related expenses for the Reliability Standards, Organization Registration and Certification Program.

Reliability Standards Program (in whole dollars)			
	2018 Budget	2019 Budget	Increase (Decrease)
Total FTEs	2.01	1.88	(0.13)
Direct Expenses	\$ 429,882	\$ 459,992	\$ 30,110
Indirect Expenses	\$ 284,030	\$ 212,230	\$ (71,800)
Other Non-Operating Expenses	\$ -	\$ -	\$ -
Inc(Dec) in Fixed Assets	\$ (17,463)	\$ (14,991)	\$ 2,472
Total Funding Requirement	\$ 696,450	\$ 657,230	\$ (39,220)

Table A-1. Reliability Standards Budget

Reliability Standards

Program Scope and Functional Description

MRO Reliability Standards personnel support NERC’s stakeholder-driven processes to develop and maintain Reliability Standards by providing feedback to the NERC process, conducting outreach during standards development, and training on standards after the applicable governmental authority’s approval. MRO’s Standards Committee (SC) develops Standard Application Guides (SAGs), comments on NERC Standard Authorization Requests (SARs) and participates in standards development. The MRO SC’s subcommittee, the NERC Standards Review Forum (NSRF), executes the MRO SC’s responsibilities.

This department supports NERC’s efforts in the development of Reliability Standards as outlined in the ERO Enterprise Operating Plan Goal 1: Risk-Responsive Reliability Standards:

Goal 1: Reliability Standards establish threshold requirements for assuring the Bulk Electric System (BES) is planned, operated, maintained, and secured to minimize risks of cascading failures, avoid damage to major equipment, or limit interruptions of the BPS. Reliability Standards are clear, timely, effective in mitigating risks to reliability, and consider cost-effectiveness/impact.

Contributing Activities to Support Goal 1

- MRO, through its stakeholder group structure, will work to coordinate and provide stakeholder input on and facilitate industry review of new and existing Reliability Standards, including cost effectiveness/impact analysis
- MRO staff will provide input and feedback to NERC and standard drafting teams for new and existing Reliability Standards, including the Standards Efficiency Review project, using compliance monitoring and other experience as a basis
- MRO, through its stakeholder group structure, will gather stakeholder feedback to assess which NERC Reliability Standards may need further guidance and will develop Subject

Matter Expert Teams to provide guidance and outreach on approved Reliability Standards following the NERC Compliance Guidance process

- MRO will develop, as needed for technical reasons, regional variances or regional standards to address specific reliability risks and evaluate the need for existing regional standards
- MRO will work with ERO Enterprise teams to review existing regional standards in all Regions to determine if any could be incorporated as a regional variance to a continent-wide Reliability Standard
- MRO staff will continue to answer questions and provide ERO Enterprise supported guidance on the requirements

Metrics Associated with Goal 1

The ERO Enterprise Metrics associated with Goal 1 include Metrics 1-6. Metric 2 identifies specific performance measures for the Reliability Standards area. The measures for Metric 2 as refined by the MRO Strategic Plan for the MRO Region are provided below and impact the resources needed by the department.

Metric 2: Feedback loops exist between MRO compliance monitoring activities and NERC Reliability Standards (supports ERO Enterprise Operating Plan Goals 1–3)

Gaps between compliance monitoring activities (or the Regional Risk Assessment) and Reliability Standards are identified and communicated to NERC.

- Threshold: Technical risk-based feedback is provided to NERC supporting the Standards Efficiency Review (P-81^2) initiative
- Target: Complete annual review of Standards to identify administrative and/or low-risk requirements and incorporate this review into MRO's Performance Areas

Impact on Resource Needs

Workload and travel for Reliability Standards will increase to conduct the contributing activities for Goal 1 and in support of Metric 2, specifically to support the Standards Efficiency Review (SER) initiative (Metric 2) and the development of Implementation guidance.

Organization Registration and Certification

Program Scope and Functional Description

This department appropriately registers owners, operators, and users of the bulk power system subject to compliance with NERC Reliability Standards. The Certification Department ensures that organizations that apply to register or are registered to perform the Reliability Coordinator, Balancing Authority, and Transmission Operator reliability functions meet or exceed minimum criteria demonstrating their capability to perform their incumbent tasks.

Following the transfer of entities from the SPP RE Region in 2018, MRO will have approximately doubled the number of registered entities, and will be performing registration and certification activities for an expected 211 registered entities in the MRO Region. The number of certifications will increase in 2019; MRO typically plans for 1.5 certifications per year and there are currently 3 projected for 2019.

This department supports NERC's efforts in registration and certification as outlined in the ERO Enterprise Operating Plan Goal 2: Objective, Risk-Informed Compliance Monitoring, Mitigation, Enforcement, and Entity Registration:

***Goal 2:** The ERO Enterprise is a strong enforcement authority that is objective, fair, and promotes a culture of reliability excellence through risk-informed compliance monitoring, mitigation, enforcement, and registration.*

Contributing Activities to Support Goal 2

- Identify and register BES owners, operators, and users; maintain accurate, up-to-date registration information, identifying entities responsible for compliance
- Ensure entities performing the functions of Reliability Coordinator, Balancing Authority, and Transmission Operator have the tools, processes, and training to perform their reliability functions
- Take action to address any findings, recommendations, enhancements, guidance, and inconsistencies identified in NERC's registration, compliance monitoring, and enforcement oversight reports
- Participate in the development and implementation of the CMEP Technology Project

Metrics Associated with Goal 2

The ERO Enterprise Metrics associated with Goal 2 include Metrics 1, 2, 4, 5 and 6. The Organizational Registration and Certification functions support these metrics, although they do not have identified actions.

Impact on Resource Needs

Workload for Organizational Registration and Certification will increase due to the increased number of certifications expected to occur in 2019. MRO typically plans for 1.5 certifications per year and there are currently 3 projected for 2019. Additionally, registration questions from newly registered entities are anticipated, including BES exception and risk-based registration questions.

Reliability Standards, Organization Registration and Certification Program Resource Requirements

Overall Budget Change 2018-2019 (Decrease -\$39.2K, -5.6%)

Overall, the workload in these areas is expected to increase. As discussed above, Reliability Standards' workload will increase to conduct the contributing activities for Goal 1 and in support of Metric 2, specifically to support the SER initiative and the development of Implementation guidance.

Registration and Certification's workload will increase due to the increased number of certifications expected to occur in 2019. Additionally, registration questions from newly registered entities are anticipated, especially in regards to BES exceptions and risk-based registration.

The budget for these departments has been decreased (most significantly in indirect expenses) and the FTEs are reduced by .13. However, the budget for these groups had received increases in prior years, and the increase of activities in these areas is somewhat offset by a decrease in a reduction of activity for the NERC-led panel. Further, these departments are part of the larger RAM team and can be supported by other personnel in the RAM Department.

Meeting Expenses

(Increase \$11k, 18.7%)

Travel has been increased to accommodate the additional certifications to be conducted in 2019 and to support the SER initiative.

Reliability Standards, Organization Registration and Certification Budget Details

The following table shows funding sources and related expenses for the Reliability Standards, Organization Registration, and Certification Program.

Statement of Activities, Fixed Assets Expenditures and Change in Working Capital					
2018 Budget & Projection, and 2019 Budget					
RELIABILITY STANDARDS AND ORGANIZATIONAL REGISTRATION					
	2018	2018	Variance	2019	Variance
	Budget	Projection	2018 Projection v 2018 Budget Over(Under)	Budget	2019 Budget v 2018 Budget Over(Under)
Funding					
ERO Funding					
NERC Assessments	\$ 687,952	\$ 687,952		\$ 654,899	\$ (33,053)
Penalty Sanctions	8,497	8,497		2,331	(6,166)
Total NERC Funding	\$ 696,449	\$ 696,449		\$ 657,230	\$ (39,219)
Membership Dues	-	-	-	-	-
Testing Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Workshops	-	-	-	-	-
Interest	-	-	-	-	-
Miscellaneous	-	(19,543)	(19,543)	-	-
Total Funding (A)	\$ 696,449	\$ 676,906	\$ (19,543)	\$ 657,230	\$ (39,219)
Expenses					
Personnel Expenses					
Salaries	\$ 258,356	\$ 258,356	\$ -	\$ 275,583	\$ 17,227
Payroll Taxes	16,816	16,816	-	17,361	545
Benefits	31,169	31,169	-	29,628	(1,541)
Retirement Costs	59,003	59,003	-	61,782	2,779
Total Personnel Expenses	\$ 365,344	\$ 365,344	\$ -	\$ 384,354	\$ 19,010
Meeting Expenses					
Meetings	\$ 1,400	\$ 1,400	\$ -	\$ 1,400	\$ -
Travel	57,300	57,300	-	68,300	11,000
Conference Calls	-	-	-	-	-
Total Meeting Expenses	\$ 58,700	\$ 58,700	\$ -	\$ 69,700	\$ 11,000
Operating Expenses					
Consultants & Contracts	\$ -	\$ -	\$ -	\$ -	\$ -
Office Rent	-	-	-	-	-
Office Costs	5,838	5,838	-	5,938	100
Professional Services	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Depreciation	-	-	-	-	-
Total Operating Expenses	\$ 5,838	\$ 5,838	\$ -	\$ 5,938	\$ 100
Total Direct Expenses	\$ 429,882	\$ 429,882	\$ -	\$ 459,992	\$ 30,110
Indirect Expenses	\$ 284,030	\$ 253,806	\$ (30,224)	\$ 212,230	\$ (71,800)
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses (B)	\$ 713,912	\$ 683,688	\$ (30,224)	\$ 672,222	\$ (41,690)
Change in Assets	\$ (17,463)	\$ (6,782)	\$ 10,681	\$ (14,991)	\$ 2,472
Fixed Assets					
Depreciation	\$ -	\$ -	\$ -	\$ -	\$ -
Computer & Software CapEx	-	-	-	-	-
Furniture & Fixtures CapEx	-	-	-	-	-
Equipment CapEx	-	-	-	-	-
Leasehold Improvements	-	-	-	-	-
Allocation of Fixed Assets	\$ (17,463)	(6,782)	10,681	(14,991)	2,472
Inc(Dec) in Fixed Assets (C)	(17,463)	(6,782)	10,681	(14,991)	2,472
TOTAL BUDGET (=B + C)	\$ 696,449	\$ 676,906	\$ (19,543)	\$ 657,230	\$ (39,219)
TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)	\$ -	\$ -	\$ 0	\$ -	\$ -
FTEs	2.01	2.01	-	1.88	(0.13)

Table A-2. Reliability Standards, Organization Registration and Certification Budget Detail

Compliance Monitoring and Enforcement Program

The following table lists the budget for the Compliance Monitoring and Enforcement Program (CMEP).

Compliance Monitoring and Enforcement Program (in whole dollars)			
	2018 Budget	2019 Budget	Increase (Decrease)
Total FTEs	23.02	32.35	9.33
Direct Expenses	\$ 4,703,549	\$ 7,369,740	\$ 2,666,192
Indirect Expenses	\$ 3,252,919	\$ 3,651,929	\$ 399,010
Other Non-Operating Expenses	\$ -	\$ -	\$ -
Inc(Dec) in Fixed Assets	\$ (199,998)	\$ (257,960)	\$ (57,963)
Total Funding Requirement	\$ 7,756,470	\$ 10,763,709	\$ 3,007,240

Table A-3. Compliance Monitoring and Enforcement Program Budget

Program Scope and Functional Description

MRO's CMEP work is performed by three departments: Compliance Monitoring, Risk Assessment and Mitigation (RAM), and Enforcement, creating an effective "check and balance" for making decisions about noncompliance and enforcement. MRO's RAM Department develops Inherent Risk Assessments (IRAs) for registered entities; Compliance Monitoring uses the IRA along with performance, internal controls, and other qualitative assessments to develop Compliance Oversight Plans and conduct compliance monitoring for registered entities. In addition, RAM conducts risk assessments for registered entity noncompliances and violations, and evaluates and monitors mitigation; and Enforcement processes noncompliances and violations using risk-based disposition methods.

Following the transfer of entities from the SPP RE Region in 2018, the MRO CMEP will have approximately doubled the number of entities registered in the MRO Region and will be performing CMEP activities for 211 registered entities. Although the number of registered entities will be doubled, Compliance Monitoring will conduct approximately triple the number of audits in 2019 (34 anticipated) from 2018 (12 MRO-led audits). The RAM and Enforcement departments will continue to process any open enforcement actions MRO received from SPP RE in 2018. Enforcement will review new registered entities for the Self-Logging Program and encourage increased participation in the program throughout the Region.

MRO's Compliance Monitoring, RAM, and Enforcement departments support NERC's efforts to appropriately monitor and enforce compliance as outlined in the ERO Enterprise Operating Plan Goal 2: Objective, Risk-Informed Compliance Monitoring, Mitigation, Enforcement, and Entity Registration:

The ERO Enterprise is a strong enforcement authority that is objective, fair, and promotes a culture of reliability excellence through risk-informed compliance monitoring, mitigation, enforcement, and registration.

Contributing Activities to Support Goal 2

- Develop and implement compliance oversight plans for registered entities focusing on relevant risks, including identified and emerging reliability risks identified by the Reliability Issues Steering Committee (RISC) (goal 4), consideration of entity inherent risk assessments, entity performance history, and effectiveness of entity internal controls
- Work collaboratively with NERC and other Regional Entities to provide clear and consistent guidance on the CMEP process, including coordinated oversight of Multi-Region Registered Entities
- Conduct technical assessments of registered entities' plans and activities to mitigate noncompliance
- Undertake enforcement activities proportional to the noncompliance in accordance with ERO Enterprise risk-based approaches
- Take action to address any findings, recommendations, enhancements, guidance, and inconsistencies identified in NERC's registration, compliance monitoring, and enforcement oversight reports
- Participate in the development and implementation of the CMEP Technology Project

Metrics Associated with Goal 2

The ERO Enterprise 2018 Metrics associated with Goal 2 include Metrics 1, 2, 4, 5 and 6. Metric 5 identifies specific performance measures for the CMEP area. The measures for Metric 5 as refined by the MRO Strategic Plan for the MRO Region are provided below and impact the resources needed by the department.

Metric 5: Reduced reliability risk from noncompliance (supports ERO Enterprise Operating Plan Goals 1 and 2)

Compliance severity index.

- Threshold: Compliance severity index stable (within 110 percent of peak)
- Target: Compliance severity index declining

Repeat violations.

- Threshold: No repeat of severe violations within three years of mitigation completion
- Target: No repeat of severe or moderate violations within two years of mitigation completion

Impact on Resource Needs

Staffing for these departments will increase beginning mid-2018. Five FTEs will be added in Compliance Monitoring and five FTEs will be added in RAM to accommodate the integration of new registered entities. However, staffing levels will need to be evaluated in 2019 based on the ability to manage the workload in the last half of 2018 and through 2019. Additional workload, especially if determined to be temporarily heavy due to the transition, may be addressed with contract resources to assist with CMEP activities. Travel and meetings will increase for the department to support the integration of new registered entities into MRO. Outreach will also increase, which is reflected in the Training and Education area. Finally, the CMEP will dedicate resources to support the development and implementation of the CMEP Technology Project.

Compliance Monitoring and Enforcement Program Resource Requirements

Overall Budget Change 2018-2019 (Increase \$3m, 38.8%)

The workload in these areas is expected to increase with the transition of 98 registered entities into the MRO Region. The budget increase for 2019 is largely due to the addition of staff; five FTEs will be added to the Compliance Monitoring group to ensure appropriateness of compliance oversight plans for entities and conduct oversight, including the triple number of audits in 2019; and five FTEs will be added to the RAM group to conduct risk assessments for Open Enforcement Actions (OEAs) transferred from SPP RE in 2018, as well as ongoing mitigation and risk assessments for all MRO registered entities.

Personnel Expenses (Increase \$2.1m, 49.6%)

As discussed above, the CMEP will increase by nine FTEs. The majority of the increase is in salary increases and retirement benefits.

Consultant and Contracts (Increase \$408k, 429.5%)

The 2019 budget has a projected increase for contractor assistance to address the increase in workload and provide for the increase in contract costs related to webCDMS. Some of the additional workload to conduct CMEP activities, especially if determined to be temporarily heavy, may be addressed with contract resources.

Office Costs (Increase \$56k, 49.6%)

An increase in office costs is a reflection of a higher FTE count.

Meeting Expenses (Increase \$79.5k, 37.4%)

MRO will require increased travel expenses to meet its strategic priorities to integrate the new registered entities into MRO and continue to perform quality execution of the CMEP program.

Compliance Monitoring and Enforcement Program Budget Detail

The following table shows funding sources and related expenses for the Compliance Monitoring and Enforcement Program.

Statement of Activities, Fixed Assets Expenditures and Change in Working Capital					
2018 Budget & Projection, and 2019 Budget					
COMPLIANCE MONITORING AND ENFORCEMENT PROGRAM					
	2018	2018	Variance	2019	Variance
	Budget	Projection	2018 Projection	Budget	2019 Budget
			v 2018 Budget		v 2018 Budget
			Over(Under)		Over(Under)
Funding					
ERO Funding					
NERC Assessments	\$ 7,659,154	\$ 7,659,154		\$ 10,723,591	\$ 3,064,437
Penalty Sanctions	97,316	97,316		40,118	(57,198)
Total NERC Funding	\$ 7,756,470	\$ 7,756,470		\$ 10,763,709	\$ 3,007,239
Membership Dues	-	-	-	-	-
Testing Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Workshops	-	-	-	-	-
Interest	-	-	-	-	-
Miscellaneous	-	1,346,028	1,346,028	-	-
Total Funding (A)	\$ 7,756,470	\$ 9,102,498	\$ 1,346,028	\$ 10,763,709	\$ 3,007,239
Expenses					
Personnel Expenses					
Salaries	\$ 3,165,100	\$ 3,642,913	\$ 477,813	\$ 4,696,697	\$ 1,531,597
Payroll Taxes	204,686	234,600	29,914	309,054	104,368
Benefits	329,896	380,594	50,698	504,160	174,264
Retirement Costs	583,137	679,443	96,306	895,415	312,278
Total Personnel Expenses	\$ 4,282,819	\$ 4,937,550	\$ 654,731	\$ 6,405,326	\$ 2,122,507
Meeting Expenses					
Meetings	\$ 7,500	\$ 7,500	\$ -	\$ 7,500	\$ -
Travel	204,830	243,530	38,700	284,314	79,484
Conference Calls	-	-	-	-	-
Total Meeting Expenses	\$ 212,330	\$ 251,030	\$ 38,700	\$ 291,814	\$ 79,484
Operating Expenses					
Consultants & Contracts	\$ 95,000	\$ 181,000	\$ 86,000	\$ 503,000	\$ 408,000
Office Rent	-	-	-	-	-
Office Costs	113,400	405,800	292,400	169,600	56,200
Professional Services	-	75,250	75,250	-	-
Miscellaneous	-	-	-	-	-
Depreciation	-	-	-	-	-
Total Operating Expenses	\$ 208,400	\$ 662,050	\$ 453,650	\$ 672,600	\$ 464,200
Total Direct Expenses	\$ 4,703,549	\$ 5,850,630	\$ 1,147,081	\$ 7,369,740	\$ 2,666,191
Indirect Expenses	\$ 3,252,919	\$ 3,341,146	\$ 88,227	\$ 3,651,929	\$ 399,010
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses (B)	\$ 7,956,468	\$ 9,191,775	\$ 1,235,308	\$ 11,021,669	\$ 3,065,201
Change in Assets	\$ (199,998)	\$ (89,277)	\$ 110,721	\$ (257,960)	\$ (57,963)
Fixed Assets					
Depreciation	-	-	-	-	-
Computer & Software CapEx	-	-	-	-	-
Furniture & Fixtures CapEx	-	-	-	-	-
Equipment CapEx	-	-	-	-	-
Leasehold Improvements	-	-	-	-	-
Allocation of Fixed Assets	\$ (199,998)	(89,277)	110,721	(257,960)	(57,963)
Inc(Dec) in Fixed Assets (C)	\$ (199,998)	\$ (89,277)	\$ 110,721	\$ (257,960)	\$ (57,963)
TOTAL BUDGET (=B + C)	\$ 7,756,470	\$ 9,102,498	\$ 1,346,028	\$ 10,763,709	\$ 3,007,239
TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)	\$ -	\$ -	\$ 0	\$ -	\$ -
FTEs	23.02	26.46	3.44	32.35	9.33

Table A-4. Compliance Monitoring and Enforcement Budget Detail

Reliability Assessment and Performance Analysis Program

The following table lists the budget for the Reliability Assessment and Performance Analysis (RAPA) program.

Reliability Assessments and Performance Analysis (in whole dollars)			
	2018 Budget	2019 Budget	Increase (Decrease)
Total FTEs	6.13	8.33	2.20
Direct Expenses	\$ 1,548,845	\$ 2,081,137	\$ 532,292
Indirect Expenses	\$ 866,220	\$ 940,358	\$ 74,137
Other Non-Operating Expenses	\$ -	\$ -	\$ -
Inc(Dec) in Fixed Assets	\$ (53,257)	\$ (66,424)	\$ (13,166)
Total Funding Requirement	\$ 2,361,808	\$ 2,955,071	\$ 593,262

Table A-5. Reliability Assessment and Performance Analysis (RAPA) Budget

Program Scope and Functional Description

MRO's Operations Department performs Reliability Assessments, System Analysis, Performance Analysis, and Event Analysis.²⁶ The Reliability Assessment and System Analysis (RASA) activities focus on the ERO's statutory responsibility to conduct assessments of the reliability and adequacy of the BES. Performance Analysis and Event Analysis carry out the ERO's statutory responsibility to perform assessments (detailed analysis of significant events and longer-term broad performance assessments) of the reliability and adequacy of the BES, including identifying potential issues of concern relating to system, equipment, and entity, that may indicate the need to develop and implement targeted interventions. This team participates in the Eastern Interconnection Reliability Assessment Group, reviews performance of protection systems based on events and misoperations, facilitates data collection and the development of power flow and dynamics simulation models for the Eastern Interconnection, reviews periodic data submissions (TADS, GADS, MIDAS and DADS), supports the MRO Planning and Operating Committees, and supports ERO Enterprise RAPA activities.

MRO's Reliability Assessment and Performance Analysis Department supports NERC's efforts to identify, provide insight into, and guidance for potential reliability risks to the BES as outlined in the ERO Enterprise Operating Plan Goals 3 and 4.

Goal 3: Reduction of Known Risks to Reliability

The ERO Enterprise recognizes significant known risks to reliability, assures those reliability risks are reduced, and promotes a culture of reliability excellence.

Goal 4: Identification and Assessment of Emerging Reliability Risks

²⁶ MRO budgets these activities in one cost center. NERC divides these activities between two departments: Reliability Assessment and System Analysis, and Reliability Risk Management, which conducts Performance Analysis, Event Analysis, and Situational Awareness. Situational Awareness is budgeted through a separate cost center in MRO's budget.

The ERO Enterprise identifies, objectively assesses, and prioritizes emerging risks to reliability to inform stakeholders and enable effective actions to reduce these risks to reliability.

Contributing Activities for Goal 3

- Address NERC and/or regionally identified risks, such as protection system misoperations, and report against targets established for the ERO Enterprise
- Quantify and measure known risks to the Region
- Communicate regional risks to NERC, and both regional and NERC-identified risks to industry
- Conduct information gathering and sharing regarding good industry practices in risk identification, mitigation, and lessons learned
- Communicate and share information regarding significant BPS events with NERC, FERC, and the other Regional Entities in a timely manner
- Provide outreach and input for ERO alerts and advisories
- Participate in and coordinate with NERC on the activities of the NERC and regional technical committees

Contributing Activities for Goal 4

- Ensure closer coordination of assessments and modeling across the Eastern Interconnection
- Use all tools and data available (reliability assessments, engineering software/studies, inherent risk profiles, compliance monitoring data, NERC alerts, analytics, system events, etc.) to identify trends or leading indicators of potential new or emerging BPS reliability risks
- Provide input or review independent reliability assessments to reflect changing resource mix behavior, including distributed energy resources and essential reliability services
- Seek and engage risk experts both inside and outside industry to better identify unique, new, or emerging risks that may affect the Region
- Perform and/or review objective seasonal and longer-term resource adequacy assessments and coordinate with NERC on interconnection and North American-wide BPS reliability assessments
- Conduct objective assessments and studies to address specific emerging risks
- Provide input to the RISC regarding regional perspectives for incorporation into the RISC report

Metrics Associated with Goals 3 and 4

The ERO Enterprise Metrics associated with Goal 3 include Metrics 1, 2, 3, 4 and 6. Metrics associated with Goal 4 include Metrics 1, 3 and 6. Metrics 1, 3 and 6 identify specific performance measures for the RAPA area. The measures for these Metrics as refined by the MRO Strategic Plan for the MRO Region are provided below and impact the resources needed by the department.

Metric 1: Fewer, less severe events (supports ERO Operating Plan Goals 1-5)

Number and severity of BES events.

- Threshold: No category 4 or 5 events resulting from a violation of a Reliability Standard
- Target: No category 3 events resulting from a violation of a Reliability Standard; and stable/downward trend from peak for the event severity index

Metric 3: Any resource deficiencies are foreseen (supports ERO Enterprise Operating Plan Goals 1, 3, and 4)

Number of unanticipated resource deficiencies.

- Threshold: No load shedding over 300 MW due to resource or essential reliability services deficiency, or common mode failure. This excludes deficiencies or common mode failures identified as a risk in an assessment during the past 3 years and not reported as resolved.
- Target: No Energy Emergency Alert 3 (EEA-3) declarations for resource deficiencies. This excludes (1) any deficiencies or common mode failures identified as a risk in an assessment during the past 3 years and not reported as resolved; and (2) any deficiencies that do not lead to a load shedding event.

Metric 6: Reduced risks in targeted areas (supports ERO Enterprise Operating Plan Goals 1–4)

Annual Misoperations rate of performance.

- Threshold: Annual Misoperations rate of performance is less than 12.0 percent or declining
- Target: Annual Misoperations rate of performance drops by 2 percentage points from the composite rate of the last three years

Number of transmission line outages due to vegetation.

- Threshold: No transmission line outages due to FAC-003 violations on transmission lines above 300kV
- Target: No transmission line outages due to FAC-003 violations on any transmission lines above 200kV

Impact on Resource Needs

Staffing for these departments will increase by two FTEs beginning in mid-2018; however, staffing levels will need to be evaluated in 2019 based on the workload during the last half of 2018 and through 2019. Additional workload, especially if deemed temporarily heavy due to the transition of registered entities from SPP RE, may be addressed with contract resources. Travel and meetings may increase for the department to support the integration of new registered entities into MRO. Outreach may also increase, which is reflected in the Training and Education area. Finally, RAPA will dedicate resources to support the development and implementation of the CMEP Technology Project.

Reliability Assessment and Performance Analysis Resource Requirements

Overall Budget Change 2018-2019 (Increase \$593k, 25.1%)

The workload in these areas is expected to increase with the transition of 98 registered entities into the MRO Region. The budget increase for 2019 is largely due to the addition of staff; MRO will add two FTEs to the Operations Department to conduct Performance Analysis, Situational Awareness, and Performance Analysis for the expanded Region, as well as Event Analysis for the additional entities.

Personnel Expenses (Increase \$466.8k, 35.8%)

As discussed above, RAPA will increase by two FTEs. The majority of the increase is in salary and retirement benefits.

Consultant and Contracts (Increase \$29k, 55.6%)

The 2019 budget has a projected increase for contractor assistance to address the increase in workload and provide for the increase in information technology expenses. Some of the additional workload to conduct RAPA activities, especially if determined to be temporarily heavy, may be addressed with contract resources.

Meeting Expenses (Increase \$36.4k, 20.1%)

MRO will require increased travel expenses to meet its strategic priorities to integrate the new registered entities into MRO and align with the ERO Enterprise goals and metrics.

MRO is also projecting additional reimbursement for stakeholder participation on MRO and NERC committees to accommodate the new registered entities. MRO will continue to use its facilities and web conferencing whenever possible.

Reliability Assessment and Performance Analysis Budget Detail

The following table lists funding sources and related expenses for the Reliability Assessment and Performance Analysis Program.

Statement of Activities, Fixed Assets Expenditures and Change in Working Capital 2018 Budget & Projection, and 2019 Budget					
RELIABILITY ASSESSMENT and PERFORMANCE ANALYSIS					
	2018 Budget	2018 Projection	Variance 2018 Projection v 2018 Budget Over(Under)	2019 Budget	Variance 2019 Budget v 2018 Budget Over(Under)
Funding					
ERO Funding					
NERC Assessments	\$ 2,335,894	\$ 2,335,894		\$ 2,944,741	\$ 608,847
Penalty Sanctions	25,914	25,914		10,330	(15,584)
Total NERC Funding	\$ 2,361,808	\$ 2,361,808		\$ 2,955,071	\$ 593,263
Membership Dues	-	-	-	-	-
Testing Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Workshops	-	-	-	-	-
Interest	-	-	-	-	-
Miscellaneous	-	195,956	195,956	-	-
Total Funding (A)	\$ 2,361,808	\$ 2,557,764	\$ 195,956	\$ 2,955,071	\$ 593,263
Expenses					
Personnel Expenses					
Salaries	\$ 923,220	\$ 1,001,003	\$ 77,783	\$ 1,252,798	\$ 329,578
Payroll Taxes	59,232	64,102	4,870	83,361	24,129
Benefits	92,750	101,003	8,253	133,407	40,657
Retirement Costs	230,343	246,021	15,678	302,771	72,428
Total Personnel Expenses	\$ 1,305,545	\$ 1,412,129	\$ 106,584	\$ 1,772,337	\$ 466,792
Meeting Expenses					
Meetings	\$ 7,500	\$ 7,500	\$ -	\$ 7,500	\$ -
Travel	167,000	173,300	6,300	203,400	36,400
Conference Calls	-	-	-	-	-
Total Meeting Expenses	\$ 174,500	\$ 180,800	\$ 6,300	\$ 210,900	\$ 36,400
Operating Expenses					
Consultants & Contracts	\$ 52,300	\$ 66,300	\$ 14,000	\$ 81,400	\$ 29,100
Office Rent	-	-	-	-	-
Office Costs	16,500	64,100	47,600	16,500	-
Professional Services	-	12,250	12,250	-	-
Miscellaneous	-	-	-	-	-
Depreciation	-	-	-	-	-
Total Operating Expenses	\$ 68,800	\$ 142,650	\$ 73,850	\$ 97,900	\$ 29,100
Total Direct Expenses	\$ 1,548,845	\$ 1,735,579	\$ 186,734	\$ 2,081,137	\$ 532,292
Indirect Expenses	\$ 866,220	\$ 844,757	\$ (21,464)	\$ 940,358	\$ 74,137
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses (B)	\$ 2,415,065	\$ 2,580,336	\$ 165,271	\$ 3,021,495	\$ 606,429
Change in Assets	\$ (53,257)	\$ (22,572)	\$ 30,685	\$ (66,424)	\$ (13,166)
Fixed Assets					
Depreciation	-	-	-	-	-
Computer & Software CapEx	-	-	-	-	-
Furniture & Fixtures CapEx	-	-	-	-	-
Equipment CapEx	-	-	-	-	-
Leasehold Improvements	-	-	-	-	-
Allocation of Fixed Assets	\$ (53,257)	(22,572)	\$ 30,685	(66,424)	\$ (13,166)
Inc(Dec) in Fixed Assets (C)	\$ (53,257)	\$ (22,572)	\$ 30,685	\$ (66,424)	\$ (13,166)
TOTAL BUDGET (=B + C)	\$ 2,361,808	\$ 2,557,764	\$ 195,956	\$ 2,955,071	\$ 593,263
TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)	\$ -	\$ -	\$ (0)	\$ -	\$ -
FTEs	6.13	6.69	0.56	8.33	2.20

Table A-6. Reliability Assessment and Performance Analysis Budget Detail

Training and Education Program

The following table summarizes the budget for the Training and Education program.

Training and Education (in whole dollars)			
	2018 Budget	2019 Budget	Increase (Decrease)
Total FTEs	2.10	2.58	0.48
Direct Expenses	\$ 475,429	\$ 627,114	\$ 151,685
Indirect Expenses	\$ 296,748	\$ 291,251	\$ (5,496)
Other Non-Operating Expenses	\$ -	\$ -	\$ -
Inc(Dec) in Fixed Assets	\$ (18,245)	\$ (20,573)	\$ (2,328)
Total Funding Requirement	\$ 753,933	\$ 897,792	\$ 143,860

Table A-7. Training and Education Budget

Program Scope and Functional Description

The Training and Education program specifically pertains to the implementation of the CMEP, the application of Reliability Standards, reviewing reliability assessments, performing quality event analysis, identifying lessons learned from event analysis, and other related information to system reliability and compliance. The program provides developed lessons learned in MRO's newsletter and other publications. MRO conducts outreach to registered entities through workshops and conferences, as well as through presentation opportunities at industry meetings. The emphasis on CIP and security over the last several years will continue in 2019. MRO is continually looking for additional outreach opportunities.

MRO's Training and Education program supports NERC's efforts to keep entity personnel trained and industry participants informed, in support of ERO Enterprise Operating Plan Goal 2.

The ERO Enterprise is a strong enforcement authority that is objective, fair, and promotes a culture of reliability excellence through risk-informed compliance monitoring, mitigation, enforcement, and registration.

Metrics Associated with Goal 2

The ERO Enterprise 2018 Metrics associated with Goal 2 include Metrics 1, 2, 4, 5 and 6. The Training and Education functions support these metrics, although they do not have identified actions.

Impact on Resource Needs

Staffing for this program will increase by an FTE of .48. Additional training, education, and outreach will be necessary to support the integration of the new registered entities resulting in an increase in travel and meetings expense. Additionally, outreach will be necessary to obtain input into the SER and standards development projects, and there may be a need to retain contract resources to assist with outreach activities.

Training and Education Resource Requirements**Overall Budget Change 2018-2019 (Increase \$144k, 19.1%)**

The workload in this area is expected to increase to conduct additional outreach to, and training with, the new registered entities in the MRO Region. The budget increase for 2019 is largely due to the addition of one half of an FTE and the increase in meetings and travel expenses.

Personnel Expenses (Increase \$96.5k, 24.4%)

The majority of the increase is in salary and retirement benefits. More resource time will be spent in outreach.

Meeting Expenses (Increase \$55.2k, 68.7%)

The increase for meeting and travel expenses reflects the need to conduct additional outreach to, and training with, the new registered entities to integrate these entities into MRO and align with the ERO Enterprise goals and metrics.

Training and Education Budget Detail

The following table shows funding sources and related expenses for the Training and Education Program.

Statement of Activities, Fixed Assets Expenditures and Change in Working Capital					
2018 Budget & Projection, and 2019 Budget					
TRAINING and EDUCATION					
	2018	2018	Variance	2019	Variance
	Budget	Projection	2018 Projection v 2018 Budget Over(Under)	Budget	2019 Budget v 2018 Budget Over(Under)
Funding					
ERO Funding					
NERC Assessments	\$ 745,054	\$ 745,054		\$ 894,593	\$ 149,539
Penalty Sanctions	8,878	8,878		3,200	(5,678)
Total NERC Funding	\$ 753,932	\$ 753,932		\$ 897,792	\$ 143,860
Membership Dues	-	-	-	-	-
Testing Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Workshops	-	-	-	-	-
Interest	-	-	-	-	-
Miscellaneous	-	(20,418)	(20,418)	-	-
Total Funding (A)	\$ 753,932	\$ 733,514	\$ (20,418)	\$ 897,792	\$ 143,860
Expenses					
Personnel Expenses					
Salaries	\$ 289,237	\$ 289,237	\$ -	\$ 357,617	\$ 68,380
Payroll Taxes	16,952	16,952	-	22,481	5,529
Benefits	31,774	31,774	-	40,358	8,584
Retirement Costs	57,066	57,066	-	71,058	13,992
Total Personnel Expenses	\$ 395,029	\$ 395,029	\$ -	\$ 491,514	\$ 96,485
Meeting Expenses					
Meetings	\$ 36,000	\$ 36,000	\$ -	\$ 66,000	\$ 30,000
Travel	44,400	44,400	-	69,600	25,200
Conference Calls	-	-	-	-	-
Total Meeting Expenses	\$ 80,400	\$ 80,400	\$ -	\$ 135,600	\$ 55,200
Operating Expenses					
Consultants & Contracts	\$ -	\$ -	\$ -	\$ -	\$ -
Office Rent	-	-	-	-	-
Office Costs	-	-	-	-	-
Professional Services	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Depreciation	-	-	-	-	-
Total Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Total Direct Expenses	\$ 475,429	\$ 475,429	\$ -	\$ 627,114	\$ 151,685
Indirect Expenses	\$ 296,748	\$ 265,170	\$ (31,577)	\$ 291,251	\$ (5,496)
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses (B)	\$ 772,177	\$ 740,599	\$ (31,577)	\$ 918,365	\$ 146,189
Change in Assets	\$ (18,245)	\$ (7,085)	\$ 11,159	\$ (20,573)	\$ (2,328)
Fixed Assets					
Depreciation	-	-	-	-	-
Computer & Software CapEx	-	-	-	-	-
Furniture & Fixtures CapEx	-	-	-	-	-
Equipment CapEx	-	-	-	-	-
Leasehold Improvements	-	-	-	-	-
Allocation of Fixed Assets	\$ (18,245)	(7,085)	11,159	(20,573)	(2,328)
Inc(Dec) in Fixed Assets (C)	\$ (18,245)	\$ (7,085)	\$ 11,159	\$ (20,573)	\$ (2,328)
TOTAL BUDGET (=B + C)	\$ 753,932	\$ 733,514	\$ (20,418)	\$ 897,792	\$ 143,860
TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)	\$ -	\$ -	\$ (0)	\$ -	\$ -
FTEs	2.10	2.10	-	2.58	0.48

Table A-8. Training and Education Budget Detail

Situation Awareness and Infrastructure Security Program

The following table lists the budget for Situation Awareness and Infrastructure Security.

Situation Awareness and Infrastructure Security (in whole dollars)			
	2018 Budget	2019 Budget	Increase (Decrease)
Total FTEs	0.33	2.64	2.31
Direct Expenses	\$ 114,313	\$ 429,579	\$ 315,266
Indirect Expenses	\$ 46,632	\$ 298,025	\$ 251,393
Other Non-Operating Expenses	\$ -	\$ -	\$ -
Inc(Dec) in Fixed Assets	\$ (2,867)	\$ (21,051)	\$ (18,184)
Total Funding Requirement	\$ 158,078	\$ 706,552	\$ 548,474

Table A-9. Situation Awareness and Infrastructure Security Budget

Program Scope and Functional Description

MRO, through Reliability Coordinators and available tools, monitors present conditions on the BES and provides leadership coordination, technical expertise, and assistance to the industry in responding to events as necessary.

This program supports NERC's efforts to provide security and communicate risks to reliability for the bulk power system as outlined in the ERO Enterprise Operating Plan Goals 3 and 5.

Goal 3: Reduction of Known Risks to Reliability

The ERO Enterprise recognizes significant known risks to reliability, assures those reliability risks are reduced, and promotes a culture of reliability excellence.

Goal 5: Identification and Reduction of Cyber and Physical Security Risks

As part of the ERO Enterprise, MRO identifies and evaluates cyber and physical security risks to the regional BPS and assures those risks are reduced through active stakeholder engagement and information sharing of current threats and vulnerabilities, security workshops, and development of good industry practice guides. The ERO Enterprise supports the Electricity Information Sharing and Analysis Center (E-ISAC), the Cybersecurity Risk Information Sharing Program (CRISP), technical protective programs, and physical and cybersecurity preparedness exercises, and engages with government partners to de-classify sensitive security information needed to protect BPS devices and assets. The ERO Enterprise works with stakeholders to develop and share information to foster BPS resiliency in connection with both traditional and emerging risks.

Contributing Activities for Goal 3

- Communicate and share information regarding significant BPS events with NERC, FERC, and the other Regional Entities in a timely manner

- Provide outreach and input for ERO Alerts and advisories

Contributing Activities for Goal 5

- Participate in a pilot E-ISAC information-sharing program with the goal of enhancing protection of Regional Entity information and systems
- Participate in E-ISAC technical projects such as CRISP, the CAISS, and CHIRP
- Improve industry engagement regarding cyber and physical security risks, including (but not limited to) engagement with the E-ISAC and the MRO SAC
- Leverage engagement with registered entities to encourage effective security practices and controls
- Work collaboratively with NERC and other Regional Entities to develop procedures to effectively monitor and mitigate significant cyber and physical security risks

Metrics Associated with Goals 3 and 5

The ERO Enterprise Metrics associated with Goal 3 include Metrics 1, 2, 3, 4 and 6. Metrics associated with Goal 5 include Metrics 1 and 4. Metric 4 identifies specific performance measures for these areas. The measures for these Metrics as refined by the MRO Strategic Plan for the MRO Region are provided below and impact the resources needed by the department.

Metric 1: Fewer, less severe events (supports ERO Operating Plan Goals 1-5)

Number and severity of BES events.

- Threshold: No category 4 or 5 events resulting from a violation of a Reliability Standard
- Target: No category 3 events resulting from a violation of a Reliability Standard; and stable/downward trend from peak for the event severity index

Metric 2: Feedback loops exist between MRO compliance monitoring activities and NERC Reliability Standards (supports ERO Enterprise Operating Plan Goals 1–3)

Gaps between compliance monitoring activities (or the RRA) and Reliability Standards are identified and communicated to NERC.

- Threshold: Technical risk-based feedback is provided to NERC supporting the Standards Efficiency Review (P-81[^]2) initiative
- Target: Complete annual review of Standards to identify administrative and/or low-risk requirements and incorporate this review into MRO's Performance Areas

Metric 3: Any resource deficiencies are foreseen (supports ERO Enterprise Operating Plan Goals 1, 3, and 4)

Number of unanticipated resource deficiencies.

- Threshold: No load shedding over 300 MW due to resource or essential reliability services deficiency, or common mode failure. This excludes deficiencies or common mode failures identified as a risk in an assessment during the past 3 years and not reported as resolved.
- Target: No Energy Emergency Alert 3 (EEA-3) declarations for resource deficiencies. This excludes (1) any deficiencies or common mode failures identified as a risk in an assessment during the past 3 years and not reported as resolved; and (2) any deficiencies that do not lead to a load shedding event.

Metric 4: Reduced reliability risk from unauthorized physical or electronic access (supports ERO Enterprise Operating Plan Goals 1–3 and 5)

Number of disruptions to BES facilities caused by unauthorized physical or electronic access.

- Threshold: No load loss due to BES cyber attack; and no BES facility disruptions resulting in 100 MW or more of load loss due to physical attack
- Target: No reported disruption of electrical operations of the BES facilities due to cyber attack; and compliance severity index of CIP violations stable to declining

Impact on Resource Needs

In support of the ERO Enterprise Goal 3, the Situational Awareness program will work with stakeholders to identify significant known risks to reliability, mitigate those risks, and promote a culture of reliability excellence. The workload in this area is expected to increase as MRO integrates registered entities and risks from the expanded MRO footprint.

In support of the ERO Enterprise Goal 5, this program has increased its FTEs to realign and dedicate MRO staffing to the non-CMEP activities supporting Infrastructure Security. MRO has utilized staff subject matter experts in Cyber Infrastructure Security to conduct CMEP activities as well as non-CMEP activities. This action will allocate one subject matter FTE and one administrative support FTE to non-CMEP activities for cyber and physical infrastructure security.

Situation Awareness and Infrastructure Security Resource Requirements

Overall Budget Change 2018-2019 (Increase \$548k, 347%)

The budget increase for these departments is a balance of direct and indirect expenses. In direct expenses, the budget for this area will increase to realign and dedicate MRO staffing to the non-CMEP activities supporting Infrastructure Security. MRO has utilized staff subject matter experts in Cyber Infrastructure Security to conduct CMEP activities as well as non-CMEP activities. This action will dedicate staffing to the non-CMEP activities.

Personnel Expenses Decrease \$286k, 443.6%)

The majority of the increase is in salary and retirement benefits.

Meeting Expenses (Increase \$22k, 50%)

Meeting and travel expenses will increase to support non-CMEP activities for infrastructure security, including the continuation of support for the Security Advisory Council, which was formed in 2017.

Situation Awareness and Infrastructure Security Budget Detail

The following table shows funding sources and related expenses for the Situation Awareness and Infrastructure Security Program.

Statement of Activities, Fixed Assets Expenditures and Change in Working Capital					
2018 Budget & Projection, and 2019 Budget					
SITUATION AWARENESS and INFRASTRUCTURE SECURITY					
	2018 Budget	2018 Projection	Variance 2018 Projection v 2018 Budget Over(Under)	2019 Budget	Variance 2019 Budget v 2018 Budget Over(Under)
Funding					
ERO Funding					
NERC Assessments	\$ 156,683	\$ 156,683	\$ -	\$ 703,278	\$ 546,595
Penalty Sanctions	1,395	1,395		3,274	1,879
Total NERC Funding	\$ 158,078	\$ 158,078		\$ 706,552	\$ 548,474
Membership Dues	-	-	-	-	-
Testing Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Workshops	-	-	-	-	-
Interest	-	-	-	-	-
Miscellaneous	-	(3,209)	(3,209)	-	-
Total Funding (A)	\$ 158,078	\$ 154,869	\$ (3,209)	\$ 706,552	\$ 548,474
Expenses					
Personnel Expenses					
Salaries	\$ 45,777	\$ 45,777	\$ -	\$ 230,429	\$ 184,652
Payroll Taxes	3,279	3,279	-	15,160	11,881
Benefits	4,993	4,993	-	41,640	36,647
Retirement Costs	10,414	10,414	-	63,200	52,786
Total Personnel Expenses	\$ 64,463	\$ 64,463	\$ -	\$ 350,429	\$ 285,966
Meeting Expenses					
Meetings	\$ 1,450	\$ 1,450	\$ -	\$ 1,450	\$ -
Travel	41,900	41,900	-	63,400	21,500
Conference Calls	-	-	-	-	-
Total Meeting Expenses	\$ 43,350	\$ 43,350	\$ -	\$ 64,850	\$ 21,500
Operating Expenses					
Consultants & Contracts	\$ -	\$ -	\$ -	\$ -	\$ -
Office Rent	-	-	-	-	-
Office Costs	6,500	6,500	-	14,300	7,800
Professional Services	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Depreciation	-	-	-	-	-
Total Operating Expenses	\$ 6,500	\$ 6,500	\$ -	\$ 14,300	\$ 7,800
Total Direct Expenses	\$ 114,313	\$ 114,313	\$ -	\$ 429,579	\$ 315,266
Indirect Expenses	\$ 46,632	\$ 41,670	\$ (4,962)	\$ 298,025	\$ 251,393
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses (B)	\$ 160,945	\$ 155,983	\$ (4,962)	\$ 727,604	\$ 566,659
Change in Assets	\$ (2,867)	\$ (1,113)	\$ 1,754	\$ (21,051)	\$ (18,184)
Fixed Assets					
Depreciation	-	-	-	-	-
Computer & Software CapEx	-	-	-	-	-
Furniture & Fixtures CapEx	-	-	-	-	-
Equipment CapEx	-	-	-	-	-
Leasehold Improvements	-	-	-	-	-
Allocation of Fixed Assets	\$ (2,867)	(1,113)	1,754	(21,051)	(18,184)
Inc(Dec) in Fixed Assets (C)	\$ (2,867)	\$ (1,113)	\$ 1,754	\$ (21,051)	\$ (18,184)
TOTAL BUDGET (=B + C)	\$ 158,078	\$ 154,869	\$ (3,209)	\$ 706,552	\$ 548,474
TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)	\$ -	\$ -	\$ (0)	\$ -	\$ -
FTEs	0.33	0.33	-	2.64	2.31

Table A-10. Situation Awareness and Infrastructure Security Budget Detail

Administrative Services

The following table outlines the budget for Administrative Services.

Administrative Services (in whole dollars)						
	Direct Expenses and Fixed Assets			FTEs		
	2018 Budget	2019 Budget	Increase (Decrease)	2018 Budget	2019 Budget	Increase (Decrease)
General and Administrative	\$986,938	\$1,075,707	\$88,769	2.85	2.84	(0.01)
Legal and Regulatory	\$461,328	\$650,890	\$189,562	0.92	0.86	(0.06)
Information Technology	\$1,421,504	\$1,495,582	\$74,078	4.02	3.97	(0.05)
Human Resources, Finance and Accounting	\$1,584,948	\$1,790,613	\$205,665	3.62	3.55	(0.07)
Total Administrative Services	\$4,454,718	\$5,012,792	\$558,074	11.41	11.22	(0.19)

Table A-11. Administrative Services Budget

Program Scope and Functional Description

MRO's Administrative Services area includes the business and administrative functions of the organization, including legal and regulatory, information technology, human resources, finance and accounting, and general expenses. Costs incurred for these services are allocated as an indirect expense across MRO's other program areas.

Methodology for Allocation of Administrative Services Expenses to Programs

All expenses for the Administrative Services programs, referred to as indirect expenses, are allocated to the delegated program areas based on their respective number of FTEs. This allocation provides improved financial perspective for the delegated functions.

Funding Sources

The expenses related to the indirect program areas are being allocated entirely to the direct programs; therefore, the indirect program areas have no ERO assessment revenue.

General and Administrative

The following table lists the General and Administrative budget.

General and Administrative (in whole dollars)			
	2018 Budget	2019 Budget	Increase (Decrease)
Total FTEs	2.85	2.84	(0.01)
Total Direct Expenses	\$ 986,938	\$ 1,075,707	\$ 88,769
Inc(Dec) in Fixed Assets	\$ -	\$ -	\$ -
Working Capital Requirement	\$ (854,632)	\$ (449,432)	\$ 405,200

Table A-12. General and Administrative Budget

Program Scope and Functional Description

The General and Administrative Department is led by MRO's President and CEO. The department ensures that there is adequate attention to the execution of the MRO strategic priorities and the day-to-day management of the corporation, including facilities and maintenance, board governance, policies and procedures to maintain and enhance operation of the corporation, proper record-keeping, and related responsibilities under applicable regulations as well as MRO's Delegation Agreement.

General and Administrative Services Resource Requirements**Overall Budget Change 2018-2019 (Increase \$89k, 9%)**

The increase in the indirect programs is largely due to an increase in meeting expenses.

Total Meeting Expenses (Increase \$78k, 51.2%)

Increase in meetings and travel to support the integration of new registered entities in the MRO Region.

General and Administrative Budget Detail

The following table shows funding sources and related expenses for the General and Administrative Program.

Statement of Activities, Fixed Assets Expenditures and Change in Working Capital					
2018 Budget & Projection, and 2019 Budget					
GENERAL and ADMINISTRATIVE					
	2018	2018	Variance		Variance
	Budget	Projection	2018 Projection	2019	2019 Budget
			v 2018 Budget	Budget	v 2018 Budget
			Over(Under)		Over(Under)
Funding					
ERO Funding					
NERC Assessments	\$ (854,632)	\$ (854,632)	\$ -	\$ (449,432)	\$ 405,200
Penalty Sanctions	-	-	-	-	-
Total NERC Funding	\$ (854,632)	\$ (854,632)	\$ -	\$ (449,432)	\$ 405,200
Membership Dues	-	-	-	-	-
Testing Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Workshops	-	-	-	-	-
Interest	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Total Funding (A)	\$ (854,632)	\$ (854,632)	\$ -	\$ (449,432)	\$ 405,200
Expenses					
Personnel Expenses					
Salaries	\$ 585,090	\$ 585,090	\$ -	\$ 582,342	\$ (2,748)
Payroll Taxes	25,565	25,565	-	26,054	489
Benefits	43,122	43,122	-	45,483	2,361
Retirement Costs	114,661	114,661	-	115,028	367
Total Personnel Expenses	\$ 768,438	\$ 768,438	\$ -	\$ 768,907	\$ 469
Meeting Expenses					
Meetings	\$ 40,000	\$ 40,000	\$ -	\$ 60,000	\$ 20,000
Travel	113,000	113,000	-	171,300	58,300
Conference Calls	-	-	-	-	-
Total Meeting Expenses	\$ 153,000	\$ 153,000	\$ -	\$ 231,300	\$ 78,300
Operating Expenses					
Consultants & Contracts	\$ 32,000	\$ 32,000	\$ -	\$ 32,000	\$ -
Office Rent	-	-	-	-	-
Office Costs	33,500	33,500	-	43,500	10,000
Professional Services	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Depreciation	-	-	-	-	-
Total Operating Expenses	\$ 65,500	\$ 65,500	\$ -	\$ 75,500	\$ 10,000
Total Direct Expenses	\$ 986,938	\$ 986,938	\$ -	\$ 1,075,707	\$ 88,769
Indirect Expenses	\$ (986,938)	\$ (986,938)	\$ -	\$ (1,075,707)	\$ (88,769)
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses (B)	\$ -	\$ -	\$ -	\$ -	\$ -
Change in Assets	\$ (854,632)	\$ (854,632)	\$ -	\$ (449,432)	\$ 405,200
Fixed Assets					
Depreciation	-	-	-	-	-
Computer & Software CapEx	-	-	-	-	-
Furniture & Fixtures CapEx	-	-	-	-	-
Equipment CapEx	-	-	-	-	-
Leasehold Improvements	-	-	-	-	-
Allocation of Fixed Assets	\$ -	\$ -	-	-	-
Inc(Dec) in Fixed Assets (C)	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL BUDGET (=B + C)	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)	\$ (854,632)	\$ (854,632)	\$ -	\$ (449,432)	\$ 405,200
FTEs	2.85	2.85	-	2.84	(0.01)

Table A-13. General and Administrative Budget Detail

Legal and Regulatory

The following table lists the Legal and Regulatory budget.

Legal and Regulatory (in whole dollars)			
	2018 Budget	2019 Budget	Increase (Decrease)
Total FTEs	0.92	0.86	(0.06)
Total Direct Expenses	\$ 461,328	\$ 650,890	\$ 189,562
Inc(Dec) in Fixed Assets	\$ -	\$ -	\$ -
Working Capital Requirement	\$ -	\$ -	\$ -

Table A-14. Legal and Regulatory Budget

Program Scope and Functional Description

MRO has one internal corporate legal counsel to provide advice to the board, the President and CEO, and staff on legal and regulatory matters affecting MRO. MRO may use additional specialized legal resources on an as-needed basis, such as for corporate matters, employee benefit plan issues, and significant policy or regulatory matters.

Legal and Regulatory Resource Requirements**Overall Budget Change 2018-2019 (Increase \$190k, 41.1%)**

The increase in this indirect program funds additional Professional Services, which is related to the increase in the number of independent board members in 2019.

Legal and Regulatory Budget Detail

The following table shows funding sources and related expenses for the Legal and Regulatory Program.

Statement of Activities, Fixed Assets Expenditures and Change in Working Capital					
2018 Budget & Projection, and 2019 Budget					
LEGAL and REGULATORY					
	2018 Budget	2018 Projection	Variance 2018 Projection v 2018 Budget Over(Under)	2019 Budget	Variance 2019 Budget v 2018 Budget Over(Under)
Funding					
ERO Funding					
NERC Assessments	\$ -	\$ -	\$ -	\$ -	\$ -
Penalty Sanctions	-	-	-	-	-
Total NERC Funding	\$ -	\$ -	\$ -	\$ -	\$ -
Membership Dues	-	-	-	-	-
Testing Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Workshops	-	-	-	-	-
Interest	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Total Funding (A)	\$ -	\$ -	\$ -	\$ -	\$ -
Expenses					
Personnel Expenses					
Salaries	\$ 207,980	\$ 207,980	\$ -	\$ 211,570	\$ 3,590
Payroll Taxes	9,837	9,837	-	9,820	(17)
Benefits	13,920	13,920	-	13,773	(147)
Retirement Costs	38,916	38,916	-	39,202	286
Total Personnel Expenses	\$ 270,653	\$ 270,653	\$ -	\$ 274,365	\$ 3,712
Meeting Expenses					
Meetings	\$ -	\$ -	\$ -	\$ -	\$ -
Travel	12,000	12,000	-	19,000	7,000
Conference Calls	-	-	-	-	-
Total Meeting Expenses	\$ 12,000	\$ 12,000	\$ -	\$ 19,000	\$ 7,000
Operating Expenses					
Consultants & Contracts	\$ -	\$ -	\$ -	\$ -	\$ -
Office Rent	-	-	-	-	-
Office Costs	3,625	3,625	-	4,525	900
Professional Services	175,050	175,050	-	353,000	177,950
Miscellaneous	-	-	-	-	-
Depreciation	-	-	-	-	-
Total Operating Expenses	\$ 178,675	\$ 178,675	\$ -	\$ 357,525	\$ 178,850
Total Direct Expenses	\$ 461,328	\$ 461,328	\$ -	\$ 650,890	\$ 189,562
Indirect Expenses	\$ (461,328)	\$ (461,328)	\$ -	\$ (650,890)	\$ (189,562)
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses (B)	\$ -	\$ -	\$ -	\$ -	\$ -
Change in Assets	\$ -	\$ -	\$ -	\$ -	\$ -
Fixed Assets					
Depreciation	-	-	-	-	-
Computer & Software CapEx	-	-	-	-	-
Furniture & Fixtures CapEx	-	-	-	-	-
Equipment CapEx	-	-	-	-	-
Leasehold Improvements	-	-	-	-	-
Allocation of Fixed Assets	-	\$ -	-	-	-
Inc(Dec) in Fixed Assets (C)	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL BUDGET (=B + C)	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)	\$ -	\$ -	\$ -	\$ -	\$ -
FTEs	0.92	0.92	-	0.86	(0.06)

Table A-15. Legal and Regulatory Budget Detail

Information Technology

The following table lists the Information Technology budget.

Information Technology (in whole dollars)			
	2018 Budget	2019 Budget	Increase (Decrease)
Total FTEs	4.02	3.97	(0.05)
Total Direct Expenses	\$ 1,713,334	\$ 1,876,582	\$ 163,248
Inc(Dec) in Fixed Assets	\$ (291,830)	\$ (381,000)	\$ (89,170)
Working Capital Requirement	\$ -	\$ -	\$ -

Table A-16. Information Technology Budget

Program Scope and Functional Description

MRO's Information Technology program responds to business needs by providing the technology and communications tools for staff to perform Regional Entity functions.

Information Technology Resource Requirements**Overall Budget Change 2018-2019 (Increase \$163k, 9.3%)**

The increase in the indirect programs is largely due to an increase in Consultants and Contracts, and Office Costs.

Information Technology Budget Detail

The following table shows funding sources and related expenses for the Information Technology Program.

Statement of Activities, Fixed Assets Expenditures and Change in Working Capital					
2018 Budget & Projection, and 2019 Budget					
INFORMATION TECHNOLOGY					
	2018 Budget	2018 Projection	Variance 2018 Projection v 2018 Budget Over(Under)	2019 Budget	Variance 2019 Budget v 2018 Budget Over(Under)
Funding					
ERO Funding					
NERC Assessments	\$ -	\$ -	\$ -	\$ -	\$ -
Penalty Sanctions	-	-	-	-	-
Total NERC Funding	\$ -	\$ -	\$ -	\$ -	\$ -
Membership Dues	-	-	-	-	-
Testing Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Workshops	-	-	-	-	-
Interest	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Total Funding (A)	\$ -	\$ -	\$ -	\$ -	\$ -
Expenses					
Personnel Expenses					
Salaries	\$ 374,791	\$ 374,791	\$ -	\$ 359,608	\$ (15,183)
Payroll Taxes	28,467	28,467	-	28,021	(446)
Benefits	60,825	60,825	-	63,581	2,756
Retirement Costs	70,991	70,991	-	68,772	(2,219)
Total Personnel Expenses	\$ 535,074	\$ 535,074	\$ -	\$ 519,982	\$ (15,092)
Meeting Expenses					
Meetings	\$ -	\$ -	\$ -	\$ -	\$ -
Travel	10,000	10,000	-	10,000	-
Conference Calls	-	-	-	-	-
Total Meeting Expenses	\$ 10,000	\$ 10,000	\$ -	\$ 10,000	\$ -
Operating Expenses					
Consultants & Contracts	\$ 318,860	\$ 318,860	\$ -	\$ 391,200	\$ 72,340
Office Rent	-	-	-	-	-
Office Costs	271,400	271,400	-	329,400	58,000
Professional Services	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Depreciation	578,000	578,000	-	626,000	48,000
Total Operating Expenses	\$ 1,168,260	\$ 1,168,260	\$ -	\$ 1,346,600	\$ 178,340
Total Direct Expenses	\$ 1,713,334	\$ 1,713,334	\$ -	\$ 1,876,582	\$ 163,248
Indirect Expenses	(1,713,334)	(1,713,334)	\$ -	(1,876,582)	(163,248)
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses (B)	\$ -	\$ -	\$ -	\$ -	\$ -
Change in Assets	\$ -	\$ -	\$ -	\$ -	\$ -
Fixed Assets					
Depreciation	(578,000)	(578,000)	-	(626,000)	(48,000)
Computer & Software CapEx	286,170	331,170	45,000	245,000	(41,170)
Furniture & Fixtures CapEx	-	-	-	-	-
Equipment CapEx	-	-	-	-	-
Leasehold Improvements	-	-	-	-	-
Allocation of Fixed Assets	\$ 291,830	\$ 246,830	(45,000)	\$ 381,000	\$ 89,170
Inc(Dec) in Fixed Assets (C)	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL BUDGET (=B + C)	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)	\$ -	\$ -	\$ -	\$ -	\$ -
FTEs	4.02	4.02	-	3.97	(0.05)

Table A-17. Information Technology Budget Detail

Human Resources, Finance and Accounting

The following table lists the Human Resources, Finance and Accounting budget.

Human Resources, Finance, and Accounting (in whole dollars)			
	2018 Budget	2019 Budget	Increase (Decrease)
Total FTEs	3.62	3.55	(0.07)
Total Direct Expenses	\$ 1,584,948	\$ 1,790,613	\$ 205,665
Inc(Dec) in Fixed Assets	\$ -	\$ -	\$ -
Working Capital Requirement	\$ -	\$ -	\$ -

Table A-18. Human Resources, Finance and Accounting Budget

Program Scope and Functional Description**Human Resources**

The Human Resources function of MRO designs, plans, and implements Human Resource policies and procedures in adherence with applicable federal and state laws. The Human Resources function also organizes the recruitment efforts of the organization and coordinates onboarding, training, professional development, and best practice employee retention initiatives.

MRO has developed a culture and talent management program that features an in-depth communication and training plan. New hire training initiatives and employee collaborations are planned to create an opportunity for peer-to-peer internal mentorship and team building. The program also facilitates MRO's enterprise-wide corporate compliance and ethics program. MRO reviewed and enhanced its employee engagement and culture enrichment activities in an effort to positively impact both the experience of new employees upon arrival at MRO, as well as the overall corporate culture to be an "employer of choice," and therefore support attraction and retention of qualified staff.

Finance and Accounting

The Finance and Accounting function directs the overall financial plans and accounting practices of the organization, oversees treasury, accounting, budget, tax, and audit activities, and oversees financial and accounting system controls and standards. The Finance and Accounting function also administers employee benefit plans including the 401(k) and Retiree Medical Trust, and reports the overall outcome of MRO's annual activities to the MRO board. Finally, the function coordinates all MRO internal and external meetings, workshops, and events.

MRO's Human Resources and Finance and Accounting departments support NERC's efforts to create efficiency and effectiveness as outlined in the ERO Enterprise Operating Plan Goal 6, Effective and Efficient Operations:

The ERO Enterprise embraces transparency, collaboration, consistency, quality, efficiency, and timeliness of results and operates as a coordinated and collaborative enterprise.

Contributing Activities for Goal 6

- Make effective and efficient use of stakeholder expertise and resources to obtain input on key initiatives
- Participate in the development and implementation of ERO Enterprise-wide software solutions
- Identify and support opportunities to improve regional and ERO Enterprise collaboration and efficiency

Metrics Associated with Goal 6

The ERO Enterprise Metrics associated with Goal 6 include Metric 7. Metric 7 identifies specific performance measures for the Human Performance and Finance and Accounting areas. The measures for Metric 7 as refined by the MRO Strategic Plan for the MRO Region are provided below and impact the resources needed by the department.

Metric 7: ERO Enterprise's efficiency and effectiveness (supports ERO Enterprise Operating Plan Goal 6)

Financial performance.

- Threshold: +/- 10 percent or less actuals as compared to budget (or revised budget target)
- Target: Actuals to budget (or revised budget target) within +2.5/-5 percent

Staff turnover.

- Threshold: No more than three voluntary terminations on a twelve-month rolling basis
- Target: No more than two voluntary staff terminations on a twelve-month rolling basis

Human Resources, Finance and Accounting Resource Requirements**Overall Budget Change 2018-2019 (Increase \$206k, 13%)**

The increase in the indirect programs is largely due to an increase in Consultants & Contracts and Office Costs.

Human Resources, Finance, and Accounting Budget Detail

The following table shows funding sources and related expenses for the Human Resources, Finance, and Accounting Program.

Statement of Activities, Fixed Assets Expenditures and Change in Working Capital					
2018 Budget & Projection, and 2019 Budget					
HUMAN RESOURCES, FINANCE, and ACCOUNTING					
	2018 Budget	2018 Projection	Variance 2018 Projection v 2018 Budget Over(Under)	2019 Budget	Variance 2019 Budget v 2018 Budget Over(Under)
Funding					
ERO Funding					
NERC Assessments	\$ -	\$ -	\$ -	\$ -	\$ -
Penalty Sanctions	-	-	-	-	-
Total NERC Funding	\$ -	\$ -	\$ -	\$ -	\$ -
Membership Dues	-	-	-	-	-
Testing Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Workshops	-	-	-	-	-
Interest	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Total Funding (A)	\$ -	\$ -	\$ -	\$ -	\$ -
Expenses					
Personnel Expenses					
Salaries	\$ 400,897	\$ 400,897	\$ -	\$ 419,867	\$ 18,970
Payroll Taxes	26,490	26,490	-	28,044	1,554
Benefits	54,772	54,772	-	56,854	2,082
Retirement Costs	95,272	95,272	-	97,688	2,416
Total Personnel Expenses	\$ 577,431	\$ 577,431	\$ -	\$ 602,453	\$ 25,022
Meeting Expenses					
Meetings	\$ 100	\$ 100	\$ -	\$ 2,000	\$ 1,900
Travel	5,000	5,000	-	16,000	11,000
Conference Calls	-	-	-	-	-
Total Meeting Expenses	\$ 5,100	\$ 5,100	\$ -	\$ 18,000	\$ 12,900
Operating Expenses					
Consultants & Contracts	\$ 36,967	\$ 36,967	\$ -	\$ 92,410	\$ 55,443
Office Rent	733,700	733,700	-	743,500	9,800
Office Costs	177,250	177,250	-	274,250	97,000
Professional Services	54,500	54,500	-	60,000	5,500
Miscellaneous	-	-	-	-	-
Depreciation	-	-	-	-	-
Total Operating Expenses	\$ 1,002,417	\$ 1,002,417	\$ -	\$ 1,170,160	\$ 167,743
Total Direct Expenses	\$ 1,584,948	\$ 1,584,948	\$ -	\$ 1,790,613	\$ 205,665
Indirect Expenses	\$ (1,584,948)	\$ (1,584,948)	\$ -	\$ (1,790,613)	\$ (205,665)
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses (B)	\$ -	\$ -	\$ -	\$ -	\$ -
Change in Assets	\$ -	\$ -	\$ -	\$ -	\$ -
Fixed Assets					
Depreciation	-	-	-	-	-
Computer & Software CapEx	-	-	-	-	-
Furniture & Fixtures CapEx	-	30,000	30,000	-	-
Equipment CapEx	-	30,000	30,000	-	-
Leasehold Improvements	-	60,000	60,000	-	-
Allocation of Fixed Assets	\$ -	(120,000)	(120,000)	-	-
Inc(Dec) in Fixed Assets (C)	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL BUDGET (=B + C)	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)	\$ -	\$ -	\$ -	\$ -	\$ -
FTEs	3.62	3.62	-	3.55	(0.07)

Table A-19. Human Resources, Finance, and Accounting Budget Detail

Section B – Supplemental Financial Information

2019 Business Plan and Budget



Section B – Supplemental Financial Information

Reserve Balance

Table B-1 analyzes the working capital reserve for 2018 through 2019.

Working Capital Reserve Analysis 2018-2019	
STATUTORY	
Beginning Working Capital Reserve (Deficit), December 31, 2017	2,617,518
Plus: 2018 MRO Funding (from LSEs or designees)	10,872,106
Less: 2018 Projected expenses & capital expenditures	(11,726,738)
Projected Working Capital Reserve (Deficit), December 31, 2018 ¹	1,762,886
Targeted Working Capital Reserve, December 31, 2019 $((\$15,980,354 / 365 \text{ days}) \times 30 \text{ days})$	1,313,454
Less: Projected Working Capital Reserve, December 31, 2018	(1,762,886)
Increase (decrease) in assessments to achieve targeted Working Capital Reserve	(449,432)
2019 Expenses and Capital Expenditures	15,980,354
Less: Penalty Sanctions ²	(59,253)
Less: Other Funding Sources	0
Adjustment to achieve targeted Working Capital Reserve	(449,432)
2019 MRO Assessment	15,471,669

¹ MRO's projected reserve at December 31, 2018 assumes that there will not be a material difference between budgeted and actual results for 2018, and it excludes the estimated additional \$1.5m SPP transition costs, which are assumed to be offset by transition funding from 2018 SPP RE assessments.

² Represents collections on or prior to June 30, 2018. See Table B-2 for full disclosure.

Table B-1. Working Capital Reserve Analysis 2018 - 2019

Explanation of Changes in Reserve Policy from Prior Years

Per Policy and Procedure 13, MRO's operating and working capital reserves are identified and quantified each year in the business plan and budget. MRO resets its reserves at the beginning of each year.

In early 2018, MRO's Finance and Audit Committee (FAC) resolved that a 30-day reserve of cash is sufficient based on MRO's cash flow risk. Their resolution was supported by the board's approval of the *Working Capital Analysis 2018-2019* in June 2018. The FAC and the board determined that the certainty of MRO's funding stream supports the resolution that a 30-day reserve is reasonable for sustaining short-term contingencies.

Breakdown by Statement of Activity Sections

Table B-2 lists all penalties, including date received and amount, received prior to June 30, 2018.

Penalty Sanctions Received On or Prior to June 30, 2018	Date Received	Amount Received
	Jul-17	\$ 31,717
	Mar-18	27,536

Total Penalties Received	\$ 59,253
---------------------------------	------------------

Table B-2. Penalty Sanctions Received

Penalty Sanctions

Penalty monies received from July 1, 2017 through June 30, 2018 are used to offset assessments in the 2019 Budget, as documented in the NERC Policy – *Accounting, Financial Statement and Budgetary Treatment of Penalties Imposed and Received for Violations of Reliability Standards*.

All penalties received after July 1, 2017 and prior to June 30, 2018 are listed above, including the amount and date received.

Allocation Method: Penalty sanctions received have been allocated to the following statutory programs to reduce assessments: Reliability Standards Organization Registration and Certification; Compliance Monitoring and Enforcement; Reliability Assessments and Performance Analysis; Training, Education and Operator Certification; and Situation Awareness and Infrastructure Security. Penalty sanctions are allocated based upon the number of FTEs in the Program divided by the aggregate total FTEs in the Programs receive the allocation.

Table B-3 lists the budget for Supplemental Funding.

Outside Funding Breakdown By Program (Excluding Penalty Sanction)	2018 Budget	2018 Projection	2019 Budget	Variance 2019 Budget v 2018 Budget
Compliance Monitoring, Enforcement & Org. Registration				
Other	\$ -	\$ 1,326,485	\$ -	\$ -
Total	<u>\$ -</u>	<u>\$ 1,326,485</u>	<u>\$ -</u>	<u>\$ -</u>
Reliability Assessment and Performance Analysis				
Other		195,956		
Total	<u>\$ -</u>	<u>\$ 195,956</u>	<u>\$ -</u>	<u>\$ -</u>
Training and Education				
Testing Fees and Certificate Renewals	\$ -	\$ -	\$ -	-
CEH Fees	-	-	-	-
Workshops	-	-	-	-
Other		(20,418)		
Total	<u>\$ -</u>	<u>\$ (20,418)</u>	<u>\$ -</u>	<u>\$ -</u>
Situation Awareness and Infrastructure Security				
FIST Royalties	\$ -	\$ -	\$ -	\$ -
TSIN Fees				
Other		(3,209)		
Total	<u>\$ -</u>	<u>\$ (3,209)</u>	<u>\$ -</u>	<u>\$ -</u>
General and Administrative				
Interest Income	\$ -	\$ -	\$ -	\$ -
Other				
Total	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>
Total Outside Funding	<u>\$ -</u>	<u>\$ 1,498,815</u>	<u>\$ -</u>	<u>\$ -</u>

Table B-3. Supplemental Funding

Explanation of Significant Variances – 2019 Budget versus 2018 Budget

MRO does not earn interest income. The general banking account offsets the bank charges with any earned interest.

The 2018 Projection of Supplemental Funding of \$1,498,815 represents estimated transitional funding from SPP RE assessments for the SPP RE dissolution transition; this funding is projected to be approximately equal to the additional transition-related costs in 2018 in the statutory programs as shown above.

Table B-4 summarizes Personnel Expenses.

Personnel Expenses	2018 Budget	2018 Projection	2019 Budget	Variance 2019 Budget v 2018 Budget	Variance %
Total Salaries	\$ 6,250,448	\$ 6,806,044	\$ 8,386,511	\$ 2,136,063	34.2%
Total Payroll Taxes	391,324	426,108	539,356	148,032	37.8%
Total Benefits	663,221	722,172	928,884	265,663	40.1%
Total Retirement	1,259,803	1,371,787	1,714,916	455,113	36.1%
Total Personnel Costs	\$ 8,564,796	\$ 9,326,111	\$ 11,569,667	\$ 3,004,871	35.1%
FTEs	45.00	49.00	59.00	14.00	31.1%
Cost per FTE					
Salaries	\$ 138,899	\$ 138,899	\$ 142,144	3,245	2.3%
Payroll Taxes	8,696	8,696	9,142	446	5.1%
Benefits	14,738	14,738	15,744	1,006	6.8%
Retirement	27,996	27,996	29,066	1,071	3.8%
Total Cost per FTE	\$ 190,329	\$ 190,329	\$ 196,096	\$ 5,767	3.0%

Table B-4. Personnel Expenses

Explanation of Significant Variances – 2019 Budget versus 2018 Budget

Personnel Expenses (Increase \$3m, 35.1%)

The following assumptions were used to determine the 2019 MRO budget:

- Total Personnel expenses were increased to include the addition of 14 FTEs to support the integration of entities previously registered in the SPP RE and to create an Infrastructure Security department.
- Salaries increase 3 percent for salaries plus promotions.
- Benefits increase 6 percent.

Table B-5 lists the budget for Meeting Expenses.

Meeting Expenses	2018 Budget	2018 Projection	2019 Budget	Variance 2019 Budget v 2018 Budget	Variance %
Meeting Expenses	\$ 93,950	\$ 93,950	\$ 145,850	\$ 51,900	55.2%
Travel	655,430	\$ 700,430	905,314	249,884	38.1%
Conference Calls	-	-	-	-	
Total Meeting Expenses	\$ 749,380	\$ 794,380	\$ 1,051,164	\$ 301,784	40.3%

Table B-5. Meeting Expenses

Explanation of Significant Variances – 2019 Budget versus 2018 Budget

Meeting Expenses (Increase \$52k, 55.2%)

Budgeted meeting expenses increased to include additional meetings and outreach efforts due to the transition of the 98 SPP RE registered entities into the MRO Region.

Travel Expenses (Increase \$250k, 38.1%)

The increase in travel reflects an increase in the number of on-site audits for 2019 and an increased need for additional outreach and training due to the transition of the 98 SPP RE registered entities into the MRO Region. Additionally, reimbursement for stakeholder participant travel expenses will increase.

Table B-6 lists the budget for Consultants and Contracts.

Consultants	2018 Budget	2018 Projection	2019 Budget	Variance 2019 Budget v 2018 Budget	Variance %
Consultants					
Reliability Standards and Organization Registration and Certification	\$ -	\$ -	\$ -	\$ -	
Compliance	3,000	103,000	403,000	400,000	13333.3%
Reliability Assessment and Performance Analysis (Alert)	-	-	-	-	
Event Analysis	-	-	-	-	
Training and Education	-	-	-	-	
Situation Awareness and Infrastructure Security	-	-	-	-	
Committee and Member Forums	-	-	-	-	
General and Administrative	32,000	32,000	32,000	-	0.0%
Legal and Regulatory	-	-	-	-	
Information Technology	197,000	197,000	191,000	(6,000)	-3.0%
Human Resources	-	-	-	-	
Accounting and Finance	-	-	22,000	22,000	
Consultants Total	\$ 232,000	\$ 332,000	\$ 648,000	\$ 416,000	179.3%

Contracts	2018 Budget	2018 Projection	2019 Budget	Variance 2019 Budget v 2018 Budget	Variance %
-----------	-------------	-----------------	-------------	--	---------------

Contracts					
Outsource Compliance Information Tracking Applications				-	
Subtotal - Compliance and Organization Registration and Certification Contracts	\$ 92,000	\$ 92,000	\$ 100,000	8,000	8.7%
	\$ 92,000	\$ 92,000	\$ 100,000	8,000	8.7%
Model Series Development (MRO's portion of expenses of the MMWG/ERAG)	\$ 28,500	\$ 28,500	\$ 66,300	37,800	132.6%
Model Building	-	-	-	-	
PTI Software	15,100	15,100	15,100	-	0.0%
Proposed Frequency Response Study	8,700	8,700	-	(8,700)	-100.0%
Subtotal - Reliability Assessments Contracts	\$ 52,300	\$ 52,300	\$ 81,400	\$ 29,100	55.6%

Absolute	-	-	2,000	2,000	
Adobe	-	-	12,000	12,000	
Antivirus	4,000	4,000	4,000	-	0.0%
AV Maintenance	12,000	12,000	4,000	(8,000)	-66.7%
Barracuda	1,800	1,800	1,800	-	0.0%
Blackberry	-	-	3,600	3,600	
Budget Maestro	800	800	800	-	0.0%
Cisco	7,800	7,800	15,000	7,200	92.3%
Cisco Amp	6,000	6,000	-	(6,000)	-100.0%
Comodo-Certificates	-	-	1,500	1,500	
Crisp	-	-	20,000	20,000	
EFT Maintenance	7,700	7,700	7,700	-	0.0%
Fusemail	-	-	2,000	2,000	
Great Plains	4,000	4,000	4,000	-	0.0%
Impreva	3,200	3,200	3,200	-	0.0%
Illusive	-	-	12,000	12,000	
KwikTag	-	-	7,000	7,000	
Kwizcom	-	-	1,000	1,000	
Lansweeper	-	-	500	500	
Load Balancer Support	5,900	5,900	-	(5,900)	-100.0%
Lync Monitoring	14,400	14,400	14,400	-	0.0%
Lyrus	1,400	1,400	1,400	-	0.0%
Microsoft	-	-	25,000	25,000	
Misc Items	4,710	4,710	2,550	(2,160)	-45.9%
Multi factor	6,000	6,000	7,200	1,200	20.0%
Nessus Mgr - vulnerability scanning software	-	-	5,000	5,000	
Network Monitor	2,650	2,650	800	(1,850)	-69.8%
NP View	-	-	2,000	2,000	
PhishMe	10,000	10,000	7,500	(2,500)	-25.0%
Planning Pod	-	-	750	750	
Remote Desktop	-	-	5,000	5,000	
SmartPhone Maintenance	2,000	2,000	-	(2,000)	-100.0%
Somus HW Support	2,500	2,500	2,500	-	0.0%
Symantec Maintenance	2,000	2,000	-	(2,000)	-100.0%
Thycotic	-	-	1,000	1,000	
Varonis File Maintenance	6,000	6,000	6,000	-	0.0%
VMWare Support	17,000	17,000	17,000	-	0.0%
Subtotal - Information Technology Contracts	\$ 121,860	\$ 121,860	\$ 200,200	\$ 78,340	64.3%

401K / 457b, 457f 3rd Party Administrator	-	-	-	-	
FSA 3rd Party Administrator	2,707	2,707	3,700	993	36.7%
Transportation 3rd Party Administrator	3,125	3,125	4,200	1,075	34.4%
Benefits 3rd Party Administrator	4,135	4,135	4,510	375	9.1%
Payroll 3rd Party Administrator	21,000	21,000	28,000	7,000	33.3%
HR-Employment Costs	6,000	6,000	30,000	24,000	400.0%
Subtotal - HR and Finance Contracts	\$ 36,967	\$ 36,967	\$ 70,410	\$ 33,443	90.5%

Contracts Total	\$ 303,127	\$ 303,127	\$ 452,010	\$ 148,883	49.1%
------------------------	-------------------	-------------------	-------------------	-------------------	--------------

Total Consulting and Contracts	\$ 535,127	\$ 635,127	\$ 1,100,010	\$ 564,883	105.6%
---------------------------------------	-------------------	-------------------	---------------------	-------------------	---------------

Table B-6. Consultants and Contracts

Explanation of Significant Variances – 2019 Budget versus 2018 Budget**Consultants for Compliance Monitoring and Enforcement (Increase \$400k, 13333.3%)**

The \$400k increase is for consultant support in the event that MRO's number of FTEs is insufficient to handle the increased CMEP workload resulting from the transition of 98 additional registered entities from SPP RE to MRO.

Contracts for MMWG/ERAG (Increase \$38k, 132.6%)

The increase in contracts in Reliability Assessment provides for MRO's portion of the MMWG/ERAG's Model Series Development for Model Building.

IT Consultants and Contracts (Increase \$78k, 64.3%)

Cybersecurity is being enhanced on-site based on NERC's initiatives. The Contracts expense increase is due to growth in the number of FTEs.

HR Consultants and Contracts (Increase \$33k, 90.5%)

The increase is due to the need for additional outside resources to support FTE growth.

In anticipation of MRO's change to a 50+ employer, new compliance regulations will apply. HR has engaged a few legal and benefit consultants to help guide staff through the change and ensure compliance. MRO also anticipates legal counsel will address the recognition and/or adoption of Arkansas state laws for employees that will reside in Arkansas.

Table B-7 lists the budget for Office Rent.

Office Rent	2018 Budget	2018 Projection	2019 Budget	Variance 2019 Budget v 2018 Budget	Variance %
Office Rent	\$ 718,700	\$ 718,700	\$ 724,000	\$ 5,300	0.7%
Utilities	7,000	7,000	7,500	500	7.1%
Maintenance	8,000	8,000	12,000	4,000	50.0%
Total Office Rent	\$ 733,700	\$ 733,700	\$ 743,500	\$ 9,800	1.3%

Table B-7. Office Rent

Explanation of Significant Variances – 2019 Budget versus 2018 Budget

There are no significant variances.

Table B-8 lists the budget for Office Costs.

Office Costs	2018 Budget	2018 Projection	2019 Budget	Variance 2019 Budget v 2018 Budget	Variance %
Phone Service					
Data Circuit (qmoe)	\$ 60,000	\$ 60,000	\$ 60,000	\$ -	0.0%
Webex	7,500	7,500	11,000	3,500	46.7%
Voice Circuits	18,000	18,000	18,000	-	0.0%
Business Cable	2,500	2,500	2,500	-	0.0%
Disaster Recovery Site	19,000	19,000	19,000	-	0.0%
Internet/Cell	43,988	43,988	56,288	12,300	28.0%
Office Supplies	33,000	33,000	50,000	17,000	51.5%
Employee Member Events	18,500	18,500	36,000	17,500	94.6%
Employee Related Expense (Drug Testing, Finder Fees Etc)	16,500	16,500	35,000	18,500	112.1%
Computer Supplies and Maintenance	121,000	121,000	163,500	42,500	35.1%
Publications & Subscriptions	6,175	6,175	6,675	500	8.1%
Professional Dues	16,900	16,900	18,800	1,900	11.2%
Postage	2,700	2,700	6,200	3,500	129.6%
Temporary Services	-	-	-	-	
Finance-Filing/Reg Fees	3,000	3,000	6,000	3,000	100.0%
Equipment Repair/Service Contracts	12,700	12,700	27,700	15,000	118.1%
Bank Charges	21,000	21,000	27,000	6,000	28.6%
Presentation & Publicity & Supplies Promotional	5,000	5,000	15,000	10,000	200.0%
Departmental Functional Training	161,550	161,550	209,350	47,800	29.6%
Insurance Expense	59,000	59,000	90,000	31,000	52.5%
Transitional Costs		340,000	-	-	
Total Office Costs	\$ 628,013	\$ 968,013	\$ 858,013	\$ 230,000	36.6%

Table B-8. Office Costs

Explanation of Significant Variances – 2019 Budget versus 2018 Budget (Increase \$230k, 36.6%)

Office costs have increased largely due to the addition of the 14 FTEs, specifically for Department Functional Training (increase \$48k, 29.6 percent) and Computer Supplies and Maintenance (Increase \$43k, 35.1 percent).

Insurance expenses have increased to address adequate insurance coverages in the areas of worker's compensation and professional liability, property, travel/accident, and benefit plans. These changes are mainly due to the addition of 14 FTEs.

Table B-9 lists the budget for Professional Services.

Professional Services	2018 Budget	2018 Projection	2019 Budget	Variance 2019 Budget v 2018 Budget	Variance %
Independent Director Fees	\$ 120,000	\$ 120,000	\$ 276,000	\$ 156,000	130.0%
Independent Director Travel Reimbursement	5,050	5,050	27,000	21,950	434.7%
Outside Legal	50,000	137,500	50,000	-	0.0%
Accounting and Auditing Fees	29,500	29,500	32,500	3,000	10.2%
Actuarial Fees	25,000	25,000	27,500	2,500	10.0%
Total Services	\$ 229,550	\$ 317,050	\$ 413,000	\$ 183,450	79.9%

Table B-9. Professional Services

Explanation of Significant Variances – 2019 Budget versus 2018 Budget

Professional Services (Increase \$183k, 79.9%)

In 2019 professional services increase to accommodate additional Independent Directors and their reimbursable travel.

Table B-10 lists the budget for Miscellaneous.

Miscellaneous Expenses	2018 Budget	2018 Projection	2019 Budget	Variance 2019 Budget v 2018 Budget	Variance %
	\$ -	\$ -	\$ -	\$ -	-
					-
					-
Total Miscellaneous Expenses	\$ -	\$ -	\$ -	\$ -	0.0%

Table B-10. Miscellaneous

Explanation of Significant Variances – 2019 Budget versus 2018 Budget

MRO has not budgeted any Miscellaneous Expenses in 2018 or 2019.

Table B-11 lists the budget for other Non-Operating Expenses.

Other Non-Operating Expenses	2018 Budget	2018 Projection	2019 Budget	Variance 2019 Budget v 2018 Budget	Variance %
Interest Expense	\$ -	\$ -	\$ -	\$ -	-
Line of Credit Payment		-			-
Office Relocation	-	-	-		-
Total Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	0.0%

Table B-11. Other Non-Operating Expenses

Explanation of Significant Variances – 2019 Budget versus 2018 Budget

MRO has not budgeted any Non-Operating Expenses in 2018 or 2019.

Table B-12 lists the budget for Fixed Assets.

Fixed Assets	2018 Budget	2018 Projection	2019 Budget	Variance 2019 Budget v 2018 Budget	Variance %
Depreciation	\$ (578,000)	\$ (578,000)	\$ (626,000)	\$ (48,000)	8.3%
Computer Equipment	270,000	315,000	245,000	(25,000)	-9.3%
Capitalized Software	16,170	16,170		(16,170)	-100.0%
Furniture and Equipment	-	60,000	-	-	
Leasehold Improvements	-	60,000	-	-	
Total Change in Fixed Assets	\$ (291,830)	\$ (126,830)	\$ (381,000)	\$ (89,170)	30.6%

Table B-12. Fixed Assets

Explanation of Significant Variances – 2019 Budget versus 2018 Budget

Capitalized Software (Decrease \$16k, 100%)

There is no anticipated need for capitalized software in 2019.

Table B-13 compares the 2019 budget with projections for 2020-2021.

Statement of Activities, Fixed Assets Expenditures and Change in Working Capital 2020 and 2021 Projections							
	2019 Budget	2020 Projection	\$ Change 19 v 20	% Change 19 v 20	2021 Projection	\$ Change 20 v 21	% Change 20 v 21
Funding							
ERO Funding							
NERC Assessments	\$ 15,471,669	\$ 15,935,819		3.00%	\$ 16,413,893	\$ 478,075	2.9%
Penalty Sanctions	59,253	-		-100.00%	-	-	
Total NERC Funding	\$ 15,530,922	\$ 15,935,819	\$ 404,897	2.6%	\$ 16,413,893	\$ 478,075	2.9%
Membership Dues	-	-		-	-	-	
Testing Fees	-	-		-	-	-	
Services & Software	-	-		-	-	-	
Workshops	-	-		-	-	-	
Interest	-	-		-	-	-	
Miscellaneous	-	-		-	-	-	
Total Funding (A)	\$ 15,530,922	\$ 15,935,819	\$ 404,897	2.6%	\$ 16,413,893	\$ 478,075	3.0%
Expenses							
Personnel Expenses							
Salaries	\$ 8,386,511	\$ 8,638,106	\$ 251,595	3.0%	\$ 8,897,250	\$ 259,143	3.0%
Payroll Taxes	539,356	555,537	16,181	3.0%	572,203	16,666	3.0%
Benefits	928,884	956,751	27,867	3.0%	985,453	28,703	3.0%
Retirement Costs	1,714,916	1,766,363	51,447	3.0%	1,819,354	52,991	3.0%
Total Personnel Expenses	\$ 11,569,667	\$ 11,916,757	\$ 347,090	3.0%	\$ 12,274,260	\$ 357,503	3.0%
Meeting Expenses							
Meetings	\$ 145,850	\$ 150,226	\$ 4,376	3.0%	\$ 154,732	\$ 4,507	3.0%
Travel	905,314	932,473	27,159	3.0%	960,448	27,974	3.0%
Conference Calls	-	-		-	-	-	
Total Meeting Expenses	\$ 1,051,164	\$ 1,082,699	\$ 31,535	3.0%	\$ 1,115,180	\$ 32,481	3.0%
Operating Expenses							
Consultants & Contracts	\$ 1,100,010	\$ 1,133,010	\$ 33,000	3.0%	\$ 1,167,001	\$ 33,990	3.0%
Office Rent	743,500	765,805	22,305	3.0%	788,779	22,974	3.0%
Office Costs	858,013	883,753	25,740	3.0%	910,266	26,513	3.0%
Professional Services	413,000	425,390	12,390	3.0%	438,152	12,762	3.0%
Miscellaneous	-	-		-	-	-	
Depreciation	626,000	644,780	18,780	3.0%	664,123	19,343	3.0%
Total Operating Expenses	\$ 3,740,523	\$ 3,852,739	\$ 112,216	3.0%	\$ 3,968,321	\$ 115,582	3.0%
Total Direct Expenses	\$ 16,361,354	\$ 16,852,195	\$ 490,841	3.0%	\$ 17,357,760	\$ 505,566	3.0%
Indirect Expenses	\$ -	\$ -			\$ -	\$ -	
Other Non-Operating Expenses	\$ -	\$ -			\$ -	\$ -	
Total Expenses (B)	\$ 16,361,354	\$ 16,852,195	\$ 490,841	3.0%	\$ 17,357,760	\$ 505,566	3.0%
Change in Assets	\$ (830,432)	\$ (916,376)	\$ (85,944)	10.3%	\$ (943,867)	\$ (27,491)	3.0%
Fixed Assets							
Depreciation	\$ (626,000)	\$ (644,780)	\$ (18,780)	3.0%	\$ (664,123)	\$ (19,343)	3.0%
Computer & Software CapEx	245,000	252,350	7,350	3.0%	259,921	7,571	3.0%
Furniture & Fixtures CapEx	-	-		-	-	-	
Equipment CapEx	-	-		-	-	-	
Leasehold Improvements	-	-		-	-	-	
Allocation of Fixed Assets							
Inc(Dec) in Fixed Assets (C)	\$ (381,000)	\$ (392,430)	\$ (11,430)	3.0%	\$ (404,203)	\$ (27,491)	0.0%
TOTAL BUDGET (=B + C)	\$ 15,980,354	\$ 16,459,765	\$ 479,411	3.0%	\$ 16,953,558	\$ 493,793	3.0%
TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)	\$ (449,432)	\$ (523,946)	\$ (74,514)	16.6%	\$ -	\$ -	3.0%
FTEs	59.00	59.00	-		59.00	-	

Table B-13. Budget 2019 Compared with 2020-2021 Projections

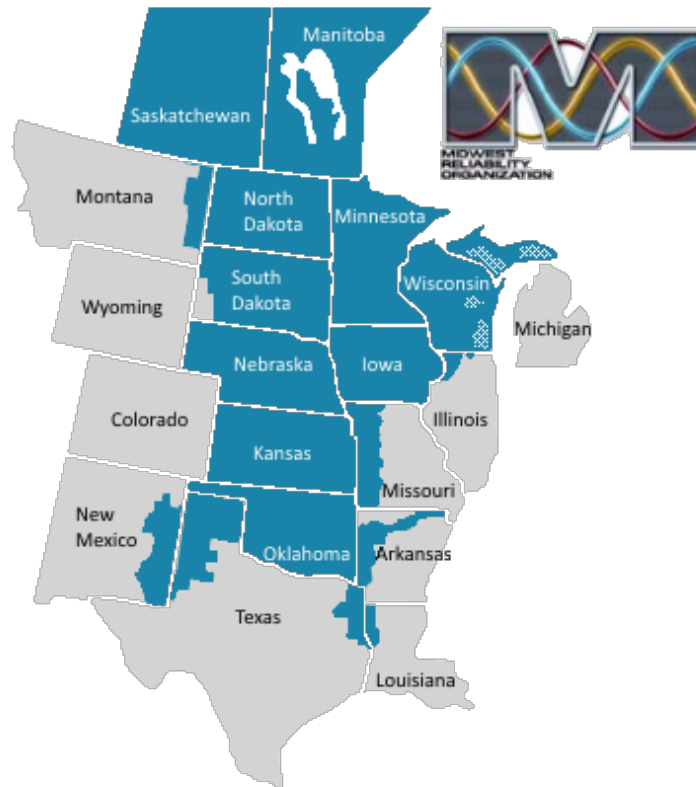
Explanation of 2019, 2020, 2021 Projections

At this time, MRO does not anticipate significant changes in program areas for the next three years.

- FTEs remain flat
- Three percent escalation rate applied to expense categories
- Total budget increase of \$479k in 2020
- Total budget increase of \$494k in 2021
- Zero penalties budgeted

Section C – Non-Statutory Activities

2019 Business Plan and Budget



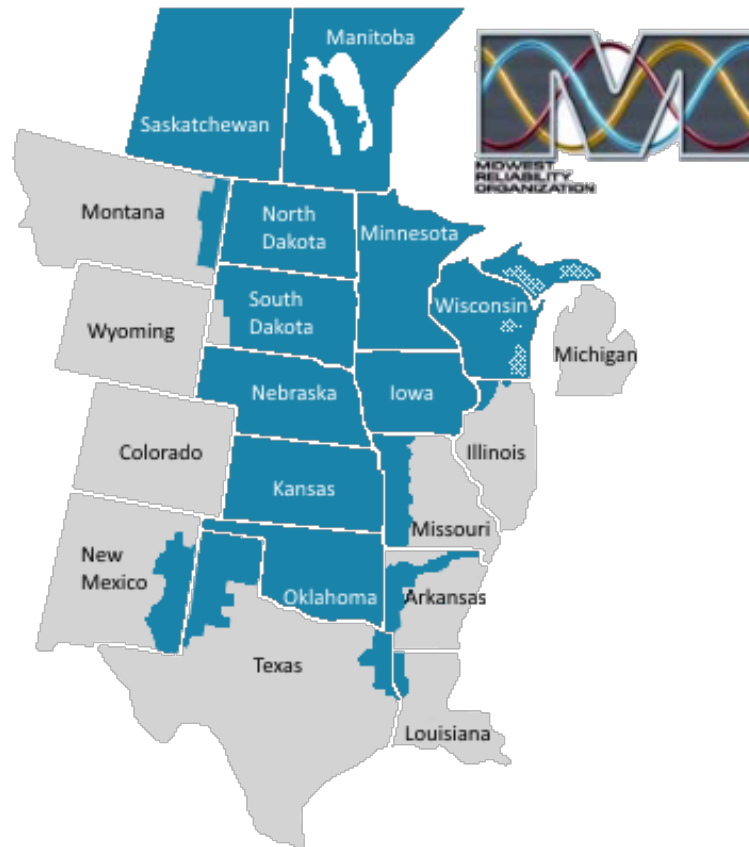
Section C – Non-Statutory Activities

2019 Non-Statutory Business Plan and Budget

MRO has no non-statutory activities.

Section D – Additional Consolidated Financial Statements

2019 Business Plan and Budget



Section D – Additional Consolidated Financial Statements

2019 Consolidated Statement of Activities by Program, Statutory and Non-Statutory

Functions in Delegation Agreement																
Statement of Activities and Capital Expenditures by Program	Total	Statutory Total	Non-Statutory Total	Statutory Total	Reliability Standards and Organization Registration and Certification (Section 300 & 500)	Compliance (Section 400)	Reliability Assessment and Performance Analysis (Section 800)	Training and Education (Section 600& 900)	Situation Awareness and Infrastructure Security (Section 1000)	Committee and Member Forums	General and Administrative	Legal and Regulatory	Information Technology	Human Resources	Accounting and Finance	
Funding																
ERO Funding																
NERC Assessments	15,471,669	15,471,669	-	15,471,669	654,899	10,723,591	2,944,741	894,593	703,278		(449,432)					
Penalty Sanctions	59,253	59,253	-	59,253	2,331	40,118	10,330	3,200	3,274							
Total NERC Funding	15,530,922	15,530,922	-	15,530,922	657,230	10,763,709	2,955,071	897,792	706,552		(449,432)					
Membership Dues	-	-	-	-	-	-	-	-	-							
Testing Fees	-	-	-	-	-	-	-	-	-							
Services & Software	-	-	-	-	-	-	-	-	-							
Workshops	-	-	-	-	-	-	-	-	-							
Interest	-	-	-	-	-	-	-	-	-							
Miscellaneous	-	-	-	-	-	-	-	-	-							
Total Funding (A)	15,530,922	15,530,922	-	15,530,922	657,230	10,763,709	2,955,071	897,792	706,552		(449,432)					
Expenses																
Personnel Expenses																
Salaries	8,386,511	8,386,511	-	8,386,511	275,583	4,696,697	1,252,798	357,617	230,429		582,342	211,570	359,608	-	419,867	
Payroll Taxes	539,356	539,356	-	539,356	17,361	309,054	83,361	22,481	15,160		26,054	9,820	28,021	-	28,044	
Benefits	928,884	928,884	-	928,884	29,628	504,160	133,407	40,358	41,640		45,483	13,773	63,581	-	56,854	
Retirement Costs	1,714,916	1,714,916	-	1,714,916	61,782	895,415	302,771	71,058	63,200		115,028	39,202	68,772	-	97,688	
Total Personnel Expenses	11,569,667	11,569,667	-	11,569,667	384,354	6,405,326	1,772,337	491,514	350,429		768,907	274,365	519,982	-	602,453	
Meeting Expenses																
Meetings	145,850	145,850	-	145,850	1,400	7,500	7,500	66,000	1,450		60,000	-	-	-	2,000	
Travel	905,314	905,314	-	905,314	68,300	284,314	203,400	69,600	63,400		171,300	19,000	10,000	-	16,000	
Conference Calls	-	-	-	-	-	-	-	-	-		-	-	-	-	-	
Total Meeting Expenses	1,051,164	1,051,164	-	1,051,164	69,700	291,814	210,900	135,600	64,850		231,300	19,000	10,000	-	18,000	
Operating Expenses																
Consultants & Contracts	1,100,010	1,100,010	-	1,100,010	-	503,000	81,400	-	-		32,000	-	391,200	-	92,410	
Office Rent	743,500	743,500	-	743,500	-	-	-	-	-		-	-	-	-	743,500	
Office Costs	858,013	858,013	-	858,013	5,938	169,600	16,500	-	14,300		43,500	4,525	329,400	-	274,250	
Professional Services	413,000	413,000	-	413,000	-	-	-	-	-		-	353,000	-	-	60,000	
Miscellaneous	-	-	-	-	-	-	-	-	-		-	-	-	-	-	
Depreciation	626,000	626,000	-	626,000	-	-	-	-	-		-	-	-	-	626,000	
Total Operating Expenses	3,740,523	3,740,523	-	3,740,523	5,938	672,600	97,900	-	14,300		75,500	357,525	1,346,600	-	1,170,160	
Total Direct Expenses	16,361,354	16,361,354	-	16,361,354	459,992	7,369,740	2,081,137	627,114	429,579		1,075,707	650,890	1,876,582	-	1,790,613	
Indirect Expenses	-	-	-	-	212,230	3,651,929	940,358	291,251	298,025		(1,075,707)	(650,890)	(1,876,582)		(1,790,613)	
Other Non-Operating Expenses	-	-	-	-	-	-	-	-	-		-	-	-	-	-	
Total Expenses (B)	16,361,354	16,361,354	-	16,361,354	672,222	11,021,669	3,021,495	918,365	727,604		-	-	-	-	-	
Change in Assets	(830,432)	(830,432)	-	(830,432)	(14,991)	(257,960)	(66,424)	(20,573)	(21,051)		(449,432)	-	-	-	-	
Fixed Assets																
Depreciation	(626,000)	(626,000)	-	(626,000)	-	-	-	-	-		-	-	(626,000)	-	-	
Computer & Software CapEx	245,000	245,000	-	245,000	-	-	-	-	-		-	-	245,000	-	-	
Furniture & Fixtures CapEx	-	-	-	-	-	-	-	-	-		-	-	-	-	-	
Equipment CapEx	-	-	-	-	-	-	-	-	-		-	-	-	-	-	
Leasehold Improvements	-	-	-	-	-	-	-	-	-		-	-	-	-	-	
Allocation of Fixed Assets	(0)	(0)	-	(0)	(14,991)	(257,960)	(66,424)	(20,573)	(21,051)		-	-	381,000	-	-	
Ind(Dec) in Fixed Assets (C)	(381,000)	(381,000)	-	(381,000)	(14,991)	(257,960)	(66,424)	(20,573)	(21,051)		-	-	-	-	-	
TOTAL BUDGET (-B + C)	15,980,354	15,980,354	-	15,980,354	657,230	10,763,709	2,955,071	897,792	706,552		-	-	-	-	-	
TOTAL CHANGE IN WORKING CAPITAL (-A-B-C)	(449,432)	(449,432)	-	(449,432)	-	-	0	(0)	0		(449,432)	-	-	-	-	
FTEs	59.00	59.00	-	59.00	1.88	32.35	8.33	2.58	2.64		2.84	0.86	3.97	-	3.55	
Indirect Costs Allocation	-	-	-	-	212,230	3,651,929	940,358	291,251	298,025		(1,075,707)	(650,890)	(1,876,582)		(1,790,613)	
Allocation of Fixed Assets	-	-	-	-	-	-	-	-	-		-	-	(381,000)		-	
Penalty Sanctions Allocation	-	-	-	59,253	2,331	40,118	10,330	3,200	3,274		-	-	-		-	
Interest Income Allocation	-	-	-	-	-	-	-	-	-		-	-	-		-	
Other Non-Operating Expenses	-	-	-	-	-	-	-	-	-		-	-	-		-	

Table D-1. Consolidated Statement of Activities by Program, Statutory and Non-Statutory

Statement of Financial Position

The following table provides MRO Statement of Financial Position as of these dates:

- As of December 31, 2017, per audit
- As of December 31, 2018, projected
- As of December 31, 2019, as budgeted

Statement of Financial Position 2017 Audited, 2018 Projection, and 2019 Budget			
STATUTORY			
	(Per Audit) 31-Dec-17	Projected 31-Dec-18	Budget 31-Dec-19
ASSETS			
Cash	4,029,351	4,103,426	3,300,530
Restricted Cash	174,361	27,536	-
Other Receivables	-	-	-
Prepaid expenses and other current assets	306,060	370,000	388,000
Security deposit	39,858	39,858	39,858
Restricted Cash - non-current	-	-	-
Property and equipment and capitalized software	1,524,626	1,697,796	1,316,796
Total Assets	6,074,256	6,238,616	5,045,184
LIABILITIES AND NET ASSETS			
Liabilities			
Accounts payable and accrued expenses	1,892,254	2,109,706	2,027,500
Postretirement medical benefit obligation	1,080,522	1,203,567	1,203,567
Deferred assessments - non-current	-	-	-
Deferred rent - non-current	575,437	544,488	501,761
Total Liabilities	3,548,213	3,857,761	3,732,828
Net Assets - unrestricted	2,526,043	2,380,855	1,312,356
Total Liabilities and Net Assets	6,074,256	6,238,616	5,045,184

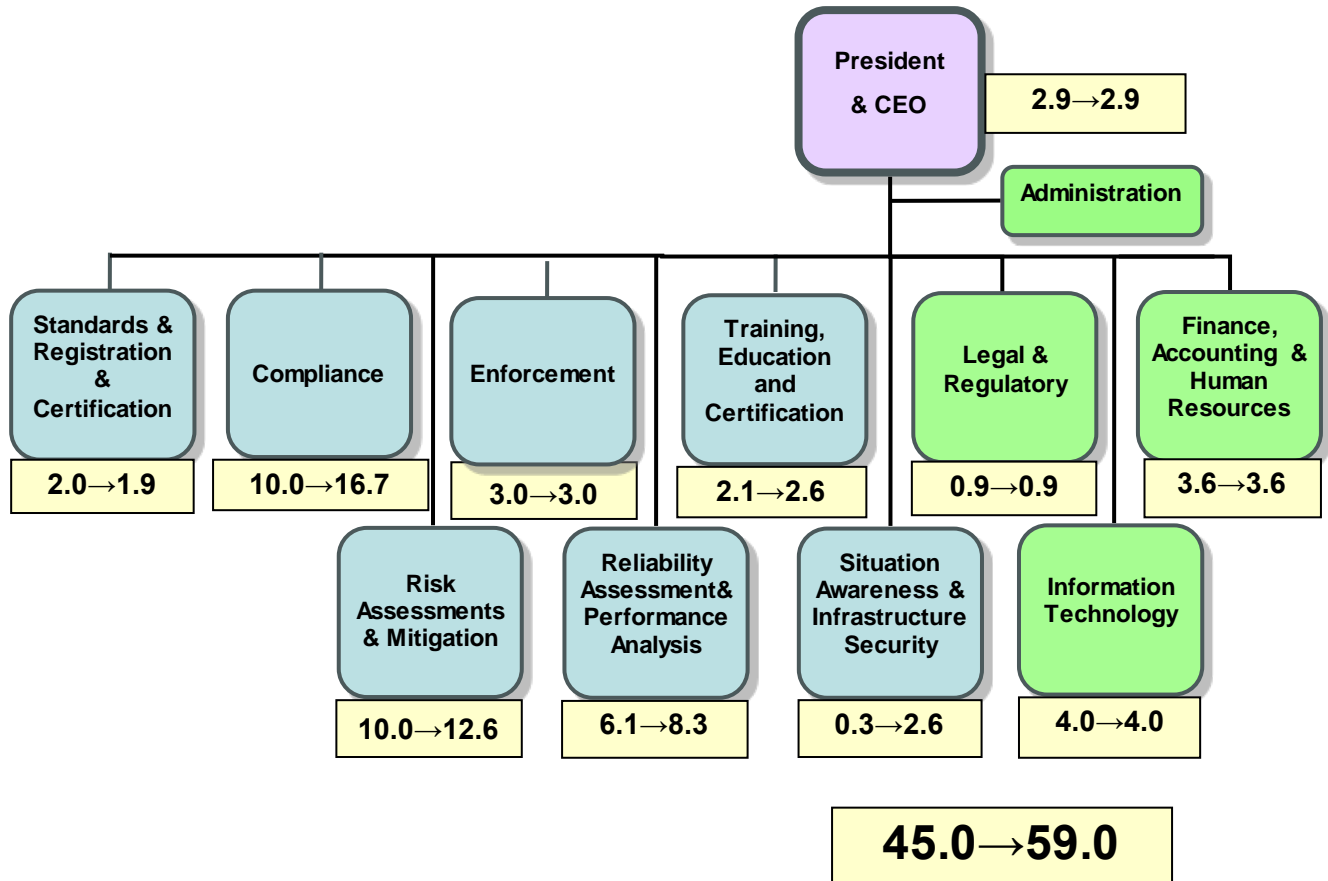
Table D-2. Statement of Financial Position, Three-Year Comparison

Appendix A

Organization Chart

The MRO Organization Chart is shown below.

2018 to 2019 Full Time Equivalent (FTE) Comparison Organization Chart



FTE Trend from 2016 to 2020

2016	2017	2018	2019 Estimate	2020 Estimate
43.0	43.0	45.0	59.0	59.0

Figure 2. Organization Chart

Appendix B

This section lists acronyms used in this document.

Acronym	Definition
BA	Balancing Authority
BES	Bulk Electric System
BPS	Bulk Power System
CAISS	Cyber Automated Information System Specialist
CHIRP	Cyber Hygiene and Internet Risk Program
CIP	Critical Infrastructure Protection
CMEP	Compliance Monitoring and Enforcement Program
C-QA	CMEP Quality Assurance Program
CRISP	Cybersecurity Risk Information Sharing Program
DADS	Demand Response Availability Data System
EEA	Energy Emergency Alert
E-ISAC	Electricity Information Sharing and Analysis Center
ERAG	Eastern Interconnection Reliability Assessment Group
ERO	Electric Reliability Organization
FAC	Finance and Audit Committee
FERC	Federal Energy Regulatory Commission
FPA	Federal Power Act
FTE	Full-Time Equivalent
GAAP	Generally Accepted Accounting Principles
GADS	Generating Availability Data System
HERO	Highly Effective Reliability Organization
HRO	Highly Reliable Organization
IRA	Inherent Risk Assessment
IT	Information Technology
MIDAS	Misoperation Information Data Analysis System
MRO	Midwest Reliability Organization
NEL	Net-Energy-for-Load
NERC	North American Electric Reliability Corporation
NSRF	NERC Standards Review Forum
OC	Operating Committee

OEA	Open Enforcement Action
PC	Planning Committee
RAM	Risk Assessment and Mitigation
RAPA	Reliability Assessment and Performance Analysis
RASA	Risk Assessment and System Analysis
RE	Regional Entity
REMG	Regional Entity Management Group
RISC	Reliability Issues Steering Committee
RRA	Regional Risk Assessment
SAC	Security Advisory Council
SAG	Standard Application Guide
SAR	Standard Authorization Request
SC	Standards Committee
SER	Standards Efficiency Review
SPP RE	Southwest Power Pool Regional Entity
TADS	Transmission Availability Data System
TOP	Transmission Operator

Appendix C

Index of Figures and Tables

List of Figures

Figure 1.	Budget by Program Area Chart.....	15
Figure 2.	Organization Chart.....	72

List of Tables

Table 1.	MRO Budget for 2018.....	3
Table 2.	Budget by Program Area.....	14
Table 3.	Total FTEs by Program Area.....	16
Table 4.	Budget and Projection Comparison, 2017 to 2018.....	17
Table A-1.	Reliability Standards Budget.....	19
Table A-2.	Reliability Standards, Organization Registration and Certification Budget Detail.....	23
Table A-3.	Compliance Monitoring and Enforcement Budget.....	24
Table A-4.	Compliance Monitoring and Enforcement Budget Detail.....	27
Table A-5.	Reliability Assessments and Performance Analysis (RAPA) Budget.....	28
Table A-6.	Reliability Assessment and Performance Analysis Budget Detail.....	32
Table A-7.	Training and Education Budget.....	33
Table A-8.	Training and Education Budget Detail.....	35
Table A-9.	Situation Awareness and Infrastructure Security Budget.....	36
Table A-10.	Situation Awareness and Infrastructure Security Budget Detail.....	39
Table A-11.	Administrative Services Budget.....	40
Table A-12.	General and Administrative Budget.....	41
Table A-13.	General and Administrative Budget Detail.....	42
Table A-14.	Legal and Regulatory Budget.....	43
Table A-15.	Legal and Regulatory Budget Detail.....	44
Table A-16.	Information Technology Budget.....	45
Table A-17.	Information Technology Budget Detail.....	46
Table A-18.	Human Resources, Finance and Accounting Budget.....	47
Table A-19.	Human Resources, Finance and Accounting Budget Detail.....	52
Table B-1.	Working Capital Reserve Analysis 2017-2018.....	51
Table B-2.	Penalty Sanctions Received.....	52
Table B-3.	Supplemental Funding.....	53
Table B-4.	Personnel Expenses.....	54
Table B-5.	Meeting Expenses.....	55
Table B-6.	Consultants and Contracts.....	56
Table B-7.	Office Rent.....	58
Table B-8.	Office Costs.....	59
Table B-9.	Professional Services.....	60
Table B-10.	Miscellaneous.....	61
Table B-11.	Other Non-Operating Expenses.....	62
Table B-12.	Fixed Assets.....	63
Table B-13.	Budget 2018 Compared with 2017-2018 Projections.....	64
Table D-1.	Consolidated Statements of Activities by Program, Statutory and Non-Statutory	70
Table D-2.	Statement of Financial Position, Three-Year Comparison.....	71

DOCKET NO. RR18-__-000

**NORTH AMERICAN ELECTRIC RELIABILITY
CORPORATION**

2019 BUSINESS PLAN AND BUDGET FILING

ATTACHMENT 5

NORTHEAST POWER COORDINATING COUNCIL, INC.

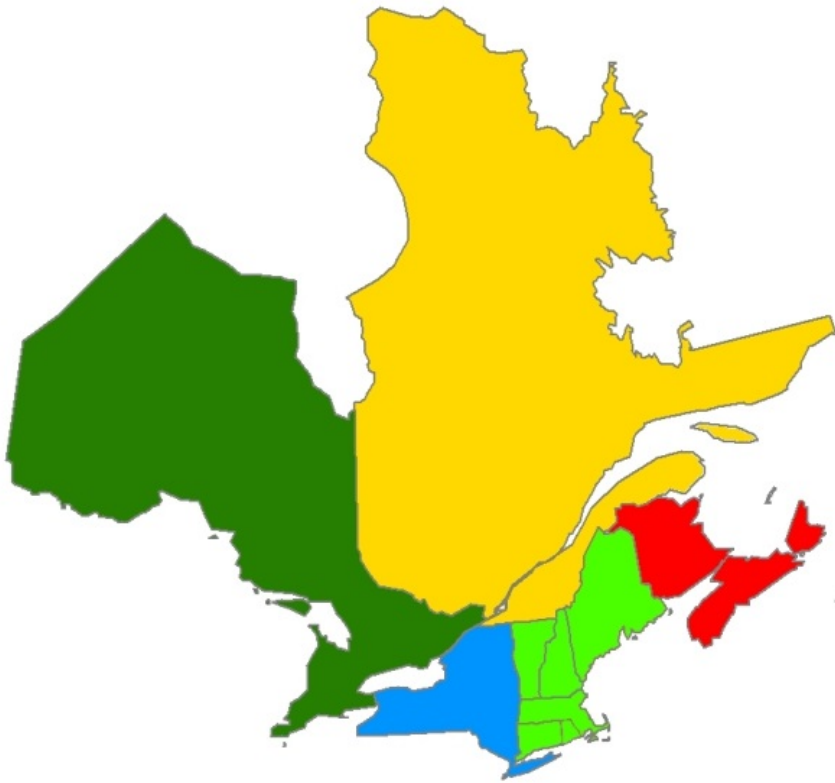
PROPOSED 2019 BUSINESS PLAN AND BUDGET



NORTHEAST POWER COORDINATING COUNCIL, INC.
1040 AVE. OF THE AMERICAS, NEW YORK, NY 10018 (212) 840-1070 FAX (212) 302-2782

Northeast Power Coordinating Council, Inc. (NPCC)

2019 Business Plan and Budget



**Approved by the
NPCC Board of Directors
at its June 27, 2018 Meeting and
Resubmitted to NERC June 27, 2018**

Table of Contents

Introduction.....	3
Personnel Analysis.....	12
Section A — 2019 Regional Entity Division Business Plan and Budget.....	14
Reliability Standards Program	15
Compliance Monitoring and Enforcement and Organization Registration and Certification Program.....	20
Reliability Assessment and Performance Analysis Program.....	26
Training, Education, and Operator Certification Program.....	33
Situation Awareness and Infrastructure Security Program.....	37
Administrative Services	43
Technical Committees and Member Forums.....	45
General and Administrative	46
Legal and Regulatory.....	47
Information Technology	48
Human Resources	50
Accounting and Finance	51
Regional Entity Assessment Analysis	52
Section B — Supplemental Financial Information.....	55
Regional Entity Reserve Analysis 2018 - 2019	56
Breakdown by Statement of Activity Sections	57
Section C — 2019 Criteria Services Division Business Plan and Budget.....	64
Personnel Analysis.....	72
Criteria Services Reserve Analysis 2018 - 2019.....	73
Section D — Additional Financial Statements	74
Statement of Financial Position	75
Appendix A Staff Allocations.....	78
Appendix B Acronyms.....	80
Appendix C Index of Figures and Tables.....	82

Introduction

Total NPCC Resources				
(in whole dollars)				
	2019 Budget	U.S.	Canada	Mexico
Regional Entity Division FTEs	38.86			
Criteria Services Division FTEs	2.14			
Total FTEs	41.00			
Regional Entity Division Expenses	\$15,888,891			
Criteria Services Division Expenses	\$1,092,574			
Total Expenses	\$16,981,465			
Regional Entity Division Inc(Dec) in Fixed Assets	(\$85,000)			
Criteria Services Division Inc(Dec) in Fixed Assets	\$16,000			
Total Inc(Dec) in Fixed Assets	(\$69,000)			
Regional Entity Division Working Capital Requirement**	(\$732,980)			
Criteria Services Division Working Capital Requirement***	(\$49,707)			
Total Working Capital Requirement	(\$782,688)			
Total Regional Entity Division Funding Requirement	\$15,070,911			
Total Criteria Services Division Funding Requirement	\$1,058,866			
Total Funding Requirement	\$16,129,777			
Regional Entity Division Assessments	\$15,003,411	\$9,169,256	\$5,834,155	
Regional Entity Division Assessments Percentage	100%	61%	39%	
Criteria Services Division Membership Fees	\$1,058,866	\$485,758	\$573,108	
Total NPCC Assessments & Membership Fees	\$16,062,277	\$9,655,014	\$6,407,263	
NEL	605,097,000	277,590,000	327,507,000	
NEL %	100%	46%	54%	

** Refer to Table B-1 on page 56 in Section B.

*** Refer to the Reserve Analysis on page 73 in Section C.

2019 Overview of Total NPCC Resource Requirements

Due to the international nature of NPCC, the total resource requirements including both Regional Entity division and Criteria Services division are identified above. The individual divisional explanations are contained in subsequent sections.

NPCC proposes to increase its total budget and assessments by 4.6% comprising a Regional Entity increase of 4.6% and a Criteria Services division increase of 4.0%. The proposed 2019 funding requirements will be satisfied by a Regional Entity division assessment of \$15,003,411 and Criteria Services division fees of \$1,058,866, for a total of \$16,062,277. The total NPCC assessments and fees represent an increase of 4.6% compared to the 2018 total assessments and fees of \$15,360,927. NPCC believes that the Region remains an effective provider of Regional Entity and Criteria Services division functions. NPCC's corporate culture centers on consistent delivery of excellent results at a cost that is considerate of the longstanding tradition in the Northeast of affordable and reliable electricity.

Organizational Overview

Northeast Power Coordinating Council, Inc. (NPCC) is a 501(c)(6) not-for-profit corporation in the state of New York responsible for promoting and improving the reliability of the international, interconnected bulk power systems in Northeastern North America through (i) the development of Regional Reliability Standards and compliance assessment and enforcement of continent-wide and Regional Reliability Standards, coordination of system planning, design and operations, and assessment of reliability (collectively, Regional Entity activities), and (ii) the establishment of Regionally-specific criteria, and monitoring and enforcement of compliance

with such criteria (collectively, Criteria Services activities). NPCC provides the functions and services for Northeastern North America of a cross-border Regional Entity through a Regional Entity division, as well as Regionally-specific Criteria Services for Northeastern North America through a Criteria Services division. NPCC's website is www.npcc.org.

The NPCC Region covers nearly 1.2 million square miles and is populated by more than 56 million people. NPCC U.S. includes the six New England states and the state of New York. NPCC Canada includes the provinces of Ontario, Québec and the Maritime provinces of New Brunswick and Nova Scotia. In total, from a net energy for load perspective, NPCC is approximately 46% U.S. and 54% Canadian. With regard to Canada, approximately 70% of Canadian net energy for load is within the NPCC Region.

Effective January 1, 2016, NPCC executed an Amended and Restated Regional Delegation Agreement with the North American Electric Reliability Corporation (NERC) that delegates to NPCC certain responsibilities and authorities of a cross-border Regional Entity as defined by *Section 215* of the Federal Power Act in the U.S. In addition, NPCC has executed Memoranda of Understanding or Agreements with Canadian provincial regulatory and/or governmental authorities in Ontario, Québec, New Brunswick and Nova Scotia.

It is imperative that NPCC maintain its ability to carry out delegated authorities and responsibilities. NPCC has a 2019 targeted staffing level of 41 power industry professionals and support personnel. Details of the 2019 business plans and budget for each program area are included in Section A for the Regional Entity division. The 2019 Regional Entity division schedules are shown in Section B. Section C details the 2019 Criteria Services division business plan and budget.

Membership and Governance

NPCC monitors approximately 213 registered entities and some 448 functions in the Region for compliance with mandatory Reliability Standards. NPCC currently has approximately 80 members. There are two categories of membership, General and Full. The two categories distinguish between Regional Entity delegated services that are provided in support of the U.S. FERC and Canadian provincial MOUs or Agreements with regulatory and/or governmental authorities, and Criteria Services which FERC references as U.S. non-delegated activities.

General Membership is voluntary and is open to any person or entity, including any entity participating in the Registered Ballot Body of the Electric Reliability Organization (ERO) that has an interest in the reliable operation of the Northeastern North American bulk power system. General Members which are also registered entities within the NPCC Region are subject to compliance with Reliability Standards, consistent with their registration, and also receive additional services from the Regional Entity division of NPCC.

Full Membership is available to Members which are already General Members and participate in electricity markets in the Northeast. Independent system operators (ISOs), Regional transmission organizations (RTOs), Transcos and other organizations or entities that perform the Balancing Authority function operating in Northeastern North America are expected to be Full Members of NPCC. The New York State Reliability Council and any other sub-regional reliability councils which may be formed are also expected to be Full Members. Full Members are subject to compliance with Regionally-specific more stringent reliability criteria for their generation and transmission facilities on which faults or disturbances can have a significant adverse impact outside of the local area and which are identified utilizing a reliability impact-

based methodology, in addition to Reliability Standards, and receive additional services from the Criteria Services division of NPCC, which is not funded through the ERO.

Under the Criteria Services division, NPCC will seek out and evaluate for membership, entities involved in emerging technologies to assure that those entities that have an impact on Bulk Electric System reliability are included in appropriate NPCC activities.

Since January 1, 2012 NPCC is governed by a Board of Directors consisting of seven stakeholder voting sectors consisting of a maximum of two directors per sector, an independent sector consisting of two independent directors, an independent Board Chair with voting rights to preclude board deadlocks, and the President and CEO. Within NPCC, no two sectors can control and no one sector can block action. The voting sectors on the NPCC Board of Directors include:

Sector 1) Transmission Owners

Sector 2) Reliability Coordinators

Sector 3) Transmission Dependent Utilities, Distribution Companies, Load Serving Entities

Sector 4) Generator Owners

Sector 5) Marketers, Brokers and Aggregators

Sector 6) Regulators

Sector 7) Sub-Regional Reliability Councils, Customers, other Regional Entities and Interested Entities

Sector 8) Independent

A Finance and Audit Committee (FAC), a Pension Committee (PC), a Corporate Governance and Nominating Committee (CGNC), and a Management Development and Compensation Committee (MDCC) advise the Board on finance, governance, compensation and human resource matters consistent with their approved charters. The Board endorses a non-employee, Certified Public Accountant for election by the NPCC Members as Treasurer of the corporation. The Treasurer chairs the FAC and works with the Chief Operating Officer who provides oversight of the finances of the corporation. The Treasurer reports to the Board on the corporation's financial position, on FAC activities, on tax code requirements, and on independent annual audit results and accounting practices.

The Regional Standards Committee (RSC), the Compliance Committee (CC), the Reliability Coordinating Committee (RCC), and the Public Information Committee, consistent with their approved scopes, are responsible for various reliability issues. The RSC, CC and RCC also provide technical policy recommendations to the Board. All General and Full Members are eligible for representation on the technical committees.

Industry technical experts from within the membership provide valuable input to the Board through various working groups and task forces as well as the committees. The *Amended and Restated Bylaws* establish NPCC's independence from users, owners and operators of the bulk power system through the enhanced governance structure while providing fair stakeholder representation in the election of the Board of Directors and officers. The members, from each of the seven stakeholder voting sectors, vote to elect directors in their respective sector. The *Amended and Restated Bylaws* establish criteria for board service for both stakeholder and independent directors. Independent Directors are drawn from diverse backgrounds and possess a broad range of industry expertise, perspectives, experiences, skill sets and knowledge to contribute to the effective functioning of a hybrid board structure.

Compliance and enforcement activities are carried out by the NPCC compliance staff and are independent of all users, owners and operators of the international bulk electric system. Compliance activities are governed in the United States by the *Amended and Restated Regional Delegation Agreement* between NERC and NPCC, delegating portions of NERC's authority as the ERO to NPCC. NPCC compliance activities in Canada are governed by individual provincial Memorandum of Understanding (MOU) or Agreements with each province providing the unique parameters for compliance and enforcement activities for each of the provinces. An MOU between the Independent Electricity System Operator in Ontario (IESO), NERC and NPCC establishes roles and responsibilities with regard to that province. NPCC, NERC and the New Brunswick Energy and Utilities Board are parties to a MOU that sets forth reliability activities for New Brunswick. The Régie de l'énergie, NERC and NPCC executed an Agreement regarding the implementation of the Québec reliability standards compliance monitoring and enforcement program. NPCC, NERC and Nova Scotia executed a MOU that sets forth the mutual understanding of the parties in relation to the approval and implementation of NERC Reliability Standards and NPCC Regional reliability criteria for the province of Nova Scotia.

International Foundation

The Regional Entity functions and services differ according to particular regulatory backstop:

a) U.S. Foundation

The Federal Energy Regulatory Commission (FERC) certified NERC as the Electric Reliability Organization (ERO) on July 20, 2006. The ERO is responsible for developing and enforcing reliability standards within the United States. In executing part of its responsibilities, NERC delegates authority to the Regional Entities to perform certain functions through delegation agreements. Ensuring the reliability of the bulk power system in the State of New York and the six New England States was delegated from NERC to NPCC through the Amended and Restated Regional Delegation Agreement.

b) Ontario

On February 5, 2010, NERC, NPCC and the IESO amended and restated their earlier MOU, dated November 29, 2006, setting forth their mutual understanding as regards NERC's and NPCC's status in Ontario with respect to standard and criteria development, compliance enforcement, and other related matters. The IESO, whose statutory responsibilities include making and enforcing reliability standards, and making and enforcing Ontario market rules that govern the IESO-controlled grid and the wholesale electricity market, was established April 1, 1999 as the Independent Electricity Market Operator in Ontario under the *Electricity Act, 1998* (Ontario). The IESO is subject to the regulatory oversight of the Ontario Energy Board (OEB).

Among other things, the MOU recognizes that NERC and NPCC are standards authorities under the *Electricity Act, 1998* (Ontario). Additionally, under the authority of that same legislation, and as memorialized in the MOU, the NERC reliability standards and NPCC reliability criteria have effect in Ontario. However, a 2008 amendment to the *Electricity Act, 1998* (Ontario) allows the OEB to review these standards and criteria and issue orders preventing their implementation and remanding them back to NERC and NPCC.

The IESO is subject to compliance monitoring and enforcement by NPCC. The IESO is also subject to compliance monitoring and enforcement of the Ontario market rules by the IESO's Market Assessment and Compliance Division (MACD) that operates at arm's length from the IESO's business units. The MOU notes that where MACD, NERC, and NPCC engage in investigations pursuant to their respective mandates regarding compliance, MACD can request to

take the lead. Moreover, of the three, MACD is the only entity that can assess financial penalties for any Ontario market participant's or the IESO's non-compliance with Ontario market rules, which includes non-compliance with NERC standards and NPCC criteria.

The MOU provides for a peer review process to promote the common compliance and enforcement objectives of NERC/NPCC and MACD. From the perspective of NPCC and NERC, this process, in part, is meant to assure registered entities outside of Ontario that the MACD program is rigorous, thorough and reliable.

The IESO is subject to NPCC assessments of compliance, including audits, as well as NPCC remedial action directives to correct non-compliance. In the event that the IESO disagrees with NPCC's finding of a violation or associated assessment of sanctions in connection with standards and criteria, the IESO has a right to a compliance hearing with NPCC.

c) Québec

The Régie de l'énergie, NERC and NPCC are parties to the May 8, 2009 *Agreement on the Development of Electric Power Transmission Reliability Standards and of Procedures and a Program for the Monitoring of the Application of These Standards for Québec* (the 2009 Agreement). Under the terms of the 2009 Agreement, the Régie de l'énergie, which is charged with ensuring the reliability of the electric transmission in Québec, retained NPCC and NERC as experts to develop reliability standards and monitoring program procedures for the Province.

The Régie de l'énergie, NERC and NPCC are parties to the September 24, 2014 *Agreement on the Implementation of the Québec Reliability Standards Compliance Monitoring and Enforcement Program* (the 2014 Agreement). Through the 2014 Agreement, the Régie de l'énergie retains the services of NPCC to monitor and assess the compliance of registered entities in Québec with the reliability standards adopted by the Régie with respect to electric power transmission in Québec.

On April 1, 2015, the Québec Reliability Standards Compliance Monitoring and Enforcement Program ("QCMEP"), which was developed jointly by the Régie de l'énergie, NPCC and NERC, came into effect. Together, the 2014 Agreement and the QCMEP detail the procedures and program for monitoring and enforcing mandatory electric power transmission reliability standards in Québec.

The Régie de l'énergie is a public body established by the *Act respecting the Régie de l'énergie* (the Act). Pursuant to its authority under the Act, the Régie de l'énergie, through a series of decisions in 2007, designated Hydro-Québec Contrôle des mouvements d'énergie (HQCMÉ), a division of Hydro-Québec TransÉnergie, as the Reliability Coordinator for Québec. In accordance with its mandate and as recognized in the 2009 Agreement, it is this entity that is responsible for the filing with the Régie de l'énergie for approval of reliability standards in Québec. HQCMÉ has filed for the approval of certain reliability standards and the Régie de l'énergie has made certain reliability standards mandatory in Québec and is continuing proceedings to make additional reliability standards mandatory in Québec.

NPCC also conducts reliability assurance activities within Québec, including but not limited to events analysis, Reliability Assessment and Performance Analysis and compliance investigations, consistent with the *NPCC Amended and Restated Bylaws*.

d) New Brunswick

On October 1, 2013, the Electricity Act (NB) and implementing regulations (together, “NB Electricity Act”) amended how Reliability Standards are approved, monitored, and enforced in the province of New Brunswick. The NB Electricity Act designates NPCC as a compliance body and NERC as a standards body within the meaning of the NB Electricity Act. The New Brunswick Energy and Utilities Board (NBEUB) is an independent, quasi-judicial board that is responsible for regulating New Brunswick’s electricity sector under the NB Electricity Act. The NBEUB has the responsibility to adopt and enforce reliability standards in New Brunswick.

As contemplated in the NB Electricity Act, NPCC and the NBEUB entered into a Service Contract dated August 10, 2016, whereby NPCC provides CMEP and other services for the NBEUB. Additionally, the NBEUB, NPCC, and NERC entered into a Memorandum of Understanding on August 10, 2016, which describes the roles and responsibilities of the three entities and facilitates data sharing. These two documents, along with the NB Electricity Act are the governing documents with respect to conducting CMEP and other reliability related activities in New Brunswick.

With respect to the approval of reliability standards, the NB Electricity Act provides that all of the NERC Reliability Standards that were effective in New Brunswick prior to October 1, 2013 continue to be effective in New Brunswick after October 1, 2013. Additionally, the NB Power is required to file for approval, modification, or retirement of NERC Reliability Standards 60 days after a NERC Reliability Standard is approved, modified, or retired by the FERC. The NBEUB rules on the filed Reliability Standard after considering (a) the potential impact on the reliability of the bulk power system, (b) the potential cost and benefits (c) the public interest, and (d) any other factors that the NBEUB considers relevant. The Electricity Act requires the NBEUB to notify NPCC and NERC of an application by NB Power with respect to reliability standards and provide for a 60 day comment period. The NBEUB is required to approve the reliability standards if there are not substantive modifications proposed from the FERC approved NERC Reliability Standard and there were no substantive comments filed. Amendments to the reliability standard to make them compatible with New Brunswick or Canadian law are considered non-substantive. The approval of reliability standards may be subject to a hearing for several reasons, including substantive comments from NPCC or NERC.

With respect to the monitoring and enforcement of the Reliability Standards in New Brunswick, the NB Electricity Act provides for NPCC to identify entities that must register with the NBEUB in the New Brunswick specific registry. Additionally, NPCC may carry out the compliance monitoring and assessment for the NBEUB and assist and advise the enforcement for the NBEUB, including financial penalties. NPCC is also permitted to carry out or exercise any power in the implementing regulations that is specific to the NBEUB, as provided for in the Service Contract. Additionally, NPCC has the powers of an inspector, which permits NPCC to audit and spot check entities within New Brunswick.

e) Nova Scotia

Nova Scotia Power Incorporated (NSPI), NPCC and NERC are parties to a May 11, 2010 Memorandum of Understanding regarding the approval and implementation of mandatory NERC reliability standards and NPCC Regional reliability criteria. Pursuant to the MOU’s terms, NERC and NPCC filed standards and criteria with the Nova Scotia Utility and Review Board (NSUARB) for approval on June 30, 2010 and June 29, 2010, respectively. A decision from the NSUARB on both NERC and NPCC filings was rendered on July 20, 2011. Hence, the

standards and criteria are mandatory in Nova Scotia and NSPI will be subject to the NERC compliance monitoring and enforcement program, as implemented by NPCC.

NPCC will conduct compliance and enforcement activities with respect to the standards and forward any non-compliance information and recommendations to the NSUARB. The NSUARB maintains the final authority with respect to enforcement in Nova Scotia and based on the recommendations from NPCC, may determine whether a violation has occurred and, if so, what remedial measures or non-monetary penalties should be imposed.

2019 Key Goals and Key Deliverables

NERC and the Regional Entities collaborated in the development of a common operating model with complementary roles and responsibilities, an ERO Enterprise Long-term Strategy and an ERO Enterprise Operating Plan. Links to these documents, which incorporated risks identified by the Reliability Issues Steering Committee, are included in the NERC 2019 Business Plan and Budget and may be referenced by the users of this document. NPCC activities that support ERO Enterprise Goals are detailed in each of the following program area sections.

Regional Entity Division Functional Scope

NPCC's Regional Entity division functions in support of the ERO include:

- Active participation in the development of North American Reliability Standards for the bulk electric system, and as needed development of Reliability Standards applicable within the NPCC cross-border Regional Entity.
- Monitoring and enforcement of approved Reliability Standards, including the registration of responsible entities, and as needed certification of such entities.
- Assessment of the present and future reliability of the bulk power system.
- Operational coordination and situation awareness support.
- Event analysis and identifying lessons learned to improve reliability.
- Effective training and education of reliability personnel.
- Promoting the protection of critical electric infrastructure.

In recognition of the delegated compliance role of Regional Entities as an important means to enhancing reliability, NPCC has designated a significant percentage of its staff resources to compliance monitoring and enforcement. NPCC has also developed and deployed a robust set of online tools for gathering data, analysis, and tracking of compliance information to support its ability to carry out its responsibilities in a cost effective manner.

NPCC has organized the remaining staff into program areas consistent with EPOA 2005 to address the other functions listed above. These experts in operations, planning and reliability analysis assist registered entities in assessing and improving reliability. It is in support of these areas that NPCC engages the majority of industry experts on its technical committees.

2019 Overview of Regional Entity Division Cost Impacts

The proposed Regional Entity division assessment of \$15,003,411, to support the Regional Entity division budget of \$15,803,891, is an increase of 4.6% compared to the 2018 assessment of \$14,341,787.

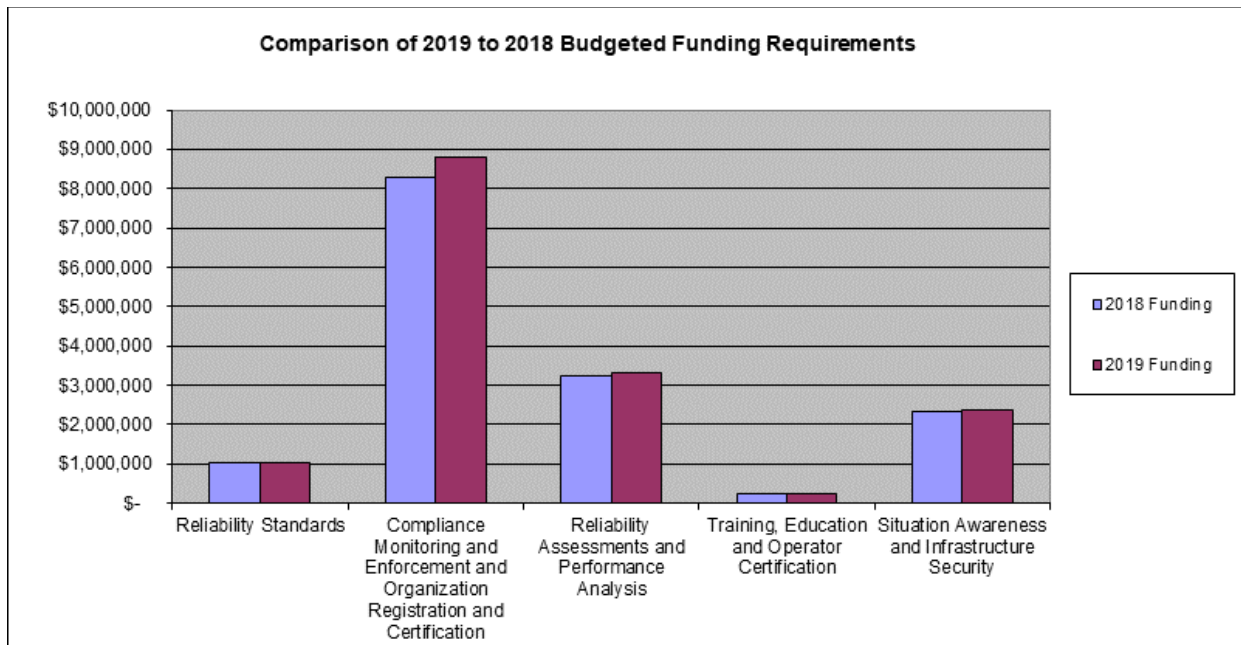
2018 Projections

Current year projections are taken into consideration in development of the budget. Expenses are currently projected to be on budget in all areas or slightly under budget. 2018 Projections reflect expectations based on the first quarter variance report. It is anticipated that projections could change throughout 2018 and would be reflected in each subsequent quarter's variance report.

Summary by Program

Program	Budget 2018	Projection 2018	Budget 2019	Variance	
				2019 Budget v 2018 Budget	Variance %
Reliability Standards	\$ 1,010,246	\$ 1,010,246	\$ 1,035,390	\$ 25,144	2.5%
Compliance Monitoring and Enforcement and Organization Registration and Certification	\$ 8,293,748	\$ 8,110,648	\$ 8,816,687	\$ 522,939	6.3%
Reliability Assessments and Performance Analysis	\$ 3,240,721	\$ 3,390,721	\$ 3,332,686	\$ 91,966	2.8%
Training, Education and Operator Certification	\$ 249,051	\$ 249,051	\$ 252,443	\$ 3,392	1.4%
Situation Awareness and Infrastructure Security	\$ 2,313,202	\$ 2,313,202	\$ 2,366,685	\$ 53,483	2.3%
Total	\$ 15,106,967	\$ 15,073,867	\$ 15,803,891	\$ 696,924	4.6%

This chart does not include allocation of working capital requirements among the Program Areas.



This chart does not include allocation of working capital requirements among the Program Areas.

Personnel Analysis

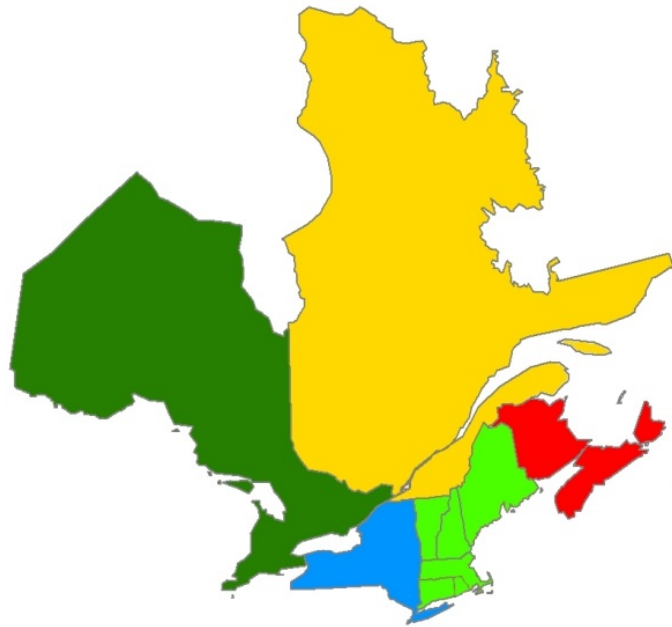
Total FTEs by Program Area	Budget 2018	Projection 2018	Direct FTEs 2019 Budget	Shared FTEs ¹ 2019 Budget	Total FTEs 2019 Budget	Change from 2018 Budget
REGIONAL ENTITY DIVISION						
Operational Programs						
Reliability Standards	1.93	1.93	1.00	0.93	1.93	0.00
Compliance Monitoring and Enforcement and Organization Registration and Certification	16.00	16.50	17.00	0.00	17.00	1.00
Training, Education, and Operator Certification	0.10	0.10	0.10	0.00	0.10	0.00
Reliability Assessment and Performance Analysis	5.83	5.33	4.90	0.93	5.83	0.00
Situation Awareness and Infrastructure Security	5.00	5.00	5.00	0.00	5.00	0.00
Total FTEs Operational Programs	28.86	28.86	28.00	1.86	29.86	1.00
Administrative Programs						
Technical Committees and Member Forums	0.50	0.50	0.50	0.00	0.50	0.00
General and Administrative	2.50	2.50	2.50	0.00	2.50	0.00
Information Technology	2.00	2.00	2.00	0.00	2.00	0.00
Legal and Regulatory	1.00	1.00	1.00	0.00	1.00	0.00
Human Resources	1.00	1.00	1.00	0.00	1.00	0.00
Accounting and Finance	1.00	1.00	2.00	0.00	2.00	1.00
Total FTEs Administrative Programs	8.00	8.00	9.00	0.00	9.00	1.00
Total FTEs	36.86	36.86	37.00	1.86	38.86	2.00

¹A shared FTE is defined as an employee who performs both Regional Entity and Criteria Services division functions.

2018 Budget and Projection and 2019 Budget Comparisons

Statement of Activities and Capital Expenditures 2018 Budget & Projection, and 2019 Budget						
REGIONAL ENTITY DIVISION						
		2018 Budget	2018 Projection	Variance ⁽²⁾ 2018 Projection v 2018 Budget Over(Under)	2019 Budget	Variance 2019 Budget v 2018 Budget Over(Under)
Funding						
ERO Funding						
	ERO Assessments	\$ 14,341,787	\$ 14,341,787	\$ -	\$ 15,003,411	\$ 661,624
	Penalty Sanctions ⁽¹⁾	75,000	75,000	-	-	(75,000)
	Total ERO Funding	\$ 14,416,787	\$ 14,416,787	\$ -	\$ 15,003,411	\$ 586,624
	Membership Dues	-	-	-	-	-
	Testing Fees	-	-	-	-	-
	Services & Software	-	-	-	-	-
	Workshops	64,000	64,000	-	67,500	3,500
	Interest	-	-	-	-	-
	Miscellaneous	-	-	-	-	-
	Total Funding (A)	\$ 14,480,787	\$ 14,480,787	\$ -	\$ 15,070,911	\$ 590,124
Expenses						
Personnel Expenses						
	Salaries	\$ 7,107,599	\$ 6,937,599	\$ (170,000)	\$ 7,332,280	\$ 224,681
	Payroll Taxes	411,440	406,440	(5,000)	449,994	38,553
	Benefits	1,476,378	1,472,378	(4,000)	1,613,078	136,700
	Retirement Costs	825,353	792,353	(33,000)	853,511	28,157
	Total Personnel Expenses	\$ 9,820,770	\$ 9,608,770	\$ (212,000)	\$ 10,248,862	\$ 428,092
	Meeting Expenses					
	Meetings	\$ 353,050	\$ 353,050	\$ -	\$ 370,750	\$ 17,700
	Travel	834,500	834,500	-	845,900	11,400
	Conference Calls	37,000	37,000	-	36,000	(1,000)
	Total Meeting Expenses	\$ 1,224,550	\$ 1,224,550	\$ -	\$ 1,252,650	\$ 28,100
	Operating Expenses					
	Consultants & Contracts	\$ 1,877,640	\$ 2,027,640	\$ 150,000	\$ 2,022,150	\$ 144,510
	Office Rent	810,700	810,700	-	820,700	10,000
	Office Costs	664,760	664,760	-	676,347	11,587
	Professional Services	960,000	960,000	-	978,000	18,000
	Computer & Equipment Leases	-	-	-	-	-
	Miscellaneous	50,000	50,000	-	51,000	1,000
	Depreciation	269,000	269,000	-	255,000	(14,000)
	Total Operating Expenses	\$ 4,632,100	\$ 4,782,100	\$ 150,000	\$ 4,803,197	\$ 171,097
	Total Direct Expenses	\$ 15,677,420	\$ 15,615,420	\$ (62,000)	\$ 16,304,709	\$ 627,289
	Indirect Expenses	\$ (416,453)	\$ (416,453)	\$ -	\$ (415,818)	\$ 635
	Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
	Total Expenses (B)	\$ 15,260,967	\$ 15,198,967	\$ (62,000)	\$ 15,888,891	\$ 627,924
	Change in Assets	\$ (780,180)	\$ (718,180)	\$ 62,000	\$ (817,980)	\$ (37,800)
	Fixed Assets					
	Depreciation	\$ (269,000)	\$ (269,000)	\$ -	\$ (255,000)	\$ 14,000
	Computer & Software CapEx	115,000	115,000	-	170,000	55,000
	Furniture & Fixtures CapEx	-	-	-	-	-
	Equipment CapEx	-	-	-	-	-
	Leasehold Improvements	-	-	-	-	-
	Allocation of Fixed Assets	0	0	-	-	-
	Inc(Dec) in Fixed Assets (C)	(154,000)	(154,000)	-	(85,000)	69,000
	TOTAL BUDGET (=B+C)	\$ 15,106,967	\$ 15,044,967	\$ (62,000)	\$ 15,803,891	\$ 696,924
	TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)	\$ (626,180)	\$ (564,180)	\$ 62,000	\$ (732,980)	\$ (106,800)
	⁽¹⁾ \$0 of penalty sanctions collected to date and prior to June 30, 2018.					
	⁽²⁾ 2018 Projections reflect expectations based on the 1st quarter statement of activities. It is anticipated that projections could change throughout 2018 and would be reflected in each subsequent quarter's statement of activities.					

Section A – Regional Entity Division 2019 Business Plan and Budget



Section A — 2019 Regional Entity Division Business Plan and Budget

Reliability Standards Program

Reliability Standards Program Resources			
(in whole dollars)			
	2018 Budget	2019 Budget	Increase (Decrease)
Total FTEs	1.93	1.93	0.00
Direct Expenses	\$647,633	\$665,870	\$18,237
Indirect Expenses	\$375,586	\$375,014	(\$572)
Other Non-Operating Expenses	\$0	\$0	\$0
Inc(Dec) in Fixed Assets	(\$12,974)	(\$5,494)	\$7,480
Total Funding Requirement	\$1,010,246	\$1,035,390	\$25,144

Program Scope and Functional Description

The NPCC Reliability Standards Program Area operates in accordance with NPCC’s filed and approved Regional Delegation Agreement and NERC Rules of Procedure Section 300. The program supports the ERO Standards Program Area roles and responsibilities, the ERO Enterprise Operating Plan and the ERO Enterprise Long-Term Strategy. NPCC’s Reliability Standards Program Area provides an efficient and effective mechanism for stakeholders to provide input and facilitate the development of, and improvement to, NERC and Regional reliability standards which are clear, responsive to reliability and security risks, practical to implement, “results based”, and are cost effective. The primary objectives of NPCC’s Reliability Standards Program Area is to support the development of ERO standards and Regional variances which establish “results-based” requirements for addressing reliability risks with due consideration given to cost. NPCC supports the ERO efforts to develop reliability standards in a timely and efficient manner and which are responsive to FERC Directives and industry risk. NERC and Regional reliability standards must ensure the bulk electric system is planned, operated, and maintained in a manner that minimizes risks of cascading failures, system separation, and instability, and also avoids damage to major equipment, is responsive to risks, or limits interruptions of bulk power supply.

At the Regional level, the standards program area develops, and maintains NPCC Regional Reliability Standards, and ERO Standards Variances for the northeast as required. In addition, the NPCC Reliability Standards Program Area provides oversight to ensure that NPCC Regional Reliability Criteria contained in the form of Directories, are developed and maintained as necessary to implement, to augment, or to facilitate compliance with NERC Reliability Standards. NPCC’s reliability criteria are not reliability standards but are mandatory and subject to enforcement as outlined in NPCC Member agreements and various tariffs, and interconnection agreements, and other executed contractual agreements. Regional Reliability Criteria may also address issues not within NERC’s statutory jurisdiction for Reliability Standards, such as resource adequacy, and conform to requirements in Section 313 of the NERC Rules of Procedure.

2019 Key Assumptions

- The number of continent-wide Reliability Standards development projects is expected to remain relatively stable, except as required to address any new FERC directives to create or modify Reliability Standards, or industry submittals of standard authorization requests.

- Continent-wide Reliability Standards projects will consist primarily of acting on recommendation of the Standards Efficiency Review project, conducting periodic reviews on existing Reliability Standards to improve their content and quality, responding to identified risks to reliability (including those that may be identified through the implementation of risk-based Compliance Monitoring and Enforcement), and addressing FERC directives that may arise. This activity will require the allocation of technical resources from several internal NERC departments (e.g., Reliability Assessment and Performance Analysis (RAPA), Reliability Risk Management, Compliance Analysis and Certification, and Compliance Assurance) and support from across the ERO Enterprise.
- During the periodic review of Reliability Standards, any associated Regional Reliability Standards will be reviewed for potential incorporation as variances or as improvements to the continent-wide requirements. Regional and NERC Reliability Standards development processes may require modification to efficiently accomplish this task. NPCC will work with NERC and other Regional Entities as necessary on projects where there is a Regional Reliability Standard/variance.
- NPCC’s Regional Reliability Standards development activity is expected to remain at a stable level, driven by requests that the Regional Entity may receive or reliability issues that are identified. Creation of variances to NERC standards to address reliability concerns or to recognize the unique topology and reliability considerations of the Northeast (i.e. Québec’s recognition of an asynchronous interconnection within NPCC’s footprint).
- The number of NERC and Regional standards interpretations is expected to remain low. However, implementation guidance requests may increase. The NPCC Reliability Standards program area will assist and facilitate support of these activities.
- Consistent with the NERC Rules of Procedure Sections 312 and 313, as continent wide standards continue to evolve, NPCC Regional Standards and Criteria will need to be continually reviewed to ensure they augment but do not add redundancy to the ERO standards.

2019 Goals and Key Deliverables

- Participate in the annual development and revision of the NERC’s three year Reliability Standards Development Plan (RSDP) through review, commenting, and other RSC activities.
- Participate in the NERC Standards Committee, as a representative of the NERC Regional Entities and NPCC Regional stakeholders to advance strategic initiatives, to measure the effectiveness and quality of standards, support ERO efforts to address outstanding FERC Directives, and provide input in the prioritization of standards development projects.
- Support further development of cost effectiveness principles using the “Cost of Risk Reduction Analysis” (CRRA) process and pilots. Continue to provide insights to NERC, based on NPCC experiences, regarding strategy for developing cost effectiveness analysis for standards and identify opportunities to identify cost of risk mitigation for the draft standards.
- Participate in the NERC Standards Efficiency Review Project phases and resulting activities.
- Participate in the development of ERO Reliability Standards specified in NERC’s three-year Reliability Standards Development Plan with the emphasis placed on reducing the amount of new FERC Directives issues by closer coordination with the Commission staff.

- Conduct thorough reviews of all NERC standards under development or revision by leveraging existing NPCC Task Forces and subject matter experts and coordinate NPCC comments for Northeastern North America.
- Participate in the Enhanced Periodic Review Standing Team’s grading efforts and coordinate and represent the Regional and interregional input.
- Assist NERC’s review of all industry “Requests for Interpretations” of standards.
- NPCC staff and Regional drafting team volunteers will participate in the drafting of ERO standards and provide support for development of improvements to standards.
- NPCC and its members will review and coordinate comments on FERC staff informal assessments of the ERO Enterprise as appropriate.
- Participate in pre-ballot reviews of ERO standards and coordinate the development of consensus recommendations of the NPCC Members to the NERC Standards Drafting Team (SDT) and provide a list of any unaddressed issues to allow the Members to cast a ballot based on regional concerns to enhance the efficiency of the ERO standards development projects.
- Review and identify issues and concerns raised in FERC NOPRs and NOIs for any and all standards related issues as appropriate.
- Educate and notify stakeholders and regulators about issues related to standards development through various means such as webinars and workshops.
- Provide outreach to industry trade groups such as the North American Generator Forum and North American Transmission Forum when requested.
- Monitor the NERC RISC activities and provide a Regional point of contact for all potential reliability related risks and gaps within the Northeast or as noted by NPCC’s stakeholders.
- Participate in and provide support to critical standards projects, such as CIP Supply Chain, Facility Ratings (IROL and SOL development), Geomagnetic Disturbances, etc.
- Identify opportunities and initiate Regional Variances to the NERC Reliability Standards as soon as possible, allowing incorporation into the continent wide standard during the development process.
- Conduct reviews of Regional Standards as necessitated by the revision and approval of any associated Continent-wide NERC reliability standards or further reliability related need.
- Conduct the development of any Québec Interconnection Wide variances to NERC continent-wide standards using the NPCC Reliability Standards Development Process.
- Identify impacts to the BES as a result of Distributed Energy Resources (DER) penetration.
- Identify opportunities to improve resilience of the BES.
- Identify and coordinate reliability issues with local governmental authorities where jurisdictional issues may exist.
- Ensure the topics addressed by the Reliability Standards align with changing industry and reliability objectives.
- Participate in reliability metrics developmental activities to identify potential measures for benchmarking of reliability and standards to determine if an adequate level of reliability is being achieved through the Enhanced Periodic Review Standing Review Team activities.
- Identify opportunities and processes for cost-effectiveness CRRA analysis activities to determine the need to revise a standard during the PR process.

-
- Identify any emerging interconnection-wide reliability issues which may need standards solutions and forward to the NERC Reliability Issues Steering Committee for their consideration.
 - Identify opportunities to increase reliability or mitigate emerging risk through the revision of standards and their associated requirements.
 - Identify any North American Electric Standards Review Board (NAESB) activities which may impact ERO standards.
 - Identify potential market related issues for Regional Standards through NPCC RSC coordination and reviews.

Based on the portion of professional/technical staff time and other resources devoted to Reliability Standards development, NPCC estimates that it will expend approximately 7% of its resources on this activity.

Resource Requirements

- No significant changes.

Reliability Standards Program

Funding sources and related expenses for the Reliability Standards section of the 2019 business plan are shown in the table below. Explanations of variances by expense category are included with the Supplemental Tables found in Section B.

Statement of Activities and Capital Expenditures 2018 Budget & Projection, and 2019 Budget						
Reliability Standards						
	2018 Budget	2018 Projection	Variance 2018 Projection v 2018 Budget Over(Under)	2019 Budget	Variance 2019 Budget v 2018 Budget Over(Under)	
Funding						
ERO Funding						
ERO Assessments	\$ 1,005,230	\$ 1,005,230	\$ -	\$ 1,035,390	\$ 30,160	
Penalty Sanctions	5,016	5,016	-	-	(5,016)	
Total ERO Funding	\$ 1,010,246	\$ 1,010,246	\$ -	\$ 1,035,390	\$ 25,144	
Membership Dues	-	-	-	-	-	
Testing Fees	-	-	-	-	-	
Services & Software	-	-	-	-	-	
Workshops	-	-	-	-	-	
Interest	-	-	-	-	-	
Miscellaneous	-	-	-	-	-	
Total Funding (A)	\$ 1,010,246	\$ 1,010,246	\$ -	\$ 1,035,390	\$ 25,144	
Expenses						
Personnel Expenses						
Salaries	\$ 377,093	\$ 377,093	\$ -	\$ 382,872	\$ 5,779	
Payroll Taxes	21,390	21,390	-	22,735	1,346	
Benefits	98,851	98,851	-	106,764	7,912	
Retirement Costs	40,299	40,299	-	41,599	1,300	
Total Personnel Expenses	\$ 537,633	\$ 537,633	\$ -	\$ 553,970	\$ 16,337	
Meeting Expenses						
Meetings	\$ 7,000	\$ 7,000	\$ -	\$ 7,000	\$ -	
Travel	93,000	93,000	-	94,900	1,900	
Conference Calls	-	-	-	-	-	
Total Meeting Expenses	\$ 100,000	\$ 100,000	\$ -	\$ 101,900	\$ 1,900	
Operating Expenses						
Consultants & Contracts	\$ 10,000	\$ 10,000	\$ -	\$ 10,000	\$ -	
Office Rent	-	-	-	-	-	
Office Costs	-	-	-	-	-	
Professional Services	-	-	-	-	-	
Computer & Equipment Leases	-	-	-	-	-	
Miscellaneous	-	-	-	-	-	
Depreciation	-	-	-	-	-	
Total Operating Expenses	\$ 10,000	\$ 10,000	\$ -	\$ 10,000	\$ -	
Total Direct Expenses	\$ 647,633	\$ 647,633	\$ -	\$ 665,870	\$ 18,237	
Indirect Expenses	\$ 375,586	\$ 375,586	\$ -	\$ 375,014	\$ (572)	
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -	
Total Expenses (B)	\$ 1,023,220	\$ 1,023,220	\$ -	\$ 1,040,884	\$ 17,664	
Change in Assets	\$ (12,974)	\$ (12,974)	\$ -	\$ (5,494)	\$ 7,480	
Fixed Assets						
Depreciation	\$ -	\$ -	\$ -	\$ -	\$ -	
Computer & Software CapEx	-	-	-	-	-	
Furniture & Fixtures CapEx	-	-	-	-	-	
Equipment CapEx	-	-	-	-	-	
Leasehold Improvements	-	-	-	-	-	
Allocation of Fixed Assets	(12,974)	(12,974)	-	(5,494)	7,480	
Inc(Dec) in Fixed Assets (C)	(12,974)	(12,974)	-	(5,494)	7,480	
TOTAL BUDGET (=B+C)	\$ 1,010,246	\$ 1,010,246	\$ -	\$ 1,035,390	\$ 25,144	
TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)	\$ (0)	\$ (0)	\$ -	\$ (0)	\$ 0	

Compliance Monitoring and Enforcement and Organization Registration and Certification Program

Compliance Monitoring and Enforcement and Organization Registration and Certification Program Resources			
(in whole dollars)			
	2018 Budget	2019 Budget	Increase (Decrease)
Total FTEs	16.00	17.00	1.00
Direct Expenses	\$5,247,634	\$5,561,849	\$314,216
Indirect Expenses	\$3,113,668	\$3,303,230	\$189,562
Other Non-Operating Expenses	\$0	\$0	\$0
Inc(Dec) in Fixed Assets	(\$67,554)	(\$48,392)	\$19,161
Total Funding Requirement	\$8,293,748	\$8,816,687	\$522,939

Program Scope and Functional Description

The Compliance Monitoring and Enforcement and Organization Registration and Certification Program (CORC) Program scope covers:

- 1) the identification, registration and certification of those entities responsible for meeting the NERC Reliability Standards and any approved Regional Standards;
- 2) the implementation of the risk-based NERC Compliance Monitoring and Enforcement Program (CMEP) in the United States, including the compliance monitoring, assessment and enforcement of NERC Reliability Standards and Regional Reliability Standards;
- 3) in accordance with the relevant memorandums of understanding (MOU's), the implementation of the risk-based NERC CMEP in Ontario and Nova Scotia, including the assessment and enforcement of NERC Reliability Standards and Regional Reliability Standards effective in those jurisdictions,
- 4) the implementation of the Québec Reliability Standards Compliance Monitoring and Enforcement Program (QCMEP), including the compliance monitoring, assessment and enforcement of NERC Reliability Standards and Regional Reliability Standards effective in Quebec, and
- 5) the implementation of the New Brunswick Compliance Monitoring and Enforcement Program (NBCMEP) in New Brunswick, including the compliance monitoring, assessment and enforcement recommendations of the NERC Reliability Standards and Regional Reliability Standards effective in New Brunswick.

Through the CORC Program, NPCC strives to be a strong enforcement authority that is objective, fair, and promotes a culture of reliability excellence through risk-informed compliance monitoring, mitigation, enforcement, and registration. To accomplish this goal, NPCC's compliance staff is divided into four sub-program areas: Compliance Implementation, Registration, and Certification; Compliance Entity Risk Assessment; Compliance Monitoring; and Compliance Enforcement.

Compliance Implementation, Registration and Certification

The Compliance Implementation and Registration sub-program area is responsible for registration and certification activities and for general compliance activities that span across the

other three sub-program areas. The Compliance Implementation and Registration sub-program area:

- Identifies and registers the BES owners, operators, and users that are required to comply with the NERC and Regional Reliability Standards,
- Conducts Certifications in accordance with the NERC ROP,
- Leads the development of the annual implementation plans (ERO Enterprise, NPCC, Quebec, New Brunswick),
- Responds to any Complaints submitted to NPCC,
- Maintains NPCC's compliance portal and compliance tracking system, and;
- Conducts outreach, training, and education as necessary to support the implementation of Reliability Standards.

Compliance Entity Risk Assessment

The Compliance Entity Risk Assessment sub-program area is responsible for assessing the inherent risk and internal controls of registered entities. The Compliance Entity Risk Assessment sub-program area:

- Conducts Inherent Risk Assessments (IRA) on registered entities,
- Conducts Internal Controls Evaluations (ICE) on volunteering registered entities,
- Assists with the development of the annual implementation plans, and;
- Provides the basis for each registered entity's Compliance Oversight Plan.

Compliance Monitoring

The Compliance Monitoring sub-program area is responsible for conducting all compliance monitoring activities. The Compliance Monitoring sub-program area is focused on the most significant risks to the BES. The Compliance Monitoring sub-program area:

- Conducts NPCC compliance monitoring activities, including audits, spot checks, and guided self-certifications,
- Incorporates the results of the IRA and ICE into its compliance monitoring process,
- Issues reports, including audit reports, spot check reports, guided self-certification reports, and;
- Implements and maintains the Critical Infrastructure Protection (CIP) Standards Technical Feasibility Exceptions process.

Compliance Enforcement

The Enforcement sub-program area is responsible for undertaking enforcement activities in accordance with risk-based approaches and conducting technical assessments of registered entities' plans and activities to mitigate noncompliance. Depending on the jurisdiction, enforcement either makes official recommendations to the appropriate regulatory authority or assists and coordinates with NERC to make such official recommendations. The Enforcement sub-program area:

- Determines the relevant facts and circumstances necessary to understand each non-compliance,
- Evaluates and assigns a risk level to each non-compliance,
- Evaluates and approves the mitigation activities or Mitigation Plan for each non-compliance,
- Assesses the relevant compliance history for each non-compliance,
- Determines the disposition method for each non-compliance, and
- Evaluates registered entities for the self-logging program.

2019 Key Assumptions and Cost Impacts

2018	Projected 2019
4 On-Site Audits	7 On-Site O&P Audits
10 On-Site CIP Audits	10 On-Site CIP Audits
30 Off-Site Audits	30 Off-Site O&P Audits
15 Off-Site CIP Audits	15 Off-Site CIP Audits
15 Spot Checks	10 Spot Checks
25 Guided self-certifications	25 Guided self-certifications
50 Inherent Risk Assessments	50 Inherent Risk Assessments
4 On-site O&P Internal Control Evaluations	7 On-site O&P Internal Control Evaluations
5 On-site CIP Internal Control Evaluations	10 On-Site CIP Internal Control Evaluations
120 Violations (Estimated)	225 Violations (Estimated)
Settlements Covering 50 Violations	Settlements Covering 80 Violations
2 Hearings (Unbudgeted)	2 Hearings (Unbudgeted)
1 CI (Estimated)	1 CI (Estimated)
2 Entity Certifications	2 Entity Certifications

- Audit costs will increase slightly in 2019 from 2018. NPCC predicts three additional on-site audits for 2019.
- Potential increases in 2019 due to the continuation of monitoring and enforcement activities related to implementing the QCMEP in Québec and the NB CMEP in New Brunswick.
- The 2019 Business Plan projects increases in Enforcement Processing activities over the 2018 Budget. It is expected that the increase in violation processing will continue in 2019. For the first time, in late 2018, low impact cyber systems will be in scope for compliance in most jurisdictions and the medium and high impact cyber systems will be in scope for compliance in Quebec.
- The 2019 Business Plan projects the need for one Compliance Investigation. These Compliance Investigations are manpower intensive for NPCC staff (requiring allocation of more resources and potentially higher than normal costs).

2019 Goals and Key Deliverables

- Conduct scheduled compliance monitoring and enforcement activities pursuant to the 2019 Implementation Plans.
- Continue applying risk-based approaches for CMEP, registration, and certification activities.
- Identify potential issues related to NERC Reliability Standards as a result of compliance monitoring, enforcement and event analysis activities.
- Implement compliance responsibilities in Canada based on the regulatory structure specific to each jurisdiction.
- Evaluate monitoring, violation processing, risk-assessment, registration and certification program for sufficiency and effectiveness. Modify as needed.
- Collaborate with the ERO Enterprise to develop common and consistent CMEP processes, information systems, and methods among Regions.

- Provide education and outreach to the registered entities on all CMEP, registration, and certification topics, including the development and implementation of the ERO Enterprise Registration and CMEP software reporting systems and tools.
- Conduct two in-person Compliance Workshops.
- Develop annual reports for QCMEP/CMEP activity in Québec and New Brunswick.
- Develop and/or provide input on 2020 CMEP Implementation Plans (ERO Enterprise, NPCC, Québec, New Brunswick).
- Attend training necessary and/or beneficial to performing Registration, Certification, Entity Risk Assessment, Monitoring, and Enforcement activities.
- Assure that NPCC staff is appropriately trained to conduct Certification and Auditing activities.
- Provide detailed responses to oversight activity performed by NERC, FERC, and other relevant authorities.
- Continue to perform and update IRAs for registered entities.
- Continue to perform an ICE for registered entities that volunteer for such an assessment.
- Conduct 2019 Compliance Engagement Schedule based on risk to the BES and number of registered entities and promote the ERO Risk-Based Approach initiatives by:
 - Utilizing the Audit Checklist and Auditor’s Handbook for all on-site and off-site audits.
 - Preparing an updated Inherent Risk Assessment as necessary for all scheduled engagements and performing an Internal Controls Evaluation for all entities that volunteer.
- Implement physical security outreach and cyber security outreach by visiting registered entity sites to perform an assessment of their physical security, evaluate their cyber security and supply recommendations for improvements.
- Continue to perform comprehensive enforcement investigations to determine the relevant facts and circumstances necessary to understand each non-compliance, assess the risk, and evaluate the mitigation activities or Mitigation Plan for each non-compliance. Determine the disposition method in accordance with established risk-based approaches (i.e. Compliance Exceptions, FFTs, Simplified Identification Correction Method (Québec), Settlements, etc.)
- Evaluate the mitigation activities or Mitigation Plan for each non-compliance, track the progress and verify the completion of each Mitigation Plan.
- As necessary, represent NPCC during any enforcement hearings before the NPCC Hearing Body, the NERC Hearing Body, the Régie, or the NBEUB.
- Evaluate registered entities for the self-logging program.
- Continue to promote practices to enhance the benefits of the self-reporting of violations by the registered entity. This could include the emphasis on the benefits of a registered entity improving its internal processes used for identifying and submitting self-reports, improvement in the way Regional Entities process self-reports, and the streamlining and standardizing of the amount and type of data needed to evaluate a self-report.

Based on the portion of professional/technical staff time and other resources devoted to Compliance monitoring and enforcement and organizational registration and certification, NPCC estimates that it will expend 53% of its resources on this activity.

Resource Requirements**Personnel**

- One additional FTE to increase in-house expertise rather than utilizing an additional contractor. The increase in personnel expenses will be partially offset by a lesser increase in Consultants and Contracts than without this FTE addition.

Consultants and Contracts

- Increase in consultants and contracts associated with an ERO Enterprise-wide increase in audit activity.

Fixed Assets

- No new functionality is planned for the Compliance Issues Tracking System and CMEP Data Administration Application at this time.

Compliance Monitoring and Enforcement and Organization Registration and Certification Program

Funding sources and related expenses for the compliance enforcement and organization registration and certification section of the 2019 business plan are shown in the table below. Explanations of variances by expense category are included with the Supplemental Tables found in Section B.

Statement of Activities and Capital Expenditures						
2018 Budget & Projection, and 2019 Budget						
Compliance Monitoring and Enforcement and Organization Registration and Certification						
				Variance		Variance
	2018	2018	2018 Projection	2018 Projection	2019	2019 Budget
	Budget	Projection	Over(Under)	Over(Under)	Budget	v 2018 Budget
						Over(Under)
Funding						
ERO Funding						
ERO Assessments	\$ 7,692,569	\$ 7,692,569	\$ -	\$ 8,183,815	\$ 491,246	
Penalty Sanctions	41,580	41,580	-	-	(41,580)	
Total ERO Funding	\$ 7,734,149	\$ 7,734,149	\$ -	\$ 8,183,815	\$ 449,666	
Membership Dues	-	-	-	-	-	
Testing Fees	-	-	-	-	-	
Services & Software	-	-	-	-	-	
Workshops	-	-	-	-	-	
Interest	-	-	-	-	-	
Miscellaneous	-	-	-	-	-	
Total Funding (A)	\$ 7,734,149	\$ 7,734,149	\$ -	\$ 8,183,815	\$ 449,666	
Expenses						
Personnel Expenses						
Salaries	\$ 2,716,635	\$ 2,565,935	\$ (150,700)	\$ 2,815,882	\$ 99,247	
Payroll Taxes	171,841	168,841	(3,000)	191,849	20,008	
Benefits	524,801	521,801	(3,000)	585,543	60,742	
Retirement Costs	282,356	255,956	(26,400)	301,025	18,669	
Total Personnel Expenses	\$ 3,695,634	\$ 3,512,534	\$ (183,100)	\$ 3,894,299	\$ 198,666	
Meeting Expenses						
Meetings	\$ 9,000	\$ 9,000	\$ -	\$ 15,000	\$ 6,000	
Travel	289,000	289,000	-	295,400	6,400	
Conference Calls	-	-	-	-	-	
Total Meeting Expenses	\$ 298,000	\$ 298,000	\$ -	\$ 310,400	\$ 12,400	
Operating Expenses						
Consultants & Contracts	\$ 1,254,000	\$ 1,254,000	\$ -	\$ 1,357,150	\$ 103,150	
Office Rent	-	-	-	-	-	
Office Costs	-	-	-	-	-	
Professional Services	-	-	-	-	-	
Computer & Equipment Leases	-	-	-	-	-	
Miscellaneous	-	-	-	-	-	
Depreciation	-	-	-	-	-	
Total Operating Expenses	\$ 1,254,000	\$ 1,254,000	\$ -	\$ 1,357,150	\$ 103,150	
Total Direct Expenses	\$ 5,247,634	\$ 5,064,534	\$ (183,100)	\$ 5,561,849	\$ 314,216	
Indirect Expenses	\$ 3,113,668	\$ 3,113,668	\$ -	\$ 3,303,230	\$ 189,562	
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -	
Total Expenses (B)	\$ 8,361,302	\$ 8,178,202	\$ (183,100)	\$ 8,865,080	\$ 503,778	
Change in Assets	\$ (627,153)	\$ (444,053)	\$ 183,100	\$ (681,264)	\$ (54,112)	
Fixed Assets						
Depreciation	\$ -	\$ -	\$ -	\$ -	\$ -	
Computer & Software CapEx	40,000	40,000	-	-	(40,000)	
Furniture & Fixtures CapEx	-	-	-	-	-	
Equipment CapEx	-	-	-	-	-	
Leasehold Improvements	-	-	-	-	-	
Allocation of Fixed Assets	(107,554)	(107,554)	-	(48,392)	59,161	
Inc(Dec) in Fixed Assets (C)	(67,554)	(67,554)	-	(48,392)	19,161	
TOTAL BUDGET (=B+C)	\$ 8,293,748	\$ 8,110,648	\$ (183,100)	\$ 8,816,687	\$ 522,939	
TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)	\$ (559,599)	\$ (376,499)	\$ 183,100	\$ (632,872)	\$ (73,273)	

Reliability Assessment and Performance Analysis Program

Reliability Assessment and Performance Analysis Program Resources			
(in whole dollars)			
	2018 Budget	2019 Budget	Increase (Decrease)
Total FTEs	5.83	5.83	0.00
Direct Expenses	\$2,145,368	\$2,216,468	\$71,101
Indirect Expenses	\$1,134,543	\$1,132,814	(\$1,729)
Other Non-Operating Expenses	\$0	\$0	\$0
Inc(Dec) in Fixed Assets	(\$39,190)	(\$16,596)	\$22,594
Total Funding Requirement	\$3,240,721	\$3,332,686	\$91,966

Program Scope and Functional Description

NPCC, through its top technical committee, the Reliability Coordinating Committee (RCC), integrates the deliverables of its Task Forces' and Working Groups' Reliability Assessment and Performance Analysis (RAPA) related activities.

Seasonal assessments of the overall NPCC resource adequacy are performed and possible actions to mitigate any potential problems are identified. NPCC reviews operations and disturbances both internal and external to the Region in order to identify any lessons to be learned and recommends any necessary follow-up actions.

If appropriate, enhancements to Regional Standards or NPCC's more stringent, Regionally-specific reliability requirements are also recommended. NPCC promotes and conducts both inter-Area and inter-Regional studies to enhance reliability and operational effectiveness and provides a forum for the discussion and coordination of operating issues within the NPCC Region and with other Regions.

2019 Key Focus Areas

In collaboration with NERC, Key Focus Area activities for 2019 include:

- Integration of RAPA information systems for assessments and associated data requirements, including expanded and enhanced enterprise-wide data collection and analysis systems and capabilities for performance analyses, with a focus on independent and technically sound reliability assessments supporting delivery of high quality reports.
- Development of assessment and performance analysis techniques as well as resource capabilities and tools, including probabilistic and scenario evaluations, which address the impacts of new technologies, changing resource or demand resource composition, and environmental related regulations or legislation.
- Support ERO activities to identify key reliability risks and appropriate projects designed to enhance reliability and/or mitigate risks.
- Providing technical resources to support NERC special reliability assessments which focus on specific reliability risk areas in geographic areas with specific identified reliability concerns.
- Advancing analytical capabilities for identifying and determining reliability risks and conducting associated related reliability assessments.

Eastern Interconnection Reliability Assessment Group

The primary function of the Eastern Interconnection Reliability Assessment Group (ERAG) is to support reliability of the bulk-power system in the Eastern Interconnection through periodic reviews of generation and transmission expansion. These assessments are conducted by the ERAG Committee. These assessment-related activities support ERO Goal 3: “*Reduction of Known Risks to Reliability*” and 4 “*Identification and Assessment of Emerging Reliability Risks.*”

NPCC RAPA staff participates with the ERAG Committee as one of the five Eastern Interconnection Regional Entities, and acts as the liaison between the ERAG MMWG and the NPCC SS-37 Working Group.

ERAG Committee Activities 2019 Goals and Deliverables

- Oversee the steady state and dynamic simulation base case data compilation and development.
- Oversee the ERAG assessment plan and coordinate assessment efforts with NERC Assessment Program staff.
- Make appropriate revisions, as necessary, to the ERAG Strategic Direction (i.e. anticipated new developments in MMWG process and system assessments).
- Develop and approve the ERAG activity budgets.
- Continue discussions with Eastern Interconnection Planning Collaborative (EIPC) regarding proposed transition of the Eastern Interconnection steady state and dynamics base case development role as the MOD-032, Requirement R4 Designee.

Multi-Regional Modeling Working Group 2019 Goals and Deliverables

- Facilitate the completion of the steady state and dynamic simulation base case data compilation and development for the 2019 series of cases.
- Check and confirm that the dynamic model data passes all applicable checks and acceptance criteria.
- Incorporate dispatch information into the future and seasonal ERAG MMWG base cases so that the dispatches are more closely aligned with economic dispatch practices.
- Continue to improve the representations of the governor-turbine plant control models.
- Apply MMWG base case non-disclosure agreement process so that MMWG cases continue to have sufficient protections in place for use and transmittal of confidential data and information.

ERAG System Assessments 2019 Goals and Deliverables

- Conduct the 2019 ERAG Assessment and associated documentation.
- Coordinate Assessment efforts with the NERC Reliability Assessment and System Analysis (RASA) Program staff to incorporate any risk-based or other approaches to supplement NERC Assessments.

Bulk Electric System Notification and Exception (BESnet) application and Exception Request (ERs)

NPCC supports maintenance of the BESnet application and the processing of the Regional BES Exception Requests (ERs), including periodic certifications that the basis for an Element being included or excluded in the BES through the Exception remains valid. At least one NPCC Exception Request will require recertification in 2019; analysis of an Exception Request from a New Brunswick entity is expected to continue into 2019.

2019 NERC Activities

NPCC will provide the Regional perspective with appropriate NPCC RAPA staff participation on selective NERC Planning and Operating Committees and key related NERC Subcommittees, Task Forces and Working Groups, including:

- Load Modeling Task Force;
- System Protection and Control Subcommittee;
- Demand Response Availability Data System Working Group;
- Generating Availability Data System Working Group;
- Transmission Availability Data System Working Group;
- Power Plant Model Verification Task Force;
- Reliability Assessment Subcommittee;
- Probabilistic Assessment Working Group;
- System Analysis and Modeling Subcommittee;
- Synchronized Measurement Subcommittee;
- Event Analysis Subcommittee;
- Performance Analysis Subcommittee; and,
- Misoperation Information Data Analysis System.

ERO – Executive Management Group (EMG) 2019 Activities

Provide analytic support for the ERO-EMG:

- Operations Leadership Team;
- Bulk Electric System Exception Process Working Group;
- ERO-RAPA Group; and,
- Other activities as directed by the ERO-Executive Management Group.

2019 Goals and Key Deliverables

NPCC Task Force activities support ERO Goal No. 3 “Identification and Assessment of Significant Risks to Reliability” and ERO Goal No. 4 “Identification and Assessment of Emerging Risks to Reliability.”

Task Force on Coordination of Planning

The primary mission of the NPCC Task Force on Coordination of Planning (TFCP) is to promote reliability through the coordination of NPCC Area and NERC planning processes and activities.

TFCP Reliability Assessment and Performance Analysis 2019 Goals and Deliverables

- Coordinate NPCC responses to the approved NERC Essential Reliability Services Working Group recommendations with the Task Force on Coordination of Operation and the Task Force on System Studies to ensure that the recommendations are addressed.
- Coordinate the development of additional NPCC Criteria as necessary and track any new and developing Regional NPCC Standards through the NPCC Regional Standards Committee.
- Monitor industry practices and make recommendations to the NPCC Regional Standards Committee regarding related NERC Standards.
- Oversee the NPCC Directory No. 1 Implementation Plan (Dated: September 30, 2015).
- Oversee the activities of the NPCC CP-8 Working Group.
- Evaluate and recommend RCC approval of NPCC Area Transmission Reviews.
- Evaluate and recommend RCC approval of NPCC Area Reviews of Resource Adequacy.

- Coordinate, monitor, review, and make recommendations on the retirement of existing in-service and/or implementation of proposed or modified Special Protection Systems Remedial Action Schemes.
- Lead the NPCC Task Forces in the completion of the review and revision the *A-10 Criteria– NPCC Classification of Bulk Power System Elements*.
- Support related reliability activities, including consideration of any requests for sub-regional assessments.
- Keep informed on studies and developments in neighboring systems which might impact NPCC reliability.
- Review Events Analysis Lessons Learned using the Events Analysis discussion/review template.

Task Force on System Studies

The primary mission of the NPCC Task Force on System Studies (TFSS) is to provide active overall coordination of system studies of the reliability of the interconnected bulk power systems and for the review of related NPCC documents.

TFSS Reliability Assessment and Performance Analysis 2019 Goals and Deliverables

- Review and recommend approval of Area Transmission Reviews.
- Review and classify new and modified Special Protection Systems and/or Remedial Action Schemes.
- Review and Implement the NPCC A-10 Criteria.
- Perform annual review and update of the Major Project List.
- Participate in the development and submission of NPCC comments/inputs into the development of regional and/or continent-wide reliability standards that address the NERC Reliability Standards.
- Provide support and technical input, for Task Force related Bulk Electric System risks as identified by the NERC Reliability Issues Steering Committee.
- Review existing NPCC Regional Criteria and procedures for validation of data used in power flow and dynamic simulations; propose changes to provide for adequate data validation.
- Perform investigation of Distributed Energy Resources modeling practices.
- Update the NPCC Electric System Map.
- Annually develop a library of power flow base cases and associated dynamic cases.
- Support the performance of event replication by benchmarking simulations against actual system performance.
- Work with software vendors and NERC to enhance the capability for dynamic simulations.
- Continue to investigate the use of dynamic load models for transient stability studies.
- Investigate the use of load monitoring equipment to aid in the benchmarking of dynamic load models used in transient stability studies.

Task Force on System Protection

The primary purpose of the NPCC Task Force on System Protection (TFSP) is to promote the reliable and efficient operation of the interconnected bulk power systems in Northeastern North America through the establishment of directories, criteria, guidelines, and procedures and coordination of design, relative to NPCC protection systems.

TFSP Reliability Assessment and Performance Analysis 2019 Goals and Deliverables

- Assess proposed protection systems and Special Protection Systems/Remedial Action Schemes.
- Participate and/or serve as lead Task Force in the implementation of applicable Regional NERC Reliability Standards.
- Review and respond to Questions, Requests for Interpretations and/or Clarifications related to bulk power system protection requirements in NPCC Directories and Criteria.
- Participate in the ongoing development and submission of NPCC inputs/comments into the development of related NERC Reliability Standards.
- Review and analyze misoperations of protection systems and Remedial Action Schemes/Special Protection Systems as they occur in the NPCC Region.
- Review mitigations and/or progress reports for Bulk Power System Risk Reduction Implementation.
- Provide support and technical input for related protection system risks as identified by the NERC Reliability Issues Steering Committee.
- Conduct review/development of related NPCC Directories.
- Consistent with the TFSP’s scope, conduct joint meeting with other Regions to share best practices and experiences.
- Review ongoing changes to the North American Reliability Corporation Critical Infrastructure Protection Standards and evaluate impacts to Registered Entities Protection Systems, SCADA, and Monitoring Systems.

Task Force on Coordination of Operation

The NPCC Task Force on Coordination of Operation (TFCO) primarily facilitates the coordination of operations among the NPCC Reliability Coordinator areas and adjacent NERC Regions to enhance the reliability of the bulk power system.

TFCO Reliability Assessment and Performance Analysis 2019 Goals and Deliverables

- Prepare and conduct the spring and autumn NPCC System Operator Seminars.
- Develop and securely disseminate the annual compilation of “Facilities for Notification.”
- Support and take part in the biennial, continent-wide Grid Security Exercise, including a review of the associated reports and Lessons Learned.
- Support an annual enhanced, wide area restoration drill among the Reliability Coordinator areas of NPCC and their neighboring Reliability Coordinators, incorporating the annual review of the NPCC regional restoration plan.
- Conduct pre-seasonal NPCC Reliability Assessments.
- Conduct reviews of applicable NPCC Directories, Criteria, Guides and Procedures in accordance with their applicable review dates.
- Coordinate system awareness among NPCC Reliability Coordinators through periodic conference calls.
- Monitor the trends and impacts of the changing resource mix and the effects of the proliferation of the new resources on real-time operations, as well as behavior during and impacts on recovery and restoration plans.
- Provide assistance to the NERC Event Analysis Process and evaluate the operational applicability of the identified Lessons Learned.

- Perform a voluntary Critical Operating Tool Analysis Survey accompanied with the previous surveys recommendation to disseminate and assess the implementation of best practices and recommendations.

NPCC Regulatory/Governmental Affairs Advisory Group

The NPCC Governmental/Regulatory Affairs Advisory Group provides a forum where industry and governmental and/or regulatory representatives can exchange views and strive to develop consensus policy recommendations on reliability issues specific to the NPCC Region (Northeastern United States and Eastern Canada) and share actionable information among NPCC, NERC and other related governmental and/or regulatory agencies related to Regional reliability matters.

The Regulatory/Governmental Affairs Advisory Group activities indicated below are done in support of ERO Goal No. 3 “*Reduction of Known Risks to Reliability*” and ERO Goal No. 4 “*Identification and Assessment of Emerging Risks to Reliability.*”

NPCC Regulatory/Governmental Affairs Advisory Group 2019 Goals and Deliverables

- Continued outreach to NPCC’s state electricity and environmental regulators stressing the importance of understanding and considering reliability impacts during the development of State/Provincial initiatives (such as the identified Essential Reliability Services).
- Focus on initiatives concerning regional planning, distributed energy resource requirements, the timing of new generation resources and transmission infrastructure projects.

Based on the portion of professional/technical staff time and other resources devoted to Reliability Assessment and Performance Analysis, NPCC estimates that it will expend 22% of its resources on these activities.

Resource Requirements

Personnel

- NPCC anticipates no need to hire additional personnel in this program area in 2019.

Consultants and Contracts

- Increase in consultants and contracts expense is associated with increase in inherent risk and emerging risk reliability assessments.

Reliability Assessment and Performance Analysis Program

Funding sources and related expenses for the Reliability Assessment and Performance Analysis section of the 2019 business plan are shown in the table below. Explanations of variances by expense category are included with the Supplemental Tables found in Section B.

Statement of Activities and Capital Expenditures						
2018 Budget & Projection, and 2019 Budget						
Reliability Assessment and Performance Analysis						
	2018	2018	Variance	2019	Variance	
	Budget	Projection	2018 Projection	Budget	2019 Budget	
			v 2018 Budget		v 2018 Budget	
			Over(Under)		Over(Under)	
Funding						
ERO Funding						
ERO Assessments	\$ 3,225,570	\$ 3,225,570	\$ -	\$ 3,332,686	\$ 107,116	
Penalty Sanctions	15,151	15,151	-	-	(15,151)	
Total ERO Funding	\$ 3,240,721	\$ 3,240,721	\$ -	\$ 3,332,686	\$ 91,966	
Membership Dues	-	-	-	-	-	
Testing Fees	-	-	-	-	-	
Services & Software	-	-	-	-	-	
Workshops	-	-	-	-	-	
Interest	-	-	-	-	-	
Miscellaneous	-	-	-	-	-	
Total Funding (A)	\$ 3,240,721	\$ 3,240,721	\$ -	\$ 3,332,686	\$ 91,966	
Expenses						
Personnel Expenses						
Salaries	\$ 1,106,772	\$ 1,106,772	\$ -	\$ 1,135,264	\$ 28,491	
Payroll Taxes	65,805	65,805	-	69,027	3,222	
Benefits	220,007	220,007	-	219,655	(352)	
Retirement Costs	117,144	117,144	-	123,322	6,179	
Total Personnel Expenses	\$ 1,509,728	\$ 1,509,728	\$ -	\$ 1,547,268	\$ 37,541	
Meeting Expenses						
Meetings	\$ 22,000	\$ 22,000	\$ -	\$ 23,000	\$ 1,000	
Travel	212,000	212,000	-	216,200	4,200	
Conference Calls	-	-	-	-	-	
Total Meeting Expenses	\$ 234,000	\$ 234,000	\$ -	\$ 239,200	\$ 5,200	
Operating Expenses						
Consultants & Contracts	\$ 401,640	\$ 551,640	\$ 150,000	\$ 430,000	\$ 28,360	
Office Rent	-	-	-	-	-	
Office Costs	-	-	-	-	-	
Professional Services	-	-	-	-	-	
Computer & Equipment Leases	-	-	-	-	-	
Miscellaneous	-	-	-	-	-	
Depreciation	-	-	-	-	-	
Total Operating Expenses	\$ 401,640	\$ 551,640	\$ 150,000	\$ 430,000	\$ 28,360	
Total Direct Expenses	\$ 2,145,368	\$ 2,295,368	\$ 150,000	\$ 2,216,468	\$ 71,101	
Indirect Expenses	\$ 1,134,543	\$ 1,134,543	\$ -	\$ 1,132,814	\$ (1,729)	
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -	
Total Expenses (B)	\$ 3,279,911	\$ 3,429,911	\$ 150,000	\$ 3,349,282	\$ 69,371	
Change in Assets	\$ (39,190)	\$ (189,190)	\$ (150,000)	\$ (16,596)	\$ 22,594	
Fixed Assets						
Depreciation	\$ -	-	\$ -	\$ -	\$ -	
Computer & Software CapEx	-	-	-	-	-	
Furniture & Fixtures CapEx	-	-	-	-	-	
Equipment CapEx	-	-	-	-	-	
Leasehold Improvements	-	-	-	-	-	
Allocation of Fixed Assets	(39,190)	(39,190)	-	(16,596)	22,594	
Inc(Dec) in Fixed Assets (C)	(39,190)	(39,190)	-	(16,596)	22,594	
TOTAL BUDGET (=B+C)	3,240,721	3,390,721	150,000	3,332,686	91,966	
TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)	\$ 0	\$ (150,000)	\$ (150,000)	\$ (0)	\$ (0)	

Training, Education, and Operator Certification Program

Training, Education, and Operator Certification Program Resources			
(in whole dollars)			
	2018 Budget	2019 Budget	Increase (Decrease)
Total FTEs	0.10	0.10	0.00
Direct Expenses	\$230,263	\$233,297	\$3,034
Indirect Expenses	\$19,460	\$19,431	(\$30)
Other Non-Operating Expenses	\$0	\$0	\$0
Inc(Dec) in Fixed Assets	(\$672)	(\$285)	\$388
Total Funding Requirement	\$249,051	\$252,443	\$3,392

Program Scope and Functional Description

The NPCC Training, Education, and Operator Certification program supports NERC Rules of Procedure Section 900. The program provides education and training necessary to understand and operate the bulk electric system. The target audience of the program is bulk power system operating personnel - including system operations personnel, operations support personnel (engineering and information technology), supervisors and managers, and training personnel. NPCC staff training and development is incorporated within each respective program area.

Training Program Background and Description

This NPCC Program establishes and coordinates training for system operators relating to inter-Reliability Coordinator area matters, criteria, terminology, standards and operating procedures and instructions. It includes development and execution of training seminars, held twice yearly, at which:

- potential operational problems for the coming season are discussed,
- physical layouts and electrical characteristics of the NPCC and PJM Areas are discussed,
- application of NPCC Directory and NERC Standard requirements pertinent to operation are discussed,
- major industry issues that are important for system operators are discussed,
- significant disturbances are reviewed for lessons learned; and
- table-top drills and communication and coordination exercises are conducted.

The seminars promote camaraderie and better communication among system operators from the NPCC and PJM Reliability Coordinator (RC) Areas and the Nova Scotia Balancing Authority (BA) area. PJM RC has significant interaction with the NPCC RCs and system operators from PJM have been regular participants at past seminars. Examples of specific topics addressed at recent seminar include: 1) additions and impacts to operations of renewable resources, 2) the development of conditions and violations related to major system Blackouts, 3) human performance related to system operations, 4) cybersecurity threats and system operator concerns, 5) system restoration approaches and tie-ins to neighboring systems and 6) application of NPCC Simultaneous Activation of Reserve. Usually, control center visits are included as part of the seminar activities.

This Program also provides for:

- sharing of RC/BA existing training program and system simulator area content;
- training techniques and methods;
- evaluation of new techniques and training and simulator aids as they become available;
- opportunities to consolidate training among the NPCC RCs and BAs, which includes opportunities to share training material and training sessions; and
- exchange of information on internal methods of system operator training.

The training activities indicated below are done in support of ERO Goals No. 3 “*Reduction of Known Reliability Risks*” and No. 6 “*Effective and Efficient Operation*”. Related contributing activities to these goals include “Working with industry forums, expand communication and encourage sharing of good industry practices for increasing Human Performance (HP) effectiveness” and “Acquire, engage, develop, and retain highly qualified talent with requisite technical expertise to execute the ERO Enterprise’s statutory functions.”

Funding Drivers and Reliability Benefits

- System operators participating in the Seminars: 1) share their approaches to addressing operational problems and learn about the characteristics of neighboring systems; 2) gain exposure to NPCC issues and current industry operational topics; 3) review recent NPCC and major external disturbances; 4) review key operational related content in NPCC Directories and NERC Standards; and 5) participate in hands-on “table top exercises” pertaining to system operational practices. PJM system operators and trainers are also invited to participate and normally attend these seminars;
- Seminar attendees also receive Continuing Education Hours (CEHs) (normally 3 CEHs) and operator trainers from each RC / BA area can utilize the seminar content by including it in their internal training programs to provide CEHs to all system operators; and,
- The seminars help to improve system operational coordination through better contact among system operators at other Reliability Coordinator areas.
- Continually review and revise the curriculum of the training seminars to better emphasize NERC Standard requirements related to system operation, NPCC wide-area operations and Regionally-specific criteria and procedures.
- Enhance the system operator’s awareness and knowledge of the standards, criteria and procedures they apply in real time operation.
- Provide more sharing of new training approaches, exchange of information on internal methods of system operator selection, training material and training sessions;
- Enhance efficiency and cost savings in the training programs in the NPCC RC / BA areas.
- Provide a forum among NPCC RC/BA areas for sharing of approaches to meet the requirements of the NERC PER and COM standards. The sharing of approaches used by some NPCC Areas to address any changes needed to existing system operator training programs due to PER-005-2 requirements is valuable to CO-2 Working Group members.
- NPCC will conduct two Standards and Compliance workshops in 2018, for NPCC Stakeholders, for the express purpose of providing the most current and applicable information related to the development of NERC and Regional Reliability Standards and the implementation of the Compliance Monitoring and Enforcement Program (CMEP).

2019 Key Assumptions

NPCC regularly conducts seminars as well as Spring and Fall Standards and Compliance workshops specifically designed, primarily through the conduct of targeted breakout classroom sessions and presentations on current industry related activities, to provide for the most efficient exchange of information between the NPCC Compliance and Standards staff and the NPCC Stakeholders. Presentations in the past have been conducted by FERC, NERC and Stakeholder representatives in addition to NPCC staff members. To supplement these workshops, NPCC develops webinars that will focus on specific topics pertinent to developments related to compliance program implementation, standards development or technical issues.

NPCC regularly conducts Spring and Fall System Operator Seminars. These seminars involve system operators from the NPCC RC/BA Areas and PJM, and are held in early May and early November.

Training, Education and Operator Certification 2019 Goals and Deliverables

- Prepare and conduct the 2019 Spring and Fall NPCC System Operator Seminars.
- Continue collaboration and sharing of the intended RC/BA approaches, experiences and materials to task identification and training development
- As needed, enhance the NPCC repository of training resources and learning verification activities addressing fundamental power system topics, training methods and operation procedure training exercises, which may be shared as elements of operator training in compliance with NERC Standard PER-005, “*System Personnel Training.*”
- Develop on-line operational training webinars that focus on specific topics pertinent to compliance program implementation, standards development or technical issues.

Based on the portion of professional/technical staff time and other resources devoted to training, education, and operator certification, NPCC estimates that it will expend 2% of its resources on this activity.

Resource Requirements

Personnel

- NPCC anticipates no need to hire additional personnel in this program area in 2019.

Training, Education, and Operator Certification Program

Funding sources and related expenses for the training, education, and operator certification section of the 2019 business plan are shown in the table below. Explanations of variances by expense category are included with the Supplemental Tables found in Section B.

Statement of Activities and Capital Expenditures						
2018 Budget & Projection, and 2019 Budget						
Training, Education, and Operator Certification						
	2018 Budget	2018 Projection	Variance 2018 Projection v 2018 Budget Over(Under)	2019 Budget	Variance 2019 Budget v 2018 Budget Over(Under)	
Funding						
ERO Funding						
ERO Assessments	\$ 184,791	\$ 184,791	\$ -	\$ 184,943	\$ 152	
Penalty Sanctions	260	260	-	-	(260)	
Total ERO Funding	\$ 185,051	\$ 185,051	\$ -	\$ 184,943	\$ (108)	
Membership Dues	-	-	-	-	-	
Testing Fees	-	-	-	-	-	
Services & Software	-	-	-	-	-	
Workshops	64,000	64,000	-	67,500	3,500	
Interest	-	-	-	-	-	
Miscellaneous	-	-	-	-	-	
Total Funding (A)	\$ 249,051	\$ 249,051	\$ -	\$ 252,443	\$ 3,392	
Expenses						
Personnel Expenses						
Salaries	\$ 18,399	\$ 18,399	\$ -	\$ 18,600	\$ 201	
Payroll Taxes	1,350	1,350	-	1,513	163	
Benefits	4,893	4,893	-	6,805	1,912	
Retirement Costs	2,320	2,320	-	2,379	58	
Total Personnel Expenses	\$ 26,963	\$ 26,963	\$ -	\$ 29,297	\$ 2,334	
Meeting Expenses						
Meetings	\$ 188,300	\$ 188,300	\$ -	\$ 189,000	\$ 700	
Travel	15,000	15,000	-	15,000	-	
Conference Calls	-	-	-	-	-	
Total Meeting Expenses	\$ 203,300	\$ 203,300	\$ -	\$ 204,000	\$ 700	
Operating Expenses						
Consultants & Contracts	\$ -	\$ -	\$ -	\$ -	\$ -	
Office Rent	-	-	-	-	-	
Office Costs	-	-	-	-	-	
Professional Services	-	-	-	-	-	
Computer & Equipment Leases	-	-	-	-	-	
Miscellaneous	-	-	-	-	-	
Depreciation	-	-	-	-	-	
Total Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -	
Total Direct Expenses	\$ 230,263	\$ 230,263	\$ -	\$ 233,297	\$ 3,034	
Indirect Expenses	\$ 19,460	\$ 19,460	\$ -	\$ 19,431	\$ (30)	
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -	
Total Expenses (B)	\$ 249,723	\$ 249,723	\$ -	\$ 252,728	\$ 3,005	
Change in Assets	\$ (672)	\$ (672)	\$ -	\$ (285)	\$ 388	
Fixed Assets						
Depreciation	\$ -	-	\$ -	\$ -	\$ -	
Computer & Software CapEx	-	-	-	-	-	
Furniture & Fixtures CapEx	-	-	-	-	-	
Equipment CapEx	-	-	-	-	-	
Leasehold Improvements	-	-	-	-	-	
Allocation of Fixed Assets	(672)	(672)	-	(285)	388	
Inc(Dec) in Fixed Assets (C)	(672)	(672)	-	(285)	388	
TOTAL BUDGET (=B+C)	249,051	249,051	-	252,443	3,392	
TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)	\$ 0	\$ 0	\$ -	\$ (0)	\$ (0)	

Situation Awareness and Infrastructure Security Program

Situation Awareness and Infrastructure Security Program Resources			
(in whole dollars)			
	2018 Budget	2019 Budget	Increase (Decrease)
Total FTEs	5.00	5.00	0.00
Direct Expenses	\$1,373,791	\$1,409,379	\$35,589
Indirect Expenses	\$973,021	\$971,538	(\$1,483)
Other Non-Operating Expenses	\$0	\$0	\$0
Inc(Dec) in Fixed Assets	(\$33,611)	(\$14,233)	\$19,377
Total Funding Requirement	\$2,313,202	\$2,366,685	\$53,483

Program Scope and Functional Description

The Situation Awareness and Infrastructure Security Program is the combination of near real - time awareness of conditions on the bulk power system with the programs necessary to increase the physical and cyber security of the electricity infrastructure, including the operation and maintenance of tools and other support services for the benefit of Reliability Coordinators and the system operators within the registered entities. Maintaining the real-time awareness of conditions on the interconnected bulk power systems by the NPCC Reliability Coordinator is critical to maintaining reliable operation within NPCC, including the communication of information concerning system conditions and abnormal events among the neighboring system operators responsible for the reliable operation of the bulk power systems. When an event does occur, it is critical to provide a forum for active coordination of reliability and operation among the NPCC Reliability Coordinator areas and neighboring NERC Regions and to use an event as a learning opportunity to enhance the reliability of the interconnected bulk power system through the lessons learned, which can be gleaned from such an event.

These Situation Awareness and Infrastructure Security activities indicated below are done in support of ERO Goal No. 3 “*Reduction of Known Risks to Reliability.*” Related contributing activities to this Goal include “Analyzing system performance, events, and relationships among data sources to identify risks and mitigation strategies and provide recommendations and lessons learned, including those that are lower impact, to discover potential reliability trends early in their lifecycles” and “Promoting the use of NERC cause codes to establish a common understanding of HP triggers, collect and evaluate trends in data, and develop metrics as needed.”

Event Analysis Program Description

NERC and the industry analyzes events, identifies the lessons to be learned, and conducts a formal cause code analysis.

The Event Analysis Program recognizes that many events which occur on the bulk power system beyond those identified through NERC Reliability Standard EOP-004-3, “Event Reporting,” (EOP-004-4, Effective April 1, 2019) can have varying levels of significance to the electric system, providing otherwise unrealized lessons to be learned from these events and the trending of such events to identify possible reliability concerns. By implementing a “bottom-up” approach to an event review within the framework of the NERC Event Analysis Program,

consistency, comparability, flexibility and timeliness in the event analysis process will be promoted by NPCC, the registered entities and NERC in a collaborative initiative.

Upon the identification of an event, the goal of the Event Analysis Program is to:

- identify what transpired;
- categorize the event within the NERC Event Analysis Program;
- establish the sequence of events;
- understand the essential root causes of the event;
- identify recommendations or corrective actions; and,
- develop and disseminate to the industry lessons to be learned so that the operational reliability of the bulk power system can be further enhanced.

In assessing any system event, it is recognized that, if the timely dissemination of lessons learned from an event is to be realized, any potential compliance implications associated with an event must be addressed and dismissed. Throughout an event analysis effort, to make this process successful and complete, and to solidify the “bottom-up” approach, registered entities are encouraged to establish a liaison between the event analysis and compliance functions internal to the registered entity during the event analysis process. This serves to facilitate the development of a registered entity compliance self-assessment report, which is accomplished by performing a sufficiency review of the reliability standards deemed applicable to the event, assisting in the self-reporting of possible violations should any be discovered.

To complete this voluntary effort, the entity, the Region and NERC staff will collaborate to assess the NERC Brief Report or Event Analysis Report and perform a formal cause code analysis, identifying a root cause and publish any pertinent lessons learned gathered from the event.

The adoption by NERC of the Event Analysis Program brings clarity and certainty about what system events are relevant to analyze and to what level of detail, targeting potential risks to the reliability of the bulk power system for detailed and in-depth analysis; only concise and succinct reviews are desired for more minor events. It also delineates the expectations roles and responsibilities of the registered entities, NPCC and NERC in a uniform review of system events by the industry and promotes a timely development and dissemination of valuable lessons learned to the industry. The identification and tracking of emerging common risks through the assessment of events will further distinguish trends which may be of concern to reliability. By rigorously pursuing the lesser events on the system and learning from these events, larger events can be avoided or mitigated.

NPCC staff works step-by-step with the registered entity throughout the total event analysis process, permitting the entity to assume the primary role in the development of the initial analysis, lessons learned which may benefit the industry and the Standards sufficiency review and cause coding for trending and reporting. NPCC staff, throughout the process, guides, supports and stands as an advocate of the registered entity as they continue to develop an improved culture of reliability and compliance.

2019 Key Assumptions

- The monitoring of Lessons Learned will continue to be a major focus of NERC in 2019, including an added aspect of reporting in the voluntary Event Analysis Program to collect detailed information on station equipment failure, and response to a recommendation of

the AC Substation Equipment Task Force, to solicit and collect this data, for applicable qualifying events to aid in future analysis of station equipment failures and to identify trends that may be a threat to the reliability of the Bulk Electric System, and utilization and added aspects of a revised Category 1h - EMS/Loss of monitoring or control at a Control Center events Brief Report Template and Addendum, developed with the input of the EMS Working Group to improved information collection related to such events and associated analysis.

- Critical infrastructure protection will fully integrate the requirements of version 5 of the Cyber Standards in 2019.
- NERC will post updates to the Critical Infrastructure Protection Standards to address the three FERC Directives and the four industry concerns that were not satisfactorily responded to by the version 5 Transition Advisory Group.
- Resource allocation to this program area will support: expanded Events Analysis activities; coordination with NERC's evolving E-ISAC capabilities; and cybersecurity outreach efforts.

Situation Awareness 2019 Goals and Deliverables

- NPCC will provide the Regional perspective and support through NPCC Event Analysis staff participation on selective NERC Planning and Operating Committees and key related NERC Subcommittees, Task Forces and Working Groups, including the Event Analysis Subcommittee, the ERO – Event Analysis/Situational Awareness Group; and the Event Analysis Management System.
- Work directly with applicable NPCC Task Forces and Working Groups to provide an in-depth assessment of Lessons Learned unique to the NPCC Members and NPCC Criteria.
- Promote NPCC's Event Analysis group's established process for sharing and dissemination of the detailed Event Analysis Report information among industry participants (Registered Entities).
- Incorporate the Lessons Learned from participation in the GridEx IV wide-area exercise.
- Utilize the NPCC's "what if" methodology to examine select events, with potential for greater impact under a different set of system conditions, to evaluate whether the event's proximity to becoming a more significant event would suggest that an appropriate level of analysis, with due weight to risk and impact, be conducted.
- Monitor the operational status of the bulk power system and coordinate normal and pre-emergency communication, awareness and assistance in addition to the same during an emergency among the Reliability Coordinators within NPCC. Notify the Reliability Coordinators of significant bulk power system events that have occurred in one Reliability Coordinator Area, and which have the potential to impact reliability in other NPCC Reliability Coordinator Areas or Regions external to NPCC. These events include contingencies on the bulk power system, potential shortfalls of operating reserve, operating problems, potential security threats and potential threats or disruptions to the cyber systems.
- Conduct a daily conference call to serve as a complement to the NPCC Emergency Preparedness Conference Call. The participants of the call are the Reliability Coordinators within NPCC and its neighboring RCs, the Midcontinent ISO and PJM. The conference call is implemented through a bridge, the initiation of the call quickly ringing all pre-selected telephones simultaneously. The goal of the call is to alert all Reliability Coordinators of emerging problems. If no system difficulties are anticipated for the day, no unnecessary information is to be discussed. Subjects for discussion are limited to credible events which could impact the ability of an entity to serve its load and

meet its operating reserve obligations or would impose a burden to the interconnection, including the following: Projected Load; Adverse Weather; Operating Reserve; Generation; Transmission; and Sabotage. If conditions worsen in the course of the day, the NPCC Emergency Preparedness Conference Call will be implemented.

- Monthly test of the satellite telephone network, to ensure the capability for continued voice communications among NPCC and its Reliability Coordinators. This back-up communications system will function in the event of a collapse of the Public Switched Telephone Network, permitting continued cross-border voice communications among the Canadian Reliability Coordinators of NPCC, the Reliability Coordinators in the United States as well as NPCC Situation Awareness staff.
- Coordination and communication with the NERC Bulk Power System Awareness group in preparation for and during ongoing significant events in the NPCC's footprint and participation in the ERO Enterprise-wide Situation Awareness activities. Monitor the status of the bulk power system through the NERC Situational Awareness-FERC, NERC, Regions initiative, a near real-time operating display for the United States portion of the Reliability Coordinators footprints of North America. Transmission voltage levels of 230 kV and above are displayed, and the tool provides the ability to "drill down" to detailed bus information, including generation outputs and bus voltages.

Critical Infrastructure Objectives

NPCC's critical infrastructure objectives are defined within the scope of the NPCC Task Force on Infrastructure Security & Technology, and include, but are not limited to:

- Providing a forum for NPCC review of proposed and posted documents from the NERC Critical Infrastructure Protection Committee; and,
- Representing and advocating NPCC's position in the activities of NERC groups involved in the development and/or implementation of physical and cyber security.

NPCC's 2019 critical infrastructure goals and objectives, supporting ERO Goal No. 5 – "*Identification and Reduction of Cyber and Physical Risks.*" Related contributing activities to this Goal include "Expand the use, availability, and value of physical security and cybersecurity threat and vulnerability information sharing, including cross sector communications, and analytics" and "In collaboration with the Critical Infrastructure Protection Committee and industry stakeholders, develop a risk process to address the potential impact of cyber and physical security threats and vulnerabilities."

Critical Infrastructure 2019 Goals and Deliverables

- Monitor the reliable implementation of the Cyber Security Standards.
- Monitor the Homeland Security Information Network, E- ISAC, NERC Alerts and Canadian Information Sharing and share information with the NPCC CO-8 Working Group.
- Review and submit comments on NERC proposed Reliability Standards, modified Reliability Standards, proposed Guidelines and modified Guidelines related to Infrastructure Security and Technology.
- Keep current on all governmental agencies regarding applicable security recommendations and requirements, and other applicable security and reliability recommendations and keep the RCC and its committees appropriately informed, e.g. Sector Specific Plan.
- Conduct an annual review of cross border emergency telecommunications to verify each Area can communicate with each other.

- Provide support and technical input for Task Force related Bulk Electric System risks as identified by the NERC Reliability Issues Steering Committee. The Task Force will conduct a thorough review, provide comments as necessary and act on posted materials as directed.
- Support the NERC CIPC Grid Exercise Working Group in GridEx V planning and simulation. Participate in the development of lessons learned from GridEx IV.
- Review infrastructure security & technologies and provide recommendations to enhance physical and cyber security in compliance with NERC guidelines/standards.
- Provide recommendations to enhance physical and cyber security, in compliance with NERC standards, based on assessments of available and emerging infrastructure security technologies, methodologies, and best practices.
- Sponsor periodic workshop presentations to address timely issues and update NPCC Members associated with infrastructure security and technology.
- Provide education, awareness, and support for Cross Sector coordination in Entity agreements and response plans with focus upon Telecommunications, Water and Natural Gas, including monitoring and sharing with the E-ISAC.

Related System Operations Security 2019 Goals and Deliverables

NPCC's system operations security objectives are defined within the scope of the NPCC Task Force on Coordination of Operation and include, but are not limited to:

- Coordinating inter-Regional pre-emergency actions in the event of a threat to the security of the Northeastern North American bulk power supply system; and,
- Assisting in the development of real time operating tools ensuring cyber security concerns are addressed.

Based on the portion of professional/technical staff time and other resources devoted to situation awareness and infrastructure security, NPCC estimates that it will expend 16% of its resources on this activity.

Resource Requirements

Personnel

- NPCC anticipates no need to hire additional personnel in the Situation Awareness and Infrastructure Security program area in 2019.

Situation Awareness and Infrastructure Security Program

Funding sources and related expenses for the situation awareness and infrastructure security section of the 2019 business plan are shown in the table below. Explanations of variances by expense category are included with the Supplemental Tables found in Section B.

Statement of Activities and Capital Expenditures						
2018 Budget & Projection, and 2019 Budget						
Situation Awareness and Infrastructure Security						
	2018	2018	Variance	2019	Variance	
	Budget	Projection	2018 Projection	Budget	2019 Budget	
			v 2018 Budget		v 2018 Budget	
			Over(Under)		Over(Under)	
Funding						
ERO Funding						
ERO Assessments	\$ 2,300,208	\$ 2,300,208	\$ -	\$ 2,366,685	\$ 66,477	
Penalty Sanctions	12,994	12,994	-	-	(12,994)	
Total ERO Funding	\$ 2,313,202	\$ 2,313,202	\$ -	\$ 2,366,685	\$ 53,483	
Membership Dues	-	-	-	-	-	
Testing Fees	-	-	-	-	-	
Services & Software	-	-	-	-	-	
Workshops	-	-	-	-	-	
Interest	-	-	-	-	-	
Miscellaneous	-	-	-	-	-	
Total Funding (A)	\$ 2,313,202	\$ 2,313,202	\$ -	\$ 2,366,685	\$ 53,483	
Expenses						
Personnel Expenses						
Salaries	\$ 825,560	\$ 825,560	\$ -	\$ 832,408	\$ 6,848	
Payroll Taxes	53,677	53,677	-	57,432	3,755	
Benefits	189,417	189,417	-	201,196	11,780	
Retirement Costs	87,637	87,637	-	89,043	1,406	
Total Personnel Expenses	\$ 1,156,291	\$ 1,156,291	\$ -	\$ 1,180,079	\$ 23,789	
Meeting Expenses						
Meetings	\$ 10,000	\$ 10,000	\$ -	\$ 10,000	\$ -	
Travel	87,500	87,500	-	89,300	1,800	
Conference Calls	-	-	-	-	-	
Total Meeting Expenses	\$ 97,500	\$ 97,500	\$ -	\$ 99,300	\$ 1,800	
Operating Expenses						
Consultants & Contracts	\$ 120,000	\$ 120,000	\$ -	\$ 130,000	\$ 10,000	
Office Rent	-	-	-	-	-	
Office Costs	-	-	-	-	-	
Professional Services	-	-	-	-	-	
Computer & Equipment Leases	-	-	-	-	-	
Miscellaneous	-	-	-	-	-	
Depreciation	-	-	-	-	-	
Total Operating Expenses	\$ 120,000	\$ 120,000	\$ -	\$ 130,000	\$ 10,000	
Total Direct Expenses	\$ 1,373,791	\$ 1,373,791	\$ -	\$ 1,409,379	\$ 35,589	
Indirect Expenses	\$ 973,021	\$ 973,021	\$ -	\$ 971,538	\$ (1,483)	
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -	
Total Expenses (B)	\$ 2,346,812	\$ 2,346,812	\$ -	\$ 2,380,918	\$ 34,106	
Change in Assets	\$ (33,611)	\$ (33,611)	\$ -	\$ (14,233)	\$ 19,377	
Fixed Assets						
Depreciation	\$ -	-	\$ -	\$ -	\$ -	
Computer & Software CapEx	-	-	-	-	-	
Furniture & Fixtures CapEx	-	-	-	-	-	
Equipment CapEx	-	-	-	-	-	
Leasehold Improvements	-	-	-	-	-	
Allocation of Fixed Assets	(33,611)	(33,611)	-	(14,233)	19,377	
Inc(Dec) in Fixed Assets (C)	(33,611)	(33,611)	-	(14,233)	19,377	
TOTAL BUDGET (=B+C)	2,313,202	2,313,202	-	2,366,685	53,483	
TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)	\$ 0	\$ 0	\$ -	\$ (0)	\$ (0)	

Administrative Services

Administrative Services Program Resources						
(in whole dollars)						
	Direct Expenses			FTEs		
	2018 Budget	2019 Budget	Increase (Decrease)	2018 Budget	2019 Budget	Increase (Decrease)
Technical Committees and Members Forum	\$70,680	\$74,483	\$3,803	0.50	0.50	0.00
General and Administrative	\$3,607,132	\$3,646,903	\$39,771	2.50	2.50	0.00
Legal and Regulatory	\$592,049	\$612,934	\$20,886	1.00	1.00	0.00
Information Technology	\$1,044,490	\$1,083,781	\$39,291	2.00	2.00	0.00
Human Resources	\$181,145	\$156,946	(\$24,199)	1.00	1.00	0.00
Finance and Accounting	\$537,236	\$642,798	\$105,562	1.00	2.00	1.00
Total Administrative Services¹	\$6,032,732	\$6,217,845	\$185,113	8.00	9.00	1.00

¹ NPCC's 2019 Administrative Services Direct Expenses total \$6,217,845, of which \$415,818 is allocated to NPCC's Criteria Services division, which is a non-statutory function. As a result of the allocation to the Criteria Services division, the Administrative Expenditures included in the 2019 statutory budget are \$5,802,027 which is an increase of \$185,748 from the 2018 budget of \$5,616,279.

Program Scope and Functional Description

Administrative services support the previously identified five program areas of: reliability standards; compliance monitoring and enforcement and organization registration and certification; training, education, and operator certification; reliability assessment and performance analysis; and situation awareness and infrastructure security. Administrative services consist of: technical committees and members' forums; general and administrative; legal and regulatory; information technology; human resources; and finance and accounting.

Methodology for Allocation of Administrative Services Expenses to Programs

NPCC total overhead expenses, such as office rent and office costs, will be charged to the Administrative Services Programs and then reallocated proportionately based on FTE to the programs through Indirect Expenses.

Administrative Services

Funding sources and related expenses for the Administrative Services section of the 2019 business plan are shown in the table below. Explanations of variances by expense category are included with the Supplemental Tables found in Section B.

Statement of Activities and Capital Expenditures 2018 Budget & Projection, and 2019 Budget						
ADMINISTRATIVE SERVICES						
	2018 Budget	2018 Projection	Variance 2018 Projection v 2018 Budget Over(Under)	2019 Budget	Variance 2019 Budget v 2018 Budget Over(Under)	
Funding						
ERO Funding						
ERO Assessments	\$ (66,581)	\$ (66,581)	\$ -	\$ (100,108)	\$ (33,527)	
Penalty Sanctions	-	-	-	-	-	
Total ERO Funding	\$ (66,581)	\$ (66,581)	\$ -	\$ (100,108)	\$ (33,527)	
Membership Dues	-	-	-	-	-	
Testing Fees	-	-	-	-	-	
Services & Software	-	-	-	-	-	
Workshops	-	-	-	-	-	
Interest	-	-	-	-	-	
Miscellaneous	-	-	-	-	-	
Total Funding (A)	\$ (66,581)	\$ (66,581)	\$ -	\$ (100,108)	\$ (33,527)	
Expenses						
Personnel Expenses						
Salaries	\$ 2,063,139	\$ 2,043,839	\$ (19,300)	\$ 2,147,254	\$ 84,115	
Payroll Taxes	97,378	95,378	(2,000)	107,437	10,059	
Benefits	438,408	437,408	(1,000)	493,115	54,707	
Retirement Costs	295,596	288,996	(6,600)	296,142	546	
Total Personnel Expenses	\$ 2,894,522	\$ 2,865,622	\$ (28,900)	\$ 3,043,948	\$ 149,426	
Meeting Expenses						
Meetings	\$ 116,750	\$ 116,750	\$ -	\$ 126,750	\$ 10,000	
Travel	138,000	138,000	-	135,100	(2,900)	
Conference Calls	37,000	37,000	-	36,000	(1,000)	
Total Meeting Expenses	\$ 291,750	\$ 291,750	\$ -	\$ 297,850	\$ 6,100	
Operating Expenses						
Consultants & Contracts	\$ 92,000	\$ 92,000	\$ -	\$ 95,000	\$ 3,000	
Office Rent	810,700	810,700	-	820,700	10,000	
Office Costs	664,760	664,760	-	676,347	11,587	
Professional Services	960,000	960,000	-	978,000	18,000	
Computer & Equipment Leases	-	-	-	-	-	
Miscellaneous	50,000	50,000	-	51,000	1,000	
Depreciation	269,000	269,000	-	255,000	(14,000)	
Total Operating Expenses	\$ 2,846,460	\$ 2,846,460	\$ -	\$ 2,876,047	\$ 29,587	
Total Direct Expenses	\$ 6,032,732	\$ 6,003,832	\$ (28,900)	\$ 6,217,845	\$ 185,113	
Indirect Expenses	\$ (6,032,732)	\$ (6,032,732)	\$ -	\$ (6,217,845)	\$ (185,113)	
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -	
Total Expenses (B)	\$ 0	\$ (28,900)	\$ (28,900)	\$ -	\$ (0)	
Change in Assets	\$ (66,581)	\$ (37,681)	\$ 28,900	\$ (100,108)	\$ (33,527)	
Fixed Assets						
Depreciation	(269,000)	(269,000)	\$ -	(255,000)	\$ 14,000	
Computer & Software CapEx	75,000	75,000	-	170,000	95,000	
Furniture & Fixtures CapEx	-	-	-	-	-	
Equipment CapEx	-	-	-	-	-	
Leasehold Improvements	-	-	-	-	-	
Allocation of Fixed Assets	194,000	194,000	-	85,000	(109,000)	
Inc(Dec) in Fixed Assets (C)	-	-	-	-	-	
TOTAL BUDGET (=B+C)	0	(28,900)	(28,900)	-	(0)	
TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)	\$ (66,581)	\$ (37,681)	\$ 28,900	\$ (100,108)	\$ (33,527)	

Technical Committees and Member Forums

Program Scope and Functional Description

The success of the NPCC programs depends on the active and direct volunteerism and participation of its members. The stakeholders are the source of subject matter expertise in the industry. To promote the reliable and efficient operation of the interconnected bulk power systems in Northeastern North America, NPCC invites high level policy makers from Federal, Provincial and State regulatory and/or governmental authorities and senior executives within NPCC and NERC to identify and discuss emerging issues related to the reliability of the NPCC Region.

2019 Key Assumptions

- NPCC’s standing committee and subgroup structure for effective stakeholder involvement will continue in 2019.
- NPCC will continue to utilize methods to encourage active involvement in its Regional programs that require less stakeholder travel and face-to-face meetings, as the economy improves in 2019.
- NPCC will continue to invest in technology and innovation to allow efficient collaboration on technical issues related to reliability.

The Technical Committees and Member Forums activities indicated below are done in support of ERO Goal No. 4 “*Identification and Assessment of Emerging Risks to Reliability.*” A related contributing activity to this Goal is to “Educate policy makers, regulators, and the industry of reliability effects and interconnection requirements for the changing resource mix.”

Technical Committees and Member Forums 2019 Goals and Deliverables

- The 2019 NPCC General Meeting provides an opportunity for NPCC Members to meet high level policy makers from Federal, Provincial and State regulatory and/or governmental authorities and senior NERC and NPCC executives to discuss topics related to the reliable planning and operation of the power system, including consideration of emerging reliability, critical infrastructure and environmental issues; and,
- The objective of the NPCC Public Information Committee is to highlight and summarize NPCC activities and accomplishments in the past year, disseminate and coordinate the appropriate release of information to the media, respond to related requests for information, and coordinate with related NPCC Area, NERC media and public information activities. Activities anticipated include, but are not limited to:
 - Conducting the Media Event – release of the Summer 2019 NPCC Reliability Assessment; and,
 - Participation in NERC Regional communication initiatives:
 - Regional communications teleconferences as required
 - Coordination of Emergency or Blackout communications plans
 - Coordination with other NERC activities as required (i.e., situation awareness, event analysis, reliability assessments, etc.)

Resource Requirements

Personnel

- NPCC anticipates no need to hire additional personnel in this program area in 2019.

General and Administrative

Program Scope and Functional Description

The NPCC general and administrative function provides executive management of the corporation, management of NPCC office, and other administrative support programs.

NPCC total overhead expenses, such as office rent and office costs, will be charged to the Administrative Services Programs and then reallocated proportionately based on FTE to the programs through Indirect Expenses.

Resource Requirements

Personnel

- NPCC anticipates no need to hire additional personnel in this program area in 2019.

Office Rent

- Projected increase in real estate taxes.

Legal and Regulatory

Program Scope and Functional Description

NPCC's professional legal services provide counsel to the President and CEO, Board of Directors, Senior Vice President and COO, Treasurer, General Counsel and staff on a wide range of legal and regulatory matters including legislation, corporate law, code of conduct, confidentiality, governance, employment law, tax matters, contract law and other areas affecting NPCC, consistent with ERO Goal 6. In support of ERO Goal 4., NPCC's in-house counsel evaluates internal controls and corporate, operational, strategic and reputational risk, and participates in risk identification, evaluation and mitigation activities. In-house counsel provides legal advice to advance significant corporate policy and strategic planning initiatives and also provide legal support to other program areas on matters arising in connection with the performance of NPCC's delegated functions. In-house counsel draft agreements and pleadings and provide interpretations of relevant statutes, regulations, court opinions, and regulatory decisions of FERC, state agencies and provincial authorities. Outside counsel, as necessary, reviews items filed with the governmental agencies for legal sufficiency, maintains relationships with U.S. and Canadian jurisdictions and provides contract review.

Resource Requirements

Personnel

- NPCC anticipates no need to hire additional personnel in this program area in 2019.

Information Technology

Program Scope and Functional Description

NPCC's Information Technology services ensure information assets and the environment in which they operate are secure and in conformance to NPCC IT Policies and Procedures and all applicable Critical Electric Infrastructure Information protection and Confidentiality requirements. NPCC maintains an offsite backup server for continuity of essential operations in the event that its primary location is unavailable.

NPCC supports the ERO efforts to implement, operate and maintain software tools supporting common enterprise wide operations and leveraging ERO solutions which have been approved by the ERO Executive Management Group (ERO EMG), which is comprised of the senior leadership of NERC and each of the Regional Entities. NPCC's budget assumes the availability of enterprise software tools as described in NERC's business plan and budget. If implementation of these software applications is delayed or otherwise not available as planned, NPCC could incur additional costs to implement ERO Enterprise-wide programs pending the availability of these applications.

NERC and the Regional Entities are committed to working collaboratively to minimize duplication of effort and investments, and improve operational efficiency. This collaboration continues to refine existing strategies, governance and procurement practices applicable to the development, operation and maintenance of enterprise architecture, software and data systems supporting complementary and combined NERC and Regional Entity operations.

The NERC information technology budget does not supplant NPCC's need for IT expenditures for specific regional projects and internal region specific IT support needs. NPCC's 2019 Business Plan and Budget assumes agreed-upon ERO Enterprise applications will be available and includes only NPCC costs for Region specific support needs.

2019 Key Assumptions

- Continue to maintain the compliance portal through collaboration with other Regional Entities and NERC (CUG).
- Support the Event Analysis program through continued participation in the tools used for the tracking and analysis of system events and identification of better practice elements.
- Support the Bulk Electric System Exception Process (BEP) to enable and facilitate tracking and processing of exceptions submitted. Maintenance of the BESNET support services such as updates, patching, coordinating issues with NERC.
- Support Cyber Security Reviews done by Compliance to provide advisory role during those reviews.

2019 Goals and Key Deliverables

Responsibilities encompass a variety of complex technical, administrative, and supervisory work in the development, installation, and maintenance of information technology systems. IT goals include, but are not limited to:

- Expand the utilization of the document management system throughout the company.
- Create an information security program and environment aimed at reducing breach of security risks.
- Determine longer-term software and systems needs and hardware acquisitions.
- Develop and implement information security standards and procedures.

- Ensure all information systems are functional and secure, and that all applications running on those systems meet business requirements for performance, availability, and security.
- Plan and implement organization-wide information systems, services, and network facilities, including local area networks, wide-area networks, and peripheral systems.
- Provide outreach and education to NPCC members in IT best practices.
- Continually improve Disaster Recovery and Business Continuity policies and practices to ensure continuity and reliability of IT and business related services.

Resource Requirements

Personnel

- NPCC anticipates no need to hire additional personnel in this program area in 2019.

Fixed Assets

- Capital expenditures planned for 2019 include the continuing implementation and enhancement of the document management system.

Human Resources

Program Scope and Functional Description

NPCC has assembled an exceptional team of highly qualified employees to carry out its activities. The human resources function, in adherence with applicable federal and state laws, designs, plans, and implements human resources policies and procedures, including: staffing; compensation; benefits; employee relations; training and development; and employee time tracking.

Resource Requirements

Personnel

- NPCC anticipates no need to hire additional personnel in this program area in 2019.

Accounting and Finance

Program Scope and Functional Description

The accounting and finance function directs the overall financial plans and accounting practices of the organization; oversees treasury, accounting, budget, tax, and audit activities; and oversees financial and accounting system controls and standards. NPCC uses a CPA firm to prepare its unaudited statements of activities and financial statements for quarterly reviews. Independent audits have identified this system as a best practice.

2019 Goals and Key Deliverables

The objectives are to provide or obtain the financial and accounting services for NPCC and coordinate with NERC requirements:

- Utilize the NERC System of Accounts for consistency
- Utilize an accrual method of accounting for consistency with NERC in methodology
- Alignment of changes in budget and changes in aggregate assessment
- Cash Management
- Budget Development using the NERC budget template formats
- Forecasts and Projections
- Alignment of NPCC Committees, Task Forces and Working Groups with the programs
- Payroll and expense administration
- Preparation of unaudited Quarterly Financial Variance Reports
- IRS Reporting
- Annual Independent Audit initiated by the Regional Entity

Resource Requirements

Personnel

- One additional FTE will replace a continuous series of interns retained over several years in order to meet the ongoing resource needs in this program area and enable long-term sustained knowledge transfer.

Regional Entity Assessment Analysis

In the area of assessments there are distinct funding mechanisms as outlined in the following table. For the Regional Entity division, the North American Electric Reliability Corporation (NERC) will assess load serving entities (LSEs) or their designees (within NPCC the designees are the Balancing Authority Areas (BAAs) for New York, New England, New Brunswick, Nova Scotia, Ontario and Québec) based upon 2017 proportional Net Energy for Load (NEL) and other specific program area funding arrangements and make quarterly remittances to the Regional Entity on or about the 15th day of January, April, July and October. For funding associated with the Criteria Services division, the Independent System Operators/Balancing Authority Areas (ISO/BAAs) will be assessed by NPCC for their proportional share of the divisional budget based upon 2017 NEL within the Region. Non ISO/BAA Full Members will be assessed no membership fee.

NPCC Cost Allocation Methodology

The accompanying table provides information regarding cost allocation for both the Regional Entity division and the Criteria Services division of NPCC, including the details associated with the funding of the Compliance Program within the RE division. For purposes of determining assessments to support NPCC's resource requirements, costs are allocated among the BAAs within NPCC as the designees for the load-serving-entities in New York, New England, Ontario, Québec, New Brunswick and Nova Scotia.

In order to reflect and respect the international membership and nature of NPCC, any sub-regional reliability assessment costs in response to U.S. only regulatory initiatives will be considered for allocation to U.S. only BAAs consistent with NERC Rules of Procedure section 1102. Additionally, the compliance responsibilities and authorities within the U.S., and the specific compliance responsibilities within each of the Canadian provinces within NPCC, and the attendant costs of portions of the compliance program differ among the areas within the Regional Entity. Within the U.S. portion of NPCC all costs attributable to delegated (statutory) functions performed by NPCC, including all compliance functions, are assessed based on a NEL allocation. Within the Canadian portion of NPCC those costs attributable to compliance functions performed by NPCC on behalf of provincial governmental and/or regulatory authorities are allocated consistent with the unique Memoranda of Understanding or Agreements that have been entered into for those provinces. To address these different compliance regimes, NPCC developed a composite cost allocation methodology that allocates U.S. only reliability assessment and compliance costs on a fair and equitable basis within the Regional Entity.

As an initial step of that methodology, the NEL for each of the BAAs and their relative percentage to the NPCC total NEL is calculated for the most recent year for which data is available, the second previous year. In order to establish the RE division funding requirements for each Balancing Authority Area on a NEL basis for all programs except for Compliance, the proposed expenses and fixed assets of all other programs are calculated and the adjustment for the RE division cash reserve requirement is identified. Any penalty monies received from NPCC registered entities within the U.S. prior to June 30th of the year preceding the business plan and budget year are then allocated among the NPCC program areas based on their FTE ratio and between the U.S. BAAs based on their relative NELs. Consistent with each of the Canadian provincial MOUs and agreements, all penalty monies resulting from compliance actions within Canada, if any, would remain within the applicable province. The total budgeted fees for NPCC workshop participation are indicated as a credit, with the resultant addition being the RE division assessment, without the compliance program costs, calculated on a NEL basis.

In accordance with the *NPCC Amended and Restated Bylaws* the CS division proposed expenses and fixed assets of all programs are calculated and the adjustment for the CS division cash reserve requirement is identified, with the resultant addition being the CS division funding requirement and assessment, calculated on a NEL basis.

For costs associated with the RE division compliance program, NPCC's allocation methodology apportions 21.31% of the costs for the program, attributed to CORC Fundamentals (CF), between the BAAs in the United States and Canada on a NEL basis.

Audits and Investigations (AI) related costs, representing 59.85% of the costs of the compliance program, are allocated between U.S. and Canadian BAAs in NPCC, and among the Canadian provinces, using an audit-based methodology. The audit-based methodology incorporates relative costs based on categories of compliance audits which are reflective of their size and complexity, as well as the differing compliance program implementation models that are utilized in NPCC due to the international nature of the Regional Entity. The portion allocated to the U.S. BAAs in NPCC is calculated using the audit-based methodology, and this amount is then re-allocated between the New York and New England BAAs based on their relative NEL.

The remaining 18.84% of the costs of the compliance program represent Mitigation and Enforcement (ME) related costs and are allocated between U.S. and Canadian BAAs in NPCC, and among the Canadian provinces, using an enforcement activity based methodology. Based on historical data, NPCC reviewed each BAA's percentage of violations, mitigation plans and settlement agreements to determine each BAA's total average percentage of enforcement activities. The portion allocated to the U.S. BAA's in NPCC is calculated using the enforcement activity based methodology, and this amount is then re-allocated between the New York and New England BAAs based on their relative NEL.

Any penalty monies received from NPCC registered entities within the U.S. by June 30th of the year preceding the business plan and budget year are then allocated among the NPCC program areas based on their FTE ratio and between the U.S. BAAs based on their relative NELs, and then added to the total compliance program expenses and fixed assets to yield a total compliance program assessment.

The CORC actual vs budget variance from the most recent year for which audited financials are available is broken out from the rest of the Adjustment to Cash Reserve and assigned to the CORC program allocation of costs. Within Québec these costs are funded directly by the regulator, therefore, the assignment of program area variances needs to respect those specific circumstances.

Finally, the total RE division funding requirements and assessments by BAA are tabulated and the total funding requirements and assessments for NPCC, both the RE and CS divisions, are combined.

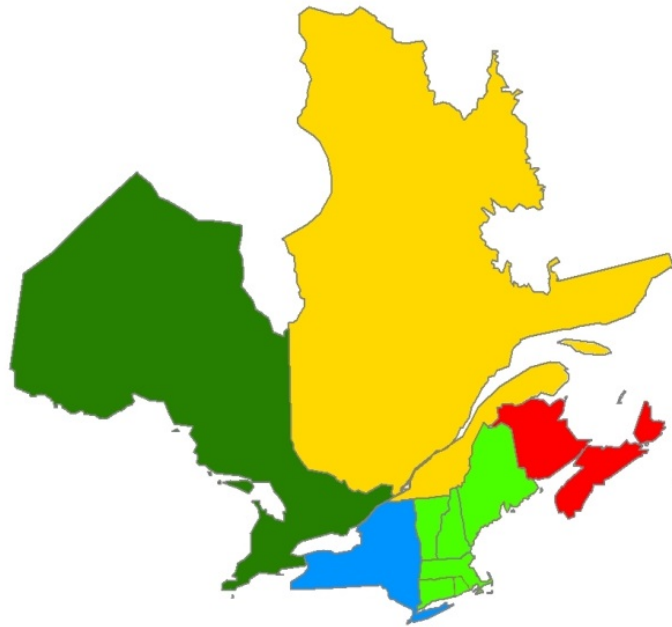
NPCC 2019 Regional Entity (RE) and Criteria Services (C-S) Divisional Funding Information

A-1	B-1	B-1a.	C-1	C-1a.	D-1	E-1	F-1	G-1	H-1	I-1	J-1	K-1	L-1	M-1
NPCC Balancing Authorities (LSE Designees)	2017 Net Energy for Load (MWh)	2017 NPCC US NEL (MWh)	2017 NPCC NEL % of NPCC Total	2017 U.S. NEL % of NPCC	Costs Associated with U.S. Only Reliability	2019 NPCC RE Division Expenses & Fixed Assets Minus CORC and U.S. Only	Adjustment to RE Division Cash Reserve Requirement Less CORC	2019 NPCC RE Division Funding Requirement Minus	2019 NPCC RE Division Penalty Monies Applied to RE Division Minus	Budgeted Workshop Fees	2019 NPCC RE Division Minus CORC (G-1 plus H-1)	2019 NPCC CS Division Expenses & Fixed Assets	2019 CS Division Adjustment to Cash Reserve Requirement	2019 NPCC CS Division Funding Requirement & Member Fees (K-1 plus L-1)
New England	121,220,000	121,220,000	20.033%	43.669%	TBD	1,399,757	-20,055	1,379,702	0	-13,522	1,366,180	222,082	-9,958	212,124
New York	156,370,000	156,370,000	25.842%	56.331%	TBD	1,805,643	-25,870	1,779,773	0	-17,443	1,762,329	286,479	-12,845	273,634
Ontario	132,091,000	132,091,000	21.830%			1,525,287	-21,853	1,503,434	0	-14,735	1,488,699	241,999	-10,851	231,148
Quebec	170,705,000	170,705,000	28.211%			1,971,150	-28,241	1,942,908	0	-19,042	1,923,866	312,738	-14,023	298,715
New Brunswick	13,796,000	13,796,000	2.280%			159,306	-2,282	157,023	0	-1,539	155,484	25,275	-1,133	24,142
Nova Scotia	10,917,000	10,917,000	1.804%			126,061	-1,806	124,255	0	-1,218	123,037	20,001	-897	19,104
Total	605,097,000	277,590,000	100.000%	100.000%	\$0	\$6,987,204	-\$100,108	\$6,887,096	\$0	-\$67,500	\$6,819,596	\$1,108,574	-\$49,707	\$1,058,866

A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	I-2	J-2	K-2	L-2	M-2	N
NPCC Balancing Authorities (LSE Designees)	2017 NEL Based Allocation of CORC Program Fundamentals ³	2019 Audit and Investigation Allocation Methodology	2019 59.85% of CORC Allocation	2019 Mitigation and Enforcement Allocation Methodology	2019 18.84% of CORC Allocation	2019 Total CORC Program Expenses & Fixed Assets	2019 CORC Program Penalty Monies Applied to CORC Program	Assigned CORC Program 2017 Actual vs Budget Variance	2019 Total CORC Program Assessment (G-2 plus H-2 plus I-2)	2019 RE Division Total Funding Requirement (G-1 plus G-2 plus I-2)	2019 RE Division Total Assessment Requirement (J-1 plus J-2)	2019 NPCC Total Funding Requirement (M-1 plus K-2)	2019 NPCC Total Assessment & Member Fees (M-1 plus L-2)
New England	376,351	44.497%	1,908,051	41.856%	559,686	2,844,087	0	-210,278	2,633,809	4,013,512	3,999,989	4,225,636	4,212,114
New York	485,481	38.395%	2,466,027	35.303%	721,977	3,673,485	0	-266,547	3,406,938	5,186,710	5,169,267	5,460,344	5,442,901
Ontario	410,102	4.231%	223,291	5.753%	95,270	728,962	0	-53,312	675,651	2,179,085	2,164,350	2,410,232	2,395,497
Quebec	529,980	8.921%	470,751	12.888%	214,086	1,214,817	0	-80,406	1,134,411	3,077,319	3,058,277	3,376,034	3,356,992
New Brunswick	42,832	2.045%	107,910	3.625%	60,206	210,949	0	-12,041	198,908	355,931	354,392	380,073	378,534
Nova Scotia	33,894	1.913%	100,941	0.575%	9,552	144,387	0	-10,289	134,098	258,353	257,136	277,457	276,239
Total	\$1,878,640	100.000%	\$4,374,078	100.000%	\$1,281,662	\$8,816,687	\$0	-\$632,872	\$8,183,815	\$15,070,911	\$15,003,411	\$16,129,777	\$16,062,277

1 Any sub-regional reliability assessment costs in response to U.S. only regulatory initiatives will be considered for allocation to U.S. only BAs consistent with NERC Rules of Procedure section 1102.
 2 Consistent with NERC's Policy on Allocation of Certain Compliance and Enforcement Costs, the NPCC Board approved Allocation Methodologies for Certain NPCC Compliance Program Area Costs Assessed to Non-U.S. Entities.
 3 CORC Program Fundamentals expenses of \$1,878,640 represent 21.31% of the Total CORC Program Costs and are allocated using the Regional NEL based methodology.
 4 Audit and Investigation expenses of \$5,276,971 represent 59.85% of the Total CORC Program Costs. The Canadian costs are allocated utilizing an audit based methodology. The portion of \$2,89% attributable to U.S. NPCC is allocated between the New York and New England balancing authority areas based on their respective net energy for load (NEL) as shown in Columns B-1a. and C-1a. The ratios in C-1a. are applied to the 82.89% of U.S. audit costs to obtain the percentages (Column C-2 b) which are then applied to the 59.85% of CORC costs. Audit based allocation uses Compliance Registry Data registrants as of May 1, 2017.
 5 Mitigation and Enforcement expenses of \$1,661,076 represent 18.84% of the Total CORC Program Costs. The Canadian costs are allocated utilizing an enforcement activity based methodology. The portion of 77.15% attributable to U.S. NPCC is allocated between the New York and New England balancing authority areas based on their respective net energy for load (NEL) as shown in Columns B-1a. and C-1a. The ratios in C-1a. are applied to the 82.89% of U.S. enforcement costs to obtain the percentages (Column C-2 b) which are then applied to the 18.84% of CORC costs.

Section B — Supplemental Financial Information 2019 Business Plan and Budget



Section B – Supplemental Financial Information

Reserve Balance

Table B-1 Reserve Balance

Working Capital and Operating Reserve Analysis 2018-2019				
REGIONAL ENTITY DIVISION				
	Total Reserve	Operating Reserve	Working Capital	Business Continuity
Beginning Total Reserve, December 31, 2017	5,017,751	2,818,887	1,258,864	940,000
Plus: 2018 ERO Funding (from LSEs or designees)	14,341,787	14,341,787		
Plus: 2018 Other funding sources	139,000	139,000		
Less: 2018 Projected expenses & capital expenditures	(15,044,967)	(15,044,967)		
Projected Total Reserve, December 31, 2018	4,453,571	2,254,707	1,258,864	940,000
Desired Total Reserve, December 31, 2019	3,720,590	1,463,652 ¹	1,316,938 ²	940,000 ³
Less: Projected Total Reserve, December 31, 2018	(4,453,571)	(2,254,707)	(1,258,864)	(940,000)
Increase(decrease) in assessments to achieve desired Total Reserve	(732,980)	(791,055)	58,075	0
2019 Expenses and Capital Expenditures	15,803,891			
Less: Penalty Sanctions ⁴	0			
Less: Other Funding Sources	(67,500)			
Less: Release of Business Continuity Reserve Funds ³	0			
Adjustment to Working Capital to achieve desired Total Reserve balance ²	58,075			
Adjustment to Operating Reserve to achieve desired Total Reserve balance ¹	(791,055)			
2019 Assessment	15,003,411			

¹ Operating Reserve within a range from 8.33% to 25.00% of Budget. \$1,463,652 represents 9.26% of the 2019 budget of \$15,803,891

² Working Capital equal to 8.33% of Budget. \$1,316,938 represents 8.33% of the 2019 budget of \$15,803,891

³ Business Continuity Reserve (BCR) established in 2017 as approved by the NPCC Board of Directors to fund Succession Planning related expenses.

⁴ Represents collections July 1, 2017 to June 30, 2018.

Explanation of Changes in Reserve Policy from Prior Year

There was no change to the existing Working Capital and Operating Reserve Policy. A separate Business Continuity Reserve (BCR) in the amount of \$1,000,000 (allocated between the Regional Entity and Criteria Services divisions) was established in 2017 as approved by the NPCC Board of Directors, upon recommendation by the Management Development and Compensation Committee and endorsement by the Finance and Audit Committee, to be identified as restricted cash and drawn upon as subsequently brought before the Board of Directors in association with President & CEO succession related activities associated with a planned or sudden retirement, as well as other sudden changing workforce staffing requirements which could be brought about by coincident multiple staff retirements.

Breakdown by Statement of Activity Sections

The following detailed schedules are in support of the Regional Entity division Statement of Activities on page 13 of the 2019 Business Plan and Budget. All significant variances have been disclosed by program area in the preceding pages.

Penalty Sanctions

U.S. penalty monies received prior to June 30, 2018 are to be used to offset assessments in the 2019 Budget, as documented in the NERC Policy – Accounting, Financial Statement, and Budgetary Treatment of Penalties Imposed and Received for Violations of Reliability Standard. No penalty monies were received from July 1, 2017 through June 30, 2018. Penalty monies received from July 1, 2018 through June 30, 2019 will be used to offset U.S. load serving entity designee assessments in the 2020 Budget.

Allocation Method: U.S. penalty sanctions received have been allocated to the following Regional Entity division programs to reduce assessments: Reliability Standards; Compliance Monitoring & Enforcement and Organization Registration & Certification; Reliability Assessments and Performance Analysis; Training, Education and Operator Certification; and Situation Awareness and Infrastructure Security. U.S. penalty sanctions are allocated based upon the number of FTEs in the Program divided by the aggregate total FTEs in the Programs receiving the allocation.

Table B-2 Penalty Sanctions

Penalty Sanctions Received Prior to June 30, 2018	Date Received	Amount Received
		\$ -
Total Penalties Received		\$ -

Table B-3 Supplemental Funding

Outside Funding Breakdown By Program (excluding ERO Assessments & Penalty Sanctions)	Budget 2018	Projection 2018	Budget 2019	Variance 2019 Budget v 2018 Budget
Reliability Standards				
Total	\$ -	\$ -	\$ -	\$ -
Compliance Monitoring, Enforcement & Org. Registration				
	\$ -	\$ -	\$ -	\$ -
	-	-	-	-
Total	\$ -	\$ -	\$ -	\$ -
Reliability Assessment and Performance Analysis				
	\$ -	\$ -	\$ -	\$ -
	-	-	-	-
Total	\$ -	\$ -	\$ -	\$ -
Training and Education				
Workshops	\$ 64,000	\$ 64,000	\$ 67,500	\$ 3,500
Total	\$ 64,000	\$ 64,000	\$ 67,500	\$ 3,500
Situation Awareness and Infrastructure Security				
	\$ -	\$ -	\$ -	\$ -
Total	\$ -	\$ -	\$ -	\$ -
Technical Committees and Member Forums				
	\$ -	\$ -	\$ -	\$ -
Total	\$ -	\$ -	\$ -	\$ -
Administrative Services Programs				
	\$ -	\$ -	\$ -	\$ -
Total	\$ -	\$ -	\$ -	\$ -
Total Outside Funding	\$ 64,000	\$ 64,000	\$ 67,500	\$ 3,500

Explanation of Significant Variances –2019 Budget versus 2018 Budget

- NPCC assumed no interest income because of continuing low market interest rates.

Table B-4 Personnel Expenses

Personnel Expenses	Budget 2018	Projection 2018	Budget 2019	Variance 2019 Budget v 2018 Budget	Variance %
Salaries					
Salary	\$ 7,057,483	\$ 7,057,483	\$ 7,298,280	\$ 240,797	3.4%
Employment Agency Fees	\$ 10,000	\$ 10,000	\$ 10,000	\$ -	0.0%
Temporary Office Services	\$ 40,116	\$ 40,116	\$ 24,000	\$ (16,116)	-40.2%
Total Salaries	\$ 7,107,599	\$ 7,107,599	\$ 7,332,280	\$ 224,681	3.2%
Total Payroll Taxes	\$ 411,440	\$ 411,440	\$ 449,994	\$ 38,553	9.4%
Benefits					
Education Reimbursement	\$ 30,000	\$ 30,000	\$ 32,000	\$ 2,000	6.7%
Training and Seminars	\$ 44,232	\$ 44,232	\$ 58,290	\$ 14,058	31.8%
Medical Insurance	\$ 811,369	\$ 811,369	\$ 901,783	\$ 90,414	11.1%
Life-LTD-STD Insurance	\$ 90,465	\$ 90,465	\$ 94,804	\$ 4,339	4.8%
Worker's Compensation	\$ 15,000	\$ 15,000	\$ 20,000	\$ 5,000	33.3%
Vacation	\$ 485,312	\$ 485,312	\$ 506,201	\$ 20,889	4.3%
Relocation	\$ -	\$ -	\$ -	\$ -	-
Total Benefits	\$ 1,476,378	\$ 1,476,378	\$ 1,613,078	\$ 136,700	9.3%
Retirement					
Pension Contribution	\$ 38,000	\$ 38,000	\$ -	\$ (38,000)	-100.0%
Employee Savings Plan	\$ 714,353	\$ 714,353	\$ 741,511	\$ 27,157	3.8%
Savings Admin	\$ 35,000	\$ 35,000	\$ 36,000	\$ 1,000	2.9%
Deferred Compensation	\$ 38,000	\$ 38,000	\$ 76,000	\$ 38,000	100.0%
Total Retirement	\$ 825,353	\$ 825,353	\$ 853,511	\$ 28,157	3.4%
Total Personnel Costs	\$ 9,820,770	\$ 9,820,770	\$ 10,248,862	\$ 428,092	4.4%
FTEs	36.86	36.86	38.86	2.00	5.4%
Cost per FTE					
Salaries	\$ 192,827	\$ 192,827	\$ 188,685	\$ (4,142)	-2.1%
Payroll Taxes	\$ 11,162	\$ 11,162	\$ 11,580	\$ 418	3.7%
Benefits	\$ 40,054	\$ 40,054	\$ 41,510	\$ 1,456	3.6%
Retirement	\$ 22,392	\$ 22,392	\$ 21,964	\$ (428)	-1.9%
Total Cost per FTE	\$ 266,434	\$ 266,434	\$ 263,738	\$ (2,696)	-1.0%

Explanation of Significant Variances –2019 Budget versus 2018 Budget

- Pension Contribution decrease is offset by Deferred Compensation increase of the same amount due to the reclassification of 457(b) expenses.
- Decrease in cost per FTE is related to the retirement of a number of seasoned professionals resulting in vacancies which were filled through a combination of in-house promotions, resource re-allocations and the retention of less seasoned successors.
- Increase in Training and Seminars is due to increased per employee training budget.
- Medical Insurance increase reflects a premium increase of 10%.

Table B-5 Meeting Expense

Meeting Expenses	Budget 2018	Projection 2018	Budget 2019	Variance 2019 Budget v 2018 Budget	Variance %
Meetings	\$ 353,050	\$ 353,050	\$ 370,750	\$ 17,700	5.0%
Travel	\$ 834,500	\$ 834,500	\$ 845,900	\$ 11,400	1.4%
Conference Calls	\$ 37,000	\$ 37,000	\$ 36,000	\$ (1,000)	-2.7%
Total Meeting Expenses	\$ 1,224,550	\$ 1,224,550	\$ 1,252,650	\$ 28,100	2.3%

Explanation of Significant Variances –2019 Budget versus 2018 Budget

- Continued efforts to limit the number of attendees to offsite meetings and hold more meetings on-site and via webinar.
- Spring and Fall Standards and Compliance Workshops compressed from three days to two days.

Table B-6 Consultants and Contracts

Consultants	Budget 2018	Projection 2018	Budget 2019	Variance 2019 Budget v 2018 Budget	Variance %
Consultants					
Reliability Standards	\$ -	\$ -	\$ -	\$ -	-
Compliance Enforcement and Organization Registration and Certification	\$ -	\$ -	\$ -	\$ -	-
Reliability Assessment and Performance Analysis	\$ -	\$ -	\$ -	\$ -	-
Training and Education	\$ -	\$ -	\$ -	\$ -	-
Situation Awareness and Infrastructure Security	\$ -	\$ -	\$ -	\$ -	-
Member Forums	\$ -	\$ -	\$ -	\$ -	-
General and Administrative	\$ -	\$ -	\$ -	\$ -	-
Legal and Regulatory	\$ -	\$ -	\$ -	\$ -	-
Information Technology	\$ -	\$ -	\$ -	\$ -	-
Human Resources	\$ -	\$ -	\$ -	\$ -	-
Accounting and Finance	\$ -	\$ -	\$ -	\$ -	-
Consultants Total	\$ -	\$ -	\$ -	\$ -	-
Contracts	Budget 2018	Projection 2018	Budget 2019	Variance 2019 Budget v 2018 Budget	Variance %
Reliability Standards	\$ 10,000	\$ 10,000	\$ 10,000	\$ -	0.0%
Compliance Enforcement and Organization Registration and Certification	\$ 1,254,000	\$ 1,254,000	\$ 1,357,150	\$ 103,150	8.2%
Reliability Assessment and Performance Analysis	\$ 401,640	\$ 401,640	\$ 430,000	\$ 28,360	7.1%
Training and Education	\$ -	\$ -	\$ -	\$ -	-
Situation Awareness and Infrastructure Security	\$ 120,000	\$ 120,000	\$ 130,000	\$ 10,000	8.3%
Member Forums	\$ -	\$ -	\$ -	\$ -	-
General and Administrative	\$ 85,000	\$ 85,000	\$ 88,000	\$ 3,000	3.5%
Legal and Regulatory	\$ -	\$ -	\$ -	\$ -	-
Information Technology	\$ -	\$ -	\$ -	\$ -	-
Human Resources	\$ -	\$ -	\$ -	\$ -	-
Accounting and Finance	\$ 7,000	\$ 7,000	\$ 7,000	\$ -	0.0%
Contracts Total	\$ 1,877,640	\$ 1,877,640	\$ 2,022,150	\$ 144,510	7.7%
Total Consultants and Contracts	\$ 1,877,640	\$ 1,877,640	\$ 2,022,150	\$ 144,510	7.7%

Explanation of Significant Variances –2019 Budget versus 2018 Budget

- Ongoing effort to decrease the use of consultants and contractors when possible. (See program area sections for detail regarding a specific program area.)

Table B-7 Office Rent

Office Rent	Budget 2018	Projection 2018	Budget 2019	Variance 2019 Budget v 2018 Budget	Variance %
Office Rent	\$ 650,000	\$ 650,000	\$ 650,000	\$ -	0.0%
Utilities	\$ 43,000	\$ 43,000	\$ 45,000	\$ 2,000	4.7%
Maintenance	\$ 35,000	\$ 35,000	\$ 37,000	\$ 2,000	5.7%
Security	\$ 2,700	\$ 2,700	\$ 2,700	\$ -	0.0%
Real Estate Taxes	\$ 80,000	\$ 80,000	\$ 86,000	\$ 6,000	7.5%
Total Office Rent	\$ 810,700	\$ 810,700	\$ 820,700	\$ 10,000	1.2%

Explanation of Significant Variances –2019 Budget versus 2018 Budget

- Projected increase in real estate taxes.

Table B-8 Office Costs

Office Costs	Budget 2018	Projection 2018	Budget 2019	Variance 2019 Budget v 2018 Budget	Variance %
Telephone	\$ 111,660	\$ 111,660	\$ 88,720	\$ (22,940)	-20.5%
Internet Expense	\$ 95,000	\$ 95,000	\$ 82,740	\$ (12,260)	-12.9%
Office Supplies	\$ 33,000	\$ 33,000	\$ 33,000	\$ -	0.0%
Computer Supplies and Maintenance	\$ 350,600	\$ 350,600	\$ 397,387	\$ 46,787	13.3%
Subscriptions & Publications	\$ 13,500	\$ 13,500	\$ 13,500	\$ -	0.0%
Dues	\$ 3,400	\$ 3,400	\$ 3,400	\$ -	0.0%
Postage	\$ 1,200	\$ 1,200	\$ 1,200	\$ -	0.0%
Express Shipping	\$ 10,000	\$ 10,000	\$ 10,000	\$ -	0.0%
Copying	\$ 26,400	\$ 26,400	\$ 26,400	\$ -	0.0%
Reports	\$ 8,000	\$ 8,000	\$ 8,000	\$ -	0.0%
Stationary and Office Forms	\$ 2,000	\$ 2,000	\$ 2,000	\$ -	0.0%
Equipment Repair/Service Contracts	\$ -	\$ -	\$ -	\$ -	-
Bank Charges	\$ 10,000	\$ 10,000	\$ 10,000	\$ -	0.0%
Sales and Use Tax	\$ -	\$ -	\$ -	\$ -	-
Merchant Credit Card Fees	\$ -	\$ -	\$ -	\$ -	-
Presentation and Publicity	\$ -	\$ -	\$ -	\$ -	-
Total Office Costs	\$ 664,760	\$ 664,760	\$ 676,347	\$ 11,587	1.7%

Explanation of Significant Variances –2019 Budget versus 2018 Budget

- Total Office costs are expected to remain relatively flat.

Table B-9 Professional Services

Professional Services	Budget 2018	Projection 2018	Budget 2019	Variance 2019 Budget v 2018 Budget	Variance %
BOT Fee	\$ 340,000	\$ 340,000	\$ 346,000	\$ 6,000	1.8%
BOT Search Fee	\$ -	\$ -	\$ -	\$ -	-
Legal - Reorganization	\$ -	\$ -	\$ -	\$ -	-
Accounting & Auditing Fees	\$ 300,000	\$ 300,000	\$ 300,000	\$ -	0.0%
Legal Fees - Other	\$ 250,000	\$ 250,000	\$ 262,000	\$ 12,000	4.8%
Insurance - Commercial	\$ 70,000	\$ 70,000	\$ 70,000	\$ -	0.0%
Total Services	\$ 960,000	\$ 960,000	\$ 978,000	\$ 18,000	1.9%

Table B-10 Miscellaneous

Miscellaneous Expense	Budget 2018	Projection 2018	Budget 2019	Variance 2019 Budget v 2018 Budget	Variance %
Miscellaneous Expense	\$ 50,000	\$ 50,000	\$ 51,000	\$ 1,000	2.0%
Total Miscellaneous Expense	\$ 50,000	\$ 50,000	\$ 51,000	\$ 1,000	2.0%

Table B-11 Other Non-Operating Expenses

Other Non-Operating Expenses	Budget 2018	Projection 2018	Budget 2019	Variance 2019 Budget v 2018 Budget	Variance %
Interest Expense	\$ -	\$ -	\$ -	\$ -	-
Office Relocation	\$ -	\$ -	\$ -	\$ -	-
Total Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	-

Table B-12 Fixed Assets

Fixed Assets	Budget 2018	Projection 2018	Budget 2019	Variance 2019 Budget v 2018 Budget	Variance %
Depreciation	\$ (269,000)	\$ (269,000)	\$ (255,000)	\$ 14,000	-5.2%
Equipment CapEx	\$ -	\$ -	\$ -	\$ -	-
Computer & Software CapEx	\$ 115,000	\$ 115,000	\$ 170,000	\$ 55,000	47.8%
Furniture & Fixtures CapEx	\$ -	\$ -	\$ -	\$ -	-
Leasehold Improvements	\$ -	\$ -	\$ -	\$ -	-
Allocation of Fixed Assets	\$ -	\$ -	\$ -	\$ -	-
Total Increase (Decrease) in Fixed Assets	\$ (154,000)	\$ (154,000)	\$ (85,000)	\$ 69,000	-44.8%

Explanation of Significant Variances –2019 Budget versus 2018 Budget

- Capital expenditures planned for 2019 include the continuing implementation of the document management system.

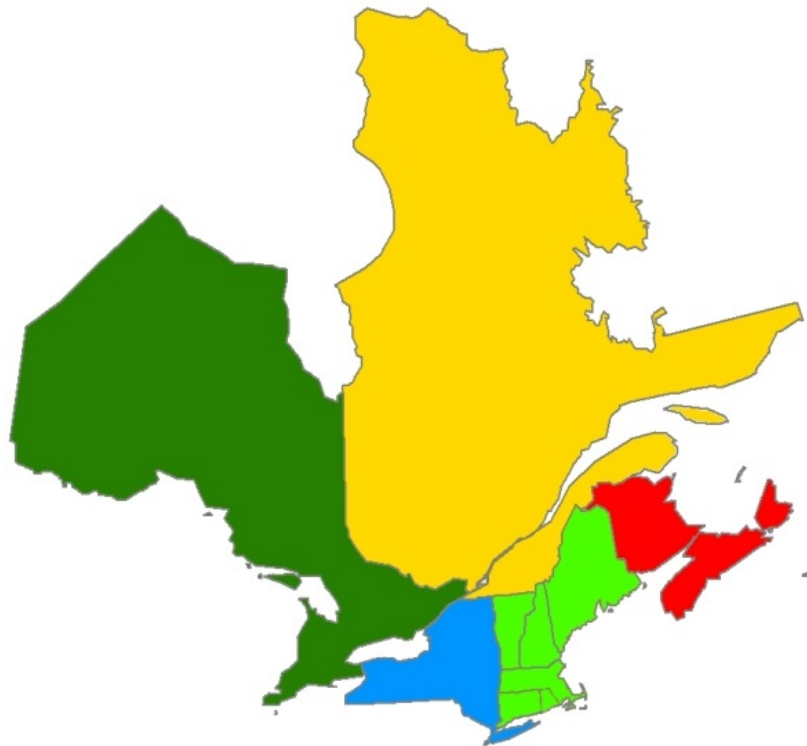
Table B-13 2020 and 2021 Projections

Statement of Activities and Capital Expenditures 2019 Budget & Projected 2020 and 2021 Budgets							
	2019 Budget	2020 Projection	\$ Change 19 v 20	% Change 19 v 20	2021 Projection	\$ Change 20 v 21	% Change 20 v 21
Funding							
ERO Funding							
ERO Assessments	\$ 15,003,411	\$ 15,299,904	\$ 296,493	2.0%	\$ 15,628,577	\$ 328,672	2.1%
Penalty Sanctions	-	-	-	-	-	-	-
Total ERO Funding	\$ 15,003,411	\$ 15,299,904	\$ 296,493	2.0%	\$ 15,628,577	\$ 328,672	2.1%
Membership Dues	-	-	-	-	-	-	-
Testing Fees	-	-	-	-	-	-	-
Services & Software	-	-	-	-	-	-	-
Workshops	67,500	64,000	(3,500)	-5.2%	64,000	-	0.0%
Interest	-	-	-	-	-	-	-
Miscellaneous	-	-	-	-	-	-	-
Total Funding (A)	\$ 15,070,911	\$ 15,363,904	\$ 292,993	1.9%	\$ 15,692,577	\$ 328,672	2.1%
Expenses							
Personnel Expenses							
Salaries	\$ 7,332,280	\$ 7,552,249	\$ 219,968	3.0%	\$ 7,778,816	\$ 226,567	3.0%
Payroll Taxes	449,994	463,493	13,500	3.0%	477,398	13,905	3.0%
Benefits	1,613,078	1,709,863	96,785	6.0%	1,812,455	102,592	6.0%
Retirement Costs	853,511	879,116	25,605	3.0%	905,489	26,373	3.0%
Total Personnel Expenses	\$ 10,248,862	\$ 10,604,721	\$ 355,858	3.5%	\$ 10,974,158	\$ 369,438	3.5%
Meeting Expenses							
Meetings	\$ 370,750	\$ 374,458	\$ 3,708	1.0%	\$ 378,202	\$ 3,745	1.0%
Travel	845,900	854,359	8,459	1.0%	862,903	8,544	1.0%
Conference Calls	36,000	36,360	360	1.0%	36,724	364	1.0%
Total Meeting Expenses	\$ 1,252,650	\$ 1,265,177	\$ 12,527	1.0%	\$ 1,277,828	\$ 12,652	1.0%
Operating Expenses							
Consultants & Contracts	\$ 2,022,150	\$ 2,022,150	-	0.0%	\$ 2,022,150	\$ -	0.0%
Office Rent	820,700	828,907	8,207	1.0%	837,196	8,289	1.0%
Office Costs	676,347	689,874	13,527	2.0%	703,671	13,797	2.0%
Professional Services	978,000	978,000	-	0.0%	978,000	-	0.0%
Miscellaneous	51,000	51,510	510	1.0%	52,025	515	1.0%
Depreciation	255,000	257,550	2,550	1.0%	260,126	2,576	1.0%
Total Operating Expenses	\$ 4,803,197	\$ 4,827,991	\$ 24,794	0.5%	\$ 4,853,168	\$ 25,177	0.5%
Total Direct Expenses	\$ 16,304,709	\$ 16,697,888	\$ 393,179	2.4%	\$ 17,105,154	\$ 407,266	2.4%
Indirect Expenses	\$ (415,818)	\$ (424,135)	\$ (8,316)	2.0%	\$ (432,617)	\$ (8,483)	2.0%
Other Non-Operating Expenses	\$ -	\$ -	\$ -		\$ -	\$ -	
Total Expenses (B)	\$ 15,888,891	\$ 16,273,753	\$ 384,862	2.4%	\$ 16,672,537	\$ 398,784	2.5%
Change in Assets	\$ (817,980)	\$ (909,849)	\$ (91,869)	11.2%	\$ (979,960)	\$ (70,111)	7.7%
Fixed Assets							
Depreciation	\$ (255,000)	\$ (257,550)	\$ (2,550)	1.0%	\$ (260,126)	\$ (2,576)	1.0%
Computer & Software CapEx	170,000	100,000	(70,000)	-41.2%	50,000	(50,000)	-50.0%
Furniture & Fixtures CapEx	-	-	-	-	-	-	-
Equipment CapEx	-	-	-	-	-	-	-
Leasehold Improvements	-	-	-	-	-	-	-
(Incr)Dec in Fixed Assets (C)	\$ (85,000)	\$ (157,550)	\$ (72,550)	85.4%	\$ (210,126)	\$ (52,576)	33.4%
TOTAL BUDGET (=B+C)	\$ 15,803,891	\$ 16,116,203	\$ 312,312	2.0%	\$ 16,462,411	\$ 346,208	2.1%
TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)	\$ (732,980)	\$ (752,299)	\$ (19,319)	2.6%	\$ (769,835)	\$ (17,536)	0.0%
FTEs	38.86	38.86	0	0.0%	38.86	0	0.0%

Assumptions

- No changes in assumptions
- Staffing remains flat
- Change in assessments is equal to change in total budget

Section C — Criteria Services Division Activities 2019 Business Plan and Budget



Section C – Criteria Services Division Activities

Criteria Services Division			
(in whole dollars)			
	2018 Budget	2019 Budget	Increase (Decrease)
Total FTEs	2.14	2.14	0.00
Total Direct Expenses	\$666,530	\$676,756	\$10,226
Total Indirect Expenses	\$416,453	\$415,818	(\$635)
Other Non-Operating Expenses	\$0	\$0	\$0
Working Capital and Operating Reserves Requirement	(\$47,843)	(\$49,707)	(\$1,865)
Inc(Dec) in Fixed Assets	(\$16,000)	\$16,000	\$32,000
Funding Requirement	\$1,019,141	\$1,058,866	\$39,726

NPCC Regionally-Specific Criteria Services Background

NPCC Criteria Services division activities are based on the development, maintenance (including retirement when no longer needed), and promulgation of new or revised Regionally-specific, more stringent reliability criteria and supporting guideline or procedural documents. The requirements in NPCC Reliability Criteria apply only to those facilities defined as NPCC Bulk Power System elements through the performance based methodology identified in the NPCC Document A-10, “Classification of Bulk Power System Elements.”

In accordance with the NERC Rules of Procedure (RoP) Section 313, Regional Entities may develop Regional Criteria necessary to implement, augment, or facilitate compliance with NERC Reliability Standards. These Regional Criteria may also be utilized to address issues not within the scope or jurisdiction of FERC as outlined in Section 215 of the Federal Power Act, such as resource adequacy. Regional Criteria may also address Canadian Provincial reliability issues, and may include specific operating or planning parameters, guides, agreements, protocols or other documents used to enhance the reliability of the Bulk Power System in the Region. These documents typically provide benefits by promoting more consistent implementation of the NERC Reliability Standards within the Region. These documents are not NERC Reliability Standards, Regional Reliability Standards, or Regional Variances, and therefore are not enforceable under the authority delegated by NERC pursuant to delegation agreements.

As NERC Reliability Standards are revised or new standards are developed, NPCC performs reviews of any associated Regional Criteria for possible impact.

For 2019 and beyond, the potential reliability impacts of increased penetration of Distributed Energy Resources (DER, e.g. solar and wind), and changing fuel mixes warrant further consideration. The Criteria Services Division has a unique opportunity to review these issues and develop criteria, guideline, and procedural documents for DER which may be outside of the jurisdiction of FERC and NERC Reliability Standards. Participation of the entities responsible for development of DER renewable resources to develop reliability documents will become increasingly important over time. Outreach, collaboration, and coordination of topics related to DER will enable NPCC to develop guidelines allowing more effective integration of these resources.

Increasing resilience of the BPS through alternative approaches to standards development using potential NPCC criteria, guidelines, and whitepapers will also be continually reviewed by NPCC's body of subject matter experts.

Membership and Governance

Full members, in accordance with NPCC's Amended and Restated Bylaws, are subject to compliance with Regionally-specific criteria and receive criteria-related services from the Criteria Services division.

Full Members, aside from those who perform the Balancing Authority function, are not assessed an annual membership fee. Those that perform Balancing Authority functions are assessed and remit a proportional net energy for load share of expenses for Criteria Services. NPCC would also directly assign Criteria Service division costs to a Balancing Authority Area or entity, where significant costs are incurred for that Balancing Authority Area. The funding for NPCC's Criteria Services division is approved by the NPCC Board of Directors.

Under Criteria Services NPCC will identify for membership, those entities involved in emerging technologies to assure that those entities that have an impact on Bulk Electric System reliability are included in appropriate NPCC activities.

Criteria Services Division Functional Scope

Through its Criteria Services division, NPCC promotes the reliable and efficient operation of the international, interconnected bulk power systems in Northeastern North America through the establishment of Regionally-specific criteria, and monitoring and enforcement of compliance with such criteria.

NPCC provides Full Members with Regional reliability assurance services, and acts as the vehicle through which States and Provinces can fulfill their political mandates, with respect to resource adequacy, as well as overseeing the Northeastern North American electric infrastructure.

Major 2019 Assumptions and Cost Impacts

The Criteria Services division activities are expected to remain stable or slightly increase throughout 2019 depending on reliability need.

- The Criteria Compliance Enforcement Program (CCEP) review and evaluation process is the mechanism for monitoring key criteria attributes as determined by the respective NPCC Task Forces and the Compliance Committee.
- Past non-compliances, if any, followed the due process stated in the CCEP-1 process document and proper resolution/enforcement action taken.

2019 Primary Goals and Objectives

- Continue with the development and maintenance of a set of NPCC Directories which augment or add specificity to the NERC Reliability Standards and which clearly delineate the more stringent NPCC criteria requirements. The combination of North American and more stringent NPCC Regional criteria provide for consistency and operational clarity while providing more robust defense in-depth, results based, criteria requirements to ensure NPCC BPS reliability.
- Continually review the criteria found in the NPCC Directories and the ERO standards to ensure no redundancies or inconsistencies exist.

- Retire Directories and/or Criteria which have been overtaken by improved NERC standards.
- Identify opportunities to develop criteria, procedures or guideline documents to address reliability related matters with DER.
- Identify opportunities to address improvements in BES resilience with NPCC processes and documentation.
- Continually review the need to file revised and updated more stringent requirements with the New York State Department of Public Service and Canadian Provinces as applicable.
- Review, maintain, and revise the NPCC Regional Reliability Directories to facilitate compliance assessments and ensure the Criteria portions of the Directories augment and are not duplicative with, the approved and effective NERC Standards.
- The Criteria Services division and CCEP Working Group (reporting to the Compliance Committee) will work with the various Task Forces to develop Criteria Compliance Reporting Forms for any additional NPCC Directories to ensure that the more stringent or Regionally-specific criteria is being met.
- The Criteria Services division and CCEP working group will work with TFCO, TFCP, TFSS, and TFSP to review criteria and measures within each specific NPCC Directory to identify and develop them into specific reporting forms for approval.
- Continually review impact of Bulk Electric System definition on Directory and Criteria content and compliance reporting.
- Continually review potential impacts of Sector or NPCC organizational changes on the Directories and Criteria by performing a review of enforcement and arbitration processes as needed.
- Assist Legal with preparation of revised Directories for Regulatory filings with the individual Provinces in accordance with their respective Memorandum of Understandings (MOUs) as well as the State of New York Public Service Commission.
- Facilitate any requested clarifications for NPCC Criteria with the necessary subject matter experts and also identify any other potential opportunities for clarifications of the Criteria.
- Conduct review of the following Documents:
 - Directory No. 7 – *Special Protection Systems* – the TFSP will serve as lead Task Force working in conjunction with TFCP and TFSS on revisions required to ensure consistency with the development of the NERC standard on Remedial Action Schemes.
 - *A-10 - Classification of Bulk Power System Elements* - the TFCP will conclude its review of the A-10 methodology in 2019.
 - Review and respond to Requests for Clarifications to existing NPCC Standards, Directories, and Criteria.

NPCC Reliability Directory Maintenance and Development

The NPCC Regional Reliability Directories were developed to demonstrate that the NPCC more stringent criteria augment, add specificity, or address issues not covered in the NERC Reliability Standards as mandated by the NERC Rules of Procedure. The conversion of NPCC’s reliability criteria into Directories was undertaken to remove any redundancies with the NERC or NPCC Regional Reliability Standards and to clearly delineate the more stringent NPCC criteria requirements, assign Functional Model designations to those responsible for compliance and create measurable compliance criteria. Subsequent to the initial establishment of the Directories, which also organized functionally related B Guidelines and C Procedures into a single Directory, the Directories were further reviewed to translate existing criteria language into a requirements and “standards type” format. The development of the criteria into NERC style requirements facilitates the NPCC Region’s CCEP and also ensures the delineation of the more stringent and

more specific Regional criteria from the latest approved and effective set of NERC ERO standards.

In 2019, work will continue with the maintenance, revision, or potential retirement of individual Directories to address any actual or anticipated redundancies with new or modified NERC or NPCC Reliability Standards. The ongoing review and maintenance of the Directories will require Task Force and Criteria Services staff to support this effort and to serve as subject matter experts. In addition to the ongoing review of the criteria within the Directories for potential duplicity with the NERC standards, any Directories that have not had the criteria translated into NERC style requirements will also be reviewed in order to achieve criteria ‘requirements’ which are clear, concise and measurable. Also, a standards style template will continue to be applied to the existing Directories to make them more consistent with the format of NERC standards. As NERC standards improve, the need for NPCC Directories and the amount of criteria contained therein may decrease over time, however in the interim, significant review is necessary to ensure the criteria remain consistent with the NERC standards as outlined in the NERC Rules of Procedure. NPCC will conduct internal reviews of all draft standards against Regional criteria and utilize subject matter experts to identify reliability and compliance related concerns. NPCC will file the revised NPCC Directories and notifications of retirements of Directories with the Canadian governmental and/or provincial Regulatory authorities within the NPCC “footprint”, on an as needed basis, in accordance with established provincial procedures and agreements executed with NPCC.

NPCC Operations and Planning Directories

The following Directories are envisioned to remain active for 2019.

Directory #1, Design and Operation of the Bulk Power System.

This Directory documents NPCC’s Regionally-specific, more stringent criteria, and demonstrates coordination and consistency with all the existing NERC TPL, BAL, IRO, INT, MOD, TOP, PRC and VAR standards. The NPCC TFCP and TFCO completed a review of the Directory#1 criteria in 2015, during which the criteria was translated into NERC style requirements and revisions were enacted to ensure consistency with recent changes to the TPL and TOP standards.

Directory #2, Emergency Operations

This Directory documents NPCC’s Regionally-specific, more stringent criteria, and demonstrates coordination and consistency with all the existing NERC EOP and TOP standards. The NPCC Task Force on Coordination of Operation is reviewing this Directory in 2018.

Directory #4, System Protection Criteria

This Directory documents NPCC’s Regionally-specific, more stringent criteria, and demonstrates coordination and consistency with certain applicable NERC PRC standards. The NPCC Task Force on System Protection will lead this review and revision.

Directory #5, Reserve

This Directory documents NPCC’s Regionally-specific, more stringent criteria, and demonstrates coordination and consistency with all the existing applicable NERC BAL, INT, and IRO standards. The NPCC Task Force on Coordination of Operation will lead this review and revision and ensure consistency with the BAL standards.

Directory #7, *Special Protection Systems*

This Directory documents NPCC's Regionally-specific, more stringent criteria for application and approval of SPS. The NPCC Task Force on System Protection will lead this review and revision and ensure consistency with the Remedial Action Scheme PRC-012 standard.

Directory #8, *System Restoration*

This Directory documents NPCC's Regionally-specific, more stringent criteria with which each applicable entity must plan for and perform power system restoration following a major or a total blackout, and demonstrates coordination and consistency with applicable NERC EOP standards. The NPCC Task Force on Coordination of Operation lead the review and revision of this Directory in 2018. The Directory was re-formatted to be consistent with the style of NERC standards.

Directory #11, *Disturbance Monitoring Equipment*,

This directory documents NPCC's Regionally-specific, more stringent criteria, and demonstrates coordination and consistency with certain existing NERC PRC standards. The NPCC Task Force on System Protection anticipates the development and approval of Directory#11 in order to facilitate the retirement of PRC -002-NPCC-1 and will lead this review and revision.

NPCC Criteria Compliance and Enforcement Program (CCEP)

The NPCC Criteria Services division supports the reliable operation of the NPCC Bulk Power System (BPS) through implementation of the NPCC Criteria Compliance Program (CCEP). This program monitors, assesses and enforces compliance with regionally specific, more stringent NPCC Criteria. The criteria are unique to the NPCC BPS and are not duplicative of the NERC Reliability Standards. The criteria evolved over many years and were determined to be technically necessary, to maintain the reliability of the NPCC BPS and prevent cascading outages. In addition, the physical characteristics and topology of the transmission system within the Region require that these specific, more stringent criteria be developed and that compliance be monitored for these criteria.

NPCC Membership, in conjunction with the Criteria Services Division of the NPCC Staff, developed the CCEP. The NPCC Compliance Committee administers the CCEP. The NPCC Compliance Committee is a stakeholder body consisting of NPCC Members, structured with seven sectors. They are Transmission Owners; Reliability Coordinators; Transmission Dependent Utilities, Distribution Providers and Load-Serving Entities; Generator Owners; Marketers, Brokers and Aggregators; Regulators; Sub-Regional Reliability Councils, Customers, Other Regional Entities and Interested Entities.

Non-compliance to NPCC Criteria are not subject to monetary sanctions, whereas violations of NERC Reliability Standards are subject to monetary sanctions. Currently non-compliance of NPCC Criteria result in escalating notification to appropriate entities based on the severity of the non-compliance.

The following two guiding documents describe the implementation of the CCEP:

- The CCEP program is described in document CCEP-1, *NPCC Criteria Compliance and Enforcement Program (CCEP) Process Document*
- The implementation plan is described in document CCEP-2, *Implementation Plan for 2011 NPCC Criteria Compliance and Enforcement Program*

The NPCC Compliance Committee reviews these documents on a regular basis. Should the NPCC Compliance Committee revise the CCEP-1 document, it will prepare an approved final version that is distributed to the NPCC Membership for vote. As the CCEP is only applicable to the NPCC Criteria, which is the responsibility of the Full Members of NPCC, the Full Members of NPCC must vote on revisions to the document

The CCEP-1 document also:

- 1) Provides a comprehensive CCEP Process Diagram showing the process of evaluating and approving Criteria Certification submittals, and additional processes and responsibilities in the event that non-compliances, disputes and sanctions arise;
- 2) Describes the roles and responsibilities of Reporting Members, the NPCC Compliance Committee, the NPCC Reliability Coordinating Committee and the Enforcement Panel in the compliance review and enforcement process;
- 3) Describes Levels of Non-Compliance, associated non-monetary Sanctions, Lateness Policy and the Arbitration/Dispute Resolution process;
- 4) Addresses Mitigation Plans for any violations under the enforcement process; and
- 5) Lists the Certification Forms to be submitted for review.

Annually, the CCEP Working Group, under the NPCC Compliance Committee, develops the CCEP implementation plan and also reviews the compliance submittals and prepares a report for the entire NPCC Compliance Committee. The NPCC Compliance Committee has final approval of compliance assessments related to CCEP. Once the Compliance Committee approves the final report, it is presented to the NPCC Reliability Coordinating Committee for its approval.

Compliance to the NPCC Criteria is a responsibility of the NPCC Members and is codified in the *AMENDED AND RESTATED BYLAWS OF NORTHEAST POWER COORDINATING COUNCIL, INC.* Implementation of the CCEP is also consist with the current Memorandum of Understanding that NPCC has with its Canadian Members.

Explanation of Significant Variances – 2019 Budget versus 2018 Budget

- None.

2018 Budget and Projection and 2019 Budget Comparisons

Statement of Activities and Capital Expenditures						
2018 Budget & Projection, and 2019 Budget						
CRITERIA SERVICES DIVISION						
				Variance		Variance
	2018	2018	2018 Projection	v 2018 Budget	2019	2019 Budget
	Budget	Projection	v 2018 Budget	Over(Under)	Budget	v 2018 Budget
				Over(Under)		Over(Under)
Funding						
ERO Funding						
ERO Assessments	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Penalty Sanctions	-	-	-	-	-	-
Total ERO Funding	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Membership Dues	1,019,141	1,019,141	-	-	1,058,866	39,726
Testing Fees	-	-	-	-	-	-
Services & Software	-	-	-	-	-	-
Workshops	-	-	-	-	-	-
Interest	-	-	-	-	-	-
Miscellaneous	-	-	-	-	-	-
Total Funding (A)	\$ 1,019,141	\$ 1,019,141	\$ -	\$ -	\$ 1,058,866	\$ 39,726
Expenses						
Personnel Expenses						
Salaries	\$ 404,848	\$ 404,848	\$ -	\$ -	\$ 371,938	\$ (32,909)
Payroll Taxes	23,413	23,413	-	-	23,696	283
Benefits	74,991	74,991	-	-	102,779	27,788
Retirement Costs	43,272	43,272	-	-	43,182	(90)
Total Personnel Expenses	\$ 546,523	\$ 546,523	\$ -	\$ -	\$ 541,596	\$ (4,927)
Meeting Expenses						
Meetings	\$ 5,000	\$ 5,000	\$ -	\$ -	\$ 5,000	\$ -
Travel	55,647	55,647	-	-	56,800	1,153
Conference Calls	-	-	-	-	-	-
Total Meeting Expenses	\$ 60,647	\$ 60,647	\$ -	\$ -	\$ 61,800	\$ 1,153
Operating Expenses						
Consultants & Contracts	\$ 40,360	\$ 40,360	\$ -	\$ -	\$ 55,360	\$ 15,000
Office Rent	-	-	-	-	-	-
Office Costs	-	-	-	-	-	-
Professional Services	-	-	-	-	-	-
Computer & Equipment Leases	-	-	-	-	-	-
Miscellaneous	3,000	3,000	-	-	4,000	1,000
Depreciation	16,000	16,000	-	-	14,000	(2,000)
Total Operating Expenses	\$ 59,360	\$ 59,360	\$ -	\$ -	\$ 73,360	\$ 14,000
Total Direct Expenses	\$ 666,530	\$ 666,530	\$ -	\$ -	\$ 676,756	\$ 10,226
Indirect Expenses	\$ 416,453	\$ 416,453	\$ -	\$ -	\$ 415,818	\$ (635)
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses (B)	\$ 1,082,983	\$ 1,082,983	\$ -	\$ -	\$ 1,092,574	\$ 9,591
Change in Assets	\$ (63,843)	\$ (63,843)	\$ -	\$ -	\$ (33,707)	\$ 30,135
Fixed Assets						
Depreciation	\$ (16,000)	(16,000)	\$ -	\$ -	(14,000)	\$ 2,000
Computer & Software CapEx	-	-	-	-	30,000	30,000
Furniture & Fixtures CapEx	-	-	-	-	-	-
Equipment CapEx	-	-	-	-	-	-
Leasehold Improvements	-	-	-	-	-	-
Allocation of Fixed Assets	-	-	-	-	-	-
Inc(Dec) in Fixed Assets (C)	(16,000)	(16,000)	-	-	16,000	32,000
TOTAL BUDGET (=B+C)	1,066,983	1,066,983	-	-	1,108,574	41,591
TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)	\$ (47,843)	\$ (47,843)	\$ -	\$ -	\$ (49,707)	\$ (1,865)

Personnel Analysis

Total FTEs by Program Area	Budget 2018	Projection 2018	Direct FTEs 2019 Budget	Shared FTEs ¹ 2019 Budget	Total FTEs 2019 Budget	Change from 2018 Budget
CRITERIA SERVICES DIVISION						
Operational Programs						
Reliability Standards	1.07	1.07	1.00	0.07	1.07	0.00
Compliance Enforcement and Organization Registration and Certification	0.00	0.00	0.00	0.00	0.00	0.00
Training and Education	0.00	0.00	0.00	0.00	0.00	0.00
Reliability Assessment and Performance Analysis	1.07	1.07	1.00	0.07	1.07	0.00
Situation Awareness and Infrastructure Security	0.00	0.00	0.00	0.00	0.00	0.00
Total FTEs Operational Programs	2.14	2.14	2.00	0.14	2.14	0.00
Administrative Programs						
Member Forums	0.00	0.00	0.00	0.00	0.00	0.00
General and Administrative	0.00	0.00	0.00	0.00	0.00	0.00
Information Technology	0.00	0.00	0.00	0.00	0.00	0.00
Legal and Regulatory	0.00	0.00	0.00	0.00	0.00	0.00
Human Resources	0.00	0.00	0.00	0.00	0.00	0.00
Accounting and Finance	0.00	0.00	0.00	0.00	0.00	0.00
Total FTEs Administrative Programs	0.00	0.00	0.00	0.00	0.00	0.00
Total FTEs	2.14	2.14	2.00	0.14	2.14	0.00

¹A shared FTE is defined as an employee who performs both Regional Entity and Criteria Services division functions.

Reserve Analysis 2018 - 2019

Working Capital and Operating Reserve Analysis 2018-2019				
CRITERIA SERVICES DIVISION				
	Total Reserve	Operating Reserve	Working Capital	Business Continuity
Beginning Total Reserve, December 31, 2017	534,786	386,031	88,755	60,000
2018 Non-Statutory Funding (from members)	1,019,141	1,019,141	0	0
2018 Other funding sources	0	0	0	0
Less: 2018 Projected expenses & fixed asset additions	(1,106,983)	(1,106,983)	0	0
Projected Total Reserve, December 31, 2018	446,943	298,188	88,755	60,000
Desired Total Reserve, December 31, 2019	397,236	244,859 ¹	92,377 ²	60,000 ³
Less: Projected Total Reserve, December 31, 2018	(446,943)	(298,188)	(88,755)	(60,000)
Increase(decrease) in assessments to achieve desired Total Reserve	(49,707)	(53,330)	3,622	0
2019 Funding requirement for expenses and fixed asset additions	1,108,574			
Less: Release of Business Continuity Reserve Funds ³	0			
Adjustment to Working Capital to achieve desired Total Reserve balance ²	3,622			
Adjustment to Operating Reserve to achieve desired Total Reserve balance ¹	(53,330)			
2019 Funding and reserve requirement	1,058,866			

¹ Total NPCC Operating Reserve must be within a range from 8.33% to 25.00% of Budget. \$244,859 represents 22.09% of the 2019 CS budget of \$1,108,574.

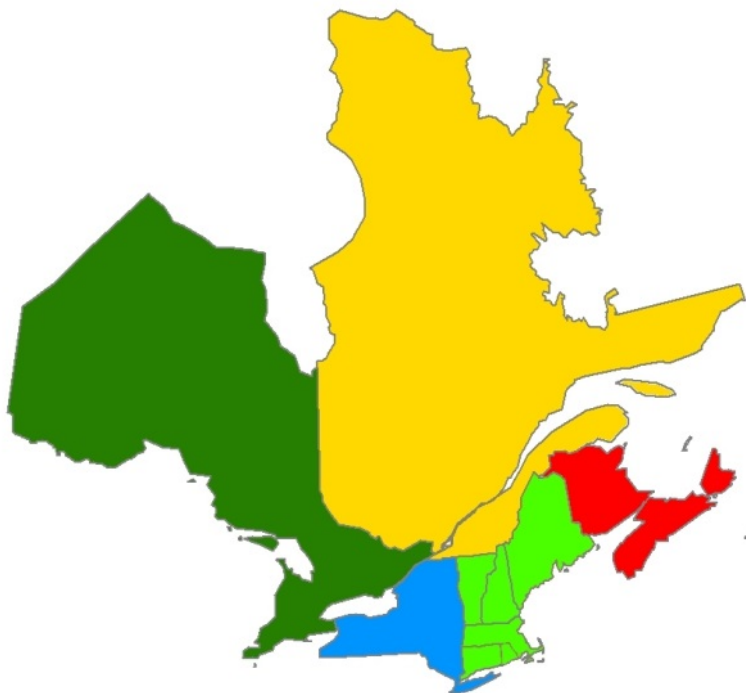
² Total NPCC Working Capital must equal 8.33% of Budget. \$92,377 represents 8.33% of the 2019 CS budget of \$1,108,574.

³ Business Continuity Reserve (BCR) established in 2017 as approved by the NPCC Board of Directors to fund Succession Planning related expenses.

Explanation of Changes in Reserve Policy from Prior Year

There was no change to the existing Working Capital and Operating Reserve Policy. A separate Business Continuity Reserve (BCR) in the amount of \$1,000,000 (allocated between the Regional Entity and Criteria Services divisions) was established in 2017 as approved by the NPCC Board of Directors, upon recommendation by the Management Development and Compensation Committee and endorsement by the Finance and Audit Committee, to be identified as restricted cash and drawn upon as subsequently brought before the Board of Directors in association with President & CEO succession related activities associated with a planned or sudden retirement, as well as other sudden changing workforce staffing requirements which could be brought about by coincident multiple staff retirements.

Section D – Additional Consolidated Financial
Statements
2019 Business Plan and Budget



Section D — Additional Financial Statements

Statement of Financial Position

Statement of Financial Position				
2017 Audited, 2018 Projection, and 2019 Budget				
Regional Entity and Criteria Services Division				
		(Per Audit)	Projected	Budget
		31-Dec-17	31-Dec-18	31-Dec-19
ASSETS				
Cash		\$ 6,977,629	\$ 5,547,000	\$ 4,664,000
Restricted cash		225,143	150,000	150,000
Temporary cash investments		1,816,878	1,833,000	1,849,000
Prepaid expenses		298,254	300,000	300,000
Other assets		215,412	236,000	257,000
Equipment and leasehold improvements, net		805,594	643,000	574,000
Total Assets		\$ 10,338,910	\$ 8,709,000	\$ 7,794,000
LIABILITIES AND NET ASSETS				
Liabilities				
Accrued expenses and other liabilities		\$ 2,641,848	\$ 2,665,000	\$ 2,688,000
Deferred revenue		684,226	-	-
Deferred rent		579,705	526,000	440,000
Total Liabilities		3,905,779	3,191,000	3,128,000
Net Assets - unrestricted		6,433,131	5,518,000	4,666,000
Total Liabilities and Net Assets		\$ 10,338,910	\$ 8,709,000	\$ 7,794,000

Section D — Additional Financial Statements

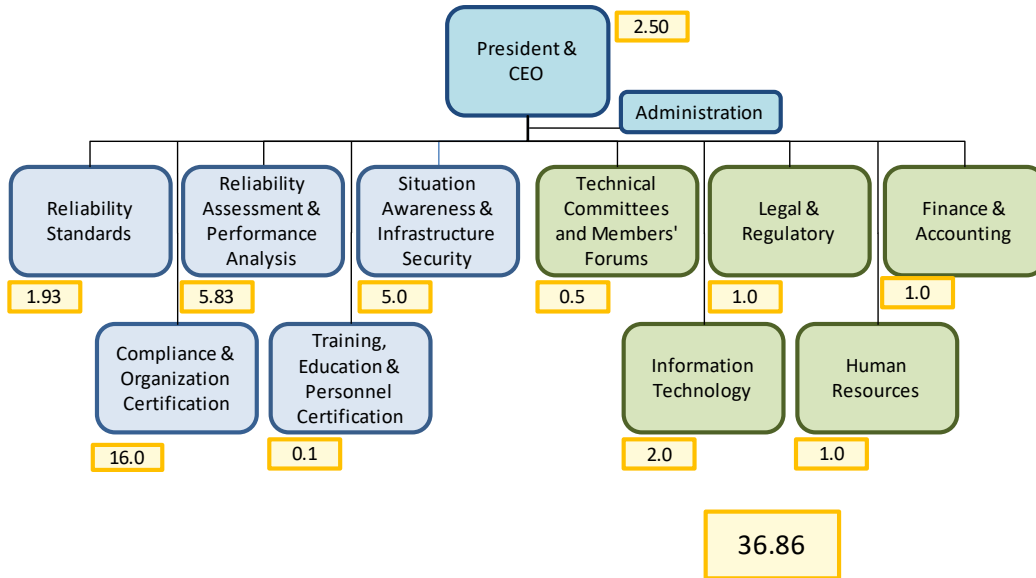
NPCC Statement of Activities 2019 Budget		RE Division Total	Reliability Standards (Section 300)	Compliance Monitoring and Enforcement and Organization Registration and Certification (Section 400 & 500)	Reliability Assessment and Performance Analysis (Section 800)	Training, Education, and Operator Certification (Section 900)	Situation Awareness and Infrastructure Security (Section 1000)	Administrative Services
Funding								
ERO Funding								
	ERO Assessments	15,003,411	1,035,390	8,183,815	3,332,686	184,943	2,366,685	(100,108)
	Penalty/Sanctions	-	-	-	-	-	-	-
	Total ERO Funding	15,003,411	1,035,390	8,183,815	3,332,686	184,943	2,366,685	(100,108)
	Members hip Dues	-	-	-	-	-	-	-
	Testing Fees	-	-	-	-	-	-	-
	Services & Software	-	-	-	-	-	-	-
	Workshops	67,500	-	-	-	67,500	-	-
	Interest	-	-	-	-	-	-	-
	Miscellaneous	-	-	-	-	-	-	-
	Total Funding (A)	15,070,911	1,035,390	8,183,815	3,332,686	252,443	2,366,685	(100,108)
Expenses								
Personnel Expenses								
	Salaries	7,332,280	382,872	2,815,882	1,135,264	18,600	832,408	2,147,254
	Payroll Taxes	449,994	22,735	191,849	69,027	1,513	57,432	107,437
	Benefits	1,613,078	106,764	585,543	219,655	6,805	201,196	493,115
	Retirement Costs	853,511	41,599	301,025	123,322	2,379	89,043	296,142
	Total Personnel Expenses	10,248,862	553,970	3,894,299	1,547,268	29,297	1,180,079	3,043,948
Meeting Expenses								
	Meetings	370,750	7,000	15,000	23,000	189,000	10,000	126,750
	Travel	845,900	94,900	295,400	216,200	15,000	89,300	135,100
	Conference Calls	36,000	-	-	-	-	-	36,000
	Total Meeting Expenses	1,252,650	101,900	310,400	239,200	204,000	99,300	297,850
Operating Expenses								
	Consultants & Contracts	2,022,150	10,000	1,357,150	430,000	-	130,000	95,000
	Office Rent	820,700	-	-	-	-	-	820,700
	Office Costs	676,347	-	-	-	-	-	676,347
	Professional Services	978,000	-	-	-	-	-	978,000
	Miscellaneous	51,000	-	-	-	-	-	51,000
	Depreciation	255,000	-	-	-	-	-	255,000
	Total Operating Expenses	4,803,197	10,000	1,357,150	430,000	-	130,000	2,876,047
	Total Direct Expenses	16,304,709	665,870	5,561,849	2,216,468	233,297	1,409,379	6,217,845
	Indirect Expenses	(415,818)	375,014	3,303,230	1,132,814	19,431	971,538	(6,217,845)
	Other Non-Operating Expenses	-	-	-	-	-	-	-
	Total Expenses (B)	15,888,891	1,040,884	8,865,080	3,349,282	252,728	2,380,918	-
	Change in Assets	(817,980)	(5,494)	(681,264)	(16,596)	(285)	(14,233)	(100,108)
Fixed Assets								
	Depreciation	(255,000)	-	-	-	-	-	(255,000)
	Computer & Software CapEx	170,000	-	-	-	-	-	170,000
	Furniture & Fixtures CapEx	-	-	-	-	-	-	-
	Equipment CapEx	-	-	-	-	-	-	-
	Leasehold Improvements	-	-	-	-	-	-	-
	Allocation of Fixed Assets	-	(5,494)	(48,392)	(16,596)	(285)	(14,233)	85,000
	Inc (Dec) in Fixed Assets (C)	(85,000)	(5,494)	(48,392)	(16,596)	(285)	(14,233)	-
	TOTAL BUDGET (=B + C)	15,803,891	1,035,390	8,816,687	3,332,686	252,443	2,366,685	-
	TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)	(732,980)	(0)	(632,872)	(0)	(0)	(0)	(100,108)
	FTEs	38.86	1.93	17.00	5.83	0.10	5.00	9.00

Section D — Additional Financial Statements

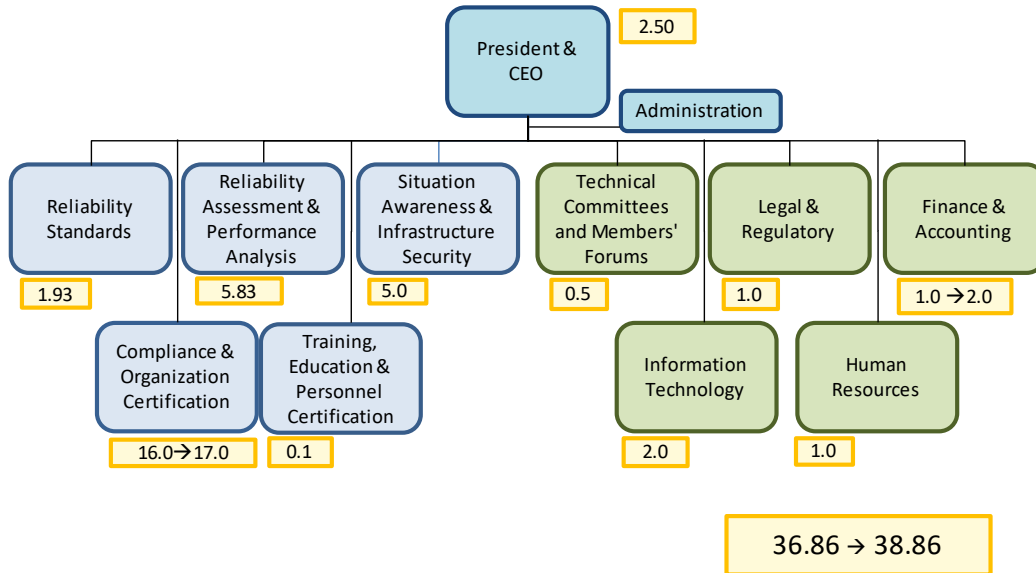
NPCC Statement of Activities 2019 Budget		Criteria Services Total	Criteria Development	Criteria Assessment	General and Administrative
Funding					
ERO Funding					
	ERO Assessments	-			
	Penalty Sanctions	-			
	Total ERO Funding	-	-	-	-
	Membership Dues	1,058,866	551,354	557,220	(49,707)
	Testing Fees	-	-	-	-
	Services & Software	-	-	-	-
	Workshops	-	-	-	-
	Interest	-	-	-	-
	Miscellaneous	-	-	-	-
	Total Funding (A)	1,058,866	551,354	557,220	(49,707)
Expenses					
Personnel Expenses					
	Salaries	371,938	186,285	185,654	-
	Payroll Taxes	23,696	11,805	11,891	-
	Benefits	102,779	47,476	55,303	-
	Retirement Costs	43,182	21,179	22,003	-
	Total Personnel Expenses	541,596	266,745	274,851	-
Meeting Expenses					
	Meetings	5,000	2,500	2,500	-
	Travel	56,800	28,200	28,600	-
	Conference Calls	-	-	-	-
	Total Meeting Expenses	61,800	30,700	31,100	-
Operating Expenses					
	Consultants & Contracts	55,360	29,000	26,360	-
	Office Rent	-	-	-	-
	Office Costs	-	-	-	-
	Professional Services	-	-	-	-
	Miscellaneous	4,000	2,000	2,000	-
	Depreciation	14,000	7,000	7,000	-
	Total Operating Expenses	73,360	38,000	35,360	-
	Total Direct Expenses	676,756	335,445	341,311	-
	Indirect Expenses	415,818	207,909	207,909	-
	Other Non-Operating Expenses	-	-	-	-
	Total Expenses (B)	1,092,574	543,354	549,220	-
	Change in Assets	(33,707)	8,000	8,000	(49,707)
Fixed Assets					
	Depreciation	(14,000)	(7,000)	(7,000)	-
	Computer & Software CapEx	30,000	15,000	15,000	-
	Furniture & Fixtures CapEx	-	-	-	-
	Equipment CapEx	-	-	-	-
	Leasehold Improvements	-	-	-	-
	Allocation of Fixed Assets	-	-	-	-
	Inc (Dec) in Fixed Assets (C)	16,000	8,000	8,000	-
	TOTAL BUDGET (=B + C)	1,108,574	551,354	557,220	-
	TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)	(49,707)	-	-	(49,707)
	FTEs	2.14	1.07	1.07	0

Appendix A Staff Allocations

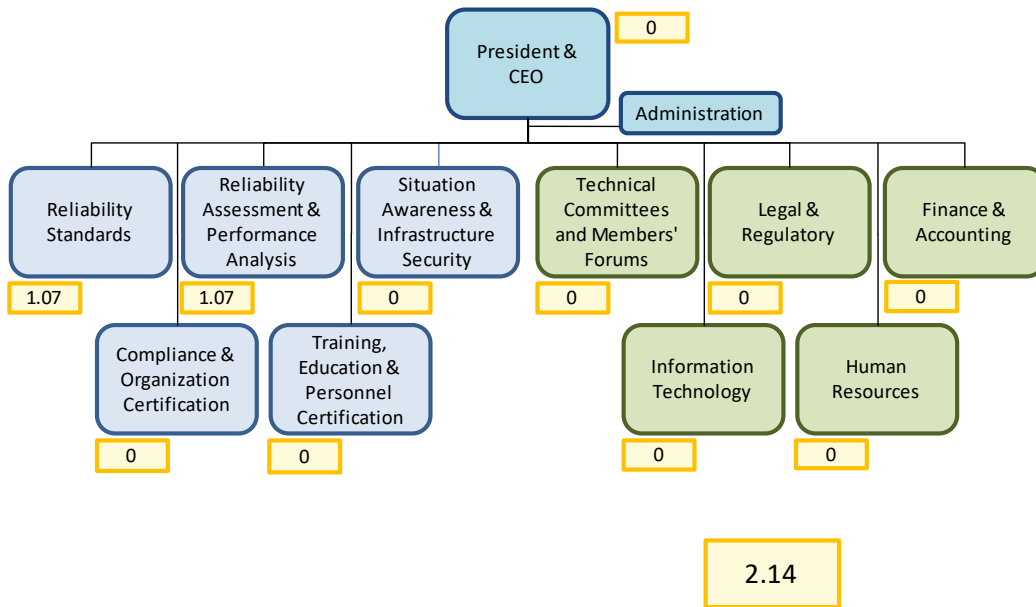
2018 Budget Staff Allocations - RE Division



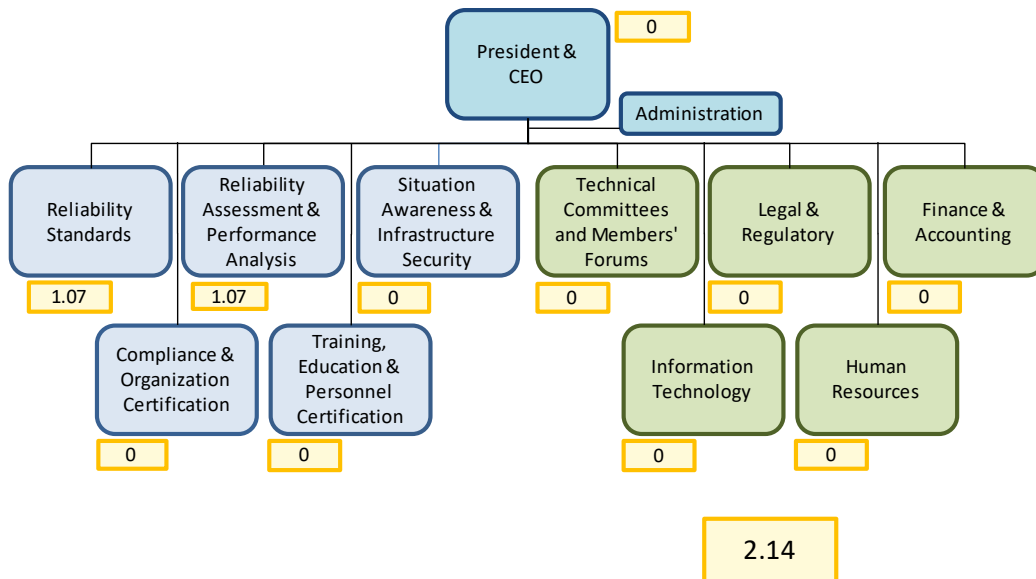
2019 Budget Staff Allocations - RE Division



2018 Budget Staff Allocations - CS Division



2019 Budget Staff Allocations - CS Division



Appendix B Acronyms

This section lists acronyms used in this document.

Acronym	Definition
AI	Audits and Investigations
BAA	Balancing Authority Area
BEPWG	BES Exception Process Working Group
BES	Bulk Electric System
BOT	Board of Trustees
BPS	Bulk Power System
CC	Compliance Committee
CCEP	Criteria Compliance Enforcement Program
CDAA	CMEP Data Administration Application
CEAP	Cost Effective Analysis Process
CEH	Continuing Education Hour
CGNC	Corporate Governance and Nominating Committee
CIPC	Critical Infrastructure Protection Committee
CIPIS	Critical Information Protection Information Sharing
CMEP	Compliance Monitoring and Enforcement Program
CORC	Compliance Monitoring and Enforcement and Organization Registration and Certification Program
CPP	Clean Power Plan
CRRA	Cost of Risk Reduction Analysis
CUG	Consortium Users Group
DADS	Demand Availability Data System
DADSWG	Demand Response Availability Data System Working Group
ERA	Entity Reliability Assessment
ERAG	Eastern Interconnection Reliability Assessment Group
ERO	Electric Reliability Organization
EUB	Electric Utility Board
EUB	Energy and Utilities Board
FAC	Finance and Audit Committee
FERC	Federal Energy Regulatory Commission
FFT	Find, Fix, Track
GADS	Generator Availability Data System
GADSWG	Generating Availability Data System Working Group
GMD	Geomagnetic Disturbance
HQCMÉ	Hydro-Québec Contrôle des mouvements d'énergie
HSIN	Homeland Security Information Network
ICE	Internal Controls Evaluation
IED	Intelligent Electronic Device
IERP	Independent Experts Review Panel Report
IESO	Independent Electricity System Operator
IRA	Inherent Risk Assessment
ISO	Independent System Operator
ITSG	IT Steering Group
LCEFT	Load, Capacity, Energy, Fuels, and Transmission
LMS	Learning Management System
LMWG	Load Modeling Working Group
LSE	Load Serving Entity
MACD	Market Assessment and Compliance Division of the IESO
MDCC	Management Development and Compensation Committee
ME	Mitigation and Enforcement
MMWG	Multi-Regional Modeling Working Group
MOU	Memorandum of Understanding
MPLS	Multiprotocol Label Switching
MVWG	Model Validation Working Group
NAESB	North American Electric Standards Review Board

Appendix B

Acronym	Definition
NEL	Net Energy for Load
NERC	North American Electric Reliability Corporation
NOAV	Notice of Alleged Violation
NOCV	Notice of Confirmed Violation
NOPR	Notice of Proposed Rulemaking
NOPV	Notice of Possible Violation
NPCC	Northeast Power Coordinating Council, Inc.
NRAP	NPCC Reliability Assessment program
NSPI	Nova Scotia Power Incorporated
NSUARB	Nova Scotia Utility and Review Board
OEB	Ontario Energy Board
PAS	Performance Analysis Subcommittee
PC	Pension Committee
PMOS	Project Management Oversight Subcommittee
PSMTF	Protection System Mis-operations Task Force
PSTN	Public Switched Telephone Network
QCMEP	Québec Reliability Standards Compliance Monitoring and Enforcement Program
RADS	Reliability Assessment Data System
RADWG	Reliability Assessment Data Working Group
RAS	Reliability Assessment Subcommittee
RC	Reliability Coordinator
RCC	Reliability Coordinating Committee
RISC	Reliability Issues Steering Committee
RSAW	Reliability Standards Audit Worksheet
RSC	Regional Standards Committee
RTO	Regional Transmission Organization
SAFNR	Situational Awareness-FERC, NERC, Regions
SAMS	System Analysis and Modeling Subcommittee
SAR	Standards Authorization Request
SAT	Systematic Approach to Training
SBS	Standards Balloting System
SCPS	Standards Committee Process Subcommittee
SDT	Standards Drafting Team
SEDS	Spare Equipment Database System
SEDTF	Spare Equipment Database Task Force
SPS	Special Protection Systems
TADS	Transmission Availability Data System
TADSWG	Transmission Availability Data System Working Group
TFCO	Task Force on Coordination of Operation
TFCP	Task Force on Coordination of Planning
TFE	Technical Feasibility Exception
TFIST	Task Force on Infrastructure Security and Technology
TFSP	Task Force on System Protection
TFSS	Task Force on System Studies
TLR	Transmission Loading Relief
TOP	Transmission Operator
UFLS	Underfrequency Load Shedding
UVLS	Under-Voltage Load Shedding
VRF	Violation Risk Factor
VSL	Violation Security Level

Appendix C Index of Figures and Tables

Figure 1.	Budget by Program Area Chart	11
Table 1.	NPCC Budget	3
Table 2.	Budget by Program Area	11
Table 3.	Total FTE's by Program Area	12
Table 4.	Budget and Current Year Projection Comparison	13
Table A-1.	Reliability Standards Budget	15
Table A-2.	Reliability Standards Budget Detail	19
Table A-3.	Compliance Monitoring and Enforcement and Organization Registration and Certification Budget	20
Table A-4.	Compliance Monitoring and Enforcement and Organization Registration and Certification Budget Detail	25
Table A-5.	Reliability Assessments and Performance Analysis (RAPA) Budget	26
Table A-6.	Reliability Assessments and Performance Analysis (RAPA) Budget Detail	32
Table A-7.	Training, Education, and Operator Certification Budget	33
Table A-8.	Training, Education, and Operator Certification Budget Detail	36
Table A-9.	Situation Awareness and Infrastructure Security Budget	37
Table A-10.	Situation Awareness and Infrastructure Security Budget Detail	42
Table A-11.	Administrative Services Budget	43
Table A-12.	Administrative Services Budget Detail	44
Table B-1.	Working Capital Reserve Analysis	56
Table B-2.	Penalty Sanctions Received	57
Table B-3.	Supplemental Funding	58
Table B-4.	Personnel Expenses	59
Table B-5.	Meeting Expense	60
Table B-6.	Consultants and Contracts	60
Table B-7.	Office Rent	61
Table B-8.	Office Costs	61
Table B-9.	Professional Services	62
Table B-10.	Miscellaneous	62
Table B-11.	Other Non-Operating Expenses	62
Table B-12.	Fixed Assets	62
Table B-13.	Three-Year Projections	63
Table C-1.	Criteria Services Division Business Plan and Budget	65
Table C-2.	Budget and Current Year Projection Comparison	71
Table C-3.	Personnel Analysis	72
Table C-4.	Reserve Analysis	73
Table D-1.	Statement of Financial Position, Three-Year Comparison	75

DOCKET NO. RR18-__-000

**NORTH AMERICAN ELECTRIC RELIABILITY
CORPORATION**

2019 BUSINESS PLAN AND BUDGET FILING

ATTACHMENT 6

RELIABILITYFIRST CORPORATION

PROPOSED 2019 BUSINESS PLAN AND BUDGET



RELIABILITY FIRST

**RELIABILITYFIRST CORPORATION
2019 BUSINESS PLAN AND BUDGET**

**APPROVED BY BOARD OF DIRECTORS
MAY 24, 2018**

FINAL VERSION

Table of Contents

Introduction	4
Organizational Overview.....	4
Membership and Governance.....	5
2019 Key Assumptions	6
2019 Key Deliverables.....	6
2019 Overview of Budget	7
Summary of Budget by Program Area	9
2019 Versus 2018 Cost Allocation by Program Summary of Expenses	9
FTEs by Program Area.....	10
2018 Budget and Projection and 2019 Budget Comparisons.....	11
Section A: Statutory Programs	12
Reliability Standards Program	13
Compliance Monitoring and Enforcement, and Organization Registration and Certification Program	15
Reliability Assurance.....	17
Compliance Monitoring	21
Enforcement	27
Reliability Assessment and Performance Analysis Program	32
Training, Education, and Operator Certification Program.....	36
Situation Awareness and Infrastructure Security Program	40
Administrative Services	46
General and Administrative.....	48
Legal and Regulatory Affairs.....	49
Information Technology	51
Human Resources	54
Finance and Accounting	56
Section B: Supplemental Financial Information	58
Table B-1: Working Capital and Operating Reserve Analysis	59
Table B-2: Penalty Sanctions Received.....	60
Table B-3: Supplemental Funding	61
Table B-4: Personnel Expenses	62
Table B-5: Meeting Expenses.....	63
Table B-6: Consultants and Contracts	64

Table B-7: Office Rent	64
Table B-8: Office Costs.....	65
Table B-9: Professional Services	66
Table B-10: Miscellaneous	66
Table B-11: Non-Operating Expenses	66
Table B-12: Fixed Assets.....	67
Table B-13: 2020 and 2021 Projections.....	68
Section C: Non-Statutory Activities.....	72
Section D: Additional Consolidated Financial Statements	73
2019 Consolidated Statement of Activities by Program.....	74
Statement of Financial Position	75
Appendix A: 2018 – 2019 Organization Chart.....	76

Introduction

The following table summarizes ReliabilityFirst Corporation's (ReliabilityFirst) budget for 2019.

	2019 Budget (in whole dollars)			
	U.S.	Canada	Mexico	
Statutory FTEs	78.2			
Non-statutory FTEs	-			
Total FTEs	78.2			
Statutory Expenses	\$ 22,904,361			
Non-Statutory Expenses	\$ -			
Total Expenses	\$ 22,904,361			
Statutory Inc(Dec) in Fixed Assets	\$ (255,903)			
Non-Statutory Inc(Dec) in Fixed Assets	\$ -			
Total Inc(Dec) in Fixed Assets	\$ (255,903)			
Statutory Working Capital Requirement	\$ (1,015,412)			
Non-Statutory Working Capital Requirement	\$ -			
Total Working Capital Requirement	\$ (1,015,412)			
Total Statutory Funding Requirement	\$ 21,633,046			
Total Non-Statutory Funding Requirement	\$ -			
Total Funding Requirement	\$ 21,633,046			
Statutory Funding Assessments	\$ 21,255,831	\$ 21,255,831	\$ -	\$ -
Non-Statutory Fees	\$ -	\$ -	\$ -	\$ -
NEL (MWH)	871,789,589	871,789,589	-	-
NEL%	100%	100%	0%	0%

Organizational Overview

ReliabilityFirst is a not-for-profit company incorporated in the State of Delaware and authorized by the Federal Energy Regulatory Commission (FERC) to operate as a Regional Entity. ReliabilityFirst is responsible for promoting and improving the reliability of the Bulk Electric System (BES) in all or parts of thirteen states and the District of Columbia. As a Regional Entity, ReliabilityFirst performs key reliability functions delegated to it by the Electric Reliability Organization (ERO), the North American Electric Reliability Corporation (NERC). These include:

- Active participation in the development of North American Reliability Standards for the Bulk Electric System (BES), and as needed, development of Reliability Standards applicable within the ReliabilityFirst Region.
- Monitoring and enforcement of approved Reliability Standards, including the registration of responsible entities, and as needed, certification of such entities.
- Assessment of the present and future reliability, resiliency, security, and risks of the BES.
- Promoting effective training and education of personnel and entities.

- Promoting situational awareness and the protection of critical infrastructure.

ReliabilityFirst intends to perform only the functions delegated to it by the ERO in 2019.

Membership and Governance

Members

ReliabilityFirst has an open membership policy that permits participation of all industry stakeholders through their designated representatives. There are six (6) Industry Sectors: Suppliers, Transmission Companies, Regional Transmission Organizations (RTOs), Small Load Serving Entities (LSEs), Medium LSEs, and Large LSEs. There are three (3) Classes of Members: Regular Members, Associate Members, and Adjunct Members (an Associate Member is an affiliate or related party of a Regular Member, and an Adjunct Member is an entity that does not qualify to join an Industry Sector but has been approved for membership).

There are currently 58 Members of ReliabilityFirst; 42 are Regular Members with voting rights, 6 are Associate Members, and 10 are Adjunct Members. ReliabilityFirst's foundation has been and continues to be the broad, active participation of volunteer technical and policy experts representing electricity industry stakeholders within the Region who are committed to the reliability, security, and resiliency of the BES. ReliabilityFirst believes that partnering with industry expert resources, combined with a competent and independent ReliabilityFirst staff, provides a cost effective approach that is consistent with the industry self-regulatory model envisioned by Congress in the Energy Policy Act of 2005.

Board of Directors

ReliabilityFirst is governed by a hybrid, independent, and balanced stakeholder Board that consists of 14 directors.

- Eight (8) directors are elected by the Industry Sectors as follows:
 - Suppliers elect two (2) directors;
 - Transmission Companies elect two (2) directors;
 - RTOs elect one (1) director;
 - Small LSEs elect one (1) director;
 - Medium LSEs elect one (1) director; and
 - Large LSEs elect one (1) director.
- Three (3) directors are at-large. At-large directors are elected by all of the Industry Sectors voting together as a single class.
- Three (3) directors are independent from ReliabilityFirst, any Member, Affiliate or Related Party of any Member. Independent directors are elected by all of the Industry Sectors voting together as a single class.

2019 Key Assumptions

The NERC and Regional Entity business plans and budgets reflect a set of strategic and operating objectives developed jointly by NERC and the Regional Entities. These strategic and operating objectives are set forth in the ERO Enterprise Long Term Strategy and the ERO Enterprise Operating Plan¹.

2019 Key Deliverables

- Promote a culture that addresses reliability risks across the ReliabilityFirst Region and the ERO.
 - Ensure that the industry understands the essential reliability purpose of Reliability Standards and the corresponding expectations for those Reliability Standards.
 - Work with the industry to maintain and continuously improve effective risk control programs for reliability, security, and resiliency.
 - Use efficient processes and proportional exercise of discretion to verify that the industry meets reliability objectives.
- Identify the risks to reliability in the ReliabilityFirst Region.
 - Identify, understand, and prioritize risks based on reliability impacts, projected resources, and emerging issues.
 - Analyze events and system performance consistently to determine sequence, cause, and remediation. Identify reliability risks and trends to define reliability, resiliency, and security related activities.
 - Ensure that the industry is well informed of emerging trends, risk analysis, lessons learned, and expected actions.
- Mitigate reliability risks.
 - Ensure that the industry understands identified risks and addresses them promptly and effectively.
 - Facilitate information sharing among the industry, Regions, ERO, and government.
 - Work with the ERO to track industry accountability for critical reliability recommendations.
- Communicate reliability risks.
 - Communicate identified and prioritized risks and mitigation strategies to the ERO Enterprise, across the ReliabilityFirst footprint, and/or to targeted entities, as appropriate.

¹ See, [ERO Enterprise Long-Term Strategy](#) and [ERO Enterprise Operating Plan](#).

- Share staff expertise and leverage the expertise of ReliabilityFirst entities to advance industry practices surrounding risk identification, mitigation, and prevention.
- Promote a culture of reliability excellence, and facilitate and encourage continuous improvement through training and education.
- Ensure useful and reliable data modeling. Verify that the data represents system behavior accurately. Facilitate data sharing among entities.
- Serve as a leading resource to industry and policy makers to supply reliability information.
- Serve as an independent, objective, and fair compliance monitoring and enforcement authority, without conflicts of interest.
 - Register entities commensurate to the risk they pose to the BES and ensure that all key entities are certified to have essential capabilities.
 - Ensure that all compliance monitoring and enforcement activities are risk-based, reliability-focused, and adhere to the requirements of the ReliabilityFirst delegation agreement and the Risk Based Compliance Monitoring and Enforcement Program.
 - Ensure that all violations of mandatory Reliability Standards are mitigated in a timely, thorough, and comprehensive manner to prevent reoccurrence.
- Improve transparency, consistency, quality and timeliness of results; collaborate with NERC and the other Regions; improve efficiencies and cost effectiveness.
 - Identify, understand, and manage internal risks.
 - Ensure processes are effective, efficient, and continually improving.

2019 Overview of Budget

This Business Plan and Budget reflects ReliabilityFirst's best estimate of the costs it will incur in carrying out its delegated functions in support of the ERO in 2019. Overall, the ReliabilityFirst 2019 budget of \$22,648,458 increased 5.86% over the 2018 budget of \$21,393,899. The 2019 assessment of \$21,255,831 represents a 5.5% increase over the 2018 assessment of \$20,147,707.

Personnel costs increased by \$1,139,233, an increase of 6.4% over the 2018 budget. Incorporated into the personnel costs are 2 additional Full Time Equivalent (FTEs), a 3% general wage increase, and a 15% medical premium increase. For 2019, ReliabilityFirst did not include a personnel vacancy rate because the corporation has recently reached full staffing levels and operates with a turnover rate well below 5%. Any remaining personnel dollars resulting from vacancies could be used to fund the company's recruitment activities to attract necessary employee candidates.

The meetings, operating and fixed asset costs of \$3,580,236 increased by 3.3% over the 2018 budget of \$3,464,909.

The ReliabilityFirst Board has approved a \$1,000,000 operating reserve for 2019, which is the same level that existed in 2018. This level of operating reserve is believed to be sufficient for any

unbudgeted and unexpected expenditures of the organization, and is consistent with Board Policy.

The ReliabilityFirst Board also approved a decrease in the working capital reserve. Historically, the working capital reserve has consisted of the amount necessary to satisfy projected cash flow for daily operations. In concert with the ERO Enterprise wide effort to better manage and stabilize assessments, the working capital reserve is managed to include additional funds that will be used to enhance day to day cash flow management of expenditures, while providing the capability to stabilize future assessments. The operating and working capital reserves have been differentiated to enable more granular identification and control in the utilization and monitoring of these funds in the appropriate manner.

The executive management group for NERC and the Regional Entities (known as the ERO EMG) concentrates on various initiatives to improve efficiency and consistency across NERC and the Regional Entities, including the development of enterprise-wide applications. As enterprise-wide projects are identified and prioritized by the ERO EMG, they are managed at NERC. ReliabilityFirst assumes agreed upon ERO Enterprise wide applications will be available, and has only included appropriate funding for applications and supporting systems necessary to satisfy its business needs that are not within the mutually agreed upon scope of the ERO Enterprise wide applications funded by NERC.

In the development of each annual Business Plan and Budget, ReliabilityFirst examines projected workload using the operating and strategic objectives referenced above and conducts a manpower analysis to determine staffing levels required to complete necessary tasks and meet the obligations of the Regional Delegation Agreement. The manpower analysis for 2019 yielded a requirement of 84.4 FTEs in order to fully address the expected workload.

Although ReliabilityFirst's manpower analysis justifies a need for 84.4 FTEs, its philosophy is to seek and achieve greater efficiencies in its tasks and workload each year. On this basis, ReliabilityFirst believes a staffing level of 78.2, which includes 2 additional FTE's, will be sufficient to perform its work. The need for these additional FTE's are described in the Information Technology and Enforcement sections below.

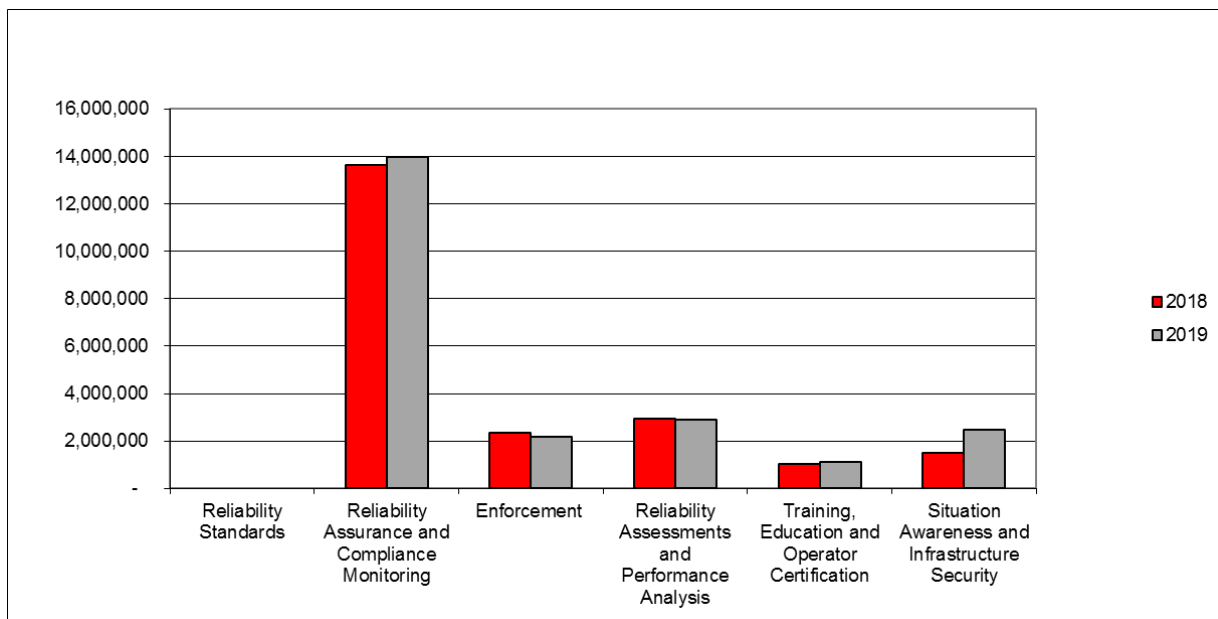
ReliabilityFirst will continue to ensure enhancements are being made in many process areas and that the maturation of the organization will continue to result in expected efficiency improvements.

Summary of Budget by Program Area

The following table and figure summarize and illustrate ReliabilityFirst's budget by program area.

Program	Budget 2018	Projection 2018	Budget 2019	Variance	
				2018 Budget v 2019 Budget	Variance %
Reliability Standards	-	-	-	-	0.00%
Reliability Assurance and Compliance Monitoring	13,622,989	13,622,989	13,973,637	350,648	2.57%
Enforcement	2,337,124	2,106,600	2,189,755	(147,369)	-6.31%
Reliability Assessments and Performance Analysis	2,929,290	2,852,449	2,909,104	(20,186)	-0.69%
Training, Education and Operator Certification	1,019,452	1,019,452	1,110,836	91,385	8.96%
Situation Awareness and Infrastructure Security	1,485,044	1,792,409	2,465,125	980,081	66.00%
Total	21,393,899	21,393,899	22,648,458	1,254,559	5.86%

2019 Versus 2018 Cost Allocation by Program Summary of Expenses



FTEs by Program Area

Total FTEs by Program Area	Budget 2018	Projection 2018	Total FTEs 2019 Budget	Change from 2018 Budget
STATUTORY				
Operational Programs				
Reliability Standards	0.00	0.00	0.00	0.00
Reliability Assurance and Compliance Monitoring Enforcement	37.00	37.00	37.00	0.00
Reliability Assessment and Performance Analysis Training and Education	8.25	6.00	7.00	-1.25
Situation Awareness and Infrastructure Security	8.35	7.60	7.60	-0.75
	3.00	3.00	3.00	0.00
	4.00	7.00	7.00	3.00
Total FTEs Operational Programs	60.60	60.60	61.60	1.00
Administrative Programs				
General & Administrative	3.00	3.00	3.00	0.00
Legal and Regulatory Affairs	2.00	3.00	3.00	1.00
Information Technology	5.00	5.00	6.00	1.00
Human Resources	3.00	2.00	2.00	-1.00
Finance and Accounting	2.60	2.60	2.60	0.00
Total FTEs Administrative Programs	15.60	15.60	16.60	1.00
Total FTEs	76.20	76.20	78.20	2.00

For an explanation of the variances, refer to the Resource Requirements section in each program area in Section A.

2018 Budget and Projection and 2019 Budget Comparisons

The following table lists the 2018 budget and projection compared to the 2019 budget.

2018 Budget and Projection, and 2019 Budget					
STATUTORY					
	2018 Budget	2018 Projection	Variance 2018 Projection v 2018 Budget Over(Under)	2019 Budget	Variance 2019 Budget v 2018 Budget Over(Under)
Funding					
ReliabilityFirst Funding					
ReliabilityFirst Assessments	\$ 20,147,707	\$ 20,147,707	\$ -	\$ 21,255,831	\$ 1,108,123
Penalty Sanctions	1,912,877	1,912,877	-	327,215	(1,585,662)
Total ReliabilityFirst Funding	\$ 22,060,585	\$ 22,060,585	\$ -	\$ 21,583,046	\$ (477,539)
Membership Dues	-	-	-	-	-
Federal Grants	-	-	-	-	-
Services & Software	-	-	-	-	-
Workshops	-	-	-	-	-
Interest	50,000	50,000	(0)	50,000	-
Miscellaneous	-	-	-	-	-
Total Funding	22,110,585	22,110,585	(0)	21,633,046	(477,539)
Expenses					
Personnel Expenses					
Salaries	\$ 12,975,641	\$ 12,975,641	\$ -	\$ 13,701,387	\$ 725,746
Payroll Taxes	765,357	765,357	-	807,085	41,728
Benefits	2,049,654	2,049,654	-	2,307,002	257,347
Retirement Costs	2,138,337	2,138,337	-	2,252,748	114,411
Total Personnel Expenses	\$ 17,928,989	\$ 17,928,989	\$ -	\$ 19,068,222	\$ 1,139,233
Meeting Expenses					
Meetings	\$ 300,375	\$ 300,375	\$ -	\$ 314,200	\$ 13,825
Travel	713,250	713,250	-	678,600	(34,650)
Conference Calls	50,400	50,400	-	52,200	1,800
Total Meeting Expenses	\$ 1,064,025	\$ 1,064,025	\$ -	\$ 1,045,000	\$ (19,025)
Operating Expenses					
Consultants & Contracts	\$ 390,132	\$ 390,132	\$ -	\$ 528,612	\$ 138,480
Office Rent	519,595	519,595	-	521,086	1,491
Office Costs	831,717	831,717	-	815,130	(16,587)
Professional Services	411,245	411,245	-	423,522	12,277
Miscellaneous	40,696	40,696	-	43,886	3,190
Depreciation	373,325	373,325	-	458,903	85,578
Total Operating Expenses	\$ 2,566,709	\$ 2,566,709	\$ -	\$ 2,791,139	\$ 224,429
Total Direct Expenses	\$ 21,559,724	\$ 21,559,724	\$ -	\$ 22,904,361	\$ 1,344,637
Indirect Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses	\$ 21,559,724	\$ 21,559,724	\$ -	\$ 22,904,361	\$ 1,344,637
Change in Assets	\$ 550,861	\$ 550,861	\$ (0)	\$ (1,271,315)	\$ (1,822,176)
Fixed Assets					
Depreciation	(373,325)	(373,325)	-	(458,903)	(85,578)
Computer & Software CapEx	207,500	207,500	-	180,000	(27,500)
Furniture & Fixtures CapEx	-	-	-	-	-
Equipment CapEx	-	-	-	-	-
Leasehold Improvements	-	-	-	23,000	23,000
	\$ (165,825)	\$ (165,825)	\$ -	\$ (255,903)	\$ (90,078)
Allocation of Fixed Assets	-	-	0	-	-
Inc/(Dec) in Fixed Assets	\$ (165,825)	\$ (165,825)	\$ 0	\$ (255,903)	\$ (90,078)
Total Budget	\$ 21,393,899	\$ 21,393,899	\$ 0	\$ 22,648,458	\$ 1,254,559
Change in Working Capital	\$ 716,687	\$ 716,686	\$ (0)	\$ (1,015,412)	\$ (1,732,098)
FTEs	76.20	76.20	-	78.20	2.00

Section A: Statutory Programs

Reliability Standards Program

Reliability Standards Program (in whole dollars)			
	2018 Budget	2019 Budget	Increase (Decrease)
Total FTEs	0.00	0.00	0.00
Direct Expenses	\$ -	\$ -	\$ -
Indirect Expenses	\$ -	\$ -	\$ -
Inc(Dec) in Fixed Assets	\$ -	\$ -	\$ -
Total Funding Requirement	\$ -	\$ -	\$ -

Program Scope and Functional Description

ReliabilityFirst provides input to the NERC Reliability Standards development process to help ensure the Standards adequately mitigate the risks they are intended to address, particularly those risks facing the ReliabilityFirst footprint. ReliabilityFirst also may develop Regional Reliability Standards as necessary. ReliabilityFirst Standards must be developed in accordance with the ReliabilityFirst Reliability Standards Development Procedure and must be more stringent than a NERC Reliability Standard, addressing a regional matter that the NERC Reliability Standard does not, or a regional difference necessitated by a physical difference in the BES.

ReliabilityFirst may also develop regional criteria, which are good utility practices used to enhance the reliability of the BES and may augment Reliability Standards. Regional criteria are not Reliability Standards, and therefore are not enforceable. ReliabilityFirst regional criteria are developed in accordance with the ReliabilityFirst Reliability Standards Development Procedure.

2019 Key Assumptions

The Reliability Standards Program incorporates the regional specific strategic and operating objectives set forth in the ERO Enterprise Long Term Strategy and the ERO Enterprise Operating Plan.

ReliabilityFirst previously reallocated the resources and expenses associated with the Reliability Standards Program to the Reliability Assurance and Compliance Monitoring Program, due to decreased activity in the Reliability Standards Program. If ReliabilityFirst needs to develop any Reliability Standard or regional criteria, ReliabilityFirst will temporarily redeploy the necessary resources from the existing Reliability Assurance and Compliance Monitoring and Reliability Assessment and Performance Analysis Programs.

2019 Key Deliverables

- Review and provide feedback on potential reliability, security, or resiliency concerns associated with NERC Reliability Standards and RSAWs under development.
- Although none are anticipated, submit to NERC, and subsequently file with FERC any new Regional Reliability Standards that:
 - May be needed to support revised NERC Reliability Standards.

- May address reliability gaps not currently covered by NERC Reliability Standards.
- Although none are anticipated, submit to ReliabilityFirst Board any new regional criteria that:
 - Address issues not within the scope of NERC Reliability Standards.
 - Promote more consistent implementation of a NERC Reliability Standard within the Region.
- Initiate and coordinate revisions to Regional Reliability Standards or regional criteria in any stage of development to align with NERC and FERC requirements.
 - Support for enhanced periodic reviews focused on conducting measured, in-depth reviews to further improve Reliability Standards.
 - Support for ERO activities necessary to incorporate Regional Reliability Standards into continent-wide Standards.
 - Retire Regional Reliability Standards and regional criteria that are duplicative with NERC Reliability Standards or no longer needed for reliability.

Resource Requirements

- **Personnel**

No increase in personnel is budgeted in this year.

- **Contractors and Consultants**

No contractor or consultant support is budgeted in this year.

Compliance Monitoring and Enforcement, and Organization Registration and Certification Program

Compliance Monitoring, and Enforcement, and Organization Registration and Certification Program (in whole dollars)			
	2018 Budget	2019 Budget	Increase (Decrease)
Total FTEs	45.25	44.00	(1.25)
Direct Expenses	\$ 11,311,462	\$ 11,269,889	\$ (41,574)
Indirect Expenses	\$ 4,760,031	\$ 5,067,343	\$ 307,311
Inc(Dec) in Fixed Assets	\$ (111,381)	\$ (173,839)	\$ (62,458)
Total Funding Requirement	\$ 15,960,112	\$ 16,163,392	\$ 203,279

Program Scope and Functional Description

The Compliance Monitoring and Enforcement, and Organization Registration and Certification Program performs a variety of risk-based and dynamic activities to identify, communicate, and mitigate reliability, security and resiliency risks facing the ReliabilityFirst footprint. To achieve maximum effectiveness and consistency, ReliabilityFirst has delineated the responsibility to execute the Compliance Monitoring and Enforcement, and Organization Registration and Certification Program among three coordinated groups: Reliability Assurance, Compliance Monitoring, and Enforcement.

The Reliability Assurance group performs activities to drive continuous improvement; assess risk; and scope compliance monitoring and enforcement activities in accordance with risk. These activities, discussed in further detail in the Reliability Assurance section, include: (1) conducting Inherent Risk Assessments to assess the risk posed by each entity and help determine the scope of compliance monitoring activities; (2) conducting Internal Controls Evaluations to drive continuous improvement and refine the scope of compliance monitoring activities, based upon the maturity of the entity's internal controls; (3) conducting industry training and education; (4) developing lessons learned and identifying key trends to share with the industry; (5) performing registration and certification activities; and (6) conducting risk assessments and supporting mitigation plan activities associated with noncompliances.

The Compliance Monitoring group monitors compliance to the NERC Reliability Standards (Reliability Standards) across 243 registered owners, operators, and users of the BES through a variety of risk-based activities. These monitoring activities are key to reliability, as they ensure that entities have effective controls in place and are following the requirements of the Reliability Standards. These activities, discussed in further detail in the Compliance Monitoring section, include compliance audits, spot checks, guided self-certifications, investigations, assessing complaints, and assessing system events from a reliability and compliance perspective to identify and ensure the mitigation of potential risks.

The Enforcement group is responsible for performing ReliabilityFirst's delegated function to enforce, where necessary, compliance with the Reliability Standards. These efforts, discussed in further detail in the Enforcement section, involve ensuring that the selected disposition method for any noncompliance is (1) clearly communicated; (2) appropriately supported by the record in light of the risk posed by the noncompliance; and (3) promotes the desired entity behavior. The Enforcement group focuses on understanding the risks behind each noncompliance and how to effectively mitigate those risks, as well as sending the appropriate message to the noncompliant entity and the broader regulated community (whether deterrent-driven for undesired behavior or incentive-driven for desired behavior).

Major activities for the Reliability Assurance, Compliance Monitoring, and Enforcement groups include the continued implementation of the Risk-Based Compliance Monitoring and Enforcement Program, and efforts connected to the continuing transition to the CIP Version 5 Standards (CIP V5) and future revisions. These are joint ERO Enterprise level initiatives that benefit NERC, the Regional Entities, and the Registered Entities.

A detailed Program Scope and Functional Description for the Reliability Assurance, Compliance Monitoring, and Enforcement groups, as well as the Key Assumptions and Deliverables for each of these groups, can be found in their respective sections below.

Reliability Assurance and Compliance Monitoring (in whole dollars)			
	2018 Budget	2019 Budget	Increase (Decrease)
Total FTEs	37.00	37.00	0.00
Direct Expenses	\$ 9,819,591	\$ 9,854,668	\$ 35,077
Indirect Expenses	\$ 3,892,180	\$ 4,261,174	\$ 368,994
Inc(Dec) in Fixed Assets	\$ (88,783)	\$ (142,206)	\$ (53,423)
Total Funding Requirement	\$ 13,622,989	\$ 13,973,637	\$ 350,648

Reliability Assurance

Program Scope and Functional Description

The activities performed by the Reliability Assurance group include: Inherent Risk Assessments (identifying risks impacting an entity); Internal Controls Evaluations (evaluating the effectiveness of entity internal controls around specific Standards and Requirements); Management Practice Appraisals (evaluating an entity's capability in key management practice areas); and Assist Visits (tailored training centered on the needs of the entity). The group's activities also include organization registration and certification activities; mitigation plan acceptance, approval, and verification; processing and assessment of periodic data submittals; winter preparedness evaluations; risk-harm analysis of non-compliances and participating in the review of self-logged minimal risk issues; creating compliance oversight plans to align monitoring activities with potential risks; providing industry training; BES Definition Exception Process activities; and serving as a technical resource for the Corporation.

2019 Key Assumptions

The Reliability Assurance group incorporates the regional specific strategic and operating objectives set forth in the ERO Enterprise Long Term Strategy and the ERO Enterprise Operating Plan. The Reliability Assurance group also includes the following regional assumptions:

1. Inherent Risk Assessment and Internal Controls Evaluation activities are expected to increase with the ongoing implementation of the Risk-Based Compliance Monitoring and Enforcement Program. This implementation includes completing Inherent Risk Assessments for all Registered Entities, implementing refinements to the Internal Controls Evaluation process and conducting Internal Controls Evaluations upon request by an entity, and ensuring that compliance oversight plans address emerging risks to reliability and are tailored to the inherent risks posed by specific entities.
2. Monitoring and management of compliance monitoring and enforcement metrics in support of NERC's Strategic Plan and Oversight Program is expected to continue.

3. The Multi-Regional Registered Entity (MRRE) process expanded in 2018 and is expected to continue maturing in 2019. To date, ReliabilityFirst has been designated Lead Region for 12 MRRE Groups encompassing 41 entities, and Affected Region for 13 MRRE Groups encompassing 78 entities. It is anticipated, taking into account ReliabilityFirst's location and impact on the eastern interconnection, that ReliabilityFirst may be designated as the Lead Region for additional MRREs. The expansion of the MRRE program has increased the workload associated with coordinating compliance monitoring and enforcement processes under the MRRE process.
4. In accordance with FERC's Order approving NERC's Risk-Based Registration Initiative, registration staff continues to participate in the NERC-led review panels described in the NERC ROP, Appendix 5A, Section III.D.
5. Assist Visits, Management Practice Appraisals, and Internal Controls Evaluations will continue to take place to collaboratively assist an entity's drive for continuous improvement and reliability excellence and its capability in key management practice areas. There was continued high demand for Assist Visits in 2017 and 2018, most of which focused on the transition to and implementation of the CIP V5 Standards. The demand for Assist Visits, including requests for onsite Assist Visits at entity offices, is expected to continue and potentially expand in 2019.
6. ReliabilityFirst has seen an increase in "Extended Assist Visits" in 2018, to support entities who have experienced major challenges related to Reliability Standards compliance or program implementation. These Extended Assist Visits require resource commitments beyond a normal Assist Visit, and can consist of multiple meetings and visits to the entity spread over the course of six to twelve months. These Extended Assist Visits are expected to continue and potentially increase in 2019.
7. There will be an effort to ensure that a specific risk targeted by a particular Reliability Standard is being adequately addressed (i.e., whether the Reliability Standard as written, monitored and enforced for compliance, is effectively mitigating the identified risk.)
8. Work with NERC will continue on the development of educational materials for Registered Entities regarding the Risk-Based Compliance Monitoring and Enforcement Program, Risk-Based Registration, and new and revised Reliability Standards.
9. There will be continued ERO Enterprise-wide collaboration and implementation of consistent risk-based compliance monitoring and enforcement practices and new tools.

2019 Key Deliverables

- Process all registration requests and implement the Risk-Based Registration Initiative.
- Process BES Exception Requests submittals.
- Provide technical assessment of periodic data submittals.

- Provide technical subject matter expertise and support for compliance monitoring and enforcement activities, regional outreach activities, and other initiatives as identified within ReliabilityFirst and/or the ERO.
- Support the development and integration of advanced analytical capabilities for identifying and determining reliability risks, and conducting various risk assessments (i.e. Regional Risk Assessments, Inherent Risk Assessments, Risk-Harm Assessments, and explorative Probabilistic Risk Assessment).
- Support ERO Enterprise-wide data collection and analysis efforts.
- Participate in the annual Winter Preparedness program designed to help ensure the readiness of generating units to perform during extreme cold weather.
- Support the ongoing implementation of the Risk-Based Compliance Monitoring and Enforcement Program, with a focus on the ongoing assessment of ReliabilityFirst Regional Risk Elements, and maturation of the Inherent Risk Assessment and Internal Controls Evaluation processes.
- Support development of the annual CMEP implementation Plan with a focus on Risk Elements and alignment of Areas of Focus.
- Perform Inherent Risk Assessments of entities in alignment with the ERO Guide for Compliance Monitoring to define the scope, recommended process (e.g., audit, spot check, guided self-certification), and interval of compliance monitoring activities for a given entity.
- Conduct risk-harm assessments and develop associated risk statements for all possible noncompliances to assess the potential risk posed by each noncompliance and inform the proper enforcement action(s).
- Perform mitigation plan activities in an effort to return entities to compliance and prevent reoccurrence by:
 - Reviewing proposed mitigation plans and accepting those that contain effective corrective and preventative actions.
 - Communicating with Enforcement and the entity throughout the mitigation plan review process to ensure defined corrective and preventative actions will mitigate the noncompliance.
 - Verifying mitigation plan completion through the evaluation of evidence provided by the entity to demonstrate that agreed-to actions have been implemented according to established milestones.
 - Conducting outreach activities to help entities move beyond baseline compliance.
- Perform reviews of self-logged non-compliances, submitted quarterly by entities granted logging privileges, to assess the non-compliances and their associated risk determinations and mitigating activities.

- Support the development, training, and outreach for entities to continue successful transition to the CIP V5 Standards.
- Perform Assist Visits, facilitate and support regional workshops, and support monthly “open” reliability and compliance calls to educate entities on reliability and compliance topics.
- Support the integration and use of the ERO Enterprise Learning Management System.
- Assist NERC with the coordination, planning, delivery, and management of training and outreach activities across the ERO Enterprise in concert with Region-specific training and outreach activities.
- Participate in the ERO Enterprise staff learning development process through the ERO working groups and functional area program leaders.

Resource Requirements

- **Personnel**

As noted above in the 2019 Key Assumptions, the demand for Assist Visits and Extended Assist Visits is expected to continue and potentially expand in 2019. Additionally, the MRRE process expanded in 2018 and is expected to continue maturing in 2019. Coordination and workload associated with administering the program has increased in the Inherent Risk Assessments area under the MRRE process. ReliabilityFirst is not adding FTE’s in this area in 2019, but will monitor this area and will reassess whether to add FTE’s to this area in the 2020 Business Plan & Budget. Additionally, plans have been developed to overlap key personnel who have indicated they are near retirement, to allow for adequate knowledge transfer and training of their successors. The potential impact on the budget will be managed and monitored closely as these personnel commit to specific retirement dates.

- **Contractors and Consultants**

Contractor and/or consultant support is budgeted for 2019 to support risk and mitigation activities in the event workload exceeds available resources.

Compliance Monitoring

Program Scope and Functional Description

The activities performed by the Compliance Monitoring group to monitor and help ensure the reliability, security, and resiliency of the BES include: Operations and Planning (O&P) and Critical Infrastructure Protection (CIP) audits; guided self-certifications; investigations; spot checks; assessing complaints; assessing system events from a reliability and compliance perspective to identify and ensure mitigation of potential risks; assisting in the review, approval, and verification of mitigation plans for noncompliances identified during compliance monitoring activities; and managing Technical Feasibility Exceptions (TFEs). The group also serves as industry subject matter experts and technical resources for the Corporation.

2019 Key Assumptions

The Compliance Monitoring group incorporates the regional specific strategic and operating objectives set forth in the ERO Enterprise Long Term Strategy and the ERO Enterprise Operating Plan. The Compliance Monitoring group also includes the following regional assumptions:

1. Assure reliability by monitoring compliance to the Reliability Standards through CMEP processes (e.g., audits, spot checks), using a risk-based approach, ensuring that all pre-audit, onsite or offsite, and post audit activities are completed per the established process and timelines.
2. Pursuant to the Risk-Based Compliance Monitoring and Enforcement Program, all entities will have an Inherent Risk Assessment completed to determine their Compliance Oversight Plans and the scope of their engagements. As required by the NERC ROP, Balancing Authority, Transmission Operator, and Reliability Coordinator audits will continue to occur on a three year cycle. For all other entities, ReliabilityFirst will evaluate the entity's Inherent Risk Assessment results to determine if its engagement will continue, be delayed, or be replaced by an alternate compliance monitoring method.
3. NERC has instructed all the Regional Entities to perform Internal Controls Evaluations as part of the compliance monitoring engagement process. This will add time to the monitoring process and increase workload.
4. The implementation of the entity Compliance Oversight Plans has resulted in (and is expected to continue to result in) more frequent touch points across each calendar year, especially in the O&P area, and increased workload.
5. ReliabilityFirst will continue to implement the guidance and process steps contained in the ERO Auditor Handbook and Checklist, and support the continued use and development of ERO auditor tools. ReliabilityFirst will support the training requirements necessary to meet the criteria set forth by the ERO Auditor Manual and Handbook and the Compliance Auditor Capabilities and Competency Guide.
6. ReliabilityFirst and NERC will continue to collaborate and define ongoing training needs, priorities, and implementation schedules for the compliance staff. Through NERC training

and other available training courses, ReliabilityFirst will provide the necessary training to continue to provide a credible, skilled, competent, and respected compliance monitoring staff.

7. ReliabilityFirst will continue to seek and implement initiatives to increase efficiencies and productivity. Staff will continue to collaborate with NERC as it develops an ERO Enterprise-wide audit management tool, which will improve the efficiency of monitoring processes and NERC oversight for all the Regions.
8. With the CIP V5 Standards in place, the ERO Enterprise continues to evaluate:
 - a. Whether the approved and ongoing changes in the CIP area will materially change the amount of rigor and time Regional Entities will need to spend on compliance monitoring activities for entities with High, Medium, and Low BES Assets, and BES Cyber Systems, including whether field visits will be required; and
 - b. Whether material changes or additions will be required by the Regional Entity and NERC outreach efforts to communicate requirements to these entities.

Results of this evaluation may impact the audit scope, regional resource requirements, and expectations that will need to be factored into future resource recommendations for the budget.

9. The increased complexity of the new CIP Standards, and the substantial increase of assets within scope for the CIP Standards has increased the workload for CIP auditors. Moreover, the time required to complete onsite CIP audit reviews often includes site and field visits, based on the scope of the audit and whether initial evidence provided is sufficient to substantiate that an entity is compliant. This has increased the time required for CIP audits, and has added workload in the CIP Monitoring area that is expected to continue. The supply chain management Reliability Standard that is currently being developed is also expected to add workload in the CIP Monitoring area.

The transition to the CIP V5 Standards has also resulted in an additional workload to provide outreach and training to entities owning Low Impact BES Cyber Systems who are new to the monitoring process; and to all entities on the effective implementation of the CIP Standards. Entity outreach is expected to be an ongoing need, given the increasing complexity and continually evolving nature of cybersecurity and the CIP Standards

10. A Technical Feasibility Exception (TFE) Task Force was formed to assure consistency in the administration of TFE requests and to support the preparation of the TFE annual report submitted to FERC. The immediate impact of required changes will be determined as the TFE Task Force moves forward. ReliabilityFirst will continue to support the TFE program with existing CIP staff and will monitor the impact, which will guide the development of any future resource recommendations.

11. CIP Staff will support ERO and Regional outreach and training efforts including the NERC Security Reliability Program, CIP Small Group Advisory Sessions, ReliabilityFirst CIP Workshops, ReliabilityFirst CIP Focus Group Sessions, and CIP-related Assist Visits.

2019 Key Deliverables

- Manage all compliance monitoring activities in a risk-based, fair, and consistent manner, affording all entities appropriate due process.
- Conduct thorough and professional compliance audits consistently with all Regions through the incorporation of the Auditor Handbook and Checklist. Audit teams will consist of staff supplemented, when necessary, by independent contractors.
- Prepare and distribute compliance monitoring process reports to NERC and Registered Entities.
- Ensure all auditors receive adequate training and meet all NERC auditor training requirements.
- Provide efficiencies in compliance monitoring processes through continued auditor training, development and enhancement of auditor tools, and process improvements.
- Support outreach activities, including two reliability workshops, monthly "open" reliability and compliance calls, bimonthly newsletter articles, CIP V5 Outreach Workshops and training sessions, Assist Visits (as needed), and provide Registered Entity assistance as required.
- CIP audits will be performed as separate audits from Operations/Planning audits unless agreed to otherwise between ReliabilityFirst and the audited entity. The number of CIP audits targeted for 2019 is defined below:
 - 15 CIP audits of entities on the three year cycle (onsite).
 - These audits will be conducted on larger entities with High, Medium, and Low impact BES Cyber Systems.
 - CIP audits of entities with only Low impact BES Cyber Systems will begin in 2019. Historically these audits have been performed as off-site engagements, but it is anticipated that a number of these entities will need to be monitored on site. This will add additional workload to the CIP monitoring team.
- The number of Operations/Planning engagements planned for 2019 is defined below and will be based on the entity's Inherent Risk Assessment and risk the entity poses to the BES.
 - 9 audits of entities on the three year cycle (onsite).
 - 40 audits of entities based upon the Inherent Risk Assessment (previously six year entities).
 - 45 other engagements of entities based upon the Compliance Oversight Plans, which include either Spot Checks and or Guided Self-Certifications.

- Participating as Affected Regional Entity on MRRE Spot Checks, Guided Self-Certifications and Audits: to be determined, based upon risk and the entity's compliance oversight program.
- Spot Checks and Guided Self-Certifications will be used: (1) to assess performance to selected Reliability Standards when an audit is delayed; (2) as an alternate means of monitoring lower risk entities; and (3) on an as-needed basis to address identified risks. Guidance on when a Spot Check or Guided Self-Certification may be appropriate is outlined in the annual CMEP Implementation Plan and will be augmented by ReliabilityFirst's Regional Risk Assessment, Inherent Risk Assessments, and results from compliance monitoring activities that identify emerging risks. Spot Checks and Guided Self-Certifications may also be used to confirm prior self-certifications, self-reports, and the status of mitigation plans or agreed-to mitigation activities associated with settlement agreements.
- Support NERC in continuing the training and outreach for Registered Entities to successfully implement revisions to the CIP standards and Operations/Planning standards.
- Lead development of the annual CMEP implementation Plan with a focus on overall content in coordination with cross-functional groups.
- Complete Compliance Assessment Reviews of system events according to the ReliabilityFirst Compliance Assessment process, to determine if reliability issues associated with the system event require the initiation of a compliance monitoring process; performance of mitigation activities by involved entities; and/or industry outreach and education.

Resource Requirements

- **Personnel**

As discussed above in the 2019 Key Assumptions, the workload in the O&P and CIP monitoring area has continually increased and is expected to continue increasing. This is primarily driven by the expanded CIP scope for entities with only Low Impact BES Cyber Systems, and the fact that more Compliance Oversight Plans also include either Spot Checks or Guided Self-Certifications. Additionally, the MRRE process expanded in 2018 and is expected to continue maturing in 2019. Coordination and workload associated with administering the program has increased in the compliance monitoring area under the MRRE process.

ReliabilityFirst is not adding FTE's in this area in 2019, but will monitor this area and will reassess whether to add FTE's to this area in the 2020 Business Plan & Budget. Additionally, plans have been developed to overlap key personnel who have indicated they are near retirement, in order to allow for adequate knowledge transfer and training of their successors. The potential impact on the budget will be managed and monitored closely as these personnel commit to specific retirement dates.

- **Contractors and Consultants**

Contractor and consultant support is budgeted in 2019 to temporarily supplement staff in the event workload exceeds available resources.

Reliability Assurance and Compliance Monitoring Budget Detail

The following table shows funding sources and related expenses for the Reliability Assurance and Compliance Monitoring section of the 2019 Business Plan and Budget. Explanations of variances by expense category are included with the Supplemental Financial Tables found in Section B.

2018 Budget and Projection, and 2019 Budget					
Reliability Assurance and Compliance Monitoring					
	2018 Budget	2018 Projection	Variance 2018 Projection v 2018 Budget Over(Under)	2019 Budget	Variance 2019 Budget v 2018 Budget Over(Under)
Funding					
ReliabilityFirstFunding					
ERO Assessments	\$ 12,424,532	\$ 12,424,532	\$ -	\$ 13,747,063	\$ 1,322,530
Penalty Sanctions	1,167,928	1,167,928	-	196,542	(971,387)
Total ReliabilityFirst Funding	\$ 13,592,461	\$ 13,592,461	\$ -	\$ 13,943,605	\$ 351,144
Membership Dues	\$ -	\$ -	\$ -	\$ -	\$ -
Federal Grants	-	-	-	-	-
Services & Software	-	-	-	-	-
Workshops	-	-	-	-	-
Interest	30,528	30,528	-	30,032	(496)
Miscellaneous	-	-	-	-	-
Total Funding	13,622,989	13,622,989	-	13,973,637	350,648
Expenses					
Personnel Expenses					
Salaries	\$ 6,499,775	\$ 6,499,775	\$ -	\$ 6,588,226	\$ 88,450
Payroll Taxes	389,918	389,918	-	403,367	13,449
Benefits	1,000,275	1,000,275	-	1,052,759	52,483
Retirement Costs	1,012,231	1,012,231	-	1,028,338	16,107
Total Personnel Expenses	\$ 8,902,200	\$ 8,902,200	\$ -	\$ 9,072,689	\$ 170,490
Meeting Expenses					
Meetings	\$ 44,675	\$ 44,675	\$ -	\$ 20,900	\$ (23,775)
Travel	456,300	456,300	-	413,000	(43,300)
Conference Calls	-	-	-	-	-
Total Meeting Expenses	\$ 500,975	\$ 500,975	\$ -	\$ 433,900	\$ (67,075)
Operating Expenses					
Consultants & Contracts	\$ 111,600	\$ 111,600	\$ -	\$ 88,950	\$ (22,650)
Office Rent	-	-	-	-	-
Office Costs	293,885	293,885	-	250,379	(43,506)
Professional Services	-	-	-	-	-
Miscellaneous	3,500	3,500	-	3,750	250
Depreciation	7,432	7,432	-	5,000	(2,432)
Total Operating Expenses	\$ 416,417	\$ 416,417	\$ -	\$ 348,079	\$ (68,338)
Total Direct Expenses	\$ 9,819,591	\$ 9,819,591	\$ -	\$ 9,854,668	\$ 35,077
Indirect Expenses	\$ 3,892,180	\$ 3,892,180	\$ -	\$ 4,261,174	\$ 368,994
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses	\$ 13,711,772	\$ 13,711,772	\$ -	\$ 14,115,843	\$ 404,071
Change in Assets	\$ (88,783)	\$ (88,783)	\$ -	\$ (142,206)	\$ (53,423)
Fixed Assets					
Depreciation	(7,432)	(7,432)	-	(5,000)	2,432
Computer Hardware & Software CapEx	20,000	20,000	-	30,000	10,000
Furniture & Fixtures CapEx	-	-	-	-	-
Equipment CapEx	-	-	-	-	-
Leasehold Improvements	-	-	-	-	-
Total Fixed Assets	\$ 12,568	\$ 12,568	\$ -	\$ 25,000	\$ 12,432
Allocation of Fixed Assets	\$ (101,351)	\$ (101,351)	-	\$ (167,206)	\$ (65,855)
Inc/(Dec) in Fixed Assets	\$ (88,783)	\$ (88,783)	\$ -	\$ (142,206)	\$ (53,423)
Total Budget	\$ 13,622,989	\$ 13,622,989	\$ -	\$ 13,973,637	\$ 350,648
Total Change in Working Capital	\$ -	\$ -	\$ -	\$ -	\$ (0)
FTEs	37.00	37.00	-	37.00	-

Enforcement

Enforcement (in whole dollars)			
	2018 Budget	2019 Budget	Increase (Decrease)
Total FTEs	8.25	7.00	(1.25)
Direct Expenses	\$ 1,491,871	\$ 1,415,220	\$ (76,651)
Indirect Expenses	\$ 867,851	\$ 806,168	\$ (61,683)
Inc(Dec) in Fixed Assets	\$ (22,598)	\$ (31,634)	\$ (9,035)
Total Funding Requirement	\$ 2,337,124	\$ 2,189,755	\$ (147,369)

Program Scope and Functional Description

The Enforcement group performs ReliabilityFirst's delegated function to enforce compliance with the Reliability Standards. This effort involves ensuring that the selected disposition method for any noncompliance is consistent with the risk posed by the noncompliance; is adequately supported by the record; and promotes desired entity behaviors to enhance reliability.

In the event that a noncompliance is enforced, Enforcement staff is responsible for (1) drafting and negotiating with entities all necessary disposition documents; (2) ensuring all requisite notices are timely issued; (3) post-filing support and advocacy with NERC and FERC; (4) ensuring that the record and related disposition documents comply with all applicable (a) FERC orders, rules, and regulations, (b) NERC ROP and Appendices, guidance, and ERO-wide program documents, and (c) ReliabilityFirst policies and procedures (collectively, "applicable orders, rules, and procedures"); and (5) performing hearings where necessary. In the event that a noncompliance is not enforced (e.g., compliance exception or dismissal), Enforcement staff is responsible for (1) drafting all necessary internal disposition reports and external disposition documents and notices; (2) ensuring all requisite notices are timely issued; (3) post-filing support and advocacy with NERC and FERC; and (4) ensuring that the record and related disposition documents comply with all applicable orders, rules, and procedures.

For continuity and stakeholder convenience, Enforcement staff serve as a single point of contact for entities for noncompliance-related communications, including answering entity questions and providing regular updates on disposition matters. The Enforcement staff is heavily involved in external outreach to help entities understand noncompliance trends and themes that may be early indicators of programmatic or systemic challenges. The Enforcement staff also partners with the Risk Analysis and Mitigation staff to provide targeted training to entities focusing on quality self-reporting and mitigation plans.

ReliabilityFirst frequently serves as the lead Region in resolving multi-regional enforcement actions for designated MRREs. Consequently, Enforcement staff devotes substantial resources to coordinate the enforcement work of various Regions, obtain consensus on a myriad of issues, and negotiate acceptable resolutions.

Enforcement staff regularly works with FERC, NERC, the other Regions, and industry to shape risk-based, effective enforcement policies that drive desired entity behavior. This work includes drafting, or supporting the drafting, of ERO-wide enforcement program documents and enforcement related regulatory filings, presenting and training on enforcement programs in various forums, and monitoring and managing enforcement metrics in support of NERC's strategic Plan and Oversight Program. Enforcement staff also works with NERC and the other Regions to promote and otherwise ensure collaboration and implementation of consistent enforcement practices focused on higher reliability risks.

2019 Key Assumptions

The Enforcement group incorporates the regional specific strategic and operating objectives set forth in the ERO Enterprise Long Term Strategy and the ERO Enterprise Operating Plan. It also includes the following regional assumptions:

1. The number of CIP noncompliances may continue to increase due to implementation of the CIP V5 Standards, which increased the scope of assets covered. The number of Operations and Planning noncompliances may increase due to revisions of certain Reliability Standards and new Reliability Standards becoming effective.
2. ReliabilityFirst anticipates that the majority of noncompliances will continue to trend as minimal or moderate risk, however the complexity of these noncompliances will continue to increase as entities are expected to grow and mature. In light of these developments, an increase in staff would ensure the sustainability of continued success in meeting corporate goals, while continuing to provide substantive support to entities and avoiding the creation of any backlog.
3. Complex, higher-risk noncompliances disposed as Settlement Agreements will require approximately 50% of Enforcement resources. These matters often involve more complex mitigation, above and beyond action items, and the negotiation of sanctions.
4. The Find Fix and Track (FFT) disposition method will be used for moderate risk issues. It will continue to be used less often in favor of the Compliance Exception disposition method, which will be used for almost all qualified minimal risk noncompliances.
5. Enforcement staff will spend significant time ensuring adequate records are created for minimal risk issues. The expenditure of this time will be driven by anticipated receipt of minimal risk issues for the CIP V5 Standards, as well as increased participation in the self-logging program and case by case compliance exception mechanisms.
6. ReliabilityFirst will frequently serve as the lead Region for MRREs. The disposition of MRRE noncompliances takes additional time to coordinate dispositions, review mitigation and negotiate acceptable solutions with Affected Regions.
7. Enforcement staff will work with FERC, NERC, the other Regions, and the industry to shape effective and risk-based enforcement policies that drive desired behavior and ensure consistency.

8. The number of hearings to be conducted is unknown, and therefore no internal or external resources have been budgeted for hearings.
9. Enforcement staff will provide outreach to industry through internal support of functional initiatives (e.g., Inherent Risk Assessments; Regional Risk Assessments; Internal Control Evaluations); workshop presentations and participation in panel discussions; webinars; targeted entity training; identification and sharing of lessons learned; and contributions to the RF newsletter.

2019 Key Deliverables

- Continue to focus on resolving enforcement actions in a thoughtful, risk-based, reliability focused manner.
- Ensure that the use of discretion in Enforcement is internally documented, repeatable, and consistent with NERC directives and FERC orders, rules, and regulations.
- Conduct initial fact and circumstance reviews of noncompliances and communicate with the entity through each step of the enforcement process.
- Continue to work with the Reliability Assurance group to refine the risk-harm assessment process, a key input into enforcement decision making.
- Continue to increase efficiency, through process improvement, in dispositioning enforcement actions and preparing settlement agreements.
- Continue to work with NERC and the other Regions to shape a well-reasoned Enforcement philosophy that results in risk-based, uniform, repeatable, transparent, and reliability-focused approaches.
- Use knowledge obtained in the context of Inherent Risk Assessments and Internal Controls Evaluations to assure informed decision-making
- Draft and negotiate with entities all necessary disposition documents
- Ensure all requisite notices are timely issued, and provide post-filing support and advocacy with NERC and FERC
- Ensuring that the record of a noncompliance and the related disposition documents comply with all applicable orders, rules, and procedures.

Resource Requirements

- **Personnel**

An increase of one FTE is budgeted for 2019 in an effort to ensure the department's continuous improvement, ability to timely and effectively enforce complex noncompliances while remaining an accessible single point of contact for our Registered Entities. The quality of risk communication, deeper understanding of our Registered Entities risk profiles and our ability to identify trends, share lessons learned and proactively target and train entities based on risk and compliance history are necessary to the Enforcement department's effectiveness. As described in the Assumptions section, there has been an

increase in the number of noncompliances with the CIP V5 Standards, due to the increased scope of the assets covered and prescriptiveness of the standards which creates more opportunity for noncompliance. There has been a slight increase in the number of noncompliances with the Operations and Planning Standards, due to revised Operations and Planning Standards becoming effective. While Operations and Planning Standards noncompliances have decreased over time, upcoming technical requirements and maintenance and testing standards that drive longer durations before being identified and corrected will continue to provide opportunities for proactive outreach and shared lessons learned. The complexities of our entities and the nature of our industry continue to evolve requiring more in-depth analysis to appropriately dispose of noncompliances. Under the MRRE program, the Enforcement department serves as the Lead Regional Entity for twelve (12) parent registered entities and their subsidiaries. The MRRE Program and efforts to increase transparency and consistency across the Regions has also resulted in additional workload.

Currently the Enforcement group has three (3) Case Managers dedicated to the disposition of noncompliances while also serving as the single point of contact for 246 registered entities. Working at maximum capacity (~200 hours overtime annually per employee), the Enforcement group has struggled over the years to meet internal metrics focused on the timely and efficient processing of noncompliances. In addition to processing noncompliances, the Case Managers also contribute to cross-functional support of risk communication, mitigation, and identification. The 2019 Manpower FTE analysis indicates an additional FTE to support Enforcement's current responsibilities. Noncompliance intake continues to trend upwards which will continue to strain the current Case Manager's ability to process violations in a timely and efficient manner. An additional FTE will better position the Enforcement department to balance caseloads in an effort to be more responsive to the foreseen and unforeseen future needs of the organization and industry.

The Enforcement group has evaluated its processes, workload, and staffing levels and has determined that, due to the volume and complexities of noncompliances, and the criticality of resolving dispositions within a timely manner, an additional staff Case Manager is necessary. The Enforcement group has and will continue to identify and implement various process improvements going forward.

Although the Enforcement group is budgeting an increase of one FTE, the 2019 Business Plan and Budget reflects a net decrease of 1.25 FTEs in the Enforcement group, due to the reallocation of one FTE to the Training, Education, and Operator Certification group; one FTE to the Legal group; and .25 FTE to the Situation Awareness and Infrastructure Security Program. The reallocation of these FTEs was necessary to provide the needed resources and skill sets in these areas, and better reflects work these employees are performing.

- **Contractors and Consultants**

No contractor and consultant support is budgeted in this year.

Enforcement Budget Detail

The following table shows funding sources and related expenses for the Enforcement section of the *2019 Business Plan and Budget*. Explanations of variances by expense category are included with the Supplemental Financial Tables found in Section B.

2018 Budget and Projection, and 2019 Budget					
Enforcement					
	2018 Budget	2018 Projection	Variance 2018 Projection v 2018 Budget Over(Under)	2019 Budget	Variance 2019 Budget v 2018 Budget Over(Under)
Funding					
ReliabilityFirstFunding					
ERO Assessments	\$ 2,069,900	\$ 2,069,900	\$ -	\$ 2,146,889	\$ 76,989
Penalty Sanctions	260,416	260,416	-	37,184	(223,233)
Total ReliabilityFirst Funding	\$ 2,330,317	\$ 2,330,317	\$ -	\$ 2,184,073	\$ (146,244)
Membership Dues	-	-	-	-	-
Federal Grants	-	-	-	-	-
Services & Software	-	-	-	-	-
Workshops	-	-	-	-	-
Interest	6,807	4,950	(1,856)	5,682	(1,125)
Miscellaneous	-	-	-	-	-
Total Funding	2,337,124	2,335,267	(1,856)	2,189,755	(147,369)
Expenses					
Personnel Expenses					
Salaries	\$ 1,058,684	\$ 1,058,684	\$ -	\$ 987,123	\$ (71,561)
Payroll Taxes	71,181	71,181	-	64,657	(6,524)
Benefits	163,026	163,026	-	178,498	15,472
Retirement Costs	165,691	165,691	-	152,760	(12,931)
Total Personnel Expenses	\$ 1,458,582	\$ 1,458,582	\$ -	\$ 1,383,038	\$ (75,544)
Meeting Expenses					
Meetings	\$ 2,500	\$ 2,500	\$ -	\$ 1,600	\$ (900)
Travel	23,000	23,000	-	23,000	-
Conference Calls	-	-	-	-	-
Total Meeting Expenses	\$ 25,500	\$ 25,500	\$ -	\$ 24,600	\$ (900)
Operating Expenses					
Consultants & Contracts	-	-	-	-	-
Office Rent	-	-	-	-	-
Office Costs	7,789	7,789	-	7,582	(207)
Professional Services	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Depreciation	-	-	-	-	-
Total Operating Expenses	\$ 7,789	\$ 7,789	\$ -	\$ 7,582	\$ (207)
Total Direct Expenses	\$ 1,491,871	\$ 1,491,871	\$ -	\$ 1,415,220	\$ (76,651)
Indirect Expenses	\$ 867,851	\$ 631,164	\$ (236,687)	\$ 806,168	\$ (61,683)
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses	\$ 2,359,722	\$ 2,123,035	\$ (236,687)	\$ 2,221,388	\$ (138,334)
Change in Assets	\$ (22,598)	\$ 212,232	\$ 234,830	\$ (31,634)	\$ (9,035)
Fixed Assets					
Depreciation	-	-	-	-	-
Computer Hardware & Software CapEx	-	-	-	-	-
Furniture & Fixtures CapEx	-	-	-	-	-
Equipment CapEx	-	-	-	-	-
Leasehold Improvements	-	-	-	-	-
Allocation of Fixed Assets	\$ (22,598)	\$ (16,435)	6,163	\$ (31,634)	\$ (9,035)
Inc/(Dec) in Fixed Assets	\$ (22,598)	\$ (16,435)	\$ 6,163	\$ (31,634)	\$ (9,035)
Total Budget	\$ 2,337,124	\$ 2,106,600	\$ (230,523)	\$ 2,189,755	\$ (147,369)
Total Change in Working Capital	\$ -	\$ 228,667	\$ 228,667	\$ -	\$ -
FTEs	8.25	6.00	(2.25)	7.00	(1.25)

Reliability Assessment and Performance Analysis Program

Reliability Assessments and Performance Analysis Program (in whole dollars)			
	2018 Budget	2019 Budget	Increase (Decrease)
Total FTEs	8.35	7.60	(0.75)
Direct Expenses	\$ 2,076,169	\$ 2,071,633	\$ (4,536)
Indirect Expenses	\$ 878,370	\$ 875,268	\$ (3,102)
Inc(Dec) in Fixed Assets	\$ (25,249)	\$ (37,797)	\$ (12,548)
Total Funding Requirement	\$ 2,929,290	\$ 2,909,104	\$ (20,186)

Program Scope and Functional Description

ReliabilityFirst's Reliability Assessment and Performance Analysis (RAPA) staff independently analyzes, assesses, and reports on the reliability and adequacy of the BES within the ReliabilityFirst footprint. RAPA staff helps identify and assess risks across the ReliabilityFirst footprint, and its deliverables are a major contributor to the risk-based efforts of the entire organization. This work includes the performance of resource and transmission assessment studies; special analyses and investigations as warranted; and the collection and dissemination of data, lessons learned, and other information. The RAPA program provides resources and data input for the technical analyses and support of the many risk-based activities described in the Reliability Assurance and Compliance Monitoring sections.

2019 Key Assumptions

The Reliability Assessment and Performance Analysis Program incorporates the regional specific strategic and operating objectives set forth in the ERO Enterprise Long Term Strategy and the ERO Enterprise Operating Plan.

There are no additional assumptions unique to the Reliability Assessment and Performance Program.

2019 Key Deliverables

- Assessments of Reliability Performance
 - Perform seasonal (summer and winter) risk analyses of the projected resource adequacy for PJM Interconnection, LLC (PJM) and Midcontinent Independent System Operator (MISO), the two Regional Transmission Organizations (RTO) that operate within ReliabilityFirst. As part of these risk analyses, produce seasonal RTO "waterfall" risk charts depicting the range of available capacity reserves for the forecasted normal (50/50) and extreme (90/10) seasonal peak demand levels; and historical long-term forecast and demand charts.
 - Perform seasonal (summer and winter); near-term (typically five years into the future); and extreme transmission assessment studies, and produce reports on these transmission assessment studies.

- Collect data and produce assessment reports for the NERC Reliability Assessment Subcommittee's seasonal, special assessment, and long-term reports.
- Provide technical support for the ERO Enterprise's expanded and enhanced system studies and help perform analyses as needed.
- Work with neighboring Regional Entities within the Eastern Interconnection Reliability Assessment Group (ERAG) to perform Eastern Interconnection assessment studies and produce reports.
- Update power flow base case models as needed for regional study efforts.
- Reporting Requirements
 - Submit ReliabilityFirst load, capacity, and transmission data and power flow base cases annually for the US Department of Energy's EIA-411 report.
 - Assist NERC in the verification and validation of data for the Transmission Availability Data System (TADS), Generator Availability Data System (GADS), Demand Response Availability Data System (DADS), and the Misoperation Information Data Analysis System (MIDAS). All these systems can be used for data analytics across the ERO Enterprise.
- Other Requirements and Activities
 - Publish lessons learned that are developed from misoperation reporting and other sources.
 - Continue to participate in ERAG, the MMWG, and other ERAG groups.
 - Analyze protective relay misoperation information and track corrective action plans, as reported in the NERC MIDAS system. Facilitate a peer review process of this data via the ReliabilityFirst Protection Subcommittee.
 - Conduct initial and periodic Special Protection System reviews and maintain a database of regional Special Protection Systems.
 - Review under-frequency load shed (UFLS) information.
 - Review under-voltage load shed (UVLS) information.
 - Develop and maintain a linear contingency database for transmission assessment studies.
 - In support of the ERO Enterprise, actively participate (and in some cases serve in leadership roles) in NERC committees, subcommittees, task forces, and other technical groups, such as the Planning Committee, Operating Committee, and associated subgroups, as well as the ERO-RAPA group.
 - Continue to support stakeholder participation and interaction through various regional technical groups, including the Reliability Committee (a technical advisory body to the ReliabilityFirst Board of Directors) and its subcommittees and task forces. These groups provide technical advice, perform technical reviews, and provide input on emerging reliability issues. These groups also provide the

- opportunity for stakeholders to debate current issues, share lessons learned, and discuss success stories and near-misses in a technical forum.
- Provide the various regional technical groups with information and knowledge to help entities improve human performance.
- Provide Registered Entities with tailored training and interaction through recurring workshops (such as the Protection Workshop for Technical Personnel and training to the Protection Subcommittee by a relay vendor).
- Provide knowledge, techniques, and data input in support of ReliabilityFirst's risk-based activities, including the Inherent Risk Assessments and Regional Risk Assessment efforts.

Resource Requirements

- **Personnel**

No increase in personnel is budgeted in this year. However, plans have been developed to overlap key personnel who have indicated they are near retirement, in order to allow for adequate knowledge transfer and training of their successors. The potential impact on the budget will be managed and monitored closely as these personnel commit to specific retirement dates.

The 2019 Business Plan and Budget reflects a net decrease of 0.75 FTEs in this group. This decrease is due to the reallocation of FTE hours to the Compliance Monitoring Program and the Situation Awareness and Infrastructure Security Program, to better align administrative resources to support these functions.

- **Contractors and Consultants**

Contractor and consulting support is budgeted to support:

- ERAG steady state and dynamic base case model assembly through the Multiregional Modeling Working Group (MMWG) processes,
- ERAG event analysis process(es) and tools to develop steady state and dynamic models for analyzing system disturbances,
- ERAG reviews of Planning Coordinator assessments, and
- ERAG assessment studies.

The total cost of ERAG contractor and consulting support is shared across all five Regional Entities in the Eastern Interconnection.

Reliability Assessment and Performance Analysis Program Budget Detail

The following table lists funding sources and related expenses for the Reliability Assessment and Performance Analysis section of the 2019 Business Plan and Budget. Explanations of variances by expense category are included with the Supplemental Financial Tables found in Section B.

2018 Budget and Projection, and 2019 Budget					
Reliability Assessment and Performance Analysis					
	2018 Budget	2018 Projection	Variance 2018 Projection v 2018 Budget Over(Under)	2019 Budget	Variance 2019 Budget v 2018 Budget Over(Under)
Funding					
ReliabilityFirstFunding					
ERO Assessments	\$ 2,658,828	\$ 2,658,828	\$ -	\$ 2,862,565	\$ 203,737
Penalty Sanctions	263,573	263,573	-	40,371	(223,202)
Total ReliabilityFirst Funding	\$ 2,922,401	\$ 2,922,401	\$ -	\$ 2,902,935	\$ (19,465)
Membership Dues	\$ -	\$ -	\$ -	\$ -	\$ -
Federal Grants	-	-	-	-	-
Services & Software	-	-	-	-	-
Workshops	-	-	-	-	-
Interest	6,889	6,271	(619)	6,169	(721)
Miscellaneous	-	-	-	-	-
Total Funding	2,929,290	2,928,671	(619)	2,909,104	(20,186)
Expenses					
Personnel Expenses					
Salaries	\$ 1,329,564	\$ 1,329,564	\$ -	\$ 1,343,225	\$ 13,661
Payroll Taxes	83,004	83,004	-	82,910	(94)
Benefits	175,455	175,455	-	156,771	(18,684)
Retirement Costs	215,123	215,123	-	212,370	(2,753)
Total Personnel Expenses	\$ 1,803,146	\$ 1,803,146	\$ -	\$ 1,795,276	\$ (7,870)
Meeting Expenses					
Meetings	\$ 16,700	\$ 16,700	\$ -	\$ 8,000	\$ (8,700)
Travel	91,500	91,500	-	94,650	3,150
Conference Calls	-	-	-	-	-
Total Meeting Expenses	\$ 108,200	\$ 108,200	\$ -	\$ 102,650	\$ (5,550)
Operating Expenses					
Consultants & Contracts	\$ 119,812	\$ 119,812	\$ -	\$ 126,812	\$ 7,000
Office Rent	-	-	-	-	-
Office Costs	42,434	42,434	-	43,443	1,009
Professional Services	-	-	-	-	-
Miscellaneous	200	200	-	-	(200)
Depreciation	2,377	2,377	-	3,452	1,075
Total Operating Expenses	\$ 164,823	\$ 164,823	\$ -	\$ 173,707	\$ 8,884
Total Direct Expenses	\$ 2,076,169	\$ 2,076,169	\$ -	\$ 2,071,633	\$ (4,536)
Indirect Expenses	\$ 878,370	\$ 799,475	\$ (78,896)	\$ 875,268	\$ (3,102)
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses	\$ 2,954,539	\$ 2,875,644	\$ (78,896)	\$ 2,946,901	\$ (7,638)
Change in Assets	\$ (25,249)	\$ 53,027	\$ 78,277	\$ (37,797)	\$ (12,548)
Fixed Assets					
Depreciation	(2,377)	(2,377)	-	(3,452)	(1,075)
Computer Hardware & Software CapEx	-	-	-	-	-
Furniture & Fixtures CapEx	-	-	-	-	-
Equipment CapEx	-	-	-	-	-
Leasehold Improvements	-	-	-	-	-
	\$ (2,377)	\$ (2,377)	\$ -	\$ (3,452)	\$ (1,075)
Allocation of Fixed Assets	\$ (22,872)	\$ (20,818)	2,054	\$ (34,345)	\$ (11,473)
Inc/(Dec) in Fixed Assets	\$ (25,249)	\$ (23,195)	\$ 2,054	\$ (37,797)	\$ (12,548)
Total Budget	\$ 2,929,290	\$ 2,852,449	\$ (76,841)	\$ 2,909,104	\$ (20,186)
Total Change in Working Capital	\$ -	\$ 76,222	\$ 76,222	\$ -	\$ 0
FTEs	8.35	7.60	(0.75)	7.60	(0.75)

Training, Education, and Operator Certification Program

Training, Education and Operator Certification Program (in whole dollars)			
	2018 Budget	2019 Budget	Increase (Decrease)
Total FTEs	3.00	3.00	0.00
Direct Expenses	\$ 712,087	\$ 771,893	\$ 59,806
Indirect Expenses	\$ 315,582	\$ 345,501	\$ 29,918
Inc(Dec) in Fixed Assets	\$ (8,218)	\$ (6,557)	\$ 1,660
Total Funding Requirement	\$ 1,019,452	\$ 1,110,836	\$ 91,385

Program Scope and Functional Description

Effective training and outreach is critical to leverage and advance industry practices surrounding risk identification, mitigation, and prevention. The ReliabilityFirst Training and Education Program focuses on providing relevant training to entities operating in the ReliabilityFirst region. ReliabilityFirst's training is structured to provide timely information in a concise format to enable participation at all levels within an organization.

ReliabilityFirst does not provide system operator certification training, as it is provided by the Regional Transmission Organizations within the Region.

2019 Key Assumptions

The Training and Education Program incorporates the regional specific strategic and operating objectives set forth in the ERO Enterprise Long Term Strategy and the ERO Enterprise Operating Plan.

There are no additional assumptions unique to the ReliabilityFirst Training and Education Program.

2019 Key Deliverables

- Industry Education
 - ReliabilityFirst will continue its effort to increase and add greater focus to its activities aimed at helping entities achieve excellence in reliability, security and resiliency. These activities include:
 - The issuance of announcements, newsletters, and reports on key reliability, security, and resiliency issues facing ReliabilityFirst and the industry.
 - Communication of key risks and risk mitigation strategies.
 - In concert with the ERO Event Analysis team, the development and publishing of lessons learned/best practices from system events and disturbances.

- Guidance on the CIP V5 Reliability Standards, including a focus on “Low Impact Only” entities, and on other new and revised Reliability Standards.
 - Guidance on the implementation of the Risk-Based Compliance Monitoring and Enforcement Program, including on Inherent Risk Assessments and Internal Controls Evaluations
 - Identification and communication of common themes and root causes of Reliability Standard violations.
 - Efforts to better prepare entities for compliance audits and enforcement activities.
 - Open compliance and enforcement calls that cover a span of compliance, CIP V5 transition, and enforcement related topics.
 - Sharing best practices concerning generator plant winter readiness.
 - Webinars on the compliance monitoring and enforcement process.
 - Increased focus on any lessons learned or trends identified from reliability assessments.
 - Posting educational materials on the ReliabilityFirst public website on pertinent reliability, security, and resiliency topics
- Industry Workshops
 - Continue workshops and forums to allow for free exchange of information between ReliabilityFirst and its stakeholders. Workshops and forums will focus on understanding and mitigating risks to reliability, security, and resiliency within the ReliabilityFirst footprint. Workshops to be conducted include:
 - Two Reliability workshops (spring and fall) to promote a culture of reliability focusing on security, resiliency, risk management, and targeted discussion on methods to demonstrate compliance.
 - Open forums to provide insight into new Reliability Standards developed and approved by the industry, changes in the Compliance Monitoring and Enforcement Program, communications with our registered entities around identified and emerging risks, Critical Infrastructure Protection issues, trends that could develop into a risk or other topics requested by entities.
 - CIP Standards Workshop to provide insight into the evolution of these Standards and to provide a forum for entities to share thoughts, problems, and solutions.
 - Additional, targeted workshops to address emerging risks (e.g., misoperations, human performance, and technology) as the need is identified and the sessions can be scheduled.

Resource Requirements

- **Personnel**

Although there was no change in the total number of FTEs in this program, there was a decrease in personnel expenses due to realignment of staff.

- **Contractors and Consultants**

Contractor and consultant support is budgeted in 2019 to assist with the initiatives aimed at helping entities achieve excellence in reliability, security, and resiliency.

Training, Education, and Operator Certification Program Budget Detail

The following table shows funding sources and related expenses for the Training, Education, and Operator Certification section of the *2019 Business Plan and Budget*. Explanations of variances by expense category are included with the Supplemental Financial Tables found in Section B.

2018 Budget and Projection, and 2019 Budget					
Training, Education, and Operator Certification Program					
	2018 Budget	2018 Projection	Variance 2018 Projection v 2018 Budget Over(Under)	2019 Budget	Variance 2019 Budget v 2018 Budget Over(Under)
Funding					
ReliabilityFirstFunding					
ERO Assessments	\$ 922,279	\$ 922,279	\$ -	\$ 1,092,466	\$ 170,186
Penalty Sanctions	94,697	94,697	-	15,936	(78,761)
Total ReliabilityFirst Funding	\$ 1,016,976	\$ 1,016,976	\$ -	\$ 1,108,401	\$ 91,425
Membership Dues	-	-	-	-	-
Federal Grants	-	-	-	-	-
Services & Software	-	-	-	-	-
Workshops	-	-	-	-	-
Interest	2,475	2,475	-	2,435	(40)
Miscellaneous	-	-	-	-	-
Total Funding	1,019,452	1,019,452	-	1,110,836	91,385
Expenses					
Personnel Expenses					
Salaries	\$ 416,078	\$ 416,078	\$ -	\$ 386,731	\$ (29,347)
Payroll Taxes	28,228	28,228	-	24,369	(3,859)
Benefits	65,095	65,095	-	80,980	15,885
Retirement Costs	66,286	66,286	-	61,091	(5,195)
Total Personnel Expenses	\$ 575,687	\$ 575,687	\$ -	\$ 553,171	\$ (22,516)
Meeting Expenses					
Meetings	\$ 136,400	\$ 136,400	\$ -	\$ 181,500	\$ 45,100
Travel	-	-	-	6,000	6,000
Conference Calls	-	-	-	-	-
Total Meeting Expenses	\$ 136,400	\$ 136,400	\$ -	\$ 187,500	\$ 51,100
Operating Expenses					
Consultants & Contracts	\$ -	\$ -	\$ -	\$ 20,000	\$ 20,000
Office Rent	-	-	-	-	-
Office Costs	-	-	-	8,222	8,222
Professional Services	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Depreciation	-	-	-	3,000	3,000
Total Operating Expenses	\$ -	\$ -	\$ -	\$ 31,222	\$ 31,222
Total Direct Expenses					
	\$ 712,087	\$ 712,087	\$ -	\$ 771,893	\$ 59,806
Indirect Expenses					
	\$ 315,582	\$ 315,582	\$ -	\$ 345,501	\$ 29,918
Other Non-Operating Expenses					
	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses	\$ 1,027,669	\$ 1,027,669	\$ -	\$ 1,117,394	\$ 89,724
Change in Assets	\$ (8,218)	\$ (8,218)	\$ -	\$ (6,557)	\$ 1,660
Fixed Assets					
Depreciation	-	-	-	(3,000)	(3,000)
Computer Hardware & Software CapEx	-	-	-	10,000	10,000
Furniture & Fixtures CapEx	-	-	-	-	-
Equipment CapEx	-	-	-	-	-
Leasehold Improvements	-	-	-	-	-
Total Fixed Assets	\$ -	\$ -	\$ -	\$ 7,000	\$ 7,000
Allocation of Fixed Assets	\$ (8,218)	\$ (8,218)	-	\$ (13,557)	\$ (5,340)
Inc/(Dec) in Fixed Assets	\$ (8,218)	\$ (8,218)	\$ -	\$ (6,557)	\$ 1,660
Total Budget	\$ 1,019,452	\$ 1,019,452	\$ -	\$ 1,110,836	\$ 91,385
Total Change in Working Capital	\$ -	\$ -	\$ -	\$ -	\$ 0
FTEs	3.00	3.00	-	3.00	-

Situation Awareness and Infrastructure Security Program

Situation Awareness and Infrastructure Security Program (in whole dollars)			
	2018 Budget	2019 Budget	Increase (Decrease)
Total FTEs	4.00	7.00	3.00
Direct Expenses	\$ 1,085,245	\$ 1,696,667	\$ 611,422
Indirect Expenses	\$ 420,776	\$ 806,168	\$ 385,392
Inc(Dec) in Fixed Assets	\$ (20,977)	\$ (37,710)	\$ (16,733)
Total Funding Requirement	\$ 1,485,044	\$ 2,465,125	\$ 980,081

Program Scope and Functional Description

In support of the ERO, the Situation Awareness and Infrastructure Security staff, in coordination with members of the Reliability Assessment and Performance Analysis and Reliability Assurance groups, monitors present conditions on and emerging threats to the BES. The Situation Awareness and Infrastructure Security staff also performs event analysis for system disturbances and events. During the event analysis process, ReliabilityFirst works with entities to identify and analyze the root causes of system events, complete event analysis reports, and communicate the resulting information and lessons learned to the industry.

The Situation Awareness and Infrastructure Security activity continues to evolve to provide the tools and information required by the staff and stakeholders to promote infrastructure protection. The Situation Awareness and Infrastructure Security program area addresses two separate but related functions, Situation Awareness and Critical Infrastructure Protection (CIP).

The Situation Awareness and Infrastructure Security program supports the ReliabilityFirst staff and Registered Entities in understanding potential threats to the electricity sector, implementing Reliability Standards developed to reinforce infrastructure security, maintaining an awareness of conditions on the BES, and identifying potential and emerging threats to the BES.

In 2018, as part of a corporate reorganization, the Situation Awareness and Infrastructure Security Program expanded to include Analytics and Configuration Management functions, which support the entire ReliabilityFirst organization. This consolidation of Analytics, Configuration Management, and Situation Awareness will improve the timeliness and value of information used by ReliabilityFirst in its focus on risk-based reliability.

2019 Key Assumptions

The Situation Awareness and Infrastructure Security Program incorporates the regional specific strategic and operating objectives set forth in the ERO Enterprise Long Term Strategy and the ERO Enterprise Operating Plan. It also includes the following regional assumptions:

1. National level security exercises will be conducted to examine industry's cyber security and physical security preparedness and response capabilities through simulation of coordinated cyber and physical attacks on industrial control systems, System Control and

Data Acquisition, and information technology assets. ReliabilityFirst will participate in these exercises as appropriate.

2. ReliabilityFirst Situation Awareness and Infrastructure Security staff will monitor projects related to grid resilience and security such as the Cyber Resilient Energy Delivery Consortium. Staff will participate in these projects as appropriate, incorporate lessons learned from these projects into ReliabilityFirst's tools and processes, and share lessons learned with entities as appropriate.
3. The event analysis program was reallocated from the Reliability Assurance and Compliance Monitoring Program to the Situation Awareness and Infrastructure Security Program, in order to group together ReliabilityFirst's activities connected to event analysis, situational awareness, and emerging threats. This centralizes and clarifies ReliabilityFirst's work in these three interrelated areas, as the work associated with them was previously dispersed across the organization.
4. The Analytics and Configuration Management functions were recently transferred from the Reliability Assurance and Compliance Monitoring program, respectively, in order to align advanced analytical capabilities and configuration management principles with activities connected to event analysis, situational awareness, and emerging threats. Analytics continues to mature as a service across the entire organization. The intent of the Analytics program at ReliabilityFirst is to develop and evolve the corporation's statistical analysis capabilities and use of data to gain a better understanding of the risks facing the industry. ReliabilityFirst is poised to integrate Analytics as a key component of the risk based decision-making strategy adopted by ReliabilityFirst. ReliabilityFirst also continues to evolve the Configuration Management program, which organizes and manages changes to RF's complete library of data, documents, software and hardware.

2019 Key Deliverables

- Support of the ReliabilityFirst Critical Infrastructure Protection Committee (CIPC)
 - The purpose of the ReliabilityFirst CIPC is to share information concerning CIP and to promote CIP within the Region. Situation Awareness and Infrastructure Security staff will support the CIPC through the scheduling and facilitation of CIPC meetings and webinars and the dissemination of messages, alerts, and warnings from NERC, the Electricity Information Sharing and Analysis Center (E-ISAC), and the U.S. Department of Homeland Security (U.S. DHS) to the CIPC as permitted. Staff will also work to encourage and support sharing of information between entities and the E-ISAC.
- Support/Oversee ReliabilityFirst Staff Compliance to the NERC Cyber Security Standards (CIP-002 - CIP-014)
 - ReliabilityFirst is committed to complying with the intent of the NERC Cyber Security Standards. The Situation Awareness and Infrastructure Security staff will provide training, guidance, and oversight to the ReliabilityFirst staff, particularly the Information Technology staff, in achieving compliance to these Standards.

- Provide Information on CIP-Related Issues
 - This activity involves dissemination of information to entities from agencies such as the E-ISAC, the U.S. Department of Homeland Security, and others containing information on events or suspected events representing potential threats to the electricity sector.
 - Situation Awareness and Infrastructure Security staff will work with other members of the NERC CIPC and NERC staff to develop a robust messaging system for dissemination of CIP-related messages to the appropriate target audience and will promote the use of this messaging system for exchange of security-related information.
- Monitor the Health of the BES
 - The use of situation awareness tools by staff has been evolving over the last few years. Situation Awareness and Infrastructure Security staff continues to participate in the Situation Awareness for FERC, NERC, and the Regional Entities (SAFNR) project and uses the SAFNRv2 displays developed through this project. ReliabilityFirst is a signatory to the NERC Operating Reliability Data Confidentiality Agreement and the SAFNR Subscriber Agreement and as such, will use tools such as the Reliability Coordinator Information System (RCIS), System Data eXchange (SDX), Area Control Error (ACE), and Abnormal Frequency System Monitoring, in addition to SAFNR Version 2, to monitor the health of the BES within the ReliabilityFirst geographical area. In addition to the tools just mentioned, ReliabilityFirst will investigate other tools for monitoring the grid.
- Facilitate the ReliabilityFirst Threats and Vulnerabilities Team
 - In early 2014, ReliabilityFirst created a cross-functional team of subject matter experts to monitor, quantify, and assess new and emerging threats to the BES. The team continues to mature the tools and techniques used to perform this activity in support of the Reliability Assurance program. In 2019, the team will enhance its ability to collect and analyze data, leveraging the Analytics program to better identify and quantify emerging threats to the BES and to provide additional input to the ReliabilityFirst Regional Risk Assessment program. Tools used to quantify threats will continue to be assessed for applicability to the work of the Threats and Vulnerabilities Team.
- Maintain and Test Business Continuity/Disaster Recovery and Pandemic Plans for the ReliabilityFirst Office
 - A business continuity plan deals with the ability to continue business functions in a degraded situation such as the loss of corporate assets including office space or computer assets.
 - A disaster recovery plan deals with a more complete loss of access to corporate assets due to a large-scale event such as a tornado or blackout.
 - A pandemic plan focuses on business continuity in the face of a declared pandemic.

- Assist stakeholders in complying with CIP Standards
 - As the NERC Cyber Security Standards (CIP-002 - CIP-011), the Physical Security Standard (CIP-014), and the Supply Chain Standard (CIP-13) evolve, entities will continue to monitor and implement revisions to the Standards. Situation Awareness and Infrastructure Security staff will be available to answer questions concerning these Standards and, in coordination with the ReliabilityFirst CIPC, will sponsor/support regional workshops and webinars as needed to foster the exchange of ideas and solutions developed by entities.
- Support the Compliance Monitoring and Enforcement Program
 - Support the activities involving CIP-related issues and events in the Compliance Monitoring and Enforcement program, by providing expertise on CIP monitoring, mitigation plans and settlements that include assessment of compliance to the CIP Standards (CIP-002 - CIP-014).
- Collect, validate, review, and analyze data for system events and disturbances as described in the NERC ERO Event Analysis Process and the ReliabilityFirst Event Analysis Process.
 - For system events and disturbances, cooperate with NERC and FERC staff and other Regional staff to ensure root causes, corrective actions, lessons learned, and recommendations are identified and shared across the ERO Enterprise and the industry.
 - Collect and review disturbance reports as required in NERC Standard EOP-004 and as required by the Department of Energy in form OE-417.
- Continue to expand and enhance the ReliabilityFirst Analytics capabilities to provide improved statistics and modeling across the organization.
- Lead the development and integration of advanced analytic & business intelligence capabilities for identifying and determining reliability risks and conducting various risk assessments (e.g., Regional Risk Assessments and explorative Probabilistic Risk Assessment).
- Support ERO Enterprise-wide data collection and analysis efforts.
- Support and leverage cross-functional collaboration to use Analytics within RF and across the ERO Enterprise.
 - Collaborate with RAPA in the verification and validation of data for the Transmission Availability Data System (TADS), Generator Availability Data System (GADS), Demand Response Availability Data System (DADS), and the Misoperation Information Data Analysis System (MIDAS).
 - Collaborate with Reliability Assurance and Monitoring, Enforcement, and Legal, to explore and develop analytical solutions, where applicable.
- Lead the development and integration of Data Warehousing Governance, Management, and underlying databases.

- Lead further integration and use of Configuration Management within RF.
- Lead the annual Regional Risk Assessment execution and output, supported by a cross-functional team.
- Provide technical subject matter expertise and support for regional outreach activities, and other initiatives as identified within ReliabilityFirst and/or the ERO.

Resource Requirements

- **Personnel**

As discussed above in the 2019 Key Assumptions Section, ReliabilityFirst's Analytics and Configuration Management functions were recently reallocated from the Reliability Assurance and Reliability Standards groups, respectively, to the Situation Awareness and Infrastructure Security group. Two FTEs transitioned into the Situation Awareness and Infrastructure Security group as part of this reallocation. Additionally, one administrative FTE from the Human Resources group was reallocated to the Situation Awareness and Infrastructure Security group as part of a realignment of administrative resources. At this time, no additional FTEs are planned. In the event the workload exceeds available resources, contractors may be used to temporarily supplement staff.

- **Contractors and Consultants**

Contractor support is budgeted to support the ReliabilityFirst data warehouse project. The data warehouse project is intended to centralize ReliabilityFirst's data sets and provide business intelligence capabilities for better integration of disparate data sets and add visualization functions to better identify areas of concern or areas needing additional analysis.

Situation Awareness and Infrastructure Security Program Budget Detail

The following table shows funding sources and related expenses for the Situation Awareness and Infrastructure Security section of the 2019 Business Plan and Budget. Explanations of variances by expense category are included with the Supplemental Financial Tables found in Section B.

2018 Budget and Projection, and 2019 Budget					
Situation Awareness and Infrastructure Security					
	2018 Budget	2018 Projection	Variance 2018 Projection v 2018 Budget Over(Under)	2019 Budget	Variance 2019 Budget v 2018 Budget Over(Under)
Funding					
ReliabilityFirstFunding					
ERO Assessments	\$ 1,355,482	\$ 1,355,482	\$ -	\$ 2,422,260	\$ 1,066,778
Penalty Sanctions	126,263	126,263	-	37,184	(89,079)
Total ReliabilityFirst Funding	\$ 1,481,744	\$ 1,481,744	\$ -	\$ 2,459,443	\$ 977,699
Membership Dues	-	-	-	-	-
Federal Grants	-	-	-	-	-
Services & Software	-	-	-	-	-
Workshops	-	-	-	-	-
Interest	3,300	5,776	2,475	5,682	2,381
Miscellaneous	-	-	-	-	-
Total Funding	1,485,044	1,487,520	2,475	2,465,125	980,081
Expenses					
Personnel Expenses					
Salaries	\$ 740,911	\$ 740,911	\$ -	\$ 1,056,516	\$ 315,605
Payroll Taxes	43,236	43,236	-	64,475	21,239
Benefits	113,990	113,990	-	217,786	103,796
Retirement Costs	118,000	118,000	-	166,948	48,948
Total Personnel Expenses	\$ 1,016,137	\$ 1,016,137	\$ -	\$ 1,505,725	\$ 489,588
Meeting Expenses					
Meetings	\$ 1,600	\$ 1,600	\$ -	\$ 2,000	\$ 400
Travel	53,750	53,750	-	49,450	(4,300)
Conference Calls	-	-	-	-	-
Total Meeting Expenses	\$ 55,350	\$ 55,350	\$ -	\$ 51,450	\$ (3,900)
Operating Expenses					
Consultants & Contracts	\$ -	\$ -	\$ -	\$ 90,000	\$ 90,000
Office Rent	-	-	-	-	-
Office Costs	3,738	3,738	-	43,416	39,678
Professional Services	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Depreciation	10,020	10,020	-	6,076	(3,944)
Total Operating Expenses	\$ 13,758	\$ 13,758	\$ -	\$ 139,492	\$ 125,734
Total Direct Expenses	\$ 1,085,245	\$ 1,085,245	\$ -	\$ 1,696,667	\$ 611,422
Indirect Expenses	\$ 420,776	\$ 736,358	\$ 315,582	\$ 806,168	\$ 385,392
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses	\$ 1,506,021	\$ 1,821,603	\$ 315,582	\$ 2,502,835	\$ 996,814
Change in Assets	\$ (20,977)	\$ (334,084)	\$ (313,107)	\$ (37,710)	\$ (16,733)
Fixed Assets					
Depreciation	(10,020)	(10,020)	-	(6,076)	3,944
Computer Hardware & Software CapEx	-	-	-	-	-
Furniture & Fixtures CapEx	-	-	-	-	-
Equipment CapEx	-	-	-	-	-
Leasehold Improvements	-	-	-	-	-
Total Fixed Assets	\$ (10,020)	\$ (10,020)	\$ -	\$ (6,076)	\$ 3,944
Allocation of Fixed Assets	\$ (10,957)	\$ (19,174)	(8,218)	\$ (31,634)	\$ (20,677)
Inc/(Dec) in Fixed Assets	\$ (20,977)	\$ (29,194)	\$ (8,218)	\$ (37,710)	\$ (16,733)
Total Budget	\$ 1,485,044	\$ 1,792,409	\$ 307,365	\$ 2,465,125	\$ 980,081
Total Change in Working Capital	\$ -	\$ (304,889)	\$ (304,889)	\$ -	\$ -
FTEs	4.00	7.00	3.00	7.00	3.00

Administrative Services

Administrative Services (in whole dollars)						
	Direct Expenses and Fixed Assets			FTEs		
	2018 Budget	2019 Budget	Increase (Decrease)	2018 Budget	2019 Budget	Increase (Decrease)
General and Administrative	\$ 2,343,480	\$ 2,395,261	\$ 51,780	3.00	3.00	0.00
Legal and Regulatory	\$ 772,830	\$ 999,969	\$ 227,139	2.00	3.00	1.00
Information Technology	\$ 1,595,923	\$ 1,814,287	\$ 218,364	5.00	6.00	1.00
Human Resources	\$ 837,049	\$ 917,081	\$ 80,032	3.00	2.00	(1.00)
Finance and Accounting	\$ 659,482	\$ 689,307	\$ 29,825	2.60	2.60	0.00
Total Administrative Services	\$ 6,208,764	\$ 6,815,905	\$ 607,140	15.60	16.60	1.00

Program Scope and Functional Description

Administrative Services is comprised of the following programs: General and Administrative, Legal and Regulatory Affairs, Information Technology, Human Resources, and Finance and Accounting.

Methodology for Allocation of Administrative Services Expenses to Programs

The majority of the Operating Expenses are accounted for within the related department's budget. If an expense cannot be specifically associated to a department, it is included in one of the Administrative Services programs. All expenses for the Administrative Services Programs, referred to as indirect expenses, are allocated proportionately based on FTE count to the direct programs. This allocation provides improved financial perspective for the direct program areas.

Administrative Services Budget Detail

The following table shows funding sources and related expenses for the Administrative Services section of the 2019 Business Plan and Budget. Explanations of variances by expense category are included with the Supplemental Financial Tables found in Section B.

2018 Budget and Projection, and 2019 Budget					
Administrative Services					
	2018 Budget	2018 Projection	Variance 2018 Projection v 2018 Budget Over(Under)	2019 Budget	Variance 2019 Budget v 2018 Budget Over(Under)
Funding					
ReliabilityFirstFunding					
ERO Assessments	\$ 716,686	\$ 716,686	\$ -	\$ (1,015,412)	\$ (1,732,098)
Penalty Sanctions	-	-	-	-	-
Total ReliabilityFirst Funding	\$ 716,686	\$ 716,686	\$ -	\$ (1,015,412)	\$ (1,732,098)
Membership Dues	-	-	-	-	-
Federal Grants	-	-	-	-	-
Services & Software	-	-	-	-	-
Workshops	-	-	-	-	-
Interest	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Total Funding	\$ 716,686	\$ 716,686	\$ -	\$ (1,015,412)	\$ (1,732,098)
Expenses					
Personnel Expenses					
Salaries	\$ 2,930,629	\$ 2,930,629	\$ -	\$ 3,339,566	\$ 408,938
Payroll Taxes	149,790	149,790	-	167,306	17,517
Benefits	531,813	531,813	-	620,207	88,394
Retirement Costs	561,006	561,006	-	631,243	70,237
Total Personnel Expenses	\$ 4,173,237	\$ 4,173,237	\$ -	\$ 4,758,323	\$ 585,085
Meeting Expenses					
Meetings	98,500	98,500	\$ -	\$ 100,200	\$ 1,700
Travel	88,700	88,700	-	92,500	3,800
Conference Calls	50,400	50,400	-	52,200	1,800
Total Meeting Expenses	\$ 237,600	\$ 237,600	\$ -	\$ 244,900	\$ 7,300
Operating Expenses					
Consultants & Contracts	158,720	158,720	\$ -	\$ 202,850	\$ 44,130
Office Rent	519,595	519,595	-	521,086	1,491
Office Costs	483,871	483,871	-	462,088	(21,783)
Professional Services	411,245	411,245	-	423,522	12,277
Miscellaneous	36,996	36,996	-	40,136	3,140
Depreciation	353,496	353,496	-	441,375	87,879
Total Operating Expenses	\$ 1,963,923	\$ 1,963,923	\$ -	\$ 2,091,057	\$ 127,134
Total Direct Expenses	\$ 6,374,760	\$ 6,374,760	\$ -	\$ 7,094,280	\$ 719,519
Indirect Expenses	\$ (6,374,760)	\$ (6,374,760)	\$ -	\$ (7,094,280)	\$ (719,519)
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses	\$ -	\$ -	\$ -	\$ 0	\$ (0)
Change in Assets	\$ 716,686	\$ 716,686	\$ -	\$ (1,015,412)	\$ (1,732,098)
Fixed Assets					
Depreciation	(353,496)	(353,496)	-	(441,375)	(87,879)
Computer Hardware & Software CapEx	187,500	187,500	-	140,000	(47,500)
Furniture & Fixtures CapEx	-	-	-	-	-
Equipment CapEx	-	-	-	-	-
Leasehold Improvements	-	-	-	23,000	23,000
	\$ (165,996)	\$ (165,996)	\$ -	\$ (278,375)	\$ (112,379)
Allocation of Fixed Assets	\$ 165,996	\$ 165,996	-	\$ 278,375	\$ 112,379
Inc/(Dec) in Fixed Assets	\$ -	\$ -	\$ -	\$ -	\$ -
Total Budget	\$ -	\$ -	\$ -	\$ 0	\$ (0)
Total Change in Working Capital	\$ 716,686	\$ 716,686	\$ -	\$ (1,015,412)	\$ (1,732,098)
FTEs	15.60	15.60	-	16.60	1.00

General and Administrative

Program Scope and Functional Description

The General and Administrative Department consists of the President and CEO, Senior Vice President and Treasurer, and Executive Assistant. Responsibilities include leadership, oversight, and management of all of ReliabilityFirst Corporation's activities, interacting with the Board of Directors and other Regional Entity Management Groups, performing the Corporate Treasurer function, and managing relationships with governmental agencies, regulators, members, stakeholders, and other industry organizations.

2019 Key Assumptions & Deliverables

The General and Administrative Program incorporates the regional specific strategic and operating objectives set forth in the ERO Enterprise Long Term Strategy and the ERO Enterprise Operating Plan.

There are no additional assumptions or deliverables unique to the General and Administrative Program.

Resource Requirements

- **Personnel**

No increase in personnel is budgeted in this year.

- **Contractors and Consultants**

No contractor and consultant support is budgeted in this year.

Legal and Regulatory Affairs

Program Scope and Functional Description

The Legal and Regulatory Affairs program is responsible for four key areas: (1) all legal issues germane to the corporation; (2) regulatory affairs (communication and outreach to FERC, NERC, and the States); (3) external affairs (communication and outreach to ReliabilityFirst stakeholders and the public); and (4) corporate governance of the ReliabilityFirst Board of Directors and its committees.

First, the department is responsible for all legal issues germane to the corporation. This includes ensuring legal and regulatory compliance with all applicable laws, orders, rules, and regulations; serving as advisor to the President and CEO and the Board of Directors; providing legal support to all other departments of the corporation; drafting, reviewing, and maintaining the corporation's contracts, policies and procedures, and governance documents; and overseeing all regulatory filings and interactions.

Second, the department is responsible for ReliabilityFirst's regulatory affairs. This includes communication and outreach to FERC, NERC, and the States on specific issues relating to ReliabilityFirst and/or the performance of its delegated functions; working to ensure the consistent application of ERO-wide programs and initiatives across NERC and the Regions; advising senior executives on various strategic and tactical initiatives for the corporation in light of the regulatory landscape; and advocating and advancing ReliabilityFirst's mission and strategic initiatives in a clear and articulate manner.

Third, the department is responsible for ReliabilityFirst's external affairs. This includes communication and outreach to ReliabilityFirst's stakeholders, the general public, and media. This work concerns media relations, and the issuance of announcements, newsletters, and reports on key issues facing the corporation and the industry. This work generally ensures that ReliabilityFirst clearly communicates and shares relevant and timely information to help enhance the reliability of the BES.

Finally, the department is responsible for the corporate governance of the ReliabilityFirst Board of Directors and its Committees. This includes the completion of all activities associated with the Corporate Secretary function (the General Counsel serves as the corporation's Corporate Secretary), such as preparing Board materials and minutes, facilitating and conducting Board training, and ensuring that director elections, Board of Directors and Committee meetings, and Meetings of Members adhere to the ReliabilityFirst Bylaws and other relevant governing documents.

2019 Key Assumptions

The Legal and Regulatory Affairs Program incorporates the regional specific strategic and operating objectives set forth in the ERO Enterprise Long Term Strategy and the ERO Enterprise Operating Plan. There are no additional assumptions or deliverables unique to the Legal and Regulatory Affairs Program.

2019 Key Deliverables

- Support all legal and regulatory needs of the corporation.
- Provide legal support to all other departments of the corporation to ensure that those departments and their activities are consistent with NERC directives, FERC orders, rules, and regulations, and other applicable law.
- Perform the external affairs function for the corporation
- Provide legal support to all other departments to make all necessary regulatory filings with FERC, NERC, and any other applicable regulatory body or agency, as well as support NERC in its efforts to do the same.
- Draft, review, and maintain the corporation's contracts, policies and procedures, and governance documents.
- Lead interactions with the FERC, NERC, the States, and other governmental agencies regarding ReliabilityFirst and its mission.
- Work to ensure the consistent application of ERO-wide programs and initiatives across NERC and the Regions, including its leadership role in the MRRE program.
- Provide legal support and perform the Corporate Secretary function for the Board of Directors and support the corporate governance needs of the organization. This work includes creating and issuing the Board materials prior to Board meetings, providing legal advice as needed during the Board and Committee meetings, and recording minutes for the Board and Committee meetings.

Resource Requirements

- **Personnel**

One FTE was reallocated from the Enforcement group to the Legal and Regulatory Affairs group. Previously, additional legal workload (equaling approximately one FTE) was shared among four attorneys in the Enforcement group. To improve efficiency, this work was consolidated and is now performed by one attorney who has been reallocated to Legal and Regulatory Affairs.

- **Contractors and Consultants**

Contractor and consultant support is budgeted in 2019 for executive coaching services.

Information Technology

Program Scope and Functional Description

The Information Technology (IT) department provides users with cost-effective information technology tools and proactively delivers enabling technologies to assist the departments in meeting their goals, objectives, and deliverables. The IT department minimizes the outsourcing of any critical infrastructure services and as such must implement and manage controls to maintain a robust security posture that minimizes ReliabilityFirst's risks. The department provides the necessary technical services in the following categories to ensure efficient and effective performance of all corporate functions:

- Infrastructure Maintenance (Data Center Management - Local/Remote)
- Website Hosting and Internal Portal
- Voice, Web, and Video Conferencing
- Vulnerability Management
- Mobile Device Management
- Wireless Network Management
- Audio/Video Management
- Document Management
- Email Management
- Help Desk Support
- Telecommuter Support
- Application Support and Development
- Data Warehousing Management
- Database Administration
- Business Analysis
- Information Security Protection and Monitoring
- Business Continuity and Disaster Recovery

ReliabilityFirst supports the ERO's efforts to implement, operate, and maintain software tools supporting common enterprise-wide IT operations. ReliabilityFirst is committed to working collaboratively with NERC and the other Regions to minimize duplication of effort and investments, and improve operational efficiency. This collaboration continues to refine existing strategies, governance and procurement practices applicable to the development, operation and maintenance of enterprise architecture, software, and data systems supporting combined NERC and Regional Entity operations.

NERC's business plan and budget will include ongoing funding support for the development, operation, and maintenance of NERC and Regional Entity approved enterprise wide applications. Funding for these applications will be subject to the budget and funding limits set forth in NERC's approved business plan and budget. If implementation of these applications are delayed or otherwise not available as planned, ReliabilityFirst could incur additional costs to conduct operations pending the availability of these applications. ReliabilityFirst assumes agreed upon ERO Enterprise applications will be available and has only included appropriate funding for

applications and supporting systems necessary to satisfy its business needs that are not within the mutually agreed upon scope of the ERO Enterprise wide applications funded by NERC.

The implementation of an offsite Data Management Center will be in its sixth year of operation. Operational experience to date has been excellent and believed to be very effective in IT resource utilization. Performance to date has provided savings in the operation of equipment, while affording the organization many benefits in security, utilities, and back-up capability.

2019 Key Assumptions

The IT Program incorporates the regional specific strategic and operating objectives set forth in the ERO Enterprise Long Term Strategy and the ERO Enterprise Operating Plan. This includes the support for building and implementing centralized enterprise applications for the ERO. The IT Program includes the following regional assumptions:

1. Maintain a high-level security posture across the company-wide data infrastructure and remediate any vulnerability to protect sensitive data.
2. Maintain lower fixed asset costs (infrastructure servers) by continuing operations of virtualization technologies, therefore minimizing replacement costs.
3. Maintain a stringent level of control of the Access Management Process that governs physical and electronic access to resources that contain sensitive corporate data.
4. Departmental processes and efficiencies must be continuously improved, including training exercises for implemented technologies in order to maintain proficiency.

2019 Key Deliverables

- Perform necessary software upgrades including, but not limited to, the upgrade of various workstation and server applications and targeted server operating systems.
- Continue the enhancements in the development, integration, and expansion of databases and applications into a unified company-wide Information Management System.
- Continue enhancements of the internal "intranet" website and related applications to further improve employee efficiency and provide better user experience.
- Continue supporting Data Warehousing and Analytics efforts that will support improved risk analysis and decision making for customers.
- Continue the advancement of data security and defense technologies to provide layered prevention/detection of the latest advanced cyber security threats.
- Perform Security Assessment and Penetration Testing Exercise using external vendor to evaluate the corporation's Security Maturity Level for implemented controls and detectable vulnerabilities.
- Continue refinement of security awareness program by providing training documents, questionnaires, simulated exercises, assessment campaigns, and/or seminars on existing workplace vulnerabilities.

- Continue supporting ERO initiatives of developing, testing, and deploying ERO enterprise solutions.

Resource Requirements

- **Personnel**

To effectively manage the increasing demands on IT support, one FTE is being added to the group. With the risk based direction of the ERO, there is a much greater emphasis on data management and associated tools necessary to deal with these changes. Various aspects of the IT functions are affected with these changes from ongoing security initiatives, data management, storage capacity planning, maintenance, to protection of information. The need for data warehousing capability has become apparent and will require programming skills and continual application management going forward. The continuous challenge of security issues is also requiring additional resources to focus on the state of the art tools and applications to assure our stakeholders that we have the latest and most cost effective tools and processes in place to protect critical information. The resource analysis performed for the IT group indicated the need for upwards of two additional individuals, but one additional resource will enable further evaluation going forward.

- **Contractors and Consultants**

Contractors and consultant support is budgeted for 2019 as needed for network maintenance projects, maturing the corporation's incident response program, security assessment activities, enhancing data management systems, and development support of solutions for reliability and resiliency initiatives.

Human Resources

Program Scope and Functional Description

ReliabilityFirst realizes that talented, experienced employees are its greatest assets, and that finding, nurturing, developing, and retaining that talent is one of its most important tasks. The Human Resources program centers on ReliabilityFirst's greatest resource, the staff. These responsibilities include attraction and retention, employee development through performance management and training initiatives, policy and procedure development and adherence measures, as well as compensation and benefits administration. The Human Resources staff must be vigilant in understanding and complying with federal and state employment laws covering seven states and the respective reporting requirements for each.

ReliabilityFirst will increase its staff to 79 individuals including two part-time positions equaling one (1.2) FTE, which brings the total to an equivalent of 78.2 FTEs. The staff is comprised of qualified management, professional, and technical employees with the expertise necessary to serve its stakeholders and to support the ERO by properly carrying out the organization's delegated functions.

2019 Key Assumptions

The Human Resources Program incorporates the regional specific strategic and operating objectives set forth in the ERO Enterprise Long Term Strategy and the ERO Enterprise Operating Plan.

There are no additional assumptions unique to the ReliabilityFirst Human Resources Program.

2019 Key Deliverables

- Recruit highly skilled and excellent employees.
- Sustain competitiveness via the use of annual third party salary and market analyses.
- Provide staff training and education
 - Train and educate staff on relevant technical topics, including emerging issues and technologies (e.g., virtualization, smart grid technologies).
 - Train and educate staff on the existing and new competencies required to perform their roles and responsibilities (e.g., identify and assess risks, perform internal controls assessments and evaluations).
 - Participate in knowledge management process to gather and utilize expertise from staff subject matter experts.
- Explore, develop and provide training on tools to further enhance staff efficiency and effectiveness.
- Review and manage employee benefits.
- Review succession plans.

Resource Requirements

- **Personnel**

The 2019 Business Plan and Budget reflects a net decrease of one FTE in the Human Resources group, due to the reallocation of an administrative employee to the Situation Awareness and Infrastructure Security group as part of a realignment of administrative resources.

- **Contractors and Consultants**

Contractors and consultant support is budgeted in 2019 for an engagement to conduct an employee survey, along with, executive coaching, third party recruiting, and temporary administrative services.

Finance and Accounting

Program Scope and Functional Description

The Finance and Accounting department is responsible for linking the strategy of ReliabilityFirst and its major departments to their annual operating budgets, managing accounting practices to ensure the accuracy of reported results, and making meaningful financial information available to decision makers. The Finance and Accounting department is responsible for directing the complete cycle of the financial management activities of ReliabilityFirst Corporation, including:

- Processing the day to day activities such as travel and expense reporting, monthly financial reporting, accounts payables and receivables, and cash flow management;
- Leading the creation of the annual business plan and budget that adequately supports its delegated functions;
- Establishing and maintaining accounting policies, procedures, and internal controls, including anti-fraud initiatives, to guide the preparation of ReliabilityFirst's internal and external financial statements in accordance with Generally Accepted Accounting Principles;
- Overseeing the annual external audit of ReliabilityFirst's financials and all required filings;
- Supporting the ERO's funding/collection mechanism, ReliabilityFirst will annually collect and supply the ERO with a list of LSEs within the ReliabilityFirst footprint and their associated Net Energy for Load (NEL) data as mandated by FERC;
- Working with the ERO to develop common accounting practices throughout NERC and the Regions;
- Managing the retirement and corporate investment activities; and
- Developing and implementing the necessary internal audit function.

2019 Key Assumptions

The Finance and Accounting Program incorporates the regional specific strategic and operating objectives set forth in the ERO Enterprise Long Term Strategy and the ERO Enterprise Operating Plan.

There are no additional assumptions unique to the Finance and Accounting Program.

2019 Key Deliverables

- Work with all Regional Entities through the Electric Reliability Organization Finance Group (EROFG) to provide consistency in budget submittals to the ERO and to FERC.
- Provide all ReliabilityFirst program areas, the Board of Directors, the ERO, and ReliabilityFirst stakeholders with financial clarity and understanding of ReliabilityFirst's financial position.

- Direct the overall financial plans and accounting practices of the organization; oversee treasury, accounting, budget, payroll, tax, audit activities, and financial and accounting internal controls and standards.
- Participate with NERC on the annual Regional Entity true-up filing, and the quarterly statements of activity.
- In an effort to continuously improve the entire accounting and budgeting process, implement actions to monitor operating expenses at a more granular level with the management staff.
- Provide advice from the financial perspective on contracts into which the organization may enter.
- Perform financial related internal control reviews and internal audit reviews.

Resource Requirements

- **Personnel**

No increase in personnel is budgeted in this year.

- **Contractors and Consultants**

No contractor or consultant support is budgeted in this year.

Section B: Supplemental Financial Information

Table B-1: Working Capital and Operating Reserve Analysis

Working Capital and Operating Reserve Analysis 2018-2019				
STATUTORY				
	Total	Working Capital	Working Capital Reserve	Operating Reserve
Beginning Reserve Balances, January 1, 2018	3,759,627	360,270	2,399,357	1,000,000
Plus: Penalty Funds Released from Restriction January 1, 2018	1,912,877	1,912,877		
Plus: 2018 ReliabilityFirst Funding (from LSEs or designees)	20,147,707	19,198,917	948,790	
Plus: 2018 Other funding sources	50,000	50,000		
Less: 2018 Projected expenses & capital expenditures	(21,393,899)	(21,393,899)		
Other Adjustments to Reserves ¹	(158,074)	(158,074)		
Projected Working Capital and Operating Reserves, December 31, 2018	4,318,238	(29,909)	3,348,147	1,000,000
Targeted Working Capital and Operating Reserves, December 31, 2019 ³	3,144,752	0	2,144,752	1,000,000
Less: Projected Working Capital and Operating Reserves, December 31, 2018	(4,318,238)	29,909	(3,348,147)	(1,000,000)
Total Adjustments to Reserves	(1,173,486)	29,909	(1,203,395)	0
2019 Expenses and Capital Expenditures	22,648,458			
Less: Penalty Sanctions ²	(327,215)			
Less: Other Funding Sources	(50,000)			
Adjustment to Achieve Reserve Balances	(1,173,486)			
Other Adjustments to Reserve ¹	158,074			
2019 ReliabilityFirst Assessment	21,255,831			

¹ Represents transactions recorded only on the Statement of Financial Position (balance sheet) that do not impact the Statement of Activities (income statement), including true-up of current versus non-current deferred rent obligation.

² Represents penalty sanctions collected from July 1, 2017 to June 30, 2018.

³ The Operating and Working Capital Reserves were approved by the ReliabilityFirst Board of Directors on March 15, 2018 and April 26, 2018, respectively.

Explanation of the Working Capital Reserve

Historically, the working capital reserve has consisted of the amount necessary to satisfy projected cash flow needs for daily operations. In an effort to manage assessments more effectively over a three to five year period, the working capital reserve initially increased in value such that additional funds were available to achieve stabilization of future assessments. For 2019, \$1,173K of the working capital reserve is being utilized to offset the assessment and minimize the variance from the 2018 assessment. The Targeted Working Capital balance of \$2,145K will be used to stabilize assessments in future years.

Explanation of the Operating Reserve

The amount of the operating reserve is determined and recommended for approval by the Board of Directors during the annual budget process. On March 15, 2018, the ReliabilityFirst Board approved a \$1,000,000 operating reserve, which is consistent with ReliabilityFirst policy and historical experience and is believed to be appropriate for any unbudgeted and unexpected expenditures of the organization.

Table B-2: Penalty Sanctions Received

Penalty Sanctions Received Between July 1, 2017 and June 30, 2018	
Dates Received	Amount Received
9/15/2017	92,283
10/19/2017	25,000
11/17/2017	100,000
12/8/2017	45,000
Collected July 1, 2017 to December 31, 2017	<u>262,283</u>
3/9/2018	39,932
3/29/2018	25,000
Collected January 1, 2018 to June 30, 2018	<u>64,932</u>
Total	<u>327,215</u>

Allocation Method

Penalty monies received have been allocated based upon the number of FTEs to the following direct programs to reduce assessments:

- Reliability Standards;
- Reliability Assurance and Compliance Monitoring;
- Enforcement;
- Reliability Assessments and Performance Analysis;
- Training, Education and Operator Certification; and
- Situation Awareness and Infrastructure Security

Table B-3: Supplemental Funding

Outside Funding Breakdown By Program (excluding ReliabilityFirst Assessments & Penalty Sanctions)	Budget 2018	Projection 2018	Budget 2019	Variance 2019 Budget v 2018 Budget
Interest Income	\$ 50,000	\$ 50,000	\$ 50,000	\$ -
Miscellaneous Income	-	-	-	-
Total Outside Funding	\$ 50,000	\$ 50,000	\$ 50,000	\$ -

Explanation of Significant Variances – 2019 Budget versus 2018 Budget

- No explanation is needed.

Table B-4: Personnel Expenses

Personnel Expenses	Budget 2018	Projection 2018	Budget 2019	Variance 2019 Budget v 2018 Budget	Variance %
Salaries					
Salaries	\$ 12,945,519	\$ 12,945,519	\$ 13,639,655	\$ 694,136	5.36%
Employment Agency Fees	-	-	-	-	
Temporary Office Services	-	-	-	-	
Vacation Expense	30,122	30,122	61,732	31,610	104.94%
Total Salaries	\$ 12,975,641	\$ 12,975,641	\$ 13,701,387	\$ 725,746	5.59%
Total Payroll Taxes	\$ 765,357	\$ 765,357	\$ 807,085	\$ 41,728	5.45%
Benefits					
Workers Compensation	\$ 20,000	\$ 20,000	\$ 15,000	\$ (5,000)	-25.00%
Medical Insurance	1,604,591	1,604,591	1,832,775	228,184	14.22%
Life-LTD Insurance	103,758	103,758	111,522	7,764	7.48%
Education	321,305	321,305	332,704	11,399	3.55%
Relocation	-	-	15,000	15,000	
Total Benefits	\$ 2,049,654	\$ 2,049,654	\$ 2,307,001	\$ 257,347	12.56%
Retirement					
Discretionary 401k Contribution	\$ 1,255,523	\$ 1,255,523	\$ 1,318,372	\$ 62,849	5.01%
Savings Plan	753,314	753,314	791,023	37,709	5.01%
Pension & Savings Admin	129,500	129,500	143,352	13,852	10.70%
Total Retirement	\$ 2,138,337	\$ 2,138,337	\$ 2,252,748	\$ 114,411	5.35%
Total Personnel Costs	\$ 17,928,989	\$ 17,928,989	\$ 19,068,220	\$ 1,139,231	6.35%
FTEs	76.20	76.20	78.20	2.00	2.62%
Cost per FTE					
Salaries	\$ 170,284	\$ 170,284	\$ 175,210	4,926	2.89%
Payroll Taxes	10,044	10,044	10,321	277	2.76%
Benefits	26,898	26,898	29,501	2,603	9.68%
Retirement	28,062	28,062	28,808	745	2.66%
Total Cost per FTE	\$ 235,289	\$ 235,289	\$ 243,839	\$ 8,551	3.63%

Explanation of Significant Variances – 2019 Budget versus 2018 Budget

- The increase in **Salaries** is due to the addition of two new FTEs, a 3% general wage increase, market adjustments, promotions, and an intern program. Additionally, costs have been included to fund the plans to overlap key personnel who have indicated they are near retirement, to allow for adequate knowledge transfer, and training of their successors.
- The increase in **Vacation Expense** is due to the expectation of employees banking more vacation.
- The increase in **Medical Insurance** is primarily due to an estimated 15% increase in medical premiums.
- The increase in **Pension & Savings Admin** is due to the increase in administrative costs relating to the management of the company's retirement plans as they continue to increase in size.

Table B-5: Meeting Expenses

Meeting Expenses	Budget 2018	Projection 2018	Budget 2019	Variance 2019 Budget v 2018 Budget	Variance %
Reliability Standards	\$ -	\$ -	\$ -	\$ -	
Reliability Assurance and Compliance Monitoring	500,975	500,975	433,900	(67,075)	-13.39%
Enforcement	25,500	25,500	24,600	(900)	-3.53%
Reliability Assessment and Performance Analysis	108,200	108,200	102,650	(5,550)	-5.13%
Training and Education	136,400	136,400	187,500	51,100	37.46%
Situation Awareness and Infrastructure Security	55,350	55,350	51,450	(3,900)	-7.05%
Administrative Services	237,600	237,600	244,900	7,300	3.07%
Total Meeting Expenses	\$ 1,064,025	\$ 1,064,025	\$ 1,045,000	\$ (19,025)	-1.79%

Explanation of Significant Variances – 2019 Budget versus 2018 Budget

- The decrease in the **Reliability Assurance and Compliance Monitoring** program results from a detailed evaluation of historical trends of travel expenses and the expected travel requirements across all of the activities within this program. In some areas, such as CIP, there may be a higher probability that additional travel will be required, however, all other activities are expected to have reduced travel expenses. In addition, the activities aimed at helping entities achieve excellence in reliability, security, and resiliency were allocated from the Reliability Assurance and Compliance Monitoring Program to the Training and Education Program.
- The increase in **Training and Education** is due to the increased costs associated with the semiannual Reliability Workshop, along with the activities allocated from the Reliability Assurance and Compliance Monitoring program that are aimed at helping entities achieve excellence in reliability, security, and resiliency.

Table B-6: Consultants and Contracts

Contractors	Budget 2018	Projection 2018	Budget 2019	Variance 2019 Budget v 2018 Budget	Variance %
Reliability Assurance and Compliance Monitoring Enforcement	111,600	111,600	88,950	(22,650)	-20.30%
Reliability Assessment and Performance Analysis	119,812	119,812	126,812	7,000	5.84%
Training and Education	-	-	20,000	20,000	
Situation Awareness and Infrastructure Security	-	-	90,000	90,000	
Administrative Services	158,720	158,720	202,850	44,130	27.80%
Contractors Total	\$ 390,132	\$ 390,132	\$ 528,612	\$ 138,480	35.50%

Explanation of Significant Variances – 2019 Budget versus 2018 Budget

- The decrease in the **Reliability Assurance and Compliance Monitoring** program is a result of the allocation of the activities aimed at helping entities achieve excellence in reliability, security, and resiliency to the Training and Education Program.
- The increase in **Training and Education** is due to the activities allocated from the Reliability Assurance and Compliance Monitoring program that are aimed at helping entities achieve excellence in reliability, security, and resiliency.
- The increase in **Situation Awareness and Infrastructure Security** is due to the initiation and advancement of data warehousing capabilities.
- The increase in **Administrative Services** is due to instituting an incident response program, including vulnerability and penetration testing in the Information Technology department.

Table B-7: Office Rent

Office Rent	Budget 2018	Projection 2018	Budget 2019	Variance 2019 Budget v 2018 Budget	Variance %
Office Rent	\$ 437,530	\$ 437,530	437,530	\$ -	0.00%
Data Center Rent	63,789	63,789	65,280	1,491	2.34%
Utilities	18,276	18,276	18,276	-	0.00%
	-	-	-	-	
Total Office Rent	\$ 519,595	\$ 519,595	\$ 521,086	\$ 1,491	0.29%

Explanation of Significant Variances – 2019 Budget versus 2018 Budget

- No explanation is needed.

Table B-8: Office Costs

Office Costs	Budget 2018	Projection 2018	Budget 2019	Variance 2019 Budget v 2018 Budget	Variance %
Telephone	\$ 85,890	\$ 85,890	\$ 76,422	\$ (9,468)	-11.02%
Internet	35,052	35,052	38,496	3,444	9.83%
Office Supplies	22,900	22,900	25,220	2,320	10.13%
Computer Supplies and Maintenance	624,405	624,405	631,739	7,334	1.17%
Publications & Subscriptions	14,886	14,886	13,793	(1,093)	-7.34%
Dues	17,222	17,222	20,114	2,892	16.79%
Postage	1,200	1,200	1,150	(50)	-4.17%
Express Shipping	300	300	100	(200)	-66.67%
Copying	24,120	24,120	2,604	(21,516)	-89.20%
Reports	-	-	-	-	
Stationary Forms	350	350	900	550	157.14%
Equipment Repair/Service Contracts	4,792	4,792	3,992	(800)	-16.69%
Bank Charges	600	600	600	-	0.00%
Total Office Costs	\$ 831,717	\$ 831,717	\$ 815,130	\$ (16,587)	-1.99%

Explanation of Significant Variances – 2019 Budget versus 2018 Budget

- The increase in Computer Supplies and Maintenance is primarily due to the following program variances:
 - The decrease in the **Reliability Assurance and Compliance Monitoring Program** is due to the anticipated reduction in change orders for the compliance portal and third party audit management tool. Additionally, as a result of a realignment of resources, annual maintenance costs for the data analytics software programs were allocated to the Situational Awareness Program.
 - The increase in the **Situational Awareness Program** is due to the projected annual costs associated with the Cybersecurity Risk Information Sharing Program, the anticipated purchase of software to support the management of risk information, and the annual maintenance costs for the data analytics software programs allocated from the Reliability Assurance and Compliance Monitoring Program.
- The decrease in **Copying** is due to the decrease in the annual service and maintenance fees associated with the new copiers that were purchased in 2017.

Table B-9: Professional Services

Professional Services	Budget 2018	Projection 2018	Budget 2019	Variance 2019 Budget v 2018 Budget	Variance %
Independent Trustee Fees	\$ 239,100	\$ 239,100	\$ 246,050	\$ 6,950	2.91%
Outside Legal	20,000	20,000	20,000	-	0.00%
Accounting & Auditing Fees	69,045	69,045	61,520	(7,525)	-10.90%
Insurance Commercial	83,100	83,100	95,952	12,852	15.47%
				-	
Total Services	\$ 411,245	\$ 411,245	\$ 423,522	\$ 12,277	2.99%

Explanation of Significant Variances – 2019 Budget versus 2018 Budget

- The decrease in **Accounting & Auditing Fees** is a result of the reduction in the fees for the annual financial audit.
- The increase in **Insurance Commercial** is due to the addition of a cybersecurity insurance policy.

Table B-10: Miscellaneous

Miscellaneous Expense	Budget 2018	Projection 2018	Budget 2019	Variance 2019 Budget v 2018 Budget	Variance %
Miscellaneous	\$ 40,696	\$ 40,696	\$ 43,886	\$ 3,190	7.84%
	-	-	-	-	
Total Miscellaneous Expense	\$ 40,696	\$ 40,696	\$ 43,886	\$ 3,190	7.84%

Explanation of Significant Variances – 2019 Budget versus 2018 Budget

- No explanation is needed.

Table B-11: Non-Operating Expenses

Other Non-Operating Expenses	Budget 2018	Projection 2018	Budget 2019	Variance 2019 Budget v 2018 Budget	Variance %
Interest Expense	\$ -	\$ -	\$ -	\$ -	
Line of Credit Payment	-	-	-	-	
Office Relocation	-	-	-	-	
Total Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	

Explanation of Significant Variances – 2019 Budget versus 2018 Budget

- No explanation is needed.

Table B-12: Fixed Assets

Fixed Assets	Budget 2018	Projection 2018	Budget 2019	Variance 2019 Budget v 2018 Budget	Variance %
Computer Hardware	\$ 167,500	\$ 167,500	\$ 120,000	\$ (47,500)	-28.36%
Computer Software	40,000	40,000	60,000	20,000	50.00%
Furniture & Fixtures	-	-	0	-	
Leasehold Improvements	-	-	23,000	23,000	
Total Fixed Assets	\$ 207,500	\$ 207,500	\$ 203,000	\$ (4,500)	-2.17%

Explanation of Significant Variances – 2019 Budget versus 2018 Budget

- The decrease in **Computer Hardware** is due to the change in projects planned in 2019 compared to 2018.
- The increase in **Computer Software** is due to the anticipated purchase of additional licenses for the third party audit management tool.
- The increase in **Leasehold Improvements** is mainly due to the configuration of an IT collaboration room.

Table B-13: 2020 and 2021 Projections

Statement of Activities 2020 and 2021 Projections							
	2019 Budget	2020 Projection	\$ Change 19 v 20	% Change 19 v 20	2021 Projection	\$ Change 20 v 21	% Change 20 v 21
Funding							
ERO Funding							
ERO Assessments	\$ 21,255,831	\$ 22,424,902	\$ 1,169,071	5.5%	\$ 23,658,271	\$ 1,233,370	5.5%
Penalty Sanctions	327,215	1,380,000	1,052,785	322%	300,000	(1,080,000)	-78.3%
Total ERO Funding	\$ 21,583,046	\$ 23,804,902	\$ 2,221,856	10.3%	\$ 23,958,271	\$ 153,370	0.6%
Membership Dues	\$ -	\$ -	\$ -		\$ -	\$ -	
Federal Grants	-	-	-		-	-	
Services & Software	-	-	-		-	-	
Workshops	-	-	-		-	-	
Interest	50,000	50,000	-	0.0%	50,000	-	0.0%
Miscellaneous	-	-	-		-	-	
Total Funding	\$ 21,633,046	\$ 23,854,902	\$ 2,221,856	10.3%	\$ 24,008,271	\$ 153,370	0.6%
Expenses							
Personnel Expenses							
Salaries	\$ 13,701,387	\$ 14,166,346	\$ 464,959	3.4%	\$ 15,008,751	\$ 842,406	5.9%
Payroll Taxes	807,085	812,696	5,611	0.7%	845,545	32,849	4.0%
Benefits	2,307,002	2,578,365	271,363	11.8%	2,941,319	362,954	14.1%
Retirement Costs	2,252,748	2,327,846	75,098	3.3%	2,460,326	132,480	5.7%
Total Personnel Expenses	\$ 19,068,222	\$ 19,885,253	\$ 817,031	4.3%	\$ 21,255,941	\$ 1,370,688	6.9%
Meeting Expenses							
Meetings	\$ 314,200	\$ 317,342	\$ 3,142	1.0%	\$ 320,515	\$ 3,173	1.0%
Travel	678,600	695,565	16,965	2.5%	712,954	17,389	2.5%
Conference Calls	52,200	52,722	522	1.0%	53,249	527	1.0%
Total Meeting Expenses	\$ 1,045,000	\$ 1,065,629	\$ 20,629	2.0%	\$ 1,086,719	\$ 21,090	2.0%
Operating Expenses							
Consultants & Contracts	\$ 528,612	\$ 533,898	\$ 5,286	1.0%	\$ 539,237	\$ 5,339	1.0%
Office Rent	521,086	526,297	5,211	1.0%	531,559	5,263	1.0%
Office Costs	815,130	823,281	8,151	1.0%	831,514	8,233	1.0%
Professional Services	423,522	527,757	104,235	24.6%	432,035	(95,722)	-18.1%
Miscellaneous	43,886	44,325	439	1.0%	44,768	443	1.0%
Depreciation	458,903	463,492	4,589	1.0%	468,127	4,635	1.0%
Total Operating Expenses	2,791,139	2,919,050	127,911	4.6%	2,847,241	(71,809)	-2.5%
Total Direct Expenses	\$ 22,904,361	\$ 23,869,932	\$ 965,571	4.2%	\$ 25,189,901	\$ 1,319,969	5.5%
Indirect Expenses	\$ -	\$ -	\$ -		\$ -	\$ -	
Other Non-Operating Expenses	\$ -	\$ -	\$ -		\$ -	\$ -	
Total Expenses	\$ 22,904,361	\$ 23,869,932	\$ 965,571	4.2%	\$ 25,189,901	\$ 1,319,969	5.5%
Change in Assets	\$ (1,271,315)	\$ (15,031)	\$ 1,256,284	-98.8%	\$ (1,181,630)	\$ (1,166,599)	7761.5%
Fixed Assets							
Depreciation	\$ (458,903)	\$ (463,492)	\$ (4,589)	1.0%	\$ (468,127)	\$ (4,635)	1.0%
Computer & Software CapEx	180,000	310,000	130,000	72.2%	280,000	(30,000)	-9.7%
Furniture & Fixtures CapEx	-	-	-		-	-	
Equipment CapEx	-	-	-		-	-	
Leasehold Improvements	23,000	200,000	177,000	769.6%	-	(200,000)	-100.0%
	<u>(255,903)</u>	<u>\$ 46,508</u>	<u>\$ 302,411</u>	<u>-118.2%</u>	<u>\$ (188,127)</u>	<u>\$ (234,635)</u>	<u>-504.5%</u>
Allocation of Fixed Assets	\$ -	\$ -	\$ -		\$ -	\$ -	
Inc/(Dec) in Fixed Assets	\$ (255,903)	\$ 46,508	\$ 302,411	-118.2%	\$ (188,127)	\$ (234,635)	-504.5%
Total Budget	\$ 22,648,458	\$ 23,916,440	\$ 1,267,982	5.6%	\$ 25,001,774	\$ 1,085,334	4.5%
Change in Working Capital	\$ (1,015,412)	\$ (61,539)	\$ 953,873	-93.9%	\$ (993,503)	\$ (931,964)	1514.4%
FTEs	78.2	78.2	-	0.0%	80.2	2	2.6%

Explanation of 2020 and 2021 Budget Projections

ReliabilityFirst has projected budget increases for 2020 and 2021. The projected range for 2020 is 5.6% to 8.2%; and the projected range for 2021 is 4.5% to 7.0%. ReliabilityFirst identified a range for its 2020 and 2021 budget projections to reflect both its baseline projections (the lower end of the range) and its projections of significant at-risk initiatives (the higher end of the range).

These at-risk initiatives primarily concern projected staffing needs to support increased internal workload to implement various programs currently under way or under consideration in support of the five-year strategic plan. Additionally, plans have been developed to overlap key personnel who have indicated they are near retirement in order to allow for adequate knowledge transfer and training of their successors. The potential impact on the budget will be managed and monitored closely as these personnel commit to specific retirement dates. They also concern the need to mature ReliabilityFirst's CIP oversight capability along with risk analytics and management applications. Below is an overview of each of these at-risk initiatives.

Explanation of Other Additions

- With the accumulation of significant amounts of documentation and data, the present documentation management tools need to be updated to assure improved controls, improved configuration management, and advanced data mining capabilities. The migration of data is becoming more of a challenge and will be critical during the transition to the future NERC initiatives for risk based compliance monitoring data management.
- Situational awareness and management software will enable more availability of information and displays from various sources to enhance assessment capability in support of risk based reliability, resiliency, and security activities.
- Office modifications are necessary as the growth and needs of the organization continue to grow. After four years in our present facility we have identified the need to more efficiently utilize the office footprint to facilitate the increased number of in office staff versus telecommuters, while maximizing utilization of the entire office space for the necessary support activities.

The following is a breakdown of the projected budget ranges for 2020.

2020 Lower Range: 5.6%

- Personnel Expense: 4.3%
 - Wages Increase: 3%
 - Market Adjustments/Promotions: 1%
 - Medical/Dental/Vision Premiums: 15%/8%/8%
- Meeting Expense: 1%
- Travel Expense: 2.5%
- Operating Expense: 4.6%
 - Independent Director Search Fee: \$100,000
- Other Additions:
 - Situation Awareness Software/Hardware Support: \$30,000
 - CMEP Data Migration: \$100,000
 - Office Modifications: \$200,000

2020 Higher Range to Address At-Risk Initiatives: 8.2%

- Personnel Expense: 7.3%
 - Wages Increase: 3%
 - Market Adjustments/Promotions: 1%
 - Medical/Dental/Vision Premiums: 15%/8%/8%
 - Aging Workforce Initiative: \$200,000
 - Hire 2 FTEs
- Meeting Expense: 1%
- Travel Expense: 2.5%
- Operating Expense: 4.6%
 - Independent Director Search Fee: \$100,000
- Other Additions:
 - Situation Awareness Software/Hardware Support: \$30,000
 - CMEP Data Migration: \$100,000
 - Office Modifications: \$200,000

Notes:

1. 2020 projections are based on 2019 budget.

The following is a breakdown of the projected budget ranges for 2021.

2021 Lower Range: 4.5%

- Personnel Expense: 6.9%
 - Wages Increase: 3%
 - Market Adjustments/Promotions: 1%
 - Includes the 2 FTEs from the 2020 projection
 - Medical/Dental Premiums: 15%/8%
- Meeting Expense: 1%
- Travel Expense: 2.5%
- Operating Expense: (2.5%)
- Other Additions:
 - CMEP Data Migration: \$100,000

2021 Higher Range to Address At-Risk Initiatives: 7.0%

- Personnel Expense: 9.9%
 - Wages Increase: 3%
 - Market Adjustments/Promotions: 1%
 - Medical/Dental Premiums: 15%/8%
 - Aging Workforce Initiative: \$200,000
 - Hire 2 FTEs
- Meeting Expense: 1%
- Travel Expense: 2.5%
- Operating Expense: (2.5%)
- Other Additions:
 - CMEP Data Migration: \$100,000

Notes:

1. 2021 projections are based on the 2020 lower range.

Section C: Non-Statutory Activities

ReliabilityFirst performed only those functions delegated to it by the ERO in 2018 and the organization does not intend to perform any functions outside its ERO delegated activities in 2019, therefore Section C is not applicable.

**Section D: Additional Consolidated Financial
Statements**

2019 Consolidated Statement of Activities by Program

	Functions in Delegation Agreement												
	Total	Statutory Total	Reliability Standards (Section 300)	Reliability Assurance and Compliance Monitoring	Enforcement	Reliability Assessment and Performance Analysis (Section 800)	Training and Education (Section 900)	Situation Awareness and Infrastructure Security (Section 1000)	General and Administrative	Legal and Regulatory	Information Technology	Human Resources	Accounting and Finance
Funding													
ReliabilityFirst Funding													
ReliabilityFirst Assessments	21,255,831	21,255,831	-	13,747,063	2,146,889	2,862,565	1,092,466	2,422,260	(1,015,412)	-	-	-	-
Penalty Sanctions	327,215	327,215	-	196,542	37,184	40,371	15,936	37,184	-	-	-	-	-
Total ReliabilityFirst Funding	21,583,046	21,583,046	-	13,943,605	2,184,073	2,902,935	1,108,401	2,459,443	(1,015,412)	-	-	-	-
Non-statutory Funding	-	-	-	-	-	-	-	-	-	-	-	-	-
Federal Grants	-	-	-	-	-	-	-	-	-	-	-	-	-
Services & Software	-	-	-	-	-	-	-	-	-	-	-	-	-
Workshops	-	-	-	-	-	-	-	-	-	-	-	-	-
Interest	50,000	50,000	-	30,032	5,682	6,169	2,435	5,682	-	-	-	-	-
Miscellaneous	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Funding	21,633,046	21,633,046	-	13,973,637	2,189,755	2,909,104	1,110,836	2,465,125	(1,015,412)	-	-	-	-
Expenses													
Personnel Expenses													
Salaries	13,701,387	13,701,387	-	6,588,226	987,123	1,343,225	386,731	1,056,516	1,218,909	708,034	718,695	362,686	331,242
Payroll Taxes	807,085	807,085	-	403,367	64,657	82,910	24,369	64,475	38,710	34,550	50,993	19,821	23,231
Benefits	2,307,002	2,307,002	-	1,052,759	178,498	156,771	80,980	217,786	91,417	78,511	154,153	238,048	58,078
Retirement Costs	2,252,748	2,252,748	-	1,028,338	152,760	212,370	61,091	166,948	164,481	103,797	113,014	57,367	192,583
Total Personnel Expenses	19,068,222	19,068,222	-	9,072,689	1,383,038	1,795,276	553,171	1,505,725	1,513,518	924,892	1,036,855	677,923	605,135
Meeting Expenses													
Meetings	314,200	314,200	-	20,900	1,600	8,000	181,500	2,000	63,700	2,400	1,860	32,000	240
Travel	678,600	678,600	-	413,000	23,000	94,650	6,000	49,450	35,000	30,000	13,500	8,500	5,500
Conference Calls	52,200	52,200	-	-	-	-	-	-	-	-	52,200	-	-
Total Meeting Expenses	1,045,000	1,045,000	-	433,900	24,600	102,650	187,500	51,450	98,700	32,400	67,560	40,500	5,740
Operating Expenses													
Consultants & Contracts	528,612	528,612	-	88,950	-	126,812	20,000	90,000	-	7,500	148,000	47,350	-
Office Rent	521,086	521,086	-	-	-	-	-	455,806	-	-	65,280	-	-
Office Costs	815,130	815,130	-	250,379	7,582	43,443	8,222	43,416	62,751	15,177	335,692	10,836	37,632
Professional Services	423,522	423,522	-	-	-	-	-	246,050	20,000	-	-	116,672	40,800
Miscellaneous	43,886	43,886	-	3,750	-	-	-	12,436	-	-	3,900	23,800	-
Depreciation	458,903	458,903	-	5,000	-	3,452	3,000	6,076	174,804	-	266,571	-	-
Total Operating Expenses	2,791,139	2,791,139	-	348,079	7,582	173,707	31,222	139,492	951,847	42,677	819,443	198,658	78,432
Total Direct Expenses	22,904,361	22,904,361	-	9,854,668	1,415,220	2,071,633	771,893	1,696,667	2,564,065	999,969	1,923,858	917,081	689,307
Indirect Expenses	-	-	-	4,261,174	806,168	875,268	345,501	806,168	(2,564,065)	(999,969)	(1,923,858)	(917,081)	(689,307)
Other Non-Operating Expenses	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Expenses	22,904,361	22,904,361	-	14,115,843	2,221,388	2,946,901	1,117,394	2,502,835	-	-	-	-	-
Change in Assets	(1,271,315)	(1,271,315)	-	(142,206)	(31,634)	(37,797)	(6,557)	(37,710)	(1,015,412)	-	-	-	-
Fixed Assets													
Depreciation	(458,903)	(458,903)	-	(5,000)	-	(3,452)	(3,000)	(6,076)	(174,804)	-	(266,571)	-	-
Computer & Software CapEx	180,000	180,000	-	30,000	-	-	10,000	-	-	-	140,000	-	-
Furniture & Fixtures CapEx	-	-	-	-	-	-	-	-	-	-	-	-	-
Equipment CapEx	-	-	-	-	-	-	-	-	-	-	-	-	-
Leasehold Improvements	23,000	23,000	-	-	-	-	-	6,000	-	-	17,000	-	-
	(255,903)	(255,903)	-	25,000	-	(3,452)	7,000	(6,076)	(168,804)	-	(109,571)	-	-
Allocation of Fixed Assets	-	-	-	(167,206)	(31,634)	(34,345)	(13,557)	(31,634)	168,804	-	109,571	-	-
Inc/(Dec) Fixed Assets	(255,903)	(255,903)	-	(142,206)	(31,634)	(37,797)	(6,557)	(37,710)	-	-	-	-	-
Total Budget	22,648,458	22,648,458	-	13,973,637	2,189,755	2,909,104	1,110,836	2,465,125	-	-	-	-	-
Change in Working Capital	(1,015,412)	(1,015,412)	-	-	-	-	-	-	(1,015,412)	-	-	-	-
FTEs	78.20	78.20	-	37.00	7.00	7.60	3.00	7.00	3.00	3.00	6.00	2.00	2.60

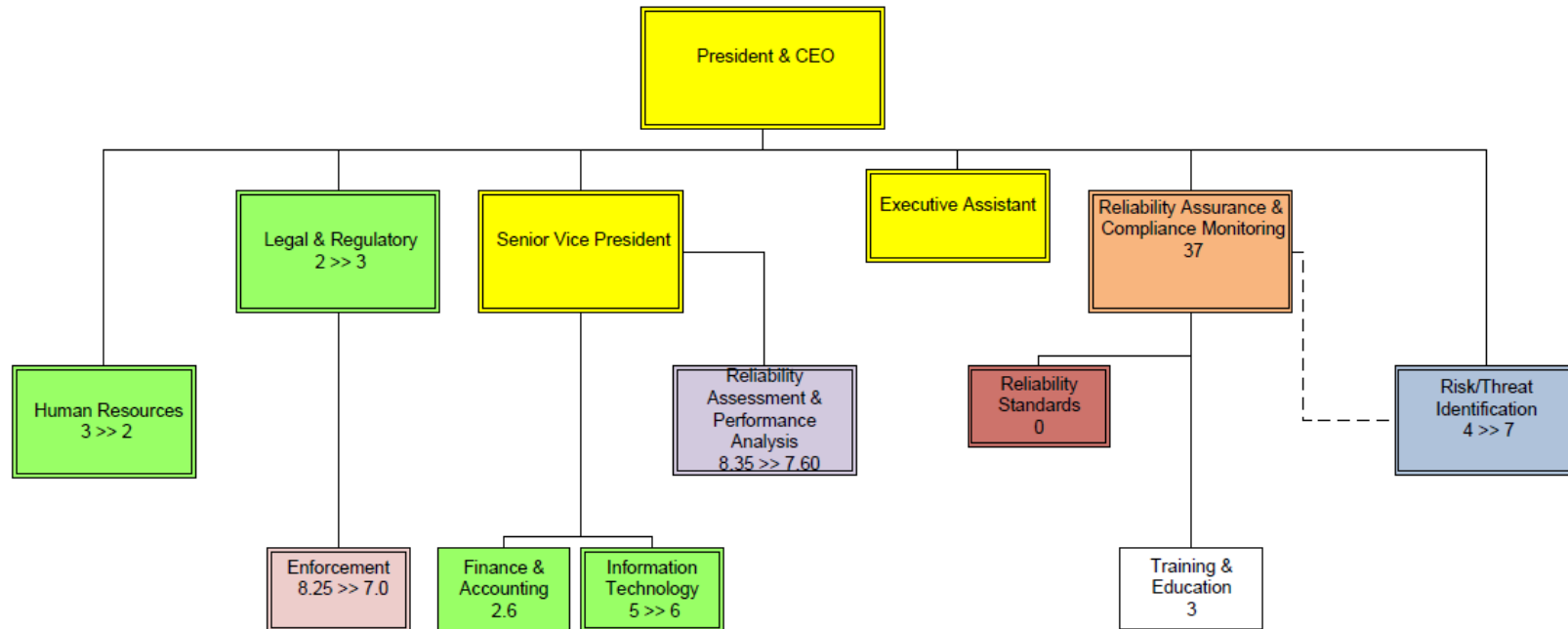
Statement of Financial Position

2017 Statement of Financial Position

STATUTORY and NON-STATUTORY

	(Per Audit) 31-Dec-17
ASSETS	
Current Assets	
Cash	11,027,327
Accounts receivable, net of allowance for uncollectible accounts	97,738
Prepaid expenses	248,059
Total Current Assets	11,373,124
Fixed Assets	
Property and equipment	2,450,519
Total Assets	13,823,643
LIABILITIES AND NET ASSETS	
Current Liabilities	
Accounts payable	291,726
Accrued expenses	4,448,434
Deferred Rent	177,857
Total Current Liabilities	4,918,017
Long Term Liabilities	
Accrued expenses	98,618
Deferred Revenue	350,000
Deferred Rent	1,870,710
Total Long Term Liabilities	2,319,328
Net Assets - unrestricted	4,411,138
Net Assets - restricted	2,175,160
Total Liabilities and Net Assets	13,823,643

Appendix A: 2018 – 2019 Organization Chart



DOCKET NO. RR18-__-000

**NORTH AMERICAN ELECTRIC RELIABILITY
CORPORATION**

2019 BUSINESS PLAN AND BUDGET FILING

ATTACHMENT 7

SERC RELIABILITY CORPORATION

PROPOSED 2019 BUSINESS PLAN AND BUDGET

SERC Reliability Corporation

2019 Business Plan and Budget

**Approved By Board of Directors
June 27, 2018**

TABLE OF CONTENTS

Introduction	3
Organizational Overview	3
Membership and Governance	4
Statutory Functional Scope	4
2019 Key Assumptions	5
2019 Goals and Key Deliverables	5
2019 Overview of Cost Impacts.....	7
Summary by Program.....	9
Personnel Analysis	11
2018 Budget and Projection and 2019 Budget Comparisons	12
Section A – Statutory Programs.....	13
Section A – Statutory Programs	14
Reliability Standards Program.....	14
Reliability Standards Program Funding Sources and Expenditures	16
Compliance Monitoring, Enforcement, and Organization Registration and Certification	17
Compliance Monitoring, Enforcement, and Organization Registration and Certification Program Funding Sources and Expenditures	22
Reliability Assessment and Performance Analysis Program	23
Reliability Assessment and Performance Analysis Program Funding Sources and Expenditures	25
Training, Education, and Stakeholder Outreach	26
Training, Education, and Stakeholder Outreach Program Funding Sources and Expenditures ...	28
Situational Awareness and Infrastructure Security Program.....	29
Situational Awareness and Infrastructure Security Program Funding Sources and Expenditures	31
Administrative Services	32
Technical Committees and Member Forums	33
General and Administrative	35
Legal and Regulatory	36
Analytics and IT	38
Human Resources.....	40
Finance and Accounting	41
Administrative Services Program Funding Sources and Expenditures.....	42
Section B – Supplemental Financial Information	43
Section B – Supplemental Financial Information.....	44
Reserve Balance	44
Breakdown by Statement of Activity Sections	45
Section C – Non-Statutory Activities	58
Section C – Non-Statutory Activities	59
2019 Non-Statutory Business Plan and Budget.....	59
Section D – Additional Consolidated Financial Statements.....	60
Section D – Additional Consolidated Financial Statements 2019 Consolidated Statement of Activities by Program, Statutory and Non-Statutory.....	61
Statement of Financial Position	62
Appendix A Organization Chart	63
Appendix B Acronyms.....	64
Appendix C Index of Figures and Tables.....	65

Introduction

The following table summarizes SERC Reliability Corporation's (SERC) budget for 2019.

	TOTAL RESOURCES (in whole dollars)			
	2019 Budget	U.S.	Canada	Mexico
Statutory FTEs	78.00			
Non-statutory FTEs	-			
Total FTEs	78.00			
Statutory Expenses	\$ 18,296,637			
Non-Statutory Expenses	\$ -			
Total Expenses	\$ 18,296,637			
Statutory Inc(Dec) in Fixed Assets	\$ (151,688)			
Non-Statutory Inc(Dec) in Fixed Assets	\$ -			
Total Inc(Dec) in Fixed Assets	\$ (151,688)			
Statutory Working Capital Requirement	\$ (528,184)			
Non-Statutory Working Capital Requirement	\$ -			
Total Working Capital Requirement	\$ (528,184)			
Total Statutory Funding Requirement	\$ 17,616,765			
Total Non-Statutory Funding Requirement	\$ -			
Total Funding Requirement	\$ 17,616,765			
Statutory Funding Assessments	\$ 17,372,215	\$ 17,372,215	\$ -	\$ -
Non-Statutory Fees	\$ -	\$ -	\$ -	\$ -
NEL	1,028,836,571	1,028,836,571	-	-
NEL%	100.00%	100.00%	0.00%	0.00%

Table 1. SERC Budget for 2019

Organizational Overview

SERC is a nonprofit corporation responsible for promoting and improving the reliability of the bulk power system (BPS) in all or portions of 16 central and southeastern states. The SERC Region presently covers an area of approximately 560,000 square miles. Electric systems in the Region currently serve approximately 23% of the net energy for load (NEL) in North America and 31% of the NEL in the Eastern Interconnection.

On May 2, 2007, SERC executed an agreement with the North American Electric Reliability Corporation (NERC) that delegated to SERC certain responsibilities and authorities of a Regional Entity as defined in these documents:

- Section 215 of the *Federal Power Act*, Chapter I, Title 18, *Code of Federal Regulations*, Part 39
- Other Federal Energy Regulatory Commission (FERC) regulations and directives
- *NERC Rules of Procedure*

SERC, originally called the Southeastern Electric Reliability Council, was formed in 1970 as a voluntary association of members comprising electric industry reliability stakeholders in the

Southeast. Throughout its history, SERC has successfully promoted the reliability of the BPS using an industry Electric Reliability Organization (ERO) model that relies on reciprocity, peer influence, and the mutual reliability focus of BPS owners, operators, and users to ensure that the system remains reliable and secure.

SERC was incorporated as a 501(c)(6) nonprofit corporation in the state of Alabama on April 29, 2005, to position SERC to become a Regional Entity with an appropriate stakeholder governance structure. In April 2006, SERC changed its name to SERC Reliability Corporation. Effective January 1, 2015, SERC incorporated in the state of North Carolina as a 501(c)(6) nonprofit.

On March 5, 2018, SERC – together with NERC and the Midwest Reliability Organization (MRO) – made application to FERC to allow 13 entities in the Southwest Power Pool Regional Entity (SPP RE) footprint to transfer their registrations to SERC. On May 4, 2018, FERC approved the transfer of these 13 entities to SERC, effective July 1, 2018. This will also add approximately 30.0 TWh of NEL to the SERC Region. This increase in NEL has been factored into Table 1 above.

SERC has a 2019 targeted staffing level of 78.0 Full-Time Equivalents (FTEs) (2019 total headcount of 78.0) comprised of power industry professionals and support personnel.

Membership and Governance

As part of its delegated duties, SERC currently monitors 201 registered entities in the SERC Region for compliance with the NERC Reliability Standards. An additional 13 entities from SPP RE will transfer to SERC, effective July 1, 2018. Membership in SERC is voluntary and free. SERC's member companies participate in the technical activities and governance of the organization. SERC currently has 53 member companies.

A Board of Directors (Board), composed of a representative from each member company, governs SERC. The Board delegates operational oversight of the corporation to an Executive Committee of 12 directors. The Board has formed the following committees:

- Board Executive Committee (BEC): The BEC is empowered to make all such decisions and take such actions as are deemed to be necessary for the operation of the Corporation.
- Board Compliance Committee (BCC): Oversees the program that monitors and enforces compliance of registered entities in the Region to FERC-approved Reliability Standards.
- Human Resources and Compensation Committee (HRCC): Advises the President, Board officers, and the Board about employee compensation and human resources.
- Finance and Audit Committee (FAC): Advises the President, Board officers, and the Board about the organization's finances and internal controls.
- Nominating Committee: Identifies, vets, and recommends candidates for Board Officer and committee positions, as needed.

Statutory Functional Scope

SERC provides statutory functions that support the ERO, in accordance with its delegation agreement between SERC and NERC. SERC provides the following functions:

- Analyzes events to identify lessons learned that will improve reliability.
- Promotes BPS reliability, adequacy, and security.
- Helps develop Reliability Standards for the North American BPS and the SERC Region.
- Monitors and enforces approved mandatory Reliability Standards.
- Registers and certifies responsible entities under the reliability compliance program.

-
- Assesses the BPS past, present, and future risk profile in order to assure reliability, adequacy, and security.
 - Trains operating personnel to assure competence.

SERC only performs functions called for in Section 215 of the Federal Power Act that have been delegated from NERC to SERC.

2019 Key Assumptions

NERC and Regional Entity business plans and budgets reflect the collaborative development of the ERO Enterprise Long-term Strategy and the ERO Enterprise Operating Plan. These Strategic Documents are available on NERC's website (<https://www.nerc.com/AboutNERC/Pages/Strategic-Documents.aspx>)

Working collaboratively, the ERO Enterprise has established six perennial goals, each of which is supported by key contributing activities of the combined ERO Enterprise, NERC and SERC:

1. Risk-responsive Reliability Standards.
2. Objective, risk-informed compliance monitoring, mitigation, enforcement and entity registration.
3. Reduction of known reliability risks.
4. Identification and assessment of emerging reliability risks.
5. Identification and reduction of cyber and physical security risks.
6. Effective and efficient ERO Enterprise operations.

2019 Goals and Key Deliverables

The overall goals and key deliverables for 2019 are as follows:

1. Serve as an independent, objective, and fair enforcement authority, without conflicts of interest.
 - A. Register entities commensurate to the risk to the BPS and ensure all key reliability entities are certified to have essential capabilities.
 - B. Enforce compliance of registered entities with mandatory Reliability Standards, in accordance with the delegation agreement and Compliance Monitoring and Enforcement Program (CMEP). Perform timely and transparent reviews.
 - C. Ensure that all violations of mandatory Reliability Standards are mitigated in a timely, thorough, and comprehensive manner.
2. Promote a culture of compliance that addresses reliability risks across the SERC Region and the ERO.
 - A. Ensure that the industry understands the essential purpose of standards and compliance expectations.
 - B. Work with the industry to maintain effective risk control programs for compliance, reliability, and security.
 - C. Use efficient processes and proportional exercise of discretion to verify that the industry meets compliance objectives.
3. Identify the most significant risks to reliability in the SERC Region.

-
-
- A. Identify and prioritize risks based on reliability impacts, cost/practicality assessments, projected resources, and emerging issues.
 - B. Analyze events and system performance consistently to determine sequence, cause, and remediation. Identify reliability risks and trends to inform standards, compliance, and other programs.
 - C. Ensure that the industry is well-informed of emerging trends, risk analysis, lessons learned, and expected actions.
4. Mitigate reliability risks.
 - A. Ensure that the industry understands security threats and addresses them effectively.
 - B. Facilitate information sharing among industry, Regions, ERO, and government.
 - C. Work with the ERO to track industry accountability for critical reliability and security recommendations.
 5. Promote a culture of reliability excellence.
 - A. Ensure reliable data modeling. Verify that the data represents system behavior accurately. Facilitate data sharing among registered entities.
 - B. Serve as a leading resource to industry and policy makers to supply reliability information.
 6. Improve transparency, consistency, quality, and timeliness of results; collaborate with NERC and the other Regions; improve efficiencies and cost effectiveness.
 - A. Identify, understand, and manage internal risks.
 - B. Ensure processes are effective, efficient, and continually improving.

2019 Overview of Cost Impacts

SERC proposes to increase its operating budget in 2019 from \$17,182,868 to \$18,144,949, an increase of \$962,081 or 5.6% (this includes \$459,058 in operating expenses attributable to new registered entities transferring from the Southwest Power Pool Regional Entity (SPP) to SERC). The proposed 2019 assessment of \$17,372,215 is an increase of 1.0%, or \$167,079, from the 2018 assessment of \$17,205,136.

SERC believes that in 2019 it will continue to realize material efficiencies that will allow the Region to remain an efficient provider of statutory functions, as SERC will continue to be one of the lowest-cost Regional Entities on the basis of cost per NEL. SERC's culture promotes consistent delivery of excellent results at a cost that respects the longstanding tradition of affordable and reliable electricity across SERC's geography.

SERC has applied its penalty funds as an offset to assessments.

SERC will continue to perform Cross-Regional Compliance Monitoring and Enforcement Program (CMEP) activities for other Regions upon request. A Regional Entity that contracts with SERC for its services will pay the costs in accordance with the contract; \$34,500 is included in the *2019 Business Plan and Budget* under Other Funding and various expense accounts for the performance of these services.

The following targeted budget changes allow SERC to accomplish the specific objectives outlined in the *2019 Business Plan and Budget* (dollars are stated as an increase in the 2019 budget compared to the 2018 budget). The most significant changes to the budget are in personnel, which includes two components:

- **Staff changes proposed in 2019** – The targeted staffing level for 2019 is 78.00 FTEs. This reflects an increase of three FTEs compared to the 2018 budget. These additional personnel will accommodate the increase in workload in administration of the CMEP Program for new registered entities transferring from SPP to SERC. SERC also continues to use consultants in lieu of FTEs in the area of Information Technology (IT).
- **Cost increase for maintaining staff budgeted in 2019** – The net increase in Personnel costs of \$588,936 compared to 2018 reflects a Board approved merit increase and an increase in employee benefit costs. \$423,283 of the increase is attributable to the three FTEs added to support CMEP activities for the entities transferred from SPP. A vacancy rate has been applied to all Personnel Expenses.

Other notable changes in the proposed budget from year to year include the following:

- **Meetings and Travel** – A combined increase of \$68,053 reflects additional audits due to the transfer of SPP entities to SERC, increased stakeholder outreach efforts, and an increase in meeting expenses associated with board and committee governance activities to better reflect historical norms.
- **Consultants and Contracts** – SERC anticipates an overall increase in Consultants and Contracts of \$122,600. This reflects additional contract administrative support, an increase in IT related contract expenses, and the use of contract HR resources for various specialized needs.
- **Office Rent** – An increase of \$156,213 is due to the acquisition of additional space on the third floor of the SERC office building. SERC continues to record rent on a straight-line basis, per Generally Accepted Accounting Principles. An offset to record the difference in the actual rent paid is recorded to a deferred rent account on the balance sheet.
- **Office Costs** – An increase of \$100,491 is primarily due to reclassification of laptop and related expenses previously budgeted as fixed asset purchases.

-
- **Professional Services** – An increase of \$53,340 is due to a combination of increased legal fees to review corporate bylaws, increased independent auditor fees, and third-party payroll processing fees.
 - **Depreciation** – A decrease of \$81,381 is due to a subset of assets becoming fully depreciated in 2018, together with less than planned fixed asset purchases in 2017.
 - **Fixed Assets** – A \$125,000 decrease in fixed asset purchases is a result of a reclassification of laptop purchases to Office Costs, and a decrease in Consortium User Group (CUG) software capital expenditures.

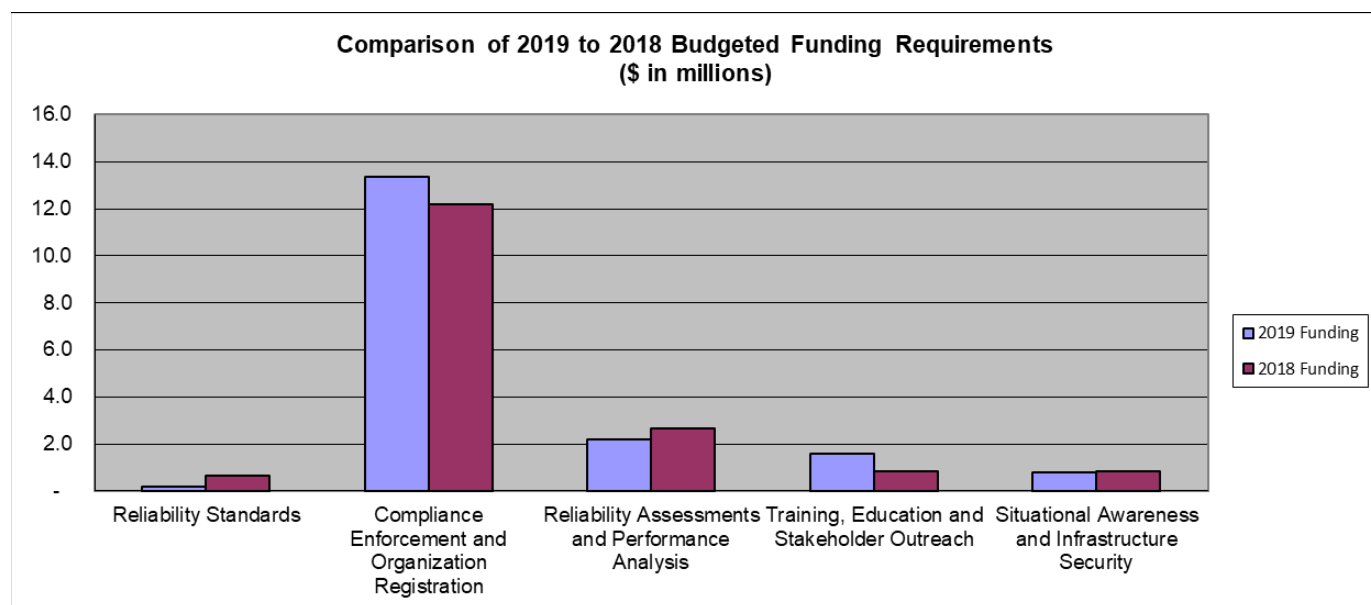
Summary by Program

The following table and figure summarize and illustrate the funding requirements for SERC's primary statutory program areas.

Base Operating Budget	Budget 2018	Projection 2018	Budget 2019	Change	
				2019 Budget v 2018 Budget	% Change
Reliability Standards	658,556	563,698	172,439	(486,117)	-73.8%
Compliance Enforcement and Organization Registration	12,171,991	12,736,090	13,373,347	1,201,355	9.9%
Reliability Assessments and Performance Analysis	2,667,153	2,209,735	2,197,046	(470,108)	-17.6%
Training, Education and Stakeholder Outreach	843,926	1,600,316	1,594,010	750,084	88.9%
Situational Awareness and Infrastructure Security	841,242	499,864	808,107	(33,135)	-3.9%
Total	17,182,868	17,609,702	18,144,948	962,079	5.6%
Working Capital Reserve	1,013,271	968,462	(528,184)	(1,541,455)	
Total Funding	18,196,139	18,578,165	17,616,764	(579,376)	-3.2%

This representation does not include an allocation of working capital requirements among the program areas.

Table 2. Budgeted Funding by Program Area



This graphical representation does not include an allocation of working capital requirements among the program areas.

Figure 1. Budgeted Funding by Program Area Chart

Reliability Standards – The \$486,117 decrease in total funding, from \$658,556 budgeted in 2018 to \$172,439 budgeted in 2019, is due to reallocation of personnel within SERC to support standards program requirements. FTEs in the Standards program have decreased by 1.25 in anticipation of overall volume of NERC Reliability Standard changes continuing to decrease.

Compliance Enforcement and Organization Registration – The increase in total funding, from \$12,171,991 budgeted in 2018 to \$13,373,347 budgeted in 2019, results from an increase in indirect expenses allocated to the Compliance Enforcement and Organization Registration

program, and an increase in CMEP costs due to the number of registered entities transferring from SPP RE to SERC. FTEs in the CMEP area have increased by 1.44 in the 2019 budget, again to perform the additional CMEP duties for the registered entities transferring from SPP RE to SERC.

Reliability Assessments and Performance Analysis – The decrease in total funding, from \$2,667,153 in 2018 to \$2,197,046 budgeted in 2019, is due to a slight decrease in the indirect expense allocation. FTEs in RAPA decreased by 1.47 in the 2019 budget.

Training, Education and Stakeholder Outreach – Total funding increased from the \$843,926 budgeted in 2018 to \$1,594,010 budgeted in 2019. This is a result of adding 1.6 FTEs to increase stakeholder outreach efforts in the 2019 budget. The additional FTEs results in an increase in indirect expenses allocated to Training, Education and Stakeholder Outreach.

Situational Awareness and Infrastructure Security – The decrease in total funding, from \$841,242 budgeted in 2018 to \$808,107 budgeted in 2019, is due the decrease of 0.17 FTEs. This reduction in FTEs reduces overall personnel expenses for the Situational Awareness and Infrastructure Security budget, and allows for an additional decrease in indirect expenses allocated to the Situational Awareness and Infrastructure Security program.

Personnel Analysis

The targeted staffing level for 2019 is 78.00 FTEs, which represents an increase of three FTEs compared to the 2018 budget. These additional personnel will accommodate the increase in workload in administration of the CMEP Program for new registered entities transferring from the Southwest Power Pool (SPP) Regional Entity to SERC. Other shifts between program areas are a result of an internal restructuring to align resources with overall needs. Details are discussed in the Resource Requirements section in each program area in Section A.

Total FTE's by Program Area	Budget	Projection	Direct FTEs	Shared	Total FTEs	Change
	2018	2018	2019 Budget	FTEs ¹ 2019 Budget	2019 Budget	from 2018 Budget
STATUTORY						
Operational Programs						
Reliability Standards	1.70	1.45	0.45	-	0.45	(1.25)
Compliance Monitoring and Enforcement and Organization Registration and Certification	32.56	34.00	34.00	-	34.00	1.44
Reliability Assessment and Performance Analysis	6.37	5.10	4.90	-	4.90	(1.47)
Training, Education and Stakeholder Outreach	1.70	3.85	3.30	-	3.30	1.60
Situation Awareness and Infrastructure Security	2.37	1.40	2.20	-	2.20	(0.17)
Total FTEs Operational Programs	44.70	45.80	44.85	-	44.85	0.15
Administrative Programs						
Technical Committees and Member Forums	4.70	3.90	4.70	-	4.70	-
General & Administrative	11.25	10.25	8.75	-	8.75	(2.50)
Legal and Regulatory	2.55	3.05	4.45	-	4.45	1.90
Analytics and IT	7.00	9.20	9.45	-	9.45	2.45
Human Resources	1.90	2.90	2.90	-	2.90	1.00
Finance and Accounting	2.90	2.90	2.90	-	2.90	-
Total FTEs Administrative Programs	30.30	32.20	33.15	-	33.15	2.85
Total FTEs	75.00	78.00	78.00	-	78.00	3.00

¹A shared FTE is defined as an employee who performs both Statutory and Non-Statutory functions.

Table 3. Total FTEs by Program Area

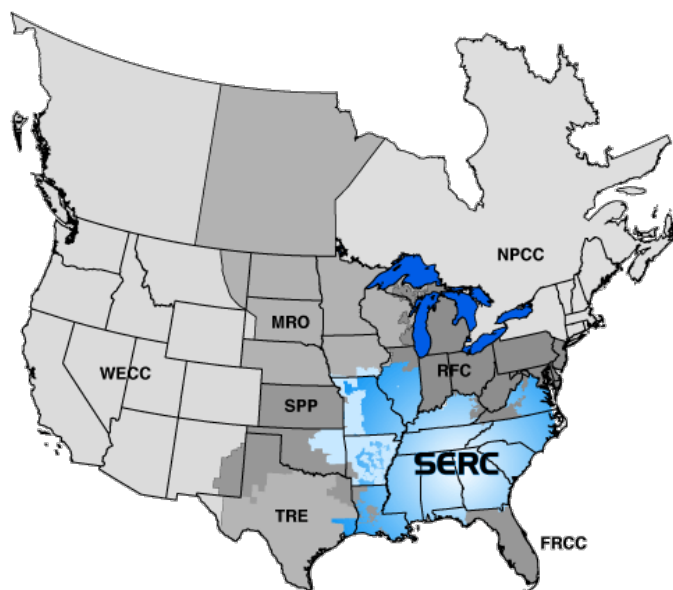
2018 Budget and Projection and 2019 Budget Comparisons

Statement of Activities, Fixed Assets Expenditures and Change in Working Capital					
2018 Budget & Projection, and 2019 Budget					
STATUTORY					
	2018 Budget	2018 Projection	Variance 2018 Projection v 2018 Budget Over(Under)	2019 Budget	Variance 2019 Budget v 2018 Budget Over(Under)
Funding					
ERO Funding					
NERC Assessments	\$ 17,205,136	\$ 17,205,136	\$ -	\$ 17,372,215	\$ 167,079
Penalty Sanctions	727,978	727,978	-	83,000	(644,978)
Total NERC Funding	\$ 17,933,114	\$ 17,933,114	\$ -	\$ 17,455,215	\$ (477,899)
Membership Dues	-	-	-	-	-
Testing Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Workshops	176,025	126,050	(49,975)	126,050	(49,975)
Interest	1,000	1,000	-	1,000	-
Miscellaneous	86,000	518,000	432,000	34,500	(51,500)
Total Funding (A)	\$ 18,196,139	\$ 18,578,164	\$ 382,025	\$ 17,616,765	\$ (579,374)
Expenses					
Personnel Expenses					
Salaries	\$ 9,833,357	\$ 9,842,328	\$ 8,971	\$ 10,276,729	\$ 443,371
Payroll Taxes	727,668	640,944	(86,724)	746,769	19,101
Benefits	1,094,551	1,136,353	41,802	1,172,398	77,847
Retirement Costs	1,281,811	1,284,271	2,460	1,330,427	48,617
Total Personnel Expenses	\$ 12,937,388	\$ 12,903,897	\$ (33,491)	\$ 13,526,324	\$ 588,936
Meeting Expenses					
Meetings	\$ 266,160	\$ 348,955	\$ 82,795	\$ 306,700	\$ 40,540
Travel	606,865	674,818	67,953	648,922	42,057
Conference Calls	44,544	36,000	(8,544)	30,000	(14,544)
Total Meeting Expenses	\$ 917,569	\$ 1,059,773	\$ 142,204	\$ 985,622	\$ 68,053
Operating Expenses					
Consultants & Contracts	\$ 1,855,881	\$ 2,096,867	\$ 240,986	\$ 1,978,481	\$ 122,600
Office Rent	628,983	784,983	156,000	785,196	156,213
Office Costs	435,496	452,182	16,686	535,986	100,491
Professional Services	57,000	87,000	30,000	110,340	53,340
Miscellaneous	5,550	3,000	(2,550)	3,000	(2,550)
Depreciation	453,068	399,944	(53,124)	371,688	(81,381)
Total Operating Expenses	\$ 3,435,978	\$ 3,823,976	\$ 387,998	\$ 3,784,691	\$ 348,712
Total Direct Expenses	\$ 17,290,935	\$ 17,787,646	\$ 496,711	\$ 18,296,636	\$ 1,005,701
Indirect Expenses	\$ -	\$ (1)	\$ (1)	\$ 1	\$ 1
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses (B)	\$ 17,290,935	\$ 17,787,645	\$ 496,710	\$ 18,296,637	\$ 1,005,702
Change in Assets	\$ 905,204	\$ 790,519	\$ (114,685)	\$ (679,872)	\$ (1,585,077)
Fixed Assets					
Depreciation	\$ (453,068)	\$ (399,944)	\$ 53,124	\$ (371,688)	\$ 81,381
Computer & Software CapEx	345,000	200,000	(145,000)	220,000	(125,000)
Furniture & Fixtures CapEx	-	-	-	-	-
Equipment CapEx	-	-	-	-	-
Leasehold Improvements	-	22,000	22,000	-	-
Allocation of Fixed Assets	\$ 2	\$ 1	\$ (0)	\$ (0)	\$ (2)
Inc(Dec) in Fixed Assets (C)	(108,067)	(177,943)	(69,876)	(151,688)	(43,621)
TOTAL BUDGET (=B + C)	\$ 17,182,868	\$ 17,609,702	\$ 426,834	\$ 18,144,949	\$ 962,081
TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)	\$ 1,013,271	\$ 968,462	\$ (44,809)	\$ (528,184)	\$ (1,541,455)
FTEs	75.00	78.00	3.00	78.00	3.00

Table 4. Budget and Projection Comparison, 2018 to 2019

Section A – Statutory Programs

2019 Business Plan and Budget



Section A – Statutory Programs

Reliability Standards Program

Reliability Standards Program (in whole dollars)			
	2018 Budget	2019 Budget	Increase (Decrease)
Total FTEs	1.70	0.45	(1.25)
Direct Expenses	\$ 342,948	\$ 77,046	\$ (265,902)
Indirect Expenses	\$ 321,091	\$ 96,915	\$ (224,176)
Other Non-Operating Expenses	\$ -	\$ -	\$ -
Inc(Dec) in Fixed Assets	\$ (5,483)	\$ (1,522)	\$ 3,961
Total Funding Requirement	\$ 658,556	\$ 172,439	\$ (486,117)

Table A-1. Reliability Standards Budget

Program Scope and Functional Description

SERC may develop Regional Reliability Standards to establish threshold requirements for assuring the planning and operation of the Bulk Electric System (BES). SERC, in accordance with the SERC Reliability Standards Development Procedure, develops and maintains its Standards to minimize the risks of cascading failures and avoid damage to major equipment. These standards must be more stringent than a NERC Reliability Standard, or address a regional difference or a physical difference in the BPS.

SERC may also develop regional criteria. Regional criteria are clear, timely, effective in mitigating risks to good utility practices used to enhance the reliability of the BES, consider cost-effectiveness/impact, and may augment Reliability Standards. Regional criteria are not Reliability Standards, and therefore are not enforceable. SERC develops its regional criteria in accordance with the SERC Technical Committee Document.

2019 Key Assumptions

The 2019 key assumptions for the Reliability Standards Program are:

- SERC expects the overall volume of NERC Reliability Standard changes to continue decreasing compared with prior years as the standards are expected to reach a steady state.
- SERC resources will support the standards development per the NERC Standards Process Manual.
- SERC regional standards development activity will continue to be limited.
- SERC anticipates Regional criteria development will continue to be limited.

2019 Goals and Key Deliverables

SERC Reliability Standards Program 2019 goals and key deliverables are as follows:

1. Manage the SERC Technical Committee Documents per the approved 2019 Review Work Plan.
2. Support the ERO to develop, modify, and conduct periodic reviews of the Reliability Standards to assure they are clear and properly structured for existing and emerging risks.

Resource Requirements

Personnel

Reliability Standards decreased the FTE allocation by 1.25 from 2018 to 2019 due to elimination of one position and a reallocation of resources.

Other changes in Personnel Expenses consist of the following:

- The 2019 budget includes an average payroll tax rate and benefit rate that have been applied to all FTEs. Training, education, and relocation amounts change year over year and account for the fluctuations in the overall benefits.
- SERC's insurance plan period is June 1 through May 31. SERC received an increase in premiums from the previous plan year, which will affect a portion of 2019. SERC is anticipating an additional increase in premiums for the second half of 2019 related to medical insurance, causing an increase in medical benefits.

Reliability Standards Program Funding Sources and Expenditures

Statement of Activities, Fixed Assets Expenditures and Change in Working Capital 2018 Budget & Projection, and 2019 Budget					
RELIABILITY STANDARDS					
	2018 Budget	2018 Projection	Variance 2018 Projection v 2018 Budget Over(Under)	2019 Budget	Variance 2019 Budget v 2018 Budget Over(Under)
Funding					
ERO Funding					
NERC Assessments	\$ 630,870	\$ 630,870	\$ -	\$ 171,606	\$ (459,264)
Penalty Sanctions	27,686	27,686	-	833	(26,853)
Total NERC Funding	\$ 658,556	\$ 658,556	\$ -	\$ 172,439	\$ (486,117)
Membership Dues	-	-	-	-	-
Testing Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Workshops	-	-	-	-	-
Interest	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Total Funding (A)	\$ 658,556	\$ 658,556	\$ -	\$ 172,439	\$ (486,117)
Expenses					
Personnel Expenses					
Salaries	\$ 266,109	\$ 215,389	\$ (50,720)	\$ 55,268	\$ (210,841)
Payroll Taxes	19,692	14,000	(5,692)	4,035	(15,657)
Benefits	22,542	18,527	(4,015)	6,631	(15,911)
Retirement Costs	34,605	28,057	(6,548)	7,113	(27,493)
Total Personnel Expenses	\$ 342,948	\$ 275,974	\$ (66,975)	\$ 73,046	\$ (269,902)
Meeting Expenses					
Meetings	\$ -	\$ -	\$ -	\$ -	\$ -
Travel	-	4,000	4,000	4,000	4,000
Conference Calls	-	-	-	-	-
Total Meeting Expenses	\$ -	\$ 4,000	\$ 4,000	\$ 4,000	\$ 4,000
Operating Expenses					
Consultants & Contracts	\$ -	\$ -	\$ -	\$ -	\$ -
Office Rent	-	-	-	-	-
Office Costs	-	-	-	-	-
Professional Services	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Depreciation	-	-	-	-	-
Total Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Total Direct Expenses	\$ 342,948	\$ 279,974	\$ (62,975)	\$ 77,046	\$ (265,902)
Indirect Expenses	\$ 321,091	\$ 306,979	\$ (14,112)	\$ 96,915	\$ (224,176)
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses (B)	\$ 664,039	\$ 586,953	\$ (77,087)	\$ 173,961	\$ (490,078)
Change in Assets	\$ (5,483)	\$ 71,603	\$ 77,087	\$ (1,522)	\$ 3,961
Fixed Assets					
Depreciation	\$ -	\$ -	\$ -	\$ -	\$ -
Computer & Software CapEx	-	-	-	-	-
Furniture & Fixtures CapEx	-	-	-	-	-
Equipment CapEx	-	-	-	-	-
Leasehold Improvements	-	-	-	-	-
Allocation of Fixed Assets	\$ (5,483)	(10,259)	(4,776)	(1,522)	3,961
Inc(Dec) in Fixed Assets (C)	(5,483)	(10,259)	(4,776)	(1,522)	3,961
TOTAL BUDGET (=B + C)	\$ 658,556	\$ 576,694	\$ (81,863)	\$ 172,439	\$ (486,117)
TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)	\$ (0)	\$ 81,862	\$ 81,863	\$ (0)	\$ 0
FTEs	1.70	1.45	(0.25)	0.45	(1.25)

Table A-2. Reliability Standards Budget Detail

Compliance Monitoring, Enforcement, and Organization Registration and Certification

Compliance Monitoring and Enforcement and Organization Registration and Certification Program (in whole dollars)			
	2018 Budget	2019 Budget	Increase (Decrease)
Total FTEs	32.56	34.00	1.44
Direct Expenses	\$ 6,091,064	\$ 6,165,873	\$ 74,808
Indirect Expenses	\$ 6,149,838	\$ 7,322,466	\$ 1,172,628
Other Non-Operating Expenses	\$ -	\$ -	\$ -
Inc(Dec) in Fixed Assets	\$ (68,911)	\$ (114,992)	\$ (46,081)
Total Funding Requirement	\$ 12,171,991	\$ 13,373,347	\$ 1,201,355

Table A-3. Compliance Monitoring, Enforcement and Organization Registration and Certification Program Budget

Program Scope and Functional Description

SERC's Compliance Monitoring and Enforcement Program (CMEP) is implemented by Compliance and Enforcement personnel, who are independent of stakeholders and registered entities. To accomplish this objective, SERC has divided its CMEP into five areas: Compliance Monitoring, Compliance Programs and Services, Entity Assessment and Mitigation, Organization Registration and Certification, and Enforcement.

Compliance

SERC's Compliance staff implements the CMEP activities pursuant to the *Delegation Agreement* and Uniform CMEP. The Compliance Program consists of four functional areas:

- Compliance Monitoring
 - Conducts SERC compliance monitoring activities (e.g. Compliance audits, spot checks, guided self-certifications, and investigations)
 - Performs registered entity Internal Control Evaluations
 - Provides subject matter experts for Standards and Requirements
 - Implements and maintains the Critical Infrastructure Protection (CIP) Standards Technical Feasibility Exceptions process
- Compliance Programs and Services
 - Supports compliance staff by deploying CMEP-related analytics and reporting
 - Performs Compliance Assessments, when required, on Events reported by registered entities
- Entity Assessment and Mitigation
 - Conducts registered entity Inherent Risk Assessments
 - Staff serves as the single point of contact for all non-compliance issues discovered and/or self-reported
 - Performs risk harm assessment on non-compliance, which includes determining the scope of the non-compliance, potential, and actual potential risk to Bulk Power System (BPS) reliability.

- Reviews and approves the registered entity’s mitigating activities to ensure the registered entity performs the actions necessary to correct the non-compliance to protect BPS reliability
- Administers the SERC regional self-logging program
- Organization Registration and Certification
 - Registers owners, operators, and users of the BPS for compliance with Reliability Standards
 - Certifies applicable entities

Enforcement

SERC Enforcement personnel are responsible for processing violations of Reliability Standards and imposing penalties or sanctions, as appropriate. The Enforcement personnel follow these steps:

- Notify the registered entity of the findings regarding the violation and any applicable penalties or sanctions.
- Negotiate settlement with the registered entity or issue a notice of violation (if the entity is unwilling to settle).
- Submit the proposed enforcement action, along with any proposed penalty or sanctions, to NERC for review, approval, and subsequent submittal to FERC.
- Prosecute the case before a Hearing Body if a registered entity challenges the findings of the violation and/or penalty.

2019 Key Assumptions

Compliance

The 2019 key assumptions for SERC Compliance are:

- An increase in workload due to the transfer of Registered Entities from SPP RE to SERC. This will increase workload across all facets of the compliance program areas.
- Risk-based Compliance monitoring engagements. SERC expects to increase the use of spot checks and guided self-certifications for Compliance Monitoring engagements, instead of audits. Compliance staff will continue to receive training on risk principles and enhanced audit practices. Additionally, staff will pursue or maintain professional credentials and further enhance their knowledge on risk-based CMEP processes. This will ensure the skills of SERC staff remain current on industry trends and Reliability Standards.
- Operations and Planning Reliability Standard noncompliance are expected to remain relatively low as most registered entities have been previously audited, and the standards and Reliability Standards Audit Worksheets (RSAWs) have matured.
- The number of CIP Technical Feasibility Exception (TFE) requests will continue to decline as the CIP program for registered entities matures. SERC will continue to collaborate with NERC and implement the NERC approved certification process to assess a registered entity’s capability for performing its registered function(s) and to use the tools NERC provides. SERC expects the certification process to remain relatively consistent.
- The volume of documents for Joint Registration Organization, Coordinated Functional Registration, and Multi-Regional Entity Registration will increase as registered entities better delineate shared responsibilities and promote efficiency and effectiveness in

Compliance. This increase will affect the workload for Registration and Compliance Monitoring within SERC.

- The ERO Enterprise will facilitate meetings with Regional Entities in the development of application business requirements and the testing of business functionality for ERO Enterprise projects. SERC Compliance staff expects to have an active role in the development of ERO Enterprise CMEP Tools; this may require additional resources to provide an adequate level of participation.

Enforcement

The 2019 key assumptions for SERC Enforcement are:

- SERC will continue to see a high number of Enforcement actions due to the implementation of CIP Version 5.
- SERC will process or dismiss Possible Violations in a timely and fair manner.
- There will be no significant increase in travel for Enforcement staff to process Possible Violations.

2019 Goals and Key Deliverables

Compliance

SERC Compliance 2019 goals and key deliverables are as follows:

1. Conduct scheduled Compliance Monitoring activities pursuant to the 2019 Implementation Plan.

Compliance Monitoring engagements for 2019 are currently scheduled to include on-site audits, off-site audits, spot checks, and guided self-certifications. As Entity Assessment and Mitigation completes or updates registered entities' Inherent Risk Assessments, the 2019 Compliance Monitoring schedule will change with additional engagements added.

2. Facilitate efficient and collaborative transitions to new and revised standards through:
 - A. Continued ERO Enterprise-wide collaboration
 - B. Workshops focused on new or revised Standards
 - C. Registered entity site visits to review progress toward compliance with upcoming Standards
3. Work with the industry to provide information on effective procedures and programs to monitor, detect, correct, report, and prevent deficiencies in compliance, reliability, and security.
 - A. Mature Compliance reform through Risk-Based Compliance Monitoring approach techniques and principles.
 - B. Collaborate with the industry regarding best practices to encourage effective internal controls models
 - C. Initiate Compliance phase-in learning periods for new standards
4. Continue delivery of Compliance Lessons Learned from all aspects of the CMEP process.
5. Evaluate the Compliance Monitoring, violation processing, risk-assessment, and registration and certification program for sufficiency and effectiveness. Modify the programs, as needed.
6. Collaborate with the ERO Enterprise to develop common and consistent CMEP processes, information systems, and methods among Regions.

7. Develop and implement the Compliance Monitoring and Enforcement reform through risk-based techniques, including the following:
 - A. Focus on serious risk violations to improve the effectiveness of SERC operations
 - B. Reduce unnecessary costs of compliance on registered entities while ensuring achievement of reliability objectives
8. Ensure timely mitigation of all violations to restore compliance and prevent recurrence, thereby maintaining the reliability of the BPS. Timely mitigation will cause the aging curve to trend positively.
9. Develop mature violation processing management tools and training based on risk-based techniques to improve the efficiency, transparency, consistency, quality, and timeliness of violation processing.
10. Assume an active role in ERO Enterprise-wide CMEP Tools development.
11. Continue to support the training requirements necessary to meet the criteria set forth by the ERO Auditor Manual and Handbook and the Compliance Auditor Capabilities and Competency Guide. SERC will work to ensure:
 - A. Compliance staff and other personnel, as necessary, understand Compliance implementation guidance documents and risk-based principles
 - B. An annual process exists for personnel to acknowledge their commitment to Professional Standards, Ethical Principles, and Rules of Conduct
 - C. An annual assessment process exists to evaluate audit team content and capability needs
 - D. A training program exists that addresses initial and continuing training for capability and competency development
12. Operate an efficient Registration and Certification program that:
 - A. Ensures that SERC provides NERC timely and accurate information about changes in registrations, analysis of system events to confirm that all necessary entities are registered, and registered entities initiate corrective actions, as appropriate
 - B. Performs certification reviews, or if a new certification is required, accommodates a change in a registered entity's status
 - C. Documents certification activities sufficiently and makes recommendations to NERC regarding certification

Enforcement

SERC Enforcement 2019 goals and key deliverables are as follows:

1. Manage Enforcement activities in an unbiased, fair, and consistent manner to ensure due process for all registered entities.
2. Hold the industry accountable for violations that create a serious risk to the BPS. Ensure resulting actions are timely and fair, including appropriate use of Compliance Exceptions; Find, Fix, and Track (FFT); Spreadsheet Notice of Penalty (SNOP); and Full Notice of Penalty (NOP). To achieve this, SERC will:
 - A. Conduct outreach activities to help entities increase the percentage of self-identified non-compliances (Self Reports and Self Certifications)
 - B. Decrease the time needed to process violations and keep the average age of violations in inventory at less than one year

- C. Process minimal and moderate risk issues through non-Enforcement mechanisms where appropriate, and process higher risk violations and broad compliance failures through the SNOP and NOP processing tracks

Resource Requirements

Personnel

SERC is adding 3 FTEs to accommodate the increase in workload in administration of the CMEP Program for registered entities transferring from the SPP Regional Entity to SERC. These additions are partially offset by a reallocation of existing resources to other program areas, resulting in a net increase of 1.44 FTEs for its various Compliance program functions.

Other changes in Personnel Expenses consist of the following:

- The 2019 budget includes an average payroll tax rate and benefit rate that have been applied to all FTEs. Training, education, and relocation amounts change year over year and account for the fluctuations in the overall benefits.
- SERC's insurance plan period is June 1 through May 31. SERC received an increase in premiums from the previous plan year, which will affect a portion of 2019. SERC is anticipating an additional increase in premiums for the second half of 2019 related to medical insurance, causing an increase in medical benefits.

Contractors and Consultants

2019 reflects an increase of \$120,375, primarily due to the reclassification of Consortium User Group (CUG) expenses previously budgeted in Analytics and IT. This total includes \$10,375 attributable to the registered entities transferring to SERC from SPP.

Compliance Monitoring, Enforcement, and Organization Registration and Certification Program Funding Sources and Expenditures

Statement of Activities, Fixed Assets Expenditures and Change in Working Capital					
2018 Budget & Projection, and 2019 Budget					
COMPLIANCE MONITORING, ENFORCEMENT and ORGANIZATION REGISTRATION and CERTIFICATION					
	2018 Budget	2018 Projection	Variance 2018 Projection v 2018 Budget Over(Under)	2019 Budget	Variance 2019 Budget v 2018 Budget Over(Under)
Funding					
ERO Funding					
NERC Assessments	\$ 11,570,724	\$ 11,570,724	\$ -	\$ 13,275,926	\$ 1,705,202
Penalty Sanctions	530,267	530,267	-	62,921	(467,346)
Total NERC Funding	\$ 12,100,991	\$ 12,100,991	\$ -	\$ 13,338,847	\$ 1,237,856
Membership Dues	-	-	-	-	-
Testing Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Workshops	-	-	-	-	-
Interest	-	-	-	-	-
Miscellaneous	71,000	503,000	432,000	34,500	(36,500)
Total Funding (A)	\$ 12,171,991	\$ 12,603,991	\$ 432,000	\$ 13,373,347	\$ 1,201,356
Expenses					
Personnel Expenses					
Salaries	\$ 4,293,726	\$ 4,040,542	\$ (253,184)	\$ 4,319,499	\$ 25,773
Payroll Taxes	317,736	262,440	(55,295)	315,323	(2,412)
Benefits	490,880	513,490	22,610	470,935	(19,945)
Retirement Costs	560,219	527,258	(32,961)	556,635	(3,584)
Total Personnel Expenses	\$ 5,662,560	\$ 5,343,731	\$ (318,830)	\$ 5,662,393	\$ (168)
Meeting Expenses					
Meetings	\$ 2,000	\$ 5,300	\$ 3,300	\$ 8,300	\$ 6,300
Travel	386,850	364,750	(22,100)	349,400	(37,450)
Conference Calls	-	-	-	-	-
Total Meeting Expenses	\$ 388,850	\$ 370,050	\$ (18,800)	\$ 357,700	\$ (31,150)
Operating Expenses					
Consultants & Contracts	\$ -	\$ 171,422	\$ 171,422	\$ 120,375	\$ 120,375
Office Rent	-	-	-	-	-
Office Costs	23,215	35,515	12,300	22,855	(360)
Professional Services	-	-	-	-	-
Miscellaneous	2,550	2,550	-	2,550	-
Depreciation	13,889	13,889	-	-	(13,889)
Total Operating Expenses	\$ 39,654	\$ 223,376	\$ 183,722	\$ 145,780	\$ 106,126
Total Direct Expenses	\$ 6,091,064	\$ 5,937,157	\$ (153,908)	\$ 6,165,873	\$ 74,808
Indirect Expenses	\$ 6,149,838	\$ 6,893,386	\$ 743,548	\$ 7,322,466	\$ 1,172,628
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses (B)	\$ 12,240,902	\$ 12,830,543	\$ 589,640	\$ 13,488,339	\$ 1,247,436
Change in Assets	\$ (68,911)	\$ (226,552)	\$ (157,640)	\$ (114,992)	\$ (46,080)
Fixed Assets					
Depreciation	(13,889)	(13,889)	-	-	13,889
Computer & Software CapEx	50,000	160,000	110,000	-	(50,000)
Furniture & Fixtures CapEx	-	-	-	-	-
Equipment CapEx	-	-	-	-	-
Leasehold Improvements	-	-	-	-	-
Allocation of Fixed Assets	(105,022)	(240,564)	(135,542)	(114,992)	(9,970)
Inc(Dec) in Fixed Assets (C)	\$ (68,911)	\$ (94,453)	\$ (25,542)	\$ (114,992)	\$ (46,081)
TOTAL BUDGET (=B + C)	\$ 12,171,991	\$ 12,736,090	\$ 564,098	\$ 13,373,347	\$ 1,201,355
TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)	\$ (0)	\$ (132,099)	\$ (132,098)	\$ 0	\$ 1
FTEs	32.56	34.00	1.44	34.00	1.44

Table A-4. Compliance Monitoring and Enforcement and Organization Registration and Certification Budget Detail

Reliability Assessment and Performance Analysis Program

Reliability Assessments and Performance Analysis (in whole dollars)			
	2018 Budget	2019 Budget	Increase (Decrease)
Total FTEs	6.37	4.90	(1.47)
Direct Expenses	\$ 1,484,552	\$ 1,158,321	\$ (326,232)
Indirect Expenses	\$ 1,203,147	\$ 1,055,297	\$ (147,850)
Other Non-Operating Expenses	\$ -	\$ -	\$ -
Inc(Dec) in Fixed Assets	\$ (20,546)	\$ (16,572)	\$ 3,974
Total Funding Requirement	\$ 2,667,153	\$ 2,197,046	\$ (470,108)

Table A-5. Reliability Assessments and Performance Analysis (RAPA) Budget

Program Scope and Functional Description

SERC's RAPA program provides data gathering and analysis of events on the BES. The RAPA function identifies reliability risks to the BES in the SERC footprint for the purpose of integrated risk analysis. RAPA's mission is to promote a culture of reliability excellence among the owners of BES assets. The program accomplishes this mission by identifying risks to reliability, analyzing performance, and prioritizing significant risks.

SERC conducts an independent reliability assessment of the BES within the SERC Region, including data gathering and analysis. The assessment program uses information from its internal data collection sources along with other programs, such as NERC Transmission Availability Data System (TADS), Generating Availability Data Systems (GADS), Demand Response Availability Data System (DADS), and the Misoperations Information Data Analysis System (MIDAS). SERC evaluates the overall reliability, performance, and adequacy of the SERC Region and reports its results to NERC. SERC's work supports NERC's obligation to perform similar analysis of the interconnected North American BPS.

2019 Key Assumptions

The 2019 key assumptions for SERC RAPA are:

- SERC will continue to support NERC's RAPA program to report on the reliability of the BES.
- SERC will support the ERO Enterprise in the identification and mitigation of significant current reliability risks, as well as the identification and assessment of emerging risks.
- SERC will continue to support its role per the Eastern Interconnection Regional Entity Assessments and Model Building Agreement, developed within the Eastern Interconnection Reliability Assessment Group (ERAG).
- SERC will continue to support SERC's integrated risk management initiatives to promote awareness and reliability resolution discussions. SERC will use project management and analytical software to collaborate, balance workloads, and manage resources effectively.

2019 Goals and Key Deliverables

The SERC RAPA program will support the following goals:

1. Support regional analysis that contributes to NERC reliability analysis efforts, SERC reliability risk discussions, and performance analysis efforts.

2. Continue to submit timely and quality probabilistic, seasonal, and long-term SERC and NERC reliability assessments and studies.
3. Continue to support ongoing improvements to SERC and ERAG eastern interconnection planning models, structure, assessments, and analysis.
4. Continue to support NERC RA, PA and System Analysis program data collections, data validation, and analytical efforts.
5. Provide support to the associated SERC and NERC committee member groups and initiatives.
6. Continue to support entity outreach efforts to increase reliability risk related discussions.
7. Assess the need for advanced probabilistic tools to support resource adequacy sensitivities and regional model improvements. Acquire tool(s), based upon findings.
8. Continue to provide employee analytical training that develops the capability to analyze projected, historical, and operational data, and creates value to annual assessments and studies.
9. Complete annual FERC Form 715 and Energy Information Administration (EIA) submittals on behalf of SERC registered entities within specified periods.
10. Continue NERC and regional coordination to improve processes, data collections, and information required to implement enhanced regional analytical efforts.

Resource Requirements

Personnel

A decrease of 1.47 FTEs in Reliability Assessment and Performance Analysis due to the realignment of personnel supporting the RAPA program.

Other changes in Personnel Expenses consist of the following:

- The 2019 budget includes an average payroll tax rate and benefit rate that have been applied to all FTEs. Training, education, and relocation amounts change year over year and account for the fluctuations in the overall benefits.
- SERC's insurance plan period is June 1 through May 31. SERC received an increase in premiums from the previous plan year, which will affect a portion of 2019. SERC is anticipating an additional increase in premiums for the second half of 2019 related to medical insurance, causing an increase in medical benefits.

Contractors and Consultants

The 2019 budget includes contractor support for a probabilistic assessment performed through the Resource Adequacy Working Group, and for the performance of special reliability assessments of the SERC footprint. The 2019 budget also includes contractor support for development of the Multiregional Modeling Working Group 2018 model cases.

Section A – Statutory Programs Reliability Assessment and Performance Analysis Program Funding Sources and Expenditures

Reliability Assessment and Performance Analysis Program Funding Sources and Expenditures

Statement of Activities, Fixed Assets Expenditures and Change in Working Capital 2018 Budget & Projection, and 2019 Budget					
RELIABILITY ASSESSMENTS and PERFORMANCE ANALYSIS					
	2018 Budget	2018 Projection	Variance 2018 Projection v 2018 Budget Over(Under)	2019 Budget	Variance 2019 Budget v 2018 Budget Over(Under)
Funding					
ERO Funding					
NERC Assessments	\$ 2,563,412	\$ 2,563,412	\$ -	\$ 2,187,978	\$ (375,434)
Penalty Sanctions	103,741	103,741	-	9,068	(94,673)
Total NERC Funding	\$ 2,667,153	\$ 2,667,153	\$ -	\$ 2,197,046	\$ (470,107)
Membership Dues	-	-	-	-	-
Testing Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Workshops	-	-	-	-	-
Interest	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Total Funding (A)	\$ 2,667,153	\$ 2,667,153	\$ -	\$ 2,197,046	\$ (470,107)
Expenses					
Personnel Expenses					
Salaries	\$ 880,830	\$ 692,515	\$ (188,315)	\$ 641,291	\$ (239,539)
Payroll Taxes	65,181	45,013	(20,168)	46,814	(18,367)
Benefits	96,848	91,740	(5,107)	75,413	(21,435)
Retirement Costs	114,835	90,326	(24,510)	82,585	(32,250)
Total Personnel Expenses	\$ 1,157,695	\$ 919,594	\$ (238,100)	\$ 846,103	\$ (311,592)
Meeting Expenses					
Meetings	\$ 29,200	\$ 29,200	\$ -	\$ 29,200	\$ -
Travel	46,768	66,768	20,000	56,768	10,000
Conference Calls	-	-	-	-	-
Total Meeting Expenses	\$ 75,968	\$ 95,968	\$ 20,000	\$ 85,968	\$ 10,000
Operating Expenses					
Consultants & Contracts	\$ 249,640	\$ 195,000	\$ (54,640)	\$ 225,000	\$ (24,640)
Office Rent	-	-	-	-	-
Office Costs	1,250	1,250	-	1,250	-
Professional Services	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Depreciation	-	-	-	-	-
Total Operating Expenses	\$ 250,890	\$ 196,250	\$ (54,640)	\$ 226,250	\$ (24,640)
Total Direct Expenses	\$ 1,484,552	\$ 1,211,812	\$ (272,740)	\$ 1,158,321	\$ (326,232)
Indirect Expenses	\$ 1,203,147	\$ 1,079,720	\$ (123,427)	\$ 1,055,297	\$ (147,850)
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses (B)	\$ 2,687,699	\$ 2,291,532	\$ (396,167)	\$ 2,213,618	\$ (474,082)
Change in Assets	\$ (20,546)	\$ 375,621	\$ 396,167	\$ (16,572)	\$ 3,975
Fixed Assets					
Depreciation	-	-	-	-	-
Computer & Software CapEx	-	-	-	-	-
Furniture & Fixtures CapEx	-	-	-	-	-
Equipment CapEx	-	-	-	-	-
Leasehold Improvements	-	-	-	-	-
Allocation of Fixed Assets	\$ (20,546)	\$ (36,085)	\$ (15,539)	(16,572)	3,974
Inc(Dec) in Fixed Assets (C)	\$ (20,546)	\$ (36,085)	\$ (15,539)	\$ (16,572)	\$ 3,974
TOTAL BUDGET (=B + C)	\$ 2,667,153	\$ 2,255,447	\$ (411,706)	\$ 2,197,046	\$ (470,108)
TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)	\$ (0)	\$ 411,706	\$ 411,706	\$ 0	\$ 1
FTEs	6.37	5.10	(1.27)	4.90	(1.47)

Table A-6. Reliability Assessment and Performance Analysis Budget Detail

Training, Education, and Stakeholder Outreach

Training, Education and Entity Outreach (in whole dollars)			
	2018 Budget	2019 Budget	Increase (Decrease)
Total FTEs	1.70	3.30	1.60
Direct Expenses	\$ 528,318	\$ 894,461	\$ 366,143
Indirect Expenses	\$ 321,091	\$ 710,710	\$ 389,619
Other Non-Operating Expenses	\$ -	\$ -	\$ -
Inc(Dec) in Fixed Assets	\$ (5,483)	\$ (11,161)	\$ (5,678)
Total Funding Requirement	\$ 843,926	\$ 1,594,010	\$ 750,084

Table A-7. Training, Education, and Stakeholder Outreach Budget

Program Scope and Functional Description

The SERC Training, Education, and Stakeholder Outreach program provides education and training necessary to obtain essential knowledge of BPS operations, and provides targeted outreach to its members and registered entities in an effort to increase understanding of and compliance with NERC Reliability Standards and associated Regional Standards. SERC Training and Education programs support the continuing education of NERC Certified System Operators in the SERC Region. The program's target audience is BPS operating personnel, system operators, operations support personnel, and training personnel.

The SERC Training and Education program supports the development of SERC and stakeholder staff training and education in bulk power system operating and security topics.

2019 Key Assumptions

SERC Training, Education, and Stakeholder Outreach Program 2019 key assumptions are:

- SERC will support the ERO goal to implement Risk-Based Compliance Monitoring. Achieving this goal will require structured training.
 - SERC will use common ERO training methods and curriculum for regional consistency of auditors and other key staff on the required qualification and competencies.
- SERC will provide training to operating personnel to promote the reliability of the BPS in North America.
 - SERC will educate utility personnel regarding changes to NERC Reliability Standards, ERO procedures, and programs that detect, monitor, report, correct, and prevent recurrence of issues with reliability and/or compliance.
- The SERC Training program will maintain SERC's status as a NERC certified Continuing Education Provider. SERC education programs will focus on developing reliability and security skills of internal and external stakeholders.
- SERC will increase targeted outreach efforts that promote BPS reliability and risk mitigation across its footprint.

2019 Goals and Key Deliverables

The SERC Training, Education and Stakeholder Outreach program will support the following goals:

1. Develop and deliver training on required technical knowledge, skills, and abilities for auditors and other key staff positions within SERC.
2. Develop and deliver four System Operator Conferences that promote BES reliability by assuring the competence of real-time operating personnel through continuing education on power system operating topics.
3. Deliver NERC Reliability Standards workshops or webinars to BPS system operators, operating support personnel, compliance, and training personnel to explain changed expectations within new or revised Reliability Standards and related procedures and programs.
4. Develop and deliver timely and effective education to internal and external stakeholders that promotes the mission of SERC and the ERO.
5. Provide targeted outreach aimed to facilitate a greater understanding of reliability, security, and compliance risk to the Bulk Power system.

Resource Requirements

Personnel

Training and Education has increased its FTE allocation from 2018 to 2019 by 1.6 to reflect an increase in targeted outreach efforts. Other changes in Personnel Expenses consist of the following:

- The 2019 budget includes an average payroll tax rate and benefit rate that have been applied to all FTEs. Training, education, and relocation amounts change year over year and account for the fluctuations in the overall benefits.
- SERC's insurance plan period is June 1 through May 31. SERC received an increase in premiums from the previous plan year, which will affect a portion of 2019. SERC is anticipating an additional increase in premiums for the second half of 2019 related to medical insurance, causing an increase in medical benefits.

Contractors and Consultants

The 2019 budget includes contractor support for the System Operator Conferences, Restoration Drill exercises and workshops to provide NERC System Operator Continuing Education Hours.

Training, Education, and Stakeholder Outreach Program Funding Sources and Expenditures

Statement of Activities, Fixed Assets Expenditures and Change in Working Capital					
2018 Budget & Projection, and 2019 Budget					
TRAINING, EDUCATION and STAKEHOLDER OUTREACH					
	2018 Budget	2018 Projection	Variance 2018 Projection v 2018 Budget Over(Under)	2019 Budget	Variance 2019 Budget v 2018 Budget Over(Under)
Funding					
ERO Funding					
NERC Assessments	\$ 640,215	\$ 640,215	\$ -	\$ 1,480,253	\$ 840,038
Penalty Sanctions	27,686	27,686	-	6,107	(21,579)
Total NERC Funding	\$ 667,901	\$ 667,901	\$ -	\$ 1,486,360	\$ 818,459
Membership Dues	-	-	-	-	-
Testing Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Workshops	176,025	107,650	(68,375)	107,650	(68,375)
Interest	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Total Funding (A)	\$ 843,926	\$ 775,551	\$ (68,375)	\$ 1,594,010	\$ 750,084
Expenses					
Personnel Expenses					
Salaries	\$ 197,631	\$ 445,064	\$ 247,433	\$ 472,590	\$ 274,960
Payroll Taxes	14,625	30,792	16,167	34,701	20,076
Benefits	21,342	39,001	17,659	48,242	26,900
Retirement Costs	25,790	58,669	32,879	60,872	35,082
Total Personnel Expenses	\$ 259,388	\$ 573,526	\$ 314,138	\$ 616,406	\$ 357,018
Meeting Expenses					
Meetings	\$ 118,850	\$ 141,555	\$ 22,705	\$ 101,600	\$ (17,250)
Travel	17,400	41,000	23,600	41,000	23,600
Conference Calls	-	-	-	-	-
Total Meeting Expenses	\$ 136,250	\$ 182,555	\$ 46,305	\$ 142,600	\$ 6,350
Operating Expenses					
Consultants & Contracts	\$ 132,680	\$ 90,900	\$ (41,780)	\$ 135,455	\$ 2,775
Office Rent	-	-	-	-	-
Office Costs	-	-	-	-	-
Professional Services	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Depreciation	-	-	-	-	-
Total Operating Expenses	\$ 132,680	\$ 90,900	\$ (41,780)	\$ 135,455	\$ 2,775
Total Direct Expenses	\$ 528,318	\$ 846,981	\$ 318,663	\$ 894,461	\$ 366,143
Indirect Expenses	\$ 321,091	\$ 780,575	\$ 459,484	\$ 710,710	\$ 389,619
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses (B)	\$ 849,409	\$ 1,627,556	\$ 778,147	\$ 1,605,171	\$ 755,762
Change in Assets	\$ (5,483)	\$ (852,005)	\$ (846,522)	\$ (11,161)	\$ (5,678)
Fixed Assets					
Depreciation	-	-	-	-	-
Computer & Software CapEx	-	-	-	-	-
Furniture & Fixtures CapEx	-	-	-	-	-
Equipment CapEx	-	-	-	-	-
Leasehold Improvements	-	-	-	-	-
Allocation of Fixed Assets	\$ (5,483)	\$ (27,240)	(21,757)	(11,161)	\$ (5,678)
Inc(Dec) in Fixed Assets (C)	\$ (5,483)	\$ (27,240)	\$ (21,757)	\$ (11,161)	\$ (5,678)
TOTAL BUDGET (=B + C)	\$ 843,926	\$ 1,600,316	\$ 756,390	\$ 1,594,010	\$ 750,084
TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)	\$ 0	\$ (824,765)	\$ (824,765)	\$ 0	\$ 0
FTEs	1.70	3.85	2.15	3.30	1.60

Table A-8. Training, Education, and Stakeholder Outreach Budget Detail

Situational Awareness and Infrastructure Security Program

Situational Awareness and Infrastructure Security (in whole dollars)			
	2018 Budget	2019 Budget	Increase (Decrease)
Total FTEs	2.37	2.20	(0.17)
Direct Expenses	\$ 401,247	\$ 341,741	\$ (59,506)
Indirect Expenses	\$ 447,639	\$ 473,807	\$ 26,168
Other Non-Operating Expenses	\$ -	\$ -	\$ -
Inc(Dec) in Fixed Assets	(7,644)	(7,441)	203
Total Funding Requirement	\$ 841,242	\$ 808,107	\$ (33,135)

Table A-9. Situational Awareness and Infrastructure Security Budget

Program Scope and Functional Description

The SERC Situational Awareness (SA), Events Analysis (EA) and Infrastructure Security program identifies and analyzes conditions that impact or might impact reliable operations. These programs accomplish this by monitoring sources of information and maintaining communications with stakeholders, NERC, and other organizations. Initiatives are developed to mitigate and improve reliability by analyzing significant BES events and existing technical reliability guidance for risks and vulnerabilities that could recur elsewhere within the BPS.

2019 Key Assumptions

SERC Situation Awareness and Infrastructure Security Program 2019 key assumptions are:

- SERC will support the ERO Enterprise in the identification and mitigation of significant current reliability risks, as well as the identification and assessment of emerging risks.
- SERC will continue to work with NERC’s Electricity-Information Sharing and Analysis Center (E-ISAC) and SERC Registered Entities to identify opportunities for improving information sharing on CIP related events, threats, and vulnerabilities to improve reliability within the BES.
- SERC will continue its outreach program to communicate externally, analysis from SA and EA events.
- SERC will continue to review, track, and trend reliability events to support events reduction and outreach efforts in the SERC Region.
- SERC will share mitigating measures and other BES improvements with SERC entities and the ERO.
- SERC will continue to work with other Regional SA and EA groups to identify conditions or best practices that improve reliability within the BES.

2019 Goals and Key Deliverables

The SERC Situational Awareness and Infrastructure Security program will support the following goals:

1. Continue to increase the utilization of data collection tools that provide oversight of the BPS to support analysis and NERC reporting requirements.
2. Evaluate events information to identify risk trends and benchmarking efforts.

3. Develop SERC Reliability Bulletins and support NERC Lessons Learned initiatives.
4. Continue stakeholder outreach efforts that support the SA and EA programs.
5. Facilitate and promote post-event collaboration and coordination with NERC and applicable governmental agencies.
6. Identify and prioritize risks based on reliability impacts, practicality assessments, projected resources, and emerging issues.
7. Monitor and evaluate CIP related threats, vulnerabilities, and events for information sharing internally (SERC staff) and externally (registered entities).

Resource Requirements

Personnel

A decrease of 0.17 FTEs is due to the realignment of personnel supporting the Situational Awareness and Infrastructure Security program.

Other changes in Personnel Expenses consist of the following:

- The 2019 budget includes an average payroll tax rate and benefit rate that have been applied to all FTEs. Training, education, and relocation amounts change year over year and account for the fluctuations in the overall benefits.
- SERC's insurance plan period is June 1 through May 31. SERC received an increase in premiums from the previous plan year, which will affect a portion of 2019. SERC is anticipating an additional increase in premiums for the second half of 2019 related to medical insurance, causing an increase in medical benefits.

Section A – Statutory Programs Situational Awareness and Infrastructure Security Program Funding Sources and Expenditures

Situational Awareness and Infrastructure Security Program Funding Sources and Expenditures

Statement of Activities, Fixed Assets Expenditures and Change in Working Capital					
2018 Budget & Projection, and 2019 Budget					
SITUATIONAL AWARENESS and INFRASTRUCTURE SECURITY					
	2018 Budget	2018 Projection	Variance 2018 Projection v 2018 Budget Over(Under)	2019 Budget	Variance 2019 Budget v 2018 Budget Over(Under)
Funding					
ERO Funding					
NERC Assessments	\$ 802,644	\$ 802,644	\$ -	\$ 804,036	\$ 1,392
Penalty Sanctions	38,598	38,598	-	4,071	(34,527)
Total NERC Funding	\$ 841,242	\$ 841,242	\$ -	\$ 808,107	\$ (33,135)
Membership Dues	-	-	-	-	-
Testing Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Workshops	-	-	-	-	-
Interest	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Total Funding (A)	\$ 841,242	\$ 841,242	\$ -	\$ 808,107	\$ (33,135)
Expenses					
Personnel Expenses					
Salaries	\$ 283,517	\$ 150,940	\$ (132,577)	\$ 240,121	\$ (43,396)
Payroll Taxes	20,980	9,824	(11,156)	17,529	(3,451)
Benefits	31,848	17,620	(14,228)	26,828	(5,019)
Retirement Costs	37,052	19,692	(17,360)	30,960	(6,092)
Total Personnel Expenses	\$ 373,397	\$ 198,075	\$ (175,321)	\$ 315,438	\$ (57,959)
Meeting Expenses					
Meetings	\$ -	\$ -	\$ -	\$ -	\$ -
Travel	27,500	27,500	-	25,953	(1,547)
Conference Calls	-	-	-	-	-
Total Meeting Expenses	\$ 27,500	\$ 27,500	\$ -	\$ 25,953	\$ (1,547)
Operating Expenses					
Consultants & Contracts	\$ -	\$ -	\$ -	\$ -	\$ -
Office Rent	-	-	-	-	-
Office Costs	350	350	-	350	-
Professional Services	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Depreciation	-	-	-	-	-
Total Operating Expenses	\$ 350	\$ 350	\$ -	\$ 350	\$ -
Total Direct Expenses	\$ 401,247	\$ 225,925	\$ (175,321)	\$ 341,741	\$ (59,506)
Indirect Expenses	\$ 447,639	\$ 296,394	\$ (151,245)	\$ 473,807	\$ 26,168
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses (B)	\$ 848,886	\$ 522,319	\$ (326,566)	\$ 815,548	\$ (33,338)
Change in Assets	\$ (7,644)	\$ 318,923	\$ 326,566	\$ (7,441)	\$ 203
Fixed Assets					
Depreciation	-	-	-	-	-
Computer & Software CapEx	-	-	-	-	-
Furniture & Fixtures CapEx	-	-	-	-	-
Equipment CapEx	-	-	-	-	-
Leasehold Improvements	-	-	-	-	-
Allocation of Fixed Assets	\$ (7,644)	\$ (9,906)	(2,262)	(7,441)	203
Inc(Dec) in Fixed Assets (C)	\$ (7,644)	\$ (9,906)	\$ (2,262)	\$ (7,441)	\$ 203
TOTAL BUDGET (=B + C)	\$ 841,242	\$ 512,413	\$ (328,828)	\$ 808,107	\$ (33,135)
TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)	\$ 0	\$ 328,829	\$ 328,828	\$ 0	\$ 0
FTEs	2.37	1.40	(0.97)	2.20	(0.17)

Table A-10.Situational Awareness and Infrastructure Security Budget Detail

Administrative Services

	Administrative Services (in whole dollars)					
	Direct Expenses and Fixed Assets			FTEs		
	2018 Budget	2019 Budget	Inc(Dec)	2018 Budget	2019 Budget	Inc(Dec)
Technical Committees and Member Forums	\$ 1,118,236	\$ 1,109,412	\$ (8,824)	4.70	4.70	-
General and Administrative	\$ 2,913,479	\$ 3,195,436	\$ 281,957	11.25	8.75	(2.50)
Legal and Regulatory	\$ 776,647	\$ 1,059,741	\$ 283,094	2.55	4.45	1.90
Analytics and IT	\$ 2,592,214	\$ 2,883,755	\$ 291,541	7.00	9.45	2.45
Human Resources	\$ 456,476	\$ 753,405	\$ 296,929	1.90	2.90	1.00
Finance and Accounting	\$ 441,574	\$ 505,758	\$ 64,184	2.90	2.90	-
Total Administrative Services	\$ 8,298,626	\$ 9,507,508	\$ 1,208,882	30.30	33.15	2.85

Table A-11. Administrative Services Budget

Program Scope and Functional Description

SERC's Administrative Services area includes the budget for all business and administrative functions of the organization:

- Technical Committees and Member Forums
- General and Administrative
- Legal and Regulatory
- Analytics and IT
- Human Resources
- Finance and Accounting

Methodology for Allocation of Administrative Services Expenses to Programs

Expenses related to indirect programs are allocated proportionally to the direct programs for 2019 based on the number of FTEs in those programs.

Technical Committees and Member Forums

Program Scope and Functional Description

The Technical Committees and Member Forums programs serve to strengthen capabilities within the Region to plan and operate the BES reliably and in compliance with Reliability Standards. The success of SERC's reliability programs depends on the active and direct participation of its members. The forums are also a source of expertise in the industry to address current and emerging risk on the BES.

2019 Key Assumptions

SERC Technical Committees and Member Forums 2019 key assumptions are:

- SERC will continue its technical committee and subgroup structure for effective stakeholder involvement in 2019.
- SERC will continue to invest in technology and innovation to allow efficient collaboration on technical issues related to reliability.
- SERC's Reliability Risk Team will continue to identify and educate SERC staff and regional members of the reliability risk to the BPS in the SERC Region from an engineering, operations, and security perspective.
- SERC will continue to leverage its members as volunteer technical resources to support the Region's mission and initiatives. As needs change, SERC will assess committee structure and optimize, as required.
- The SERC Technical Committees and Member Forums programs will manage committee work according to the Organization and Procedures Manual for SERC Technical Committees.

2019 Goals and Key Deliverables

1. The SERC Technical Committees and Member Forums programs will address reliability risks by doing the following:
 - A. Convene regular meetings of the standing committees and the subordinate groups, as necessary
 - B. Communicate to the SERC Board of Directors and SERC staff on issues pertaining to operation, planning, and engineering of the Bulk Electric System, and the advancement of the physical and cyber security of the BES
 - C. Provide a forum for representatives to share experience and discuss issues of operating, planning and engineering, and physical and cyber security
 - D. Perform special projects at the request of the SERC Board of Directors
 - E. Participate in the establishment of Reliability Standards
 - F. Review the measurement of performance relative to Reliability Standards and performance statistics (e.g., GADS, TADS, Misoperations, etc.) to determine the risk level within the SERC Region
 - G. Review activities within the SERC Region impacting reliability and adequacy, as necessary, to meet Reliability Standards and other reliability initiatives
 - H. Perform technical functions through the assignment of specific tasks to subordinate groups to address current and emerging risks
2. Provide key inputs from the SERC Reliability Risk Team for the CMEP Implementation Plan.

Resource Requirements

Personnel

FTE remained the same from 2018 to 2019. Other changes in Personnel Expenses consist of the following:

- The 2019 budget includes an average payroll tax rate and benefit rate that have been applied to all FTEs. Training, education, and relocation amounts change year over year and account for the fluctuations in the overall benefits.
- SERC's insurance plan period is June 1 through May 31. SERC received an increase in premiums from the previous plan year, which will affect a portion of 2019. SERC is anticipating an additional increase in premiums for the second half of 2019 related to medical insurance, causing an increase in medical benefits.

General and Administrative

Program Scope and Functional Description

The SERC General and Administrative function provides executive management of the corporation, management of the SERC office and other administrative support programs, and provides coordinated and consistent outreach to stakeholders, members, and regulators.

2019 Key Assumptions

SERC General and Administrative 2019 key assumptions are:

- SERC will emphasize effective execution, efficiency, transparency, and consistency.
- SERC will facilitate reliability-enhancing activities.
- SERC will continue its outreach and communication with members/stakeholders to ensure SERC's effectiveness.

2019 Goals and Key Deliverables

1. Continue high-quality performance of delegated functions while maintaining a level resource requirement.
2. Provide pertinent and timely information to members/stakeholders to improve efficiency of interactions with SERC staff.

Resource Requirements

Personnel

A decrease of 2.50 FTE in General and Administrative consists of the following:

- Elimination of administrative support position, replaced by contractor
- Transfer of 1.5 FTEs from G&A based on changes in roles and responsibilities

Other changes in Personnel Expenses consist of the following:

- The 2019 budget includes an average payroll tax rate and benefit rate that have been applied to all FTEs, causing each expense to increase from the previous year. Training, education, and relocation amounts change year over year and account for the fluctuations in the overall benefits.
- SERC's insurance plan period is June 1 through May 31. SERC received an increase in premiums from the previous plan year, which will affect a portion of 2019. SERC is anticipating an additional increase in premiums for the second half of 2019 related to medical insurance, causing an increase in overall benefits.

Contractors and Consultants

The 2019 budget includes contractor support for corporate goals and administrative support.

Legal and Regulatory

Program Scope and Functional Description

SERC maintains in-house legal staff and hires outside legal consultants, as needed. These legal resources provide the following services:

- Provide legal advice to the CEO, Board of Directors, and staff on legal and regulatory matters that impact SERC.
- Reconcile and determine SERC's legal position on major legal matters.
- Review items filed with governmental agencies for legal sufficiency.
- Review contracts and corporate documents, as needed.
- Ensure continuing recognition of SERC as a Regional Entity.
- Negotiate and author necessary changes to SERC's governing documents, including the bylaws and delegation agreement.
- Provide input and obtain regulatory approvals, as needed, on governance changes and for new and revised regional Reliability Standards.
- Review legal documents, including Notices of Penalty and settlement agreements, required to be filed with FERC.
- Provide legal support for contested Compliance actions and other assistance, as needed.
- Provide legal counsel during Compliance and Enforcement proceedings, as needed.
- Interface with the appropriate authorities regarding responses/filings to related governmental/regulatory directives/orders.
- Assist in the development of and ensure proper administration of SERC corporate policies and procedures.
- Manage relationships with SERC's outside counsel.

2019 Key Assumptions

SERC Legal and Regulatory 2019 key assumptions are:

- SERC will continue to support the Enforcement action cycle time.
- SERC will proactively engage with NERC and FERC to help ensure SERC's continued recognition as a Regional Entity.

2019 Goals and Key Deliverables

1. Work with Enforcement to support processing violations.
2. Support corporate legal needs.
3. Work with NERC and other Regions on changes to the Rules of Procedure, as needed.

Resource Requirements

Personnel

Legal and Regulatory increased the FTE allocation by 1.90 from 2018 to 2019 due to a reallocation of the Corporate Secretary position from G&A and the addition of a Board Liaison position.

Other changes in Personnel Expenses consist of the following:

- The 2019 budget includes an average payroll tax rate and benefit rate that have been applied to all FTEs. Training, education, and relocation amounts change year over year and account for the fluctuations in the overall benefits.
- SERC's insurance plan period is June 1 through May 31. SERC received an increase in premiums from the previous plan year, which will affect a portion of 2019. SERC is anticipating an additional increase in premiums for the second half of 2019 related to medical insurance, causing an increase in medical benefits.

Meeting Expenses

The 2019 budget includes increased meeting and travel expenses, primarily related to board and committee governance activities to better reflect historical norms and the addition of a board liaison.

Contractors and Consultants

The 2019 budget includes a consultant to the Board.

Professional Services

An increase in legal fees is primarily due to planned review of the SERC bylaws.

Analytics and IT

Program Scope and Functional Description

The Analytics and IT department of SERC provides technology innovation, leads operational excellence, and develops insights through data for the corporation. Analytics and IT comprises the following functions:

- Information Technology
- Operational Excellence
- Data Analytics

The Information Technology (IT) function offers network services, including design and maintenance for the SERC network and infrastructure, as well as project and vendor management for all current and future technology-related contracts. IT executes these functions:

- Host, maintain, develop, and improve SERC's information systems
- Maintain network and server infrastructure at both public and private facilities
- Ensure protection of SERC data
- Provide onsite end user support

The Operational Excellence (OE) function facilitates improvement of the internal health and performance of the organization. OE executes these functions:

- Continuous Process Improvement
- Internal Audits
- Project Management Office
- Strategic Planning
- Operational Metrics

The Data Analytics (DA) function leverages information as a strategic asset. Data is critical to SERC's continued success, deepening relationships with stakeholders and providing meaningful analysis of risk focus areas across the SERC region. DA executes these functions:

- Data Collection and Cleansing
- Data Visualization and Reporting
- Insight Development

SERC supports the NERC PMO in its efforts to provide technology tools across the ERO Enterprise. SERC's budget assumes the availability of new and existing technology tools from the PMO and other sources. If the required technology tools are not available as planned, SERC could incur additional costs to ensure fulfillment of its core responsibilities.

NERC and the Regional Entities will collaborate to refine existing strategies, governance, and procurement practices applicable to the development, operation, and maintenance of enterprise architecture, and software and data systems supporting both NERC and Regional Entity operations. NERC's *Business Plan and Budget* will include ongoing funding support for the development, operation, and maintenance of NERC- and Regional Entity-approved enterprise applications. Enterprise application funding in any given year will be subject to the budget and funding limits set forth in NERC's approved *Business Plan and Budget*.

2019 Key Assumptions

SERC Analytics and IT 2019 key assumptions are:

- FRCC, NPCC, and SERC will continue to work together on the Compliance Portal, enabling SERC to share the total cost of maintenance and development.
- SERC IT will continue to purchase and maintain hardware and software necessary to conduct business.
- SERC will continue to use contracted augmented staff.

2019 Goals and Key Deliverables

1. Improve the capabilities of SERC's Business Intelligence Center (BIC) to include internally focused operations reporting.
2. Upgrade infrastructure per lifecycle management.
3. Improve security monitoring and detection.

Resource Requirements

Personnel

SERC has realigned certain roles and responsibilities from other program areas to centralize data analytic and project management support, resulting in an increase of 2.45 FTEs in Analytics and IT.

Other changes in Personnel Expenses consist of the following:

- The 2019 budget includes an average payroll tax rate and benefit rate that have been applied to all FTEs. Training, education, and relocation amounts change year over year and account for the fluctuations in the overall benefits.
- SERC's insurance plan period is June 1 through May 31. SERC received an increase in premiums from the previous plan year, which will affect a portion of 2019. SERC is anticipating an additional increase in premiums for the second half of 2019 related to medical insurance, causing an increase in medical benefits.

Meeting Expenses

Travel expense increases are related to employee participation in various committees, including NERC supported projects, as well as training and certification related travel.

Contractors and Consultants

The 2019 budget includes contractor support for augmented IT staff, infrastructure hosting, software and application development, systems maintenance, database administration, cyber and physical security assessments.

Human Resources

Program Scope and Functional Description

The SERC Human Resources function provides the organization with structure and the ability to meet business needs through managing its most valuable resources -- its employees. By its nature, the Human Resources department takes on a variety of responsibilities including strategic and succession planning, hiring for fit, protecting against liability, employee engagement, compensation analysis, and benefits administration.

2019 Key Assumptions

SERC Human Resources 2019 key assumptions are:

- SERC assumes a vacancy rate to total Personnel Expenses.
- SERC will provide competitive compensation and benefits packages.
- SERC will assume an increased expectation for staff skills training in areas such as analytics.
- SERC will ensure that staff attains elevated professional credentials to become a leader in the industry.
- SERC will provide a Board approved merit salary increase. The salary expense budget for all program areas reflects this assumption.

2019 Goals and Key Deliverables

1. Increase employee engagement and empowerment.
2. Attract, develop, and retain highly competent and motivated staff.
3. Review compensation and benefits continually to ensure organization and industry competitiveness.
4. Create growth and development plans for key employees.
5. Provide payroll and expense administration.

Resource Requirements

Personnel

- Human Resources has increased the FTE allocation by 1 from 2018 to 2019 with the addition of a Recruiter position.

Other changes in Personnel Expenses consist of the following:

- The 2019 budget includes an average payroll tax rate and benefit rate that have been applied to all FTEs, causing each expense to increase from the previous year. Training, education, and relocation amounts change year over year and account for the fluctuations in the overall benefits.
- SERC's insurance plan period is June 1 through May 31. SERC received an increase in premiums from the previous plan year, which will affect a portion of 2019. SERC is anticipating an additional increase in premiums for the second half of 2019 related to medical insurance, causing an increase in overall benefits.

Contractors and Consultants

The 2019 budget includes contractor support for leadership development, and corporate goals.

Finance and Accounting

Program Scope and Functional Description

The SERC Finance department provides accounting, analytical and treasury services for SERC by performing the following functions:

- Develop SERC's Business Plan and Budget, and provide ongoing financial analysis regarding actual expenditures and forecasts.
- Prepare monthly, quarterly and annual financial statements.
- Review and refine fiscal controls to support changing business environment.
- Coordinate with external auditors to ensure timely completion of annual audit.
- Prepare and file required federal and state tax returns.
- Maintain banking relationships and manage cash flow and investments.
- Manage accounts payable, accounts receivable and fixed assets.

2019 Key Assumptions

- Current accounting systems and controls are adequate.
- There are no major changes in applicable accounting regulations.

2019 Goals and Key Deliverables

1. Identify and prioritize opportunities, and implement improvements through new processes, procedures and technology.
2. Provide timely, relevant and accurate reporting and financial analysis to SERC management, the FAC and the SERC Board.
3. Ensure SERC has effective financial controls and exercises fiscal prudence.

Resource Requirements

Personnel

No changes in personnel allocations are planned for 2019.

Other changes in Personnel Expenses consist of the following:

- The 2019 budget includes an average payroll tax rate and benefit rate that have been applied to all FTEs. Training, education, and relocation amounts change year over year and account for the fluctuations in the overall benefits.
- SERC's insurance plan period is June 1 through May 31. SERC received an increase in premiums from the previous plan year, which will affect a portion of 2019. SERC is anticipating an additional increase in premiums for the second half of 2019 related to medical insurance, causing an increase in medical benefits.

Contractors and Consultants

SERC utilizes temporary contractor support as needed.

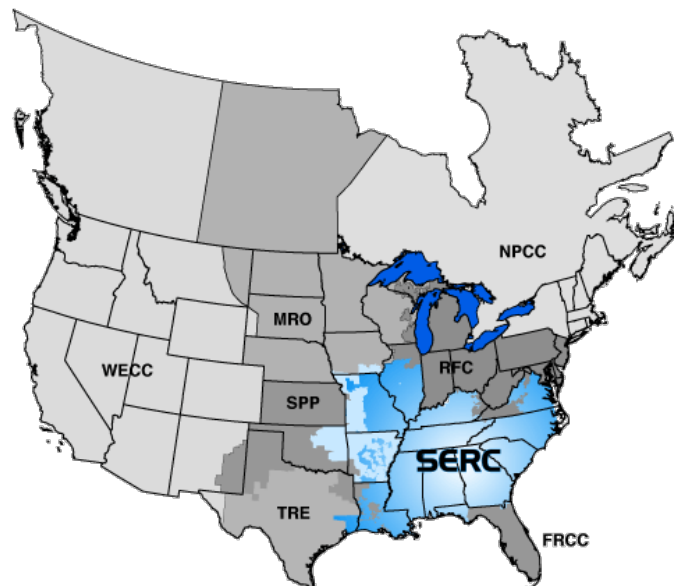
Administrative Services Program Funding Sources and Expenditures

Statement of Activities, Fixed Assets Expenditures and Change in Working Capital					
2018 Budget & Projection, and 2019 Budget					
ADMINISTRATIVE SERVICES					
	2018 Budget	2018 Projection	Variance 2018 Projection v 2018 Budget Over(Under)	2019 Budget	Variance 2019 Budget v 2018 Budget Over(Under)
Funding					
ERO Funding					
NERC Assessments	\$ 997,271	\$ 997,271	\$ -	\$ (547,584)	\$ (1,544,855)
Penalty Sanctions	-	-	-	-	-
Total NERC Funding	<u>\$ 997,271</u>	<u>\$ 997,271</u>	<u>\$ -</u>	<u>\$ (547,584)</u>	<u>\$ (1,544,855)</u>
Membership Dues	-	-	-	-	-
Testing Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Workshops	-	18,400	18,400	18,400	18,400
Interest	1,000	1,000	-	1,000	-
Miscellaneous	15,000	15,000	-	-	(15,000)
Total Funding (A)	<u>\$ 1,013,271</u>	<u>\$ 1,031,671</u>	<u>\$ 18,400</u>	<u>\$ (528,184)</u>	<u>\$ (1,541,455)</u>
Expenses					
Personnel Expenses					
Salaries	\$ 3,911,545	\$ 4,297,880	\$ 386,335	\$ 4,547,960	\$ 636,415
Payroll Taxes	289,454	278,875	(10,580)	328,367	38,913
Benefits	431,092	455,974	24,882	544,349	113,257
Retirement Costs	509,309	560,269	50,960	592,262	82,953
Total Personnel Expenses	<u>\$ 5,141,400</u>	<u>\$ 5,592,997</u>	<u>\$ 451,597</u>	<u>\$ 6,012,939</u>	<u>\$ 871,539</u>
Meeting Expenses					
Meetings	\$ 116,110	\$ 172,900	\$ 56,790	\$ 167,600	\$ 51,490
Travel	128,347	170,800	42,453	171,801	43,454
Conference Calls	44,544	36,000	(8,544)	30,000	(14,544)
Total Meeting Expenses	<u>\$ 289,001</u>	<u>\$ 379,700</u>	<u>\$ 90,699</u>	<u>\$ 369,401</u>	<u>\$ 80,400</u>
Operating Expenses					
Consultants & Contracts	\$ 1,473,561	\$ 1,639,545	\$ 165,984	\$ 1,497,651	\$ 24,090
Office Rent	628,983	784,983	156,000	785,196	156,213
Office Costs	410,681	415,067	4,386	511,531	100,851
Professional Services	57,000	87,000	30,000	110,340	53,340
Miscellaneous	3,000	450	(2,550)	450	(2,550)
Depreciation	439,179	386,056	(53,124)	371,688	(67,492)
Total Operating Expenses	<u>\$ 3,012,404</u>	<u>\$ 3,313,101</u>	<u>\$ 300,696</u>	<u>\$ 3,276,856</u>	<u>\$ 264,451</u>
Total Direct Expenses	<u>\$ 8,442,805</u>	<u>\$ 9,285,798</u>	<u>\$ 842,992</u>	<u>\$ 9,659,195</u>	<u>\$ 1,216,390</u>
Indirect Expenses	<u>\$ (8,442,806)</u>	<u>\$ (9,285,798)</u>	<u>\$ (842,992)</u>	<u>\$ (9,659,194)</u>	<u>\$ (1,216,388)</u>
Other Non-Operating Expenses	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>
Total Expenses (B)	<u>\$ (1)</u>	<u>\$ (0)</u>	<u>\$ 0</u>	<u>\$ 1</u>	<u>\$ 2</u>
Change in Assets	<u>\$ 1,013,272</u>	<u>\$ 1,031,671</u>	<u>\$ 18,400</u>	<u>\$ (528,185)</u>	<u>\$ (1,541,457)</u>
Fixed Assets					
Depreciation	(439,179)	(386,056)	53,124	(371,688)	67,492
Computer & Software CapEx	295,000	40,000	(255,000)	220,000	(75,000)
Furniture & Fixtures CapEx	-	-	-	-	-
Equipment CapEx	-	-	-	-	-
Leasehold Improvements	-	22,000	22,000	-	-
Allocation of Fixed Assets	\$ 144,180	\$ 324,055	\$ 179,876	\$ 151,688	\$ 7,508
Inc(Dec) in Fixed Assets (C)	<u>\$ 0</u>	<u>\$ (0)</u>	<u>\$ (0)</u>	<u>\$ -</u>	<u>\$ (0)</u>
TOTAL BUDGET (=B + C)	<u>\$ (0)</u>	<u>\$ (1)</u>	<u>\$ (0)</u>	<u>\$ 1</u>	<u>\$ 2</u>
TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)	<u>\$ 1,013,271</u>	<u>\$ 1,031,672</u>	<u>\$ 18,400</u>	<u>\$ (528,185)</u>	<u>\$ (1,541,457)</u>
FTEs	30.3	32.2	1.9	33.15	2.85

Table A-12. Administrative Services Budget Detail

Section B – Supplemental Financial Information

2019 Business Plan and Budget



Section B – Supplemental Financial Information

Reserve Balance

Table B-1 analyzes the working capital reserve for 2018 through 2019.

Working Capital Reserve Analysis 2018-2019	
STATUTORY	
Beginning Working Capital Reserve (Deficit), December 31, 2017	\$ 1,359,722
Plus: 2018 Funding (from LSEs or designees)	\$ 17,933,114
Plus: 2018 Other funding sources	\$ 645,050
Less: 2018 Projected expenses & capital expenditures	\$ (17,609,702)
Projected Working Capital Reserve (Deficit), December 31, 2018	\$ 2,328,184
Desired Working Capital Reserve, December 31, 2019	\$ 1,800,000
Minus: Projected Working Capital Reserve, December 31, 2018	2,328,184
Increase(decrease) in funding requirement to achieve Working Capital Reserve	\$ (528,184)
2019 Expenses and Capital Expenditures	\$ 18,144,949
Less: Penalty Sanctions	(83,000)
Less: Other Funding Sources	(161,550)
Adjustment to achieve desired Working Capital Reserve	(528,184)
2019 ERO Assessment	\$ 17,372,215

¹ As documented in the April 23, 2008 minutes, the SERC Board of Directors has approved the establishment of a cash reserve equal to up to 10% of its budgeted annual statutory operating costs, with the understanding that should it become necessary to spend any of the reserve funds, the President shall provide a report detailing such expenditures at the next regular meeting of the Board of Directors. The reserve was established for contingencies.

In July 2013, the SERC Board approved the establishment of a working capital policy. Any excess income greater than two months of statutory operating costs will be treated as a temporary increase in SERC's operating reserve. Any expenditures from the increased working capital are subject to SERC's applicable policies and procedures, including approval limits, signature authorities, and disclosure in SERC's quarterly variance report.

² Represents collections on or prior to June 30, 2018.

Table B-1. Working Capital Reserve Analysis 2018- 2019

Explanation of Changes in Reserve Policy from Prior Years

Pursuant to SERC's Working Capital and Operating Reserve policies, the desired working capital reserve included in the *2019 Business Plan and Budget* totals \$1,800,000. SERC reduced the 2019 ERO Assessment by \$528,184 to decrease its Working Capital Reserve to the desired amount.

Breakdown by Statement of Activity Sections

The following detailed schedules support the Statement of Activities and Capital Expenditures, page 13, of the *2019 Business Plan and Budget*. All significant variances have been disclosed by program area on the preceding pages.

Penalty Sanctions

Penalty monies received prior to June 30, 2018, are to be used to offset assessments in the 2019 Budget, as documented in the *NERC Policy – ACCOUNTING, FINANCIAL STATEMENT AND BUDGETARY TREATMENT OF PENALTIES IMPOSED AND RECEIVED FOR VIOLATIONS OF RELIABILITY STANDARD*. Penalty monies received from July 1, 2018 through June 30, 2019 will be used to offset assessments in the 2020 Budget.

All penalties received prior to July 1, 2018, are detailed below, including the amount and date received.

Allocation Method: Penalty sanctions received have been allocated to the following statutory programs to reduce assessments: Reliability Standards; Compliance Monitoring and Enforcement and Organization Registration and Certification; Reliability Assessments and Performance Analysis; Training, Education and Stakeholder Outreach; and Situation Awareness and Infrastructure Security. Penalty sanctions are allocated based upon the number of FTEs in the program divided by the aggregate total FTEs in the programs receiving the allocation.

Table B-2 lists all penalties, including date received and amount, received prior to June 30, 2018.

Penalty Sanctions Received On or Prior to June 30, 2018	Date Received	Amount Received
Penalty payment 1	10/17/2017	\$ 50,000
Penalty payment 2	4/13/2018	33,000
Total Penalties Received		\$ 83,000

Table B-2. Penalty Sanctions Received

Table B-3 lists the budget for Supplemental Funding.

Outside Funding Breakdown By Program (Excluding Penalty Sanction)	Budget 2018	Projection 2018	Budget 2019	Variance 2019 Budget v 2018 Budget
Compliance Monitoring, Enforcement & Org. Registration				
Miscellaneous - CEA Function in FRCC	\$ 30,000	\$ 50,000	\$ 34,500	\$ 4,500
Miscellaneous - CEA Function in SPP	41,000	21,000	-	(41,000)
Miscellaneous - SPP Transition Funding	-	432,000	-	-
Total	\$ 71,000	\$ 503,000	\$ 34,500	\$ (36,500)
Reliability Assessment and Performance Analysis				
Total	\$ -	\$ -	\$ -	\$ -
Training, Education and Entity Outreach				
Workshops	176,025	107,650	107,650	(68,375)
Total	\$ 176,025	\$ 107,650	\$ 107,650	\$ (68,375)
Situational Awareness and Infrastructure Security				
Total	\$ -	\$ -	\$ -	\$ -
General and Administrative				
Interest Income	\$ 1,000	\$ 1,000	\$ 1,000	\$ -
Technical Committee Workshops	-	18,400	18,400	18,400
Miscellaneous Income - Other	15,000	15,000	-	(15,000)
Total	\$ 16,000	\$ 34,400	\$ 19,400	\$ 3,400
Total Outside Funding	\$ 263,025	\$ 645,050	\$ 161,550	\$ (101,475)

Table B-3. Supplemental Funding

Explanation of Significant Variances – 2019 Budget versus 2018 Budget

Compliance Monitoring, Enforcement, and Organization Registration –The costs associated with SERC performing Cross-Regional Compliance Monitoring with respect to affiliated of registered entity functions performed by other Regional Entities are funded by payments from the Regional Entity contracting with SERC for such services, in accordance with the contract between SERC and the other Regional Entities.

The 2018 budgeted amount includes projected direct costs plus an appropriate allocation of SERC's General and Administrative costs, as required by the contract with Florida Reliability Coordinating Council, Inc. (FRCC) and Southwest Power Pool (SPP), whereas the decrease in 2019 is due to the termination of SERC's agreement with SPP.

The 2018 Projection of Supplemental Funding of \$432,000 from SPP Transition Funding represents estimated transitional funding from SPP RE assessments due to the transfer of registered entities from SPP RE to SERC in the second half of 2018; this 2018 transitional funding is projected to be approximately equal to SERC's incremental transition costs due to the transfer of SPP RE registered entities to SERC in 2018.

Training and Education – SERC will hold most meetings in the Charlotte office location, which has a large meeting space, or at a member's facilities. By using these facilities, SERC is able to reduce the costs associated with hosting a meeting, enabling SERC to charge lower registration fees. In addition, \$18,400 of workshop revenue budgeted in Training and Education in 2018, has been budgeted in General and Administrative for 2019.

General and Administrative – Technical Committee Workshop revenue of \$18,400 was previously budgeted in Training and Education. Other funding is decreasing by \$15,000 due to the expiration of a contractual agreement.

Table B-4 summarizes Personnel Expenses.

Personnel Expenses	Budget 2018	Projection 2018	Budget 2019	Variance 2019 Budget v 2018 Budget	Variance %
Total Salaries	\$ 9,833,357	\$ 9,842,328	\$ 10,276,729	\$ 443,371	4.5%
Total Payroll Taxes	727,668	640,944	746,769	19,101	2.6%
Total Benefits	1,094,551	1,136,353	1,172,398	77,847	7.1%
Total Retirement	1,281,811	1,284,271	1,330,427	48,617	3.8%
Total Personnel Costs	\$ 12,937,388	\$ 12,903,897	\$ 13,526,324	\$ 588,936	4.6%
FTEs	75.00	78.00	78.00	3.00	4.0%
Cost per FTE					
Salaries	\$ 131,111	\$ 126,184	\$ 131,753	642	0.5%
Payroll Taxes	9,702	8,217	9,574	(128)	-1.3%
Benefits	14,594	14,569	15,031	437	3.0%
Retirement	17,091	16,465	17,057	(34)	-0.2%
Total Cost per FTE	\$ 172,498	\$ 165,435	\$ 173,415	\$ 917	0.5%

Table B-4. Personnel Expenses

Explanation of Significant Variances – 2019 Budget versus 2018 Budget

The budget reflects a Board approved merit increase and an increase in medical insurance premiums. A vacancy rate has been applied to all personnel costs. \$423,283 of the increase is attributable to the addition of 3 FTEs to support CMEP activities associated with entities transferred to SERC from SPP.

Table B-5 lists the budget for Meeting Expenses.

Meeting Expenses	Budget 2018	Projection 2018	Budget 2019	Variance 2019 Budget v 2018 Budget	Variance %
Meetings	\$ 266,160	\$ 348,955	\$ 306,700	\$ 40,540	15.23%
Travel	606,865	674,818	648,922	42,057	6.93%
Conference calls	44,544	36,000	30,000	(14,544)	-32.65%
Total Meeting Expenses	\$ 917,569	\$ 1,059,773	\$ 985,622	\$ 68,053	7.42%

Table B-5. Meeting Expenses

Explanation of Significant Variances – 2019 Budget versus 2018 Budget

The 2019 budget includes increased meeting expenses, primarily related to board and committee governance activities to better reflect historical norms.

Travel expenses reflect an increase in the number of audits due to the transfer of SPP entities to SERC, as well as increased outreach efforts.

Budgeted expense for conference calls has been decreased to reflect expected reductions in expense.

Table B-6 lists the budget for Consultants and Contracts.

Consultants and Contracts	Budget 2018	Projection 2018	Budget 2019	Variance 2019 Budget v 2018 Budget	Variance %
Reliability Standards	\$ -	\$ -	\$ -	\$ -	
Compliance Monitoring and Enforcement and Organization					
Registration and Certification	-	171,422	120,375	120,375	
Reliability Assessment and Performance Analysis	249,640	195,000	225,000	(24,640)	-10%
Training, Education and Entity Outreach	132,680	90,900	135,455	2,775	2%
Situational Awareness and Infrastructure Security					
Situation Awareness	-	-	-	-	
Critical Infrastructure Protection	-	-	-	-	
Total Situation Awareness and Infrastructure Security	-	-	-	-	
Committee and Member Forums	152,680	133,124	140,900	(11,780)	-8%
General and Administrative	100,000	196,260	148,000	48,000	48%
Legal and Regulatory	80,000	80,000	5,000	(75,000)	-94%
Analytics and IT	1,032,500	1,088,500	1,048,441	15,941	2%
Human Resources	108,381	108,381	125,000	16,619	15%
Accounting and Finance	-	33,280	30,310	30,310	
Consultants Total	\$ 1,855,881	\$ 2,096,867	\$ 1,978,481	\$ 122,600	7%

Table B-6. Consultants and Contracts

Explanation of Significant Variances – 2019 Budget versus 2018 Budget

Compliance – 2019 reflects an increase of \$120,375, primarily due to the reclassification of Consortium User Group (CUG) expenses previously budgeted in Analytics and IT. This total includes \$10,375 attributable to the registered entities transferring to SERC from SPP.

Reliability Assessments – A decrease of \$24,640 in the program consists of a reduction in non-recurring costs for a renewable impact study and modeling software budgeted in 2018, partially offset by an increase in budgeted costs for NERC special studies, and a biennial Dynamic Study.

Committee and Member Forums – A decrease of \$11,780 due to the completion of a corporate strategic initiative completed in 2018.

General and Administrative – An increase of \$48,000 is due to additional contract administrative support.

Legal and Regulatory – The decrease of \$75,000 is a result reduced reliance on contractor to support the Legal and Regulatory function.

Analytics and IT – SERC outsources the majority of IT related support, and is expecting a modest increase of 2% in 2019.

Human Resources – An increase of \$16,619 relates to increased contractor support for leadership development, and corporate goals.

Table B-7 lists the budget for Office Rent.

Rent	Budget 2018	Projection 2018	Budget 2019	Variance 2019 Budget v 2018 Budget	Variance %
Office Rent	\$ 628,983	\$ 784,983	\$ 785,196	\$ 156,213	24.84%
Utilities	-	-	-	-	
Maintenance	-	-	-	-	
Total Office Rent	\$ 628,983	\$ 784,983	\$ 785,196	\$ 156,213	24.84%

Table B-7. Office Rent

Explanation of Significant Variances – 2019 Budget versus 2018 Budget

The increase in rent is due to additional space subleased at the end of 2017.

Table B-8 lists the budget for Office Costs.

Office Costs	Budget 2018	Projection 2018	Budget 2019	Variance 2019 Budget v 2018 Budget	Variance %
Telephone	\$ 104,790	\$ 107,310	\$ 103,250	\$ (1,540)	-1.47%
Office Supplies	46,492	50,992	68,300	21,808	46.91%
Computer Supplies and Maintenance				-	
Computers and Supplies	-	25,000	80,000	80,000	
Software	154,288	139,300	122,796	(31,492)	-20.41%
Network Supplies	17,500	-	-	(17,500)	-100.00%
Publications & Subscriptions	1,740	1,740	2,033	293	16.84%
Dues	14,460	14,825	16,795	2,335	16.15%
Postage	500	500	500	-	0.00%
Express Shipping	2,080	2,080	4,600	2,520	121.15%
Copying	1,920	1,920	6,000	4,080	212.50%
Equipment Repair/Service Contracts	2,600	14,684	31,712	29,112	1119.69%
Bank Charges	2,895	3,300	4,200	1,305	45.08%
Taxes	25,000	25,000	25,000	-	0.00%
Merchant Card Fees	6,500	10,800	10,800	4,300	66.15%
Insurance - Commercial	54,731	54,731	60,000	5,270	9.63%
Total Office Costs	\$ 435,496	452,182	\$ 535,986	\$ 100,491	23.07%

Table B-8. Office Costs

Explanation of Significant Variances – 2019 Budget versus 2018 Budget

Office Supplies is increasing due to replacement and upgrading of existing equipment, as well as additional equipment required in the new office space.

Software is decreasing by \$31,492 as a result of non-recurring software purchases in 2018.

Computers and Supplies are increasing by \$80,000. Laptops and monitors previously budgeted as capital expenditures are budgeted in expense in 2019, together with a reclassification of Network Supplies in the 2019 budget.

Network Supplies is decreasing by \$17,500 due to reclassification to Computer Supplies.

Equipment Repair/Service Contracts increase of \$29,112 for expenses not previously budgeted.

Table B-9 lists the budget for Professional Services.

Professional Services	Budget 2018	Projection 2018	Budget 2019	Variance 2019 Budget v 2018 Budget	Variance %
Candidate Search	\$ -	\$ -	\$ -	\$ -	
Outside Legal	40,000	60,000	70,000	30,000	75.00%
Accounting & Auditing Fees	17,000	27,000	27,840	10,840	63.76%
Insurance Commercial	-	-	-	-	
Human Resources Fees	-	-	12,500	12,500	
Total Professional Services	\$ 57,000	\$ 87,000	\$ 110,340	\$ 53,340	93.58%

Table B-9. Professional Services

Explanation of Significant Variances – 2019 Budget versus 2018 Budget

Outside Legal expenses are increasing as SERC undertakes a review of its bylaws.

The increase in Accounting and Auditing Fees is due to SERC hiring a new accounting firm to complete an annual independent audit and assist with tax return preparation.

An increase in Human Resources Fees relates to third party outsourcing of payroll, which was not budgeted in 2018.

Table B-10 lists the budget for Miscellaneous.

Miscellaneous Expense	Budget 2018	Projection 2018	Budget 2019	Variance 2019 Budget v 2018 Budget	Variance %
Miscellaneous Expense	\$ 5,550	\$ 3,000	\$ 3,000	\$ (2,550)	-45.95%
Total Miscellaneous Expense	\$ 5,550	\$ 3,000	\$ 3,000	\$ (2,550)	-46%

Table B-10. Miscellaneous

Explanation of Significant Variances – 2019 Budget versus 2018 Budget

No significant budget variance in Miscellaneous Expense.

Table B-11 lists the budget for other Non-Operating Expenses.

Other Non-Operating Expenses	Budget 2018	Projection 2018	Budget 2019	Variance 2019 Budget v 2018 Budget	Variance %
Interest Expense	\$ -	\$ -	\$ -	\$ -	-
Line of Credit Payment	-	-	-	-	-
Office Relocation	-	-	-	-	-
Total Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	-

Table B-11. Other Non-Operating Expenses

Explanation of Significant Variances – 2019 Budget versus 2018 Budget

There are no costs budgeted for these items in 2018 or 2019.

Table B-12 lists the budget for Fixed Assets.

Fixed Assets	Budget 2018	Projection 2018	Budget 2019	Variance 2019 Budget v 2018 Budget	Variance %
Depreciation	\$ (453,069)	\$ (399,944)	\$ (371,688)	\$ 81,381	-17.96%
Computer & Software CapEx	345,000	200,000	220,000	(125,000)	-36.23%
Furniture & Fixtures CapEx	-	-	-	-	
Equipment CapEx	-	-	-	-	
Leasehold Improvements	-	22,000	-	-	
Allocation of Fixed Assets	2	1	-	(2)	-100.00%
Total Fixed Assets	\$ (108,067)	\$ (177,943)	\$ (151,688)	\$ (43,621)	40%

Table B-12. Fixed Assets

Explanation of Significant Variances – 2019 Budget versus 2018 Budget

A decrease of \$43,621 is due to a decrease in fixed asset purchases of \$125,000, partially offset by a decrease in depreciation of \$81,381 in 2019.

The decrease in 2019 capital spending is a result of a reclassification of budgeted laptop purchases as Office Costs from fixed assets, and a decrease in Consortium User Group (CUG) Computer and Software capital expenditures.

The decrease in depreciation of \$81,381 or 18.0% is due to a subset of assets becoming fully depreciated in 2018, together with less than planned fixed asset purchases in 2017.

Table B-13 compares the 2019 budget with projections for 2020-2021, based on the following assumptions:

Personnel Expenses

- No changes in FTEs
- A Board approved annual increase in personnel costs for merit pay increases in 2020 and 2021
- Annual increase in insurance premiums
- Continuation of historic vacancy rates

Meeting Expenses

- Meetings and travel costs include a 1% inflationary increase for both 2020 and 2021

Operating Expenses

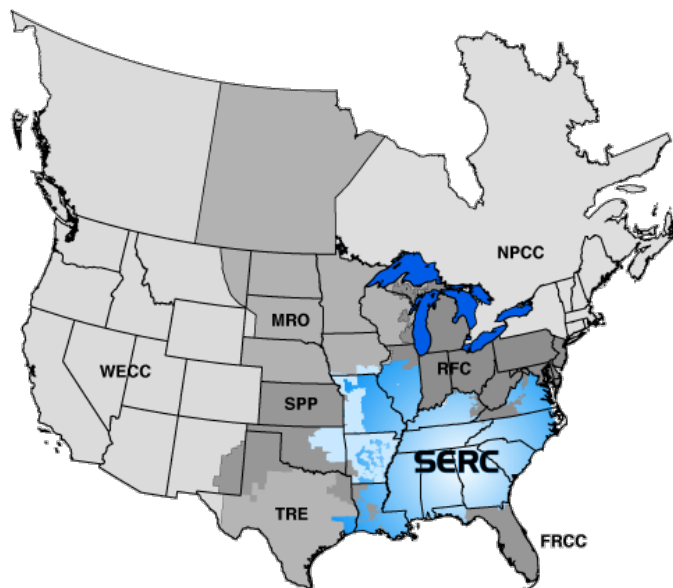
- Consultants and contracts assume a 2.5% annual increase
- A 1% inflation rate was applied to office costs and professional services
- Office rent and miscellaneous remain flat for both 2020 and 2021

Statement of Activities, Fixed Assets Expenditures and Change in Working Capital							
2019 Budget & Projected 2020 and 2021 Budgets							
	2019	2020	\$ Change	% Change	2021	\$ Change	% Change
	Budget	Projection	20 v 19	20 v 19	Projection	21 v 20	21 v 20
Funding							
ERO Funding							
NERC Assessments	\$ 17,372,215	\$ 18,189,117	\$ 816,902	4.7%	\$ 19,369,410	\$ 1,180,293	6.1%
Penalty Sanctions	83,000	595,000	512,000	616.9%	-	(595,000)	
Total NERC Funding	\$ 17,455,215	\$ 18,784,117	\$ 1,328,902	7.6%	\$ 19,369,410	\$ 585,293	3.0%
Membership Dues	-	-	-	-	-	-	-
Testing Fees	-	-	-	-	-	-	-
Services & Software	-	-	-	-	-	-	-
Workshops	126,050	126,050	-	0.00%	126,050	-	0.0%
Interest	1,000	1,000	-	0.00%	1,000	-	0.0%
Miscellaneous	34,500	34,500	-	0.00%	34,500	-	0.0%
Total Funding (A)	\$ 17,616,765	\$ 18,945,667	\$ 1,328,902	7.5%	\$ 19,530,960	\$ 585,293	3.1%
Expenses							
Personnel Expenses							
Salaries	\$ 10,276,729	\$ 10,790,565	\$ 513,836	5.0%	\$ 11,114,282	\$ 323,717	3.0%
Payroll Taxes	746,769	784,108	37,339	5.0%	807,631	23,523	3.0%
Benefits	1,172,398	1,289,638	117,240	10.0%	1,418,602	128,964	10.0%
Retirement Costs	1,330,427	1,396,949	66,521	5.0%	1,438,857	41,908	3.0%
Total Personnel Expenses	\$ 13,526,324	\$ 14,261,260	\$ 734,937	5.4%	\$ 14,779,373	\$ 518,112	3.6%
Meeting Expenses							
Meetings	\$ 306,700	\$ 309,767	\$ 3,067	1.0%	\$ 312,865	\$ 3,098	1.0%
Travel	648,922	655,411	6,489	1.0%	661,965	6,554	1.0%
Conference Calls	30,000	30,300	300	1.0%	30,603	303	1.0%
Total Meeting Expenses	\$ 985,622	\$ 995,478	\$ 9,856	1.0%	\$ 1,005,433	\$ 9,955	1.0%
Operating Expenses							
Consultants & Contracts	\$ 1,978,481	\$ 2,027,943	49,462	2.5%	\$ 2,078,642	50,699	2.5%
Office Rent	785,196	785,196	-	0.0%	785,196	-	0.0%
Office Costs	535,986	541,346	5,360	1.0%	546,759	5,413	1.0%
Professional Services	110,340	111,443	1,103	1.0%	112,558	1,114	1.0%
Miscellaneous	3,000	3,000	-	0.0%	3,000	-	0.0%
Depreciation	371,688	371,688	-	0.0%	371,688	-	0.0%
Total Operating Expenses	\$ 3,784,691	\$ 3,840,616	\$ 55,925	1.5%	\$ 3,897,842	\$ 57,226	1.5%
Total Direct Expenses	\$ 18,296,636	\$ 19,097,354	\$ 800,718	4.4%	\$ 19,682,648	\$ 585,293	3.1%
Indirect Expenses	\$ -	\$ -	\$ -		\$ -	\$ -	
Other Non-Operating Expenses	\$ -	\$ -	\$ -		\$ -	\$ -	
Total Expenses (B)	\$ 18,296,636	\$ 19,097,354	\$ 800,718	4.4%	\$ 19,682,648	\$ 585,293	3.1%
Change in Assets	\$ (679,871)	\$ (151,688)	\$ 528,184	-77.7%	\$ (151,688)	\$ -	0.0%
Fixed Assets							
Depreciation	\$ (371,688)	\$ (371,688)	\$ -	0.0%	\$ (371,688)	\$ -	0.0%
Computer & Software CapEx	220,000	220,000	-	0.0%	220,000	-	0.0%
Furniture & Fixtures CapEx	-	-	-	-	-	-	-
Equipment CapEx	-	-	-	-	-	-	-
Leasehold Improvements	-	-	-	-	-	-	-
Allocation of Fixed Assets	(0)	-	-	-	-	-	-
Inc(Dec) in Fixed Assets (C)	\$ (151,688)	\$ (151,688)	\$ -	0.0%	\$ (151,688)	\$ -	0.0%
TOTAL BUDGET (=B + C)	\$ 18,144,948	\$ 18,945,667	\$ 800,718	4.4%	\$ 19,530,960	\$ 585,293	3.1%
TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)	\$ (528,183)	\$ -	\$ 528,184	100.0%	\$ -	\$ -	#DIV/0!
FTEs	78.00	78.00	-	-	78.00	-	-

Table B-13. Budget 2019 Compared with 2020-2021 Projections

Section C – Non-Statutory Activities

2018 Business Plan and Budget



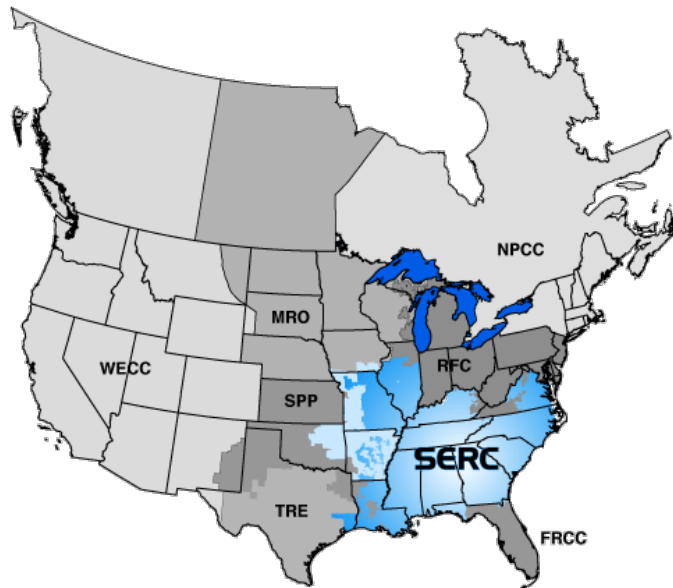
Section C – Non-Statutory Activities

2019 Non-Statutory Business Plan and Budget

SERC does not provide any non-statutory functions at this time, although SERC may in the future consider providing non-statutory functions from time to time as appropriate and as permitted by its Board and applicable statutes and regulations.

Section D – Additional Consolidated Financial Statements

2019 Business Plan and Budget



Section D – Additional Consolidated Financial Statements

2019 Consolidated Statement of Activities by Program, Statutory and Non-Statutory

Statement of Activities and Capital Expenditures by Program 2019 Budget	Total	Statutory Total	Non-Statutory Total	Statutory Total	Reliability Standards (Section 300)	Compliance and Organization Registration and Certification (Section 400 & 500)	Reliability Assessment and Performance Analysis (Section 800)	Training, Education and Stakeholder Outreach (Section 900)	Situational Awareness and Infrastructure Security (Section 1000)	Committee and Member Forums	General and Administrative	Legal and Regulatory	Analytics and IT	Human Resources	Accounting and Finance
Funding															
ERO Funding															
NERC Assessments	17,372,215	17,372,215	-	17,372,215	171,606	13,275,926	2,187,978	1,480,253	804,036	-	(547,584)	-	-	-	-
Penalty Sanctions	83,000	83,000	-	83,000	833	62,921	9,068	6,107	4,071	-	-	-	-	-	-
Total NERC Funding	17,455,215	17,455,215	-	17,455,215	172,439	13,338,847	2,197,046	1,486,360	808,107	-	(547,584)	-	-	-	-
Membership Dues	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Testing Fees	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Services & Software	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Workshops	126,050	126,050	-	126,050	-	-	-	107,650	-	18,400	-	-	-	-	-
Interest	1,000	1,000	-	1,000	-	-	-	-	-	-	-	-	-	-	1,000
Miscellaneous	34,500	34,500	-	34,500	-	34,500	-	-	-	-	-	-	-	-	-
Total Funding (A)	17,616,765	17,616,765	-	17,616,765	172,439	13,373,347	2,197,046	1,594,010	808,107	18,400	(547,584)	-	-	-	1,000
Expenses															
Personnel Expenses															
Salaries	10,276,729	10,276,729	-	10,276,729	55,268	4,319,499	641,291	472,590	240,121	677,116	1,572,057	677,146	971,080	358,119	292,442
Payroll Taxes	746,769	746,769	-	746,769	4,035	315,323	46,814	34,701	17,529	49,429	114,760	49,432	70,889	22,509	21,348
Benefits	1,172,398	1,172,398	-	1,172,398	6,631	470,935	75,413	48,242	26,828	58,360	111,987	61,232	131,996	142,887	37,887
Retirement Costs	1,330,427	1,330,427	-	1,330,427	7,113	556,635	82,585	60,872	30,960	87,206	200,676	87,006	125,202	54,540	37,631
Total Personnel Expenses	13,526,324	13,526,324	-	13,526,324	73,046	5,662,393	846,103	616,406	315,438	872,112	1,999,480	874,816	1,299,167	578,055	389,308
Meeting Expenses															
Meetings	306,700	306,700	-	306,700	-	8,300	29,200	101,600	-	56,900	23,200	80,500	-	6,000	1,000
Travel	648,922	648,922	-	648,922	4,000	349,400	56,768	41,000	25,953	39,500	42,100	44,250	31,801	7,400	6,750
Conference Calls	30,000	30,000	-	30,000	-	-	-	-	-	-	-	-	30,000	-	-
Total Meeting Expenses	985,622	985,622	-	985,622	4,000	357,700	85,968	142,600	25,953	96,400	65,300	124,750	61,801	13,400	7,750
Operating Expenses															
Consultants & Contracts	1,978,481	1,978,481	-	1,978,481	-	120,375	225,000	135,455	-	140,900	148,000	5,000	1,048,441	125,000	30,310
Office Rent	785,196	785,196	-	785,196	-	-	-	-	-	-	785,196	-	-	-	-
Office Costs	535,986	535,986	-	535,986	-	22,855	1,250	-	350	-	197,010	5,175	254,346	4,450	50,550
Professional Services	110,340	110,340	-	110,340	-	-	-	-	-	-	-	50,000	-	32,500	27,840
Miscellaneous	3,000	3,000	-	3,000	-	2,550	-	-	-	-	450	-	-	-	-
Depreciation	371,688	371,688	-	371,688	-	-	-	-	-	-	55,319	-	316,369	-	-
Total Operating Expenses	3,784,691	3,784,691	-	3,784,691	-	145,780	226,250	135,455	350	140,900	1,185,975	60,175	1,619,156	161,950	108,700
Total Direct Expenses	18,296,636	18,296,636	-	18,296,636	77,046	6,165,873	1,158,321	894,461	341,741	1,109,412	3,250,755	1,059,741	2,980,123	753,405	505,758
Indirect Expenses	1	1	-	1	96,915	7,322,466	1,055,297	710,710	473,807	(1,109,412)	(3,250,755)	(1,059,741)	(2,980,123)	(753,405)	(505,758)
Other Non-Operating Expenses	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Expenses (B)	18,296,637	18,296,637	-	18,296,637	173,961	13,488,339	2,213,618	1,605,171	815,548	(0)	(0)	0	0	0	0
Change in Assets	(679,872)	(679,872)	-	(679,872)	(1,522)	(114,992)	(16,572)	(11,161)	(7,441)	18,400	(547,584)	(0)	(0)	(0)	1,000
Fixed Assets															
Depreciation	(371,688)	(371,688)	-	(371,688)	-	-	-	-	-	-	(55,319)	-	(316,369)	-	-
Computer & Software CapEx	220,000	220,000	-	220,000	-	-	-	-	-	-	-	-	220,000	-	-
Furniture & Fixtures CapEx	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Equipment CapEx	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Leasehold Improvements	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Allocation of Fixed Assets	(0)	(0)	-	(0)	(1,522)	(114,992)	(16,572)	(11,161)	(7,441)	55,319	-	-	96,369	-	-
Inc(Dec) in Fixed Assets (C)	(151,688)	(151,688)	-	(151,688)	(1,522)	(114,992)	(16,572)	(11,161)	(7,441)	-	-	-	-	-	-
TOTAL BUDGET (=B + C)	18,144,949	18,144,949	-	18,144,949	172,439	13,373,347	2,197,046	1,594,010	808,107	(0)	(0)	0	0	0	0
TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)	(528,184)	(528,184)	-	(528,184)	(0)	0	0	0	0	18,400	(547,584)	(0)	(0)	(0)	1,000

Table D-1. Consolidated Statements of Activities by Program, Statutory and Non-Statutory

FTEs	78.00	78.00	-	78.00	0.45	34.00	4.90	3.30	2.20	4.70	8.75	4.45	9.45	2.90	2.90
------	-------	-------	---	-------	------	-------	------	------	------	------	------	------	------	------	------

Statement of Financial Position

The following table provides SERC Statement of Financial Position as of these dates:

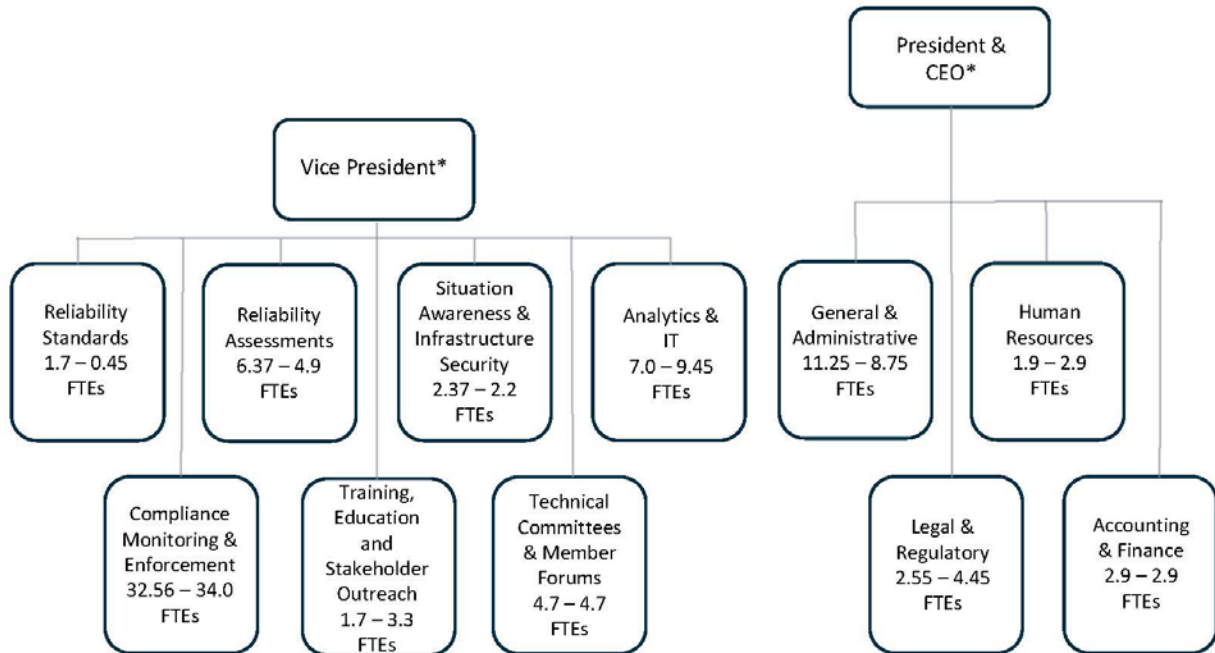
- As of December 31, 2017, per audit
- As of December 31, 2018, projected
- As of December 31, 2019, as budgeted

Statement of Financial Position			
2017 Audited, 2018 Projection, and 2019 Budget			
STATUTORY			
	(Per Audit)	Projected	Budget
	31-Dec-17	31-Dec-18	31-Dec-19
ASSETS			
Cash	5,407,587	6,376,051	6,156,051
Trade Accounts receivable, net of allowance for uncollectible accounts of \$0	22,477	22,477	22,477
Other Receivables	-	-	-
Prepaid expenses and other current assets	84,762	84,762	84,762
Deferred Compensation Plan Assets	304,472	304,472	304,472
Cash value of insurance policies	-	-	-
Property and equipment	802,796	980,739	1,132,427
Total Assets	6,622,094	7,768,501	7,700,189
LIABILITIES AND NET ASSETS			
Liabilities			
Accounts payable and accrued expenses	686,830	686,830	686,830
Deferred income	33,807	33,807	33,807
Deferred penalty income (short-term)	727,977	83,000	-
Deferred penalty income (long-term)	50,000	-	-
Deferred rent	478,236	472,676	464,201
Regional assessments	-	-	-
Deferred compensation	304,472	304,472	304,472
Accrued personnel benefits other	301,308	310,000	319,000
Accrued retirement liabilities	532,176	531,000	547,000
Accrued incentive compensation	1,344,770	1,241,229	1,346,435
Total Liabilities	4,459,576	3,663,014	3,701,745
Net Assets - unrestricted	2,162,518	4,105,487	3,998,444
Total Liabilities and Net Assets	6,622,094	7,768,501	7,700,189

Table D-2. Statement of Financial Position, Three-Year Comparison

Appendix A Organization Chart

The SERC Organization chart shown here compares 2018 and 2019 SERC personnel counts.



* Executive positions are recorded within General & Administrative

Figure 2. SERC Organization Chart

Appendix B Acronyms

This section lists and defines acronyms used in this document.

Acronym	Definition
BCC	Board Compliance Committee
BES	Bulk Electric System
BPS	Bulk Power System
CA	Compliance Assessment
CIP	Critical Infrastructure Protection
CIPSA	CIPSA is a data collection tool.
CITS	Compliance Issues Tracking System
CMEP	Compliance Monitoring and Enforcement Program
DADS	Demand Response Availability Data System
EA	Events Analysis
EIA	Energy Information Administration
EMG	Executive Management Group
ERAG	Eastern Interconnection Reliability Assessment Group
ERO	Electric Reliability Organization
ES-ISAC	NERC's Electric Sector – Information Sharing and Analysis Center
FAC	Finance and Audit Committee
FERC	Federal Energy Regulatory Commission
FFT	Find, Fix, and Track
FRCC	Florida Reliability Coordinating Council
FTE	Full-Time Equivalent
GADS	Generating Availability Data System
HRCC	Human Resources and Compensation Committee
HRIS	Human Resources Information System
IT	Information Technology
MIDAS	Misoperations Information Data Analysis System
NEL	Net Energy for Load
NERC	North American Electric Reliability Corporation
NOP	Full Notice of Penalty
NPCC	Northeast Power Coordinating Council
PEI	Protected Entity Information
PMO	Project Management Office
RAPA	Reliability Assessments and Performance Analysis
RAS	NERC Reliability Assessment Subcommittee
RSAW	Reliability Standards Audit Worksheet
SA	Situation Awareness
SAEA	Situation Awareness and Events Analysis
SAN	Storage Area Network
SERC	SERC Reliability Corporation
SNOP	Spreadsheet Notice of Penalty
SPP	Southwest Power Pool
TADS	NERC Transmission Availability Data System
TFE	Technical Feasibility Exception

Appendix C Index of Figures and Tables

List of Figures

Figure 1.	Budgeted Funding by Program Area Chart.....	9
Figure 2.	SERC Organization Chart	63

List of Tables

Table 1.	SERC Budget for 2019.....	3
Table 2.	Budgeted Funding by Program Area.....	9
Table 3.	Total FTEs by Program Area.....	11
Table 4.	Budget and Projection Comparison, 2018 to 2019	12
Table A-1.	Reliability Standards Budget	14
Table A-2.	Reliability Standards Budget Detail	16
Table A-3.	Compliance Monitoring, Enforcement and Organization Registration and Certification Program Budget	17
Table A-4.	Compliance Monitoring and Enforcement and Organization Registration and Certification Budget Detail.....	22
Table A-5.	Reliability Assessments and Performance Analysis (RAPA) Budget	23
Table A-6.	Reliability Assessment and Performance Analysis Budget Detail	25
Table A-7.	Training, Education, and Stakeholder Outreach Budget.....	26
Table A-8.	Training, Education, and Stakeholder Outreach Budget Detail	28
Table A-9.	Situational Awareness and Infrastructure Security Budget.....	29
Table A-10.	Situational Awareness and Infrastructure Security Budget Detail	31
Table A-11.	Administrative Services Budget	32
Table A-12.	Administrative Services Budget Detail	42
Table B-1.	Working Capital Reserve Analysis 2018- 2019.....	44
Table B-2.	Penalty Sanctions Received.....	45
Table B-3.	Supplemental Funding	46
Table B-4.	Personnel Expenses	47
Table B-5.	Meeting Expenses.....	48
Table B-6.	Consultants and Contracts	49
Table B-7.	Office Rent	50
Table B-8.	Office Costs.....	51
Table B-9.	Professional Services.....	52
Table B-10.	Miscellaneous.....	53
Table B-11.	Other Non-Operating Expenses.....	54
Table B-12.	Fixed Assets	55
Table B-13.	Budget 2019 Compared with 2020-2021 Projections	57
Table D-1.	Consolidated Statements of Activities by Program, Statutory and Non-Statutory	61
Table D-2.	Statement of Financial Position, Three-Year Comparison.....	62

DOCKET NO. RR18-__-000

**NORTH AMERICAN ELECTRIC RELIABILITY
CORPORATION**

2019 BUSINESS PLAN AND BUDGET FILING

ATTACHMENT 8

TEXAS RELIABILITY ENTITY

PROPOSED 2019 BUSINESS PLAN AND BUDGET



2019 Business Plan and Budget

Texas Reliability Entity, Inc.

Approved by Texas RE Board of Directors

Date: May 23, 2018

Table of Contents

Table of Contents.....	2
Introduction	3
Section A – Statutory Programs.....	10
Reliability Standards Program.....	11
Compliance Monitoring and Enforcement and Organization Registration and Certification Program.....	15
Reliability Assessment and Performance Analysis Program.....	21
Training, Education, and Continuing Education Program	26
Administrative Services.....	29
General and Administrative	29
Legal and Regulatory	30
Information Technology.....	31
Human Resources	32
Finance and Accounting.....	33
Section B – Supplemental Financial Information	36
Table B-1 – Reserve Balance	37
Table B-2 – Penalty Sanctions.....	39
Table B-3 – Supplemental Funding.....	40
Table B-4 – Personnel Expenses.....	41
Table B-5 – Meeting & Travel Expenses.....	42
Table B-6 – Consultants and Contracts	43
Table B-7 – Office Rent.....	44
Table B-8 – Office Costs	45
Table B-9 – Professional Services	47
Table B-10 – Miscellaneous Expense.....	48
Table B-11 – Other Non-Operating Expenses	49
Table B-12 – Fixed Assets	50
Table B-13 – 2020 and 2021 Projection.....	51
Section C – 2019 State (Non-Statutory) Activities	52
Section D – Supplemental Information	58
2019 Consolidated Statement of Activities by Program, Statutory and State (Non-Statutory).....	59
Statement of Financial Position.....	60
2019 Texas RE Combined Statutory and Non-Statutory Organization Chart	61

Introduction

	TOTAL RESOURCES (in whole dollars)			
	2019 Budget	U.S.	Canada	Mexico
Statutory FTEs	60.00			
Non-statutory FTEs	5.0			
Total FTEs	65.00			
Statutory Expenses	\$ 13,143,872			
Non-Statutory Expenses	\$ 1,124,495			
Total Expenses	\$ 14,268,367			
Statutory Inc(Dec) in Fixed Assets	\$ (74,273)			
Non-Statutory Inc(Dec) in Fixed Assets	\$ -			
Total Inc(Dec) in Fixed Assets	\$ (74,273)			
Statutory Working Capital Requirement	\$ 307,850			
Non-Statutory Working Capital Requirement				
Total Working Capital Requirement	\$ 307,850			
Total Statutory Funding Requirement	\$ 13,377,449			
Total Non-Statutory Funding Requirement	\$ 1,124,495			
Total Funding Requirement	\$ 14,501,944			
Statutory Funding Assessments	\$ 13,248,000			
Non-Statutory Fees	\$ 1,124,495			
NEL	359,022,162	359,022,162		
NEL%	100.00%	100.00%		

*Refer to Table B-1 Reserve Analysis on page 38 in Section B.

Organizational Overview

Texas Reliability Entity, Inc. (Texas RE) is a Texas non-profit corporation that is the Regional Entity for the Electric Reliability Council of Texas, Inc. (ERCOT) region, pursuant to its Amended and Restated Delegation Agreement (Delegation Agreement) with North American Electric Reliability Corporation (NERC) effective January 1, 2016. Texas RE ensures the reliability of the ERCOT region bulk-power system (BPS).

Texas RE also performs non-statutory activities as the Reliability Monitor for the ERCOT region on behalf of the Public Utility Commission of Texas (PUCT). As the Reliability Monitor, Texas RE monitors and reports to the PUCT regarding market participants' compliance with reliability-related ERCOT Protocols, Operating Guides, and Texas rules (ERCOT Regional Rules).

The ERCOT region is the geographic area located within the state of Texas that operates under the jurisdiction of the PUCT and is not synchronously interconnected with any electric utilities operating outside of Texas. The ERCOT region includes approximately 90% of Texas load and 75% of the Texas land area.

Membership and Governance

Members

Texas RE has the following six membership sectors under its Bylaws:

- System Coordination and Planning
- Transmission and Distribution
- Cooperative Utility
- Municipal Utility
- Generation
- Load-Serving and Marketing

Membership in Texas RE is voluntary and open to any entity that is a user, owner, or operator in the ERCOT region BPS, who registers with Texas RE as a member and complies with the Texas RE Bylaws requirements. There is no charge for membership with Texas RE. Any person or entity that has a direct and material interest in the BPS has a right to participate in the Texas RE Standards Development Process, even if not a Texas RE member.

Texas RE has one stakeholder committee, the Member Representatives Committee (MRC). The MRC includes representatives from members in each of the six membership sectors and provides advice and recommendations to the Board on administrative, financial, reliability-related, or any other matters, through its elected Chair and Vice Chair, who also serve as Affiliated Directors on Texas RE's Board. In addition, the MRC facilitates the Regional Standards Development Process, and coordinates the development of Regional Standards and variances with the development of continent-wide standards. A subcommittee of the MRC, the NERC Standards Review Forum (NSRF), monitors, reviews, and discusses NERC (continent-wide) Reliability Standards under development and Reliability Standards interpretation requests.

Board of Directors

Texas RE is governed by a hybrid Board of Directors (Board), comprised of the following nine individuals:

- The Texas RE President and Chief Executive Officer (CEO)
- Four Independent Directors (elected by membership)

- Two Affiliated Directors (the Chair and Vice-Chair of the Member Representatives Committee)
- Chairman of the PUCT or another PUCT Commissioner designated by the Chairman, as an *ex officio* non-voting member
- Texas Public Counsel, from the Texas Office of Public Utility Counsel, as an *ex officio* non-voting member

The Board's primary role is to oversee the management of Texas RE, including assuring that Texas RE meets its requirements under the Bylaws and Delegation Agreement, and appointing a CEO to manage and be responsible for the day-to-day on-going activities of Texas RE.

Statutory Functional Scope

In accordance with its Delegation Agreement with NERC and in compliance with the NERC Rules of Procedure (NERC ROP), Texas RE performs the following statutory (or delegated) functions:

- Participation in the development of NERC Reliability Standards, or modifications thereof, and facilitation of developing needed Regional Standards or variances through Texas RE's Standards Development Process.
- Identification and registration of responsible entities with NERC and, as needed, certification of such entities within the ERCOT region.
- Monitoring and enforcement of compliance with approved NERC Reliability Standards and Regional Standards, in accordance with the NERC ROP, in the ERCOT region.
- Analysis and assessment of system events and disturbances.
- Assessment of the present and future reliability, adequacy, and security of the BPS.
- Promotion of effective training and education of personnel, and assistance in the certification of operating personnel.
- Promotion of situation awareness and the protection of critical infrastructure.

Financial Policies

Texas RE has policies and procedures in place that address its overall financial management, including procurement and business expense reimbursement. Additionally, Texas RE has a working capital and operating reserve policy to ensure the stability of the ongoing operations of the organization. This policy is intended to provide funds for situations such as a sudden unanticipated increase in expenses, one-time unbudgeted expenses, unanticipated loss in funding, or uninsured losses.

2019 Overview of Cost Impacts

In developing the Texas RE 2019 Business Plan and Budget, Texas RE reflects the collaborative development of the Electric Reliability Organization (ERO) Enterprise Long-term Strategy and the

ERO Enterprise Operating Plan.¹ Texas RE also seeks input from its MRC, and posts the budget for comment. Prior to obtaining final approval from its Board, Texas RE seeks NERC input and review of its annual Regional Entity Business Plan and Budget, including coordination of program requirements and any related key initiative for the ERO Enterprise.

Overall, the Texas RE 2019 statutory expenses (\$13,143,872) increased by 2.7% from the 2018 statutory expenses (\$12,795,453).

The 2019 statutory assessment (\$13,248,000) represents an increase of 17.5% from the 2018 assessment (\$11,271,986).

Significant statutory expense changes (including capital expenditures) include:

- Total Personnel expenses are increasing by 3.5%. Salaries expense is increasing 3.4%, which includes an allowance for 3% salary increases and reflects a 0.4% increase due to market adjustments and promotions. Payroll taxes are increasing 7.5% which includes a significant increase in State Unemployment Insurance Tax. Total Benefits expense is increasing 4.7%. Health-plan expense is projected to increase 15% in 2019. Employee Benefits include education reimbursement, relocation expenses, and training and professional development. The budget for these costs is remaining consistent with 2018. Including these expenses in Employee Benefits is consistent with the NERC budget guidelines. Retirement costs are only increasing 0.4%. Forfeiture funds are used when available to fund the employer portion of retirement plan cost keeping the expense lower.
- Total Meeting and Travel expenses are decreasing 8.0%. The budget for all categories travel has been reduced due to cost saving efforts and to align with actual costs in the prior year.
- Total Operating Expenses are increasing by 1.6%. The Consultants and Contracts expense includes IT Managed Services and is increasing 14% primarily due to participation in the Cybersecurity Risk Information Sharing Program (CRISP). Rent cost is increasing 2.5% due to an escalation in utilities and maintenance. Office cost is increasing 6% primarily due to a new lease for copy machines. Depreciation expense is decreasing 38.1% due to certain assets fully depreciating.

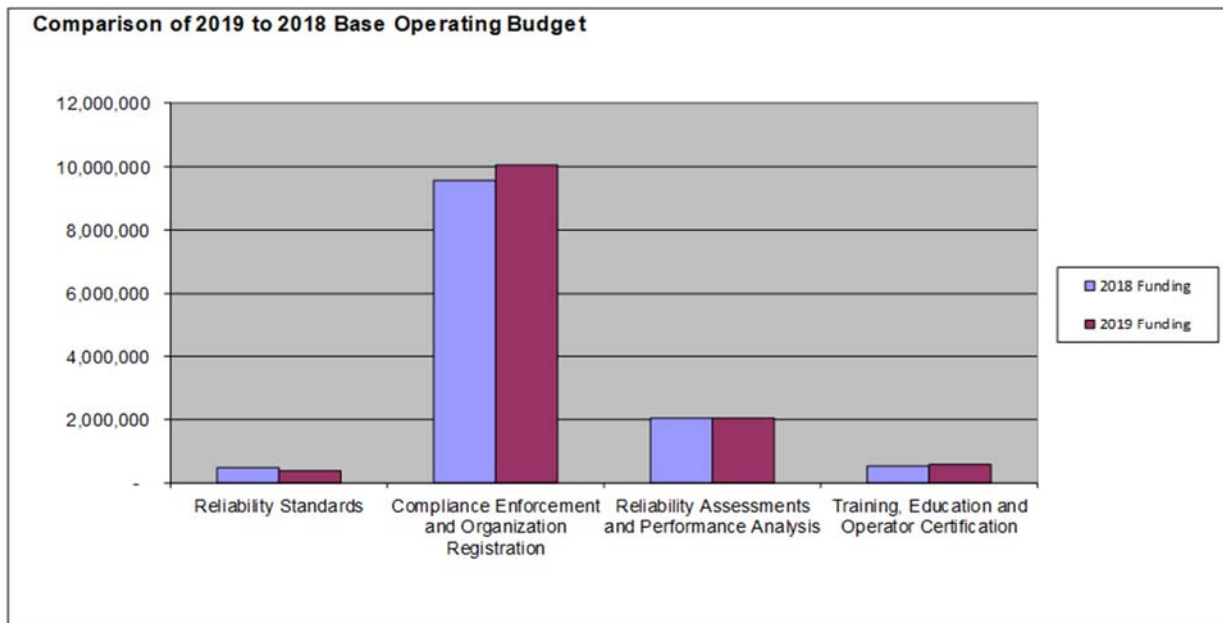
All statutory activity in the 2019 Business Plan and Budget aligns with the ERO Enterprise Long-term Strategy and the ERO Enterprise Operating Plan.

¹ These documents are available on the NERC website at <https://www.nerc.com/AboutNERC/Pages/Strategic-Documents.aspx>.

Summary by Program

The following table summarizes the Texas RE budget by program area.

Base Operating Budget	Budget 2018	Projection 2018	Budget 2019	Variance	
				2019 Budget v 2018 Budget	Variance %
Reliability Standards	\$ 462,175	\$ 462,175	\$ 386,410	\$ (75,764)	-16.4%
Compliance Enforcement and Organization Registration	9,593,152	9,593,152	10,068,946	475,794	5.0%
Reliability Assessments and Performance Analysis	2,053,795	2,053,795	2,051,498	(2,297)	-0.1%
Training, Education and Operator Certification	547,832	547,832	562,745	14,913	2.7%
Total Situation Awareness and Infrastructure Security	-	-	-	-	-
Total by Program	\$ 12,656,953	\$12,656,953	\$ 13,069,599	\$ 412,646	3.3%



FTEs by Program Area

Personnel Analysis

The following table displays total full-time equivalents (FTEs) by program area.

Total FTEs by Program Area	Budget	Projection	Direct FTEs	Shared	Total FTEs	Change
	2018	2018	2019	FTEs 2019	2019	from 2018
	Budget	Budget	Budget	Budget	Budget	Budget
STATUTORY						
Operational Programs						
Reliability Standards	1.50	1.50	1.25	-	1.25	(0.25)
Compliance and Organization Registration and Certificat	36.25	36.25	35.75	-	35.75	(0.50)
Training and Education	2.25	2.25	2.25	-	2.25	-
Reliability Assessment and Performance Analysis	6.25	6.25	6.00	-	6.00	(0.25)
Total FTEs Operational Programs	46.25	46.25	45.25	-	45.25	(1.00)
Administrative Programs						
General & Administrative	3.00	3.00	4.00	-	4.00	1.00
Legal and Regulatory	2.75	2.75	2.75	-	2.75	-
Information Technology	5.00	5.00	5.00	-	5.00	-
Human Resources	-	-	-	-	-	-
Finance and Accounting	3.00	3.00	3.00	-	3.00	-
Total FTEs Administrative Programs	13.75	13.75	14.75	-	14.75	1.00
Total FTEs	60.00	60.00	60.00	-	60.00	-

For an explanation of the variances, refer to the Resource Requirements section in each program area in Section A.

2018 Budget and Projection and 2019 Budget Comparisons

Statement of Activities, Fixed Assets Expenditures and Change in Working Capital 2018 Budget & Projection, and 2019 Budget					
STATUTORY					
	2018 Budget	2018 Projection	Variance 2018 Projection v 2018 Budget Over(Under)	2019 Budget	Variance 2018 Budget v 2019 Budget Over(Under)
Funding					
ERO Funding					
NERC Assessments	\$ 11,271,986	\$ 11,271,986	\$ -	\$ 13,248,000	\$ 1,976,014
Penalty Sanctions	275,000	275,000	-	114,449	(160,551)
Total NERC Funding	\$ 11,546,986	\$ 11,546,986	\$ -	\$ 13,362,449	\$ 1,815,463
Interest	2,000	2,000	-	15,000	13,000
Total Funding (A)	\$ 11,548,986	\$ 11,548,986	\$ -	\$ 13,377,449	\$ 1,828,463
Expenses					
Personnel Expenses					
Salaries	\$ 7,151,136	\$ 7,151,136	\$ -	7,394,175	\$ 243,039
Payroll Taxes	470,791	470,791	-	506,088	35,297
Benefits	1,321,116	1,321,116	-	1,383,053	61,936
Retirement Costs	1,015,772	1,015,772	-	1,019,478	3,706
Total Personnel Expenses	\$ 9,958,815	\$ 9,958,815	\$ -	\$ 10,302,794	\$ 343,979
Meeting & Travel Expenses					
Meetings	\$ 23,800	\$ 23,800	\$ -	19,800	\$ (4,000)
Travel	372,900	372,900	-	349,770	(23,130)
Conference Calls	26,950	26,950	-	20,000	(6,950)
Total Meeting & Travel Expenses	\$ 423,650	\$ 423,650	\$ -	\$ 389,570	\$ (34,080)
Operating Expenses					
Consultants & Contracts	\$ 351,200	\$ 351,200	\$ -	400,250	\$ 49,050
Office Rent	689,648	689,648	-	707,214	17,566
Office Costs	647,440	647,440	-	686,070	38,630
Professional Services	556,200	556,200	-	553,700	(2,500)
Depreciation	168,500	168,500	-	104,273	(64,227)
Total Operating Expenses	\$ 2,412,988	\$ 2,412,988	\$ -	\$ 2,451,508	\$ 38,520
Total Direct Expenses	\$ 12,795,453	\$ 12,795,453	\$ -	\$ 13,143,872	\$ 348,419
Indirect Expenses	\$ 0	\$ 0	\$ -	\$ -	\$ (0)
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses (B)	\$ 12,795,453	\$ 12,795,453	\$ -	\$ 13,143,872	\$ 348,418
Change in Assets	\$ (1,246,468)	\$ (1,246,468)	\$ -	\$ 233,577	\$ 1,480,045
Fixed Assets					
Depreciation	\$ (168,500)	\$ (168,500)	\$ -	(104,273)	64,227
Computer & Software CapEx	30,000	30,000	-	30,000	-
Allocation of Fixed Assets	\$ -	\$ -	\$ -	\$ -	\$ -
Inc(Dec) in Fixed Assets (C)	(138,500)	(138,500)	-	(74,273)	64,227
TOTAL BUDGET (=B + C)	12,656,953	\$ 12,656,953	\$ -	\$ 13,069,599	\$ 412,645
TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)	\$ (1,107,967)	\$ (1,107,967)	\$ -	\$ 307,850	\$ 1,415,818
FTEs	60.00	60.00	-	60.00	-

Section A – Statutory Programs 2019 Business Plan and Budget



Section A — 2019 Business Plan – Statutory Programs

Reliability Standards Program

Reliability Standards Program (in whole dollars)			
	2018 Budget	2019 Budget	Increase (Decrease)
Total FTEs	1.50	1.25	(0.25)
Direct Expenses	\$ 311,392	\$ 245,671	\$ (65,720)
Indirect Expenses	\$ 155,275	\$ 142,791	\$ (12,484)
Other Non-Operating Expenses	\$ -	\$ -	\$ -
Inc(Dec) in Fixed Assets	\$ (4,492)	\$ (2,052)	\$ 2,440
Total Funding Requirement	\$ 462,175	\$ 386,410	\$ (75,764)

Program Scope and Functional Description

Texas RE's Reliability Standards Program supports the NERC Reliability Standards program and facilitates the development of regional standards and variances, in accordance with the Texas RE Standards Development Process. Texas RE Standards staff coordinates and publicly posts information regarding the activities of the Texas RE MRC's standards development activities, the NERC Standards Review Forum (NSRF), and all regional standard drafting teams (SDTs).

The Texas RE Standards Development Process is open to all individuals and organizations that are directly and materially affected by the ERCOT region BPS, with no undue financial barriers and regardless of Texas RE membership status. Texas RE's Standards Development Process provides for fair and due process by providing sufficient public notice of the intent to develop a regional standard. The Standards Development Process includes an appeals process and an interpretation process.

Texas RE Standards staff supports and participates in the NERC Standards Committee and other NERC activities relating to standards development. Texas RE regularly comments and votes on proposed NERC Reliability Standards and revisions from its perspective as the Compliance Enforcement Authority, based on recommendations and input from subject matter experts employed by Texas RE.

In addition, Texas RE reviews proposed NERC Reliability Standards. This Program area supports and facilitates standards activities of the Texas RE MRC and the NSRF. The MRC is a stakeholder committee that oversees the execution of the Texas RE Standard Development Process. The NSRF provides a regional stakeholder forum for education and discussion of NERC Reliability Standards activities, both regional and continent-wide.

Texas RE Standards staff provides education and advice to other Texas RE departments regarding issues relating to standards, including applicability and interpretation of requirements in accordance with NERC processes.

When developing Regional Standards, Texas RE is responsible for adhering to its FERC-approved Regional Standards development processes, and for assisting NERC as needed with obtaining NERC Board approval and subsequent filing(s) with FERC and other regulatory authorities, as appropriate, including developing the record necessary to support approval.

2019 Key Assumptions

- Continent-wide NERC Reliability Standards projects will consist primarily of conducting enhanced periodic reviews on existing standards to improve the content and, respond to identified risks to reliability (including those that may be identified through the implementation of risk-based Compliance Monitoring and Enforcement), and addressing FERC directives that may arise. This activity will require the allocation of technical resources from several internal NERC departments (e.g., Reliability Assessment and Performance Analysis (RAPA), Reliability Risk Management (RRM), Compliance Analysis and Certification (CAC), and Compliance Assurance) and support from across the ERO Enterprise.
- During the enhanced periodic review of NERC Reliability Standards, any associated Regional Standards will be reviewed for potential incorporation as variances or as improvements to the continent-wide requirements. Regional and NERC Reliability Standards development processes may require modification to accomplish efficiently this task. Each Regional Entity will work with NERC and possibly other Regional Entities on projects where there is a regional standard/variance. Regional Standards development activity will be driven by requests the Regional Entity may receive or reliability issues the Regional Entity may identify. Regional Standards development activity is expected to remain low.
- In coordination with SDTs and consistent with current approaches, Regional Entities may support outreach during standards development. Additionally, following FERC approval, Regions will assist the transition of standards to compliance monitoring and enforcement supporting industry and auditor training, or providing information regarding the intent of the standard.
- The number of interpretations is expected to remain low. However, guidance requests associated with the implementation of standards may increase.
- Regional Entities will be asked to participate in teams to help develop application business requirements and test business functionality for ERO Enterprise applications projects.

2019 Goals and Key Deliverables

- Provide input on and facilitate industry review of new and existing NERC Reliability Standards, including cost effectiveness/impact analysis.
- Provide input and feedback for new and existing NERC Reliability Standards using compliance monitoring experience as a basis.
- Provide guidance and outreach on approved NERC Reliability Standards and Regional Standards.

- Develop, as needed, regional variances or Regional Standards to address specific reliability risks and evaluate the need for existing Regional Standards.
- Review existing Regional Standards to determine if any could be incorporated as a regional variance to a continent-wide NERC Reliability Standard.

Resource Requirements

Personnel Expenses

The number of FTEs assigned to this Program is .25 less than 2018. The direct costs of the Vice President and Chief Operating Officer have been removed from this Program. Those costs are now assigned to Administrative Services and are allocated among Programs based on Program FTE count during the year.

Consultants and Contracts

No consulting support and contracts are budgeted for 2019, which is consistent with the 2018 budget.

Section A — 2019 Business Plan and Budget – Statutory Programs

Reliability Standards Program

The following table shows the funding sources and related expenses for the Reliability Standards Program for 2019. Explanations of variances by expense category are included with the Supplemental Tables found in Section B.

Statement of Activities, Fixed Assets Expenditures and Change in Working Capital					
2018 Budget & Projection, and 2019 Budget					
RELIABILITY STANDARDS					
	2018	2018	Variance	2019	Variance
	Budget	Projection	v 2018 Budget	Budget	v 2019 Budget
			Over(Under)		Over(Under)
Funding					
ERO Funding					
NERC Assessments	\$ 365,578	\$ 365,578	\$ -	\$ 365,967	\$ 389
Penalty Sanctions	8,919	8,919		3,162	(5,757)
Total NERC Funding	\$ 374,497	\$ 374,497	\$ -	\$ 369,128	\$ (5,368)
Interest	65	65	-	414	349
Total Funding	\$ 374,562	\$ 374,562	\$ -	\$ 369,543	\$ (5,019)
Expenses					
Personnel Expenses					
Salaries	\$ 209,027	\$ 209,027	\$ -	\$ 156,651	\$ (52,376)
Payroll Taxes	13,666	13,666	-	11,343	(2,323)
Benefits	43,131	43,131	-	37,794	(5,337)
Retirement Costs	29,268	29,268	-	20,583	(8,685)
Total Personnel Expenses	\$ 295,092	\$ 295,092	\$ -	\$ 226,371	\$ (68,720)
Meeting & Travel Expenses					
Meetings	\$ -	\$ -	\$ -	-	\$ -
Travel	14,500	14,500	-	12,200	(2,300)
Conference Calls	1,700	1,700	-	7,000	5,300
Total Meeting & Travel Expenses	\$ 16,200	\$ 16,200	\$ -	\$ 19,200	\$ 3,000
Operating Expenses					
Consultants & Contracts	\$ -	\$ -	\$ -	-	\$ -
Office Rent	-	-	-	-	-
Office Costs	100	100	-	100	-
Professional Services	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Depreciation	-	-	-	-	-
Total Operating Expenses	\$ 100	\$ 100	\$ -	\$ 100	\$ -
Total Direct Expenses	\$ 311,392	\$ 311,392	\$ -	\$ 245,671	\$ (65,720)
Indirect Expenses	\$ 155,275	\$ 155,275	\$ -	\$ 142,791	\$ (12,484)
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses	\$ 466,666	\$ 466,666	\$ -	\$ 388,462	\$ (78,204)
Change in Assets	\$ (92,105)	\$ (92,105)	\$ -	\$ (18,919)	\$ 73,185
Fixed Assets					
Depreciation	\$ -	\$ -	\$ -	\$ -	\$ -
Computer & Software CapEx	-	-	-	-	-
Allocation of Fixed Assets	(4,492)	(4,492)	-	(2,052)	2,440
Inc(Dec) in Fixed Assets (C)	\$ (4,492)	\$ (4,492)	\$ -	\$ (2,052)	2,440
TOTAL BUDGET	\$ 462,175	\$ 462,175	\$ -	\$ 386,410	\$ (75,764)
TOTAL CHANGE IN WORKING CAPITAL	\$ (87,613)	\$ (87,613)	\$ -	\$ (16,868)	\$ 70,745
FTEs	1.50	1.50	-	1.25	(0.25)

Approved by the Texas RE Board of Directors May 23, 2018

Compliance Monitoring and Enforcement and Organization Registration and Certification Program

Compliance Monitoring and Enforcement and Organization Registration and Certification Program			
(in whole dollars)			
	2018 Budget	2019 Budget	Increase (Decrease)
Total FTEs	36.25	35.75	(0.5)
Direct Expenses	\$ 5,949,230	\$ 6,043,802	\$ 94,572
Indirect Expenses	\$ 3,752,476	\$ 4,083,823	\$ 331,347
Other Non-Operating Expenses	\$ -	\$ -	\$ -
Inc(Dec) in Fixed Assets	\$ (108,554)	\$ (58,680)	\$ 49,874
Total Funding Requirement	\$ 9,593,152	\$ 10,068,946	\$ 475,794

[Program Scope and Functional Description

Texas RE's Compliance Monitoring and Enforcement and Organization Registration and Certification Program includes the key activities of registering (and where required, certifying) responsible entities, monitoring and assessing compliance with the NERC Reliability Standards and Regional Standards, and enforcing and ensuring mitigation of violations of standards in accordance with the NERC ROP. The primary monitoring and assessment methods include audits, self-reports, self-certifications, complaints, spot checks, compliance investigations, exception reporting, and data submittals.

There are several major ERO-wide activities that are expected to benefit NERC, the Regional Entities, and registered entities. The risk-based Compliance and Enforcement Monitoring Program (CMEP) is a multi-year effort to identify and implement changes to enhance the effectiveness of the ERO's compliance and enforcement functions. Risk-based CMEP is designed to improve BES reliability by refocusing efforts on serious and substantial reliability risks and on the internal controls that mitigate those risks. In addition, NERC, the Regional Entities, and registered entities will continue the transition to apply Critical Infrastructure Protection (CIP) Version 5 and its successors, which adopted new cybersecurity controls and extended the scope of the systems that the CIP Reliability Standards protect.

Two elements of risk-based CMEP—continued CIP Version 5 transition and Coordinated Oversight of Multi-Region Registered Entities—are expected to be major activities for Texas RE in 2019. Risk-based CMEP will require Texas RE to appropriately allocate resources to provide continuous improvement in the processes necessary to implement risk-based CMEP for both compliance and enforcement. Based on the high level of coordination between Regional Entities that is necessary for an efficient and effective program, the Coordinated Oversight program will increase workload levels for the Lead Regional Entity, which Texas RE is serving as for several nationwide registered entities. Additionally, increased resources may be required to meet the training requirements for the compliance and enforcement staff associated with the ERO Enterprise Operating Plan. Because resource demands are not fully known, consideration will be

given to reallocating existing staff or using available reserves to provide the resource support, if Texas RE determines this to be necessary to support the successful execution of these major activities.

2019 Key Assumptions

- The implementation of risk-based CMEP will continue to require the allocation of dedicated resources from both NERC and the Regional Entities for both compliance and enforcement. Regional Entities will require resources to update previously completed IRAs and new IRAs based on identified triggers, and focus on creating compliance oversight plans that include compliance monitoring tools, the frequency of compliance monitoring, and the standards that are to be monitored as well as the depth of testing of those standards.
- An assessment project was completed to evaluate software systems used for compliance, registration, analysis and tracking, which has resulted in the approval the Compliance Monitoring and Enforcement Process Tool project by the ERO Executives. This project will unify processes and systems across the ERO, promoting greater efficiencies in work and use of resources. Additional resources will be needed to incorporate the system being developed. Regional Entities will be asked to participate in teams to help develop application business requirements and to test business functionality for ERO Enterprise applications projects. These teams will primarily be business area subject matter experts, not IT staff. The success of the Compliance Monitoring and Enforcement Process Tool project will be dependent on Regional Entity participation. NERC has requested that when planning, Regional Entities should consider allocating resources at an adequate level of participation to support the success of this project.
- NERC and the Regional Entities will continue to evaluate business practices, implementation, and consistency within the risk-based CMEP.
- CIP compliance personnel will need to support implementation and evaluation of CIP Requirements for “low impact” entities and any updated CIP Reliability Standards.
- NERC will continue to lead the CIP V5 training development, coordination, and facilitation for the CMEP staff and industry outreach. Texas RE will support these activities in collaboration with NERC, as needed, to ensure appropriate knowledge and guidance are developed, understood, and administered.
- NERC and the Regional Entities are continuing to support the training and education requirements and guidelines necessary to meet the criteria set forth by the ERO Enterprise Compliance Monitoring and Enforcement Manual and the Competency Guide.
- A potential increase in resources may be necessary to support compliance and enforcement activities related to CIP V5 Reliability Standards in 2019.

- Additional resource considerations should be given to managing the increased amount of registered entities applicable to the CIP Reliability Standards due to the addition of “low impact” requirements.
- Additional resource allocation may be necessary for increased Physical Security compliance monitoring activities for CIP-014 and the compliance monitoring activities related to the Supply Chain Risk Management Reliability Standard (CIP-013).
- ERO Enterprise CMEP staff, particularly staff with visibility into risks existing in the field, will provide feedback to the ERO Enterprise. This feedback may include information on risks seen in the field that are not addressed by a standard, as well as information on where a standard is too broad. ERO Enterprise CMEP staff will participate in the development of a solution, regardless of whether the risk is addressed through a new or modified Reliability Standard, or other means.
- ERO Enterprise CMEP staff will provide input for standards development teams on the risks seen in the field relating to a standard under development, as well as for how a Reliability Standard would be monitored.
- As the depth of focused analysis of reliability performance and events across NERC improves, any identification of possible gaps in standards and compliance monitoring could potentially influence this program area.
- The certification program will be assessed in 2018, which may result in modifications to the program in 2019.
- Planned oversight activities for 2019 will be aligned with the ERO Enterprise Operating Model and may affect 2019 resource allocation, but they should have little effect on overall NERC resource requirements. NERC understands that each Regional Entity will need to evaluate its individual resource needs and allocations.
- Regional Entities will be asked to participate in teams to help develop application business requirements and to test business functionality for ERO Enterprise applications projects.

2019 Goals and Key Deliverables

COMPLIANCE MONITORING

- Develop and implement compliance oversight plans for registered entities focusing on relevant risks, including consideration of inherent risk assessments, entity performance history, and effectiveness of internal controls.
- Work collaboratively with NERC and other Regional Entities to provide clear and consistent guidance on the CMEP process, including coordinated oversight of Multi-Region Registered Entities.
- Conduct technical assessments of registered entities’ plans and activities to mitigate noncompliance.

- Undertake enforcement activities in accordance with established risk-based approaches.
- Take action to address any findings, recommendations, enhancements, guidance, and inconsistencies identified in NERC's registration, compliance monitoring, and enforcement oversight reports.
- Participate in the development and implementation of the CMEP Technology Project. Participate in training related to enhancements to the risk-based monitoring approach.

ENFORCEMENT

- Review, validate, and process or dismiss all possible violations in a timely fashion, to enhance visibility of violations and penalties.
- Undertake enforcement activities in accordance with established risk-based approaches.
- Manage all settlements and contested cases to completion, as efficiently as possible.
- Coordinate appropriate engineering, other subject matter experts, and legal resources for the processing of alleged violations, including all settlements, appeals, and contested cases.
- Use targeted, aggressive enforcement for the violations posing the most risk to BPS reliability.
- Support streamlined mechanisms implemented to expedite possible violations that pose a lesser reliability risk to the BPS.
- Improve the consistency and timeliness of all compliance and enforcement data tracking to enable review and reporting for compliance and enforcement staff, management, the Texas RE Board, NERC, and stakeholders.
- Promote timeliness and transparency of compliance results, including those efforts associated with meeting the caseload index, average violation aging, and mitigation aging metrics.
- Assure timely mitigation of all violations, assessing all mitigating activities and mitigation plans for effectiveness and reasonableness of implementation, tracking completion of accepted plans to closure, and verifying completion of mitigation plans.
- Enhanced feedback loops to the Reliability Standard development process.

REGISTRATION AND CERTIFICATION

- Identify and register BES owners, operators, and users. Maintain accurate, up-to-date registration information, identifying entities responsible for compliance.
- Ensure entities performing the functions of Reliability Coordinator, Balancing Authority, and Transmission Operator have the tools, processes, and training to meet applicable Reliability Standards requirements.

Resource Requirements

Personnel Expenses

The number of FTEs assigned to this Program is .5 less than 2018. The direct costs of the Vice President and Chief Operating Officer have been removed from this Program. Those costs are now assigned to Administrative Services and are allocated among Programs based on Program FTE count during the year.

Consultants and Contracts

There is a decrease of 4.1% in contracts and consulting services for this department due to lower costs associated with changing the webinar provider.

Section A — 2019 Business Plan and Budget – Statutory Programs

Compliance Monitoring, Enforcement and Organization Registration and Certification Program

The following table shows the funding sources and related expenses for the Compliance Enforcement and Organization Registration and Certification Program for 2019. Explanations of variances by expense category are included with the Supplemental Tables found in Section B.

Statement of Activities, Fixed Assets Expenditures and Change in Working Capital					
2018 Budget & Projection, and 2019 Budget					
COMPLIANCE MONITORING, ENFORCEMENT and ORGANIZATION REGISTRATION and CERTIFICATION					
	2018	2018	Variance	2019	Variance
	Budget	Projection	2018 Projection v 2018 Budget Over(Under)	Budget	2018 Budget v 2019 Budget Over(Under)
Funding					
ERO Funding					
NERC Assessments	\$ 8,834,800	\$ 8,834,800	\$ -	\$ 10,466,652	\$ 1,631,852
Penalty Sanctions	215,541	215,541	-	90,421	(125,120)
Total NERC Funding	\$ 9,050,341	\$ 9,050,341	\$ -	\$ 10,557,073	\$ 1,506,732
Interest	1,568	1,568	-	11,851	10,283
Total Funding	\$ 9,051,908	\$ 9,051,908	\$ -	\$ 10,568,924	\$ 1,517,015
Expenses					
Personnel Expenses					
Salaries	\$ 4,004,351	\$ 4,004,351	\$ -	\$ 4,062,640	\$ 58,289
Payroll Taxes	280,612	280,612	-	305,272	24,659
Benefits	752,590	752,590	-	777,434	24,844
Retirement Costs	560,596	560,596	-	568,677	8,081
Total Personnel Expenses	\$ 5,598,150	\$ 5,598,150	\$ -	\$ 5,714,022	\$ 115,873
Meeting & Travel Expenses					
Meetings	\$ -	\$ -	\$ -	\$ 300	\$ 300
Travel	160,900	160,900	-	141,450	(19,450)
Conference Calls	4,600	4,600	-	7,000	2,400
Total Meeting& Travel Expenses	\$ 165,500	\$ 165,500	\$ -	\$ 148,750	\$ (16,750)
Operating Expenses					
Consultants & Contracts	\$ 169,000	\$ 169,000	\$ -	\$ 162,000	\$ (7,000)
Office Rent	-	-	-	-	-
Office Costs	16,580	16,580	-	19,030	2,450
Professional Services	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Depreciation	-	-	-	-	-
Total Operating Expenses	\$ 185,580	\$ 185,580	\$ -	\$ 181,030	\$ (4,550)
Total Direct Expenses	\$ 5,949,230	\$ 5,949,230	\$ -	\$ 6,043,802	\$ 94,573
Indirect Expenses	\$ 3,752,476	\$ 3,752,476	\$ -	\$ 4,083,823	\$ 331,347
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses	\$ 9,701,706	\$ 9,701,706	\$ -	\$ 10,127,626	\$ 425,921
Change in Assets	\$ (649,798)	\$ (649,798)	\$ -	\$ 441,298	\$ 1,091,095
Fixed Assets					
Depreciation	-	-	-	-	-
Computer & Software CapEx	-	-	-	-	-
Allocation of Fixed Assets	(108,554)	(108,554)	-	(58,680)	49,874
Inc(Dec) in Fixed Assets	\$ (108,554)	\$ (108,554)	\$ -	\$ (58,680)	\$ 49,874
TOTAL BUDGET	\$ 9,593,152	\$ 9,593,152	\$ -	\$ 10,068,946	\$ 475,795
TOTAL CHANGE IN WORKING CAPITAL	\$ (541,244)	\$ (541,244)	\$ -	\$ 499,978	\$ 1,041,221
FTEs	36.25	36.25	-	35.75	(0.50)

Approved by the Texas RE Board of Directors May 23, 2018

Reliability Assessment and Performance Analysis Program

Reliability Assessments and Performance Analysis (in whole dollars)			
	2018 Budget	2019 Budget	Increase (Decrease)
Total FTEs	6.25	6.00	(0.25)
Direct Expenses	\$ 1,425,532	\$ 1,375,949	\$ (49,583)
Indirect Expenses	\$ 646,979	\$ 685,397	\$ 38,418
Other Non-Operating Expenses	\$ -	\$ -	\$ -
Inc(Dec) in Fixed Assets	\$ (18,716)	\$ (9,848)	\$ 8,868
Total Funding Requirement	\$ 2,053,795	\$ 2,051,498	\$ (2,297)

Program Scope and Functional Description

Texas RE's Reliability Assessment and Performance Analysis (RAPA) Program supports assessment of system adequacy and operating reliability of the BPS in the ERCOT region, both existing and planned, as well as review of system disturbances in the ERCOT region. In addition to these assessments and analyses, Texas RE participates with NERC and stakeholders in ongoing work to evaluate system performance, measure progress in improving current reliability and track leading indicators of future reliability. This program requires validation and analysis of data collected from registered entities, which is used in measurement of ongoing reliability performance of generation, transmission, and demand response. RAPA also identifies risks and analyzes key issues that may affect reliability, such as market practices, legislation, regulation, technology developments, high-impact low frequency (HILF) events, and technology trends. Event analyses will determine causative factors for system disturbances as well as "lessons learned" upon recovering from them. Texas RE will disseminate these insights to industry and seek broader collaboration among stakeholders to identify and reduce threats to reliability.

RAPA also includes Situation Awareness and Infrastructure Security. Situation Awareness covers the assessment of the current condition of and threats to the BPS and development and application of situation awareness tools for monitoring the BPS. Infrastructure Security resources participate in the on-going development of CIP Reliability Standards, improving regional coordination and cooperation for the CIP program, and aid the NERC-led efforts to develop industry alerts and guidance in support of the Electricity – Information Sharing and Analysis Center (E-ISAC). Most of the Texas RE Infrastructure Security effort is handled by CIP resources within the Compliance, Monitoring, Enforcement and Organizational Registration and Certification Program, while Situation Awareness is closely tied to initial event review, which is primarily performed as part of the Event Analysis Process, in the RAPA Program.

2019 Key Assumptions

- Current staffing levels are expected to meet known and predicted program needs. However, as many RAPA tasks are presently in preliminary stages of definition, particularly those involving support of NERC's System Analysis functions, potential

for additional program resource needs including staffing demands are not established. Additionally, there is some uncertainty regarding the amount of resources that will be required to support joint Enterprise-wide modeling and data collection systems.

- Continued ERCOT stakeholder support is expected in Regional planning activities that meet ERO schedules for the various proposed reliability assessments and Interconnection study case model building activities.
- Regional Entities will be asked to participate in teams to help develop application business requirements and test business functionality for ERO Enterprise applications projects.

2019 Goals and Key Deliverables

- Provide independent reviews of reliability assessments for the ERCOT region and assist NERC in its overall development of the annual long-term reliability assessment, along with continuing support for winter and summer seasonal assessments and with post-seasonal reviews.
- Contribute to two anticipated NERC short-term special reliability assessments in 2019 that focus on specific risk concerns in a six-to-eighteen month horizon, including scope development, data collection, analysis and review. These assessments may involve topics such as natural disasters, fuel supply risk, new technologies, environmental regulations, changes in resource mix, or delays in transmission development.
- Support NERC-wide modelling improvement efforts, particularly those related to dynamic loads, inverter-based resources, and generator model validation. As the Interconnection model designee associated with MOD-032 and MOD-033 Reliability Standards, Texas RE will continue to work with stakeholders to integrate fidelity and quality tests into Regional study-case development processes.
- Contribute to Reliability Guidelines and Technical Reference documents developed through technical working groups under the NERC Planning and Operating Committees, including special reports on emerging issues as may be assigned to these groups to address high-priority risks.
- Provide regional data collection and analysis to meet NERC System Analysis initiatives or FERC Order directives. These may include continuing review of risks associated with geomagnetic disturbances, system strength, and reactive issues, protection system mis-operations, system frequency response, human performance, drought, environmental regulations, oscillation analysis, phasor measurement unit (PMU) application, distributed energy resources, and new technology integration.
- Oversee NERC Rules of Procedure Section 1600 collection of reliability data for the ERCOT region, provide analysis and validation, respond to FERC inquiries, support stakeholders' data entry, and provide as enhancements are commissioned. In 2019, Texas RE will assist in development of application

requirements and testing to support development NERC's Enterprise Reporting data warehouse. Systems include:

- Transmission Availability Data System (TADS)
 - Generation Availability Data System (GADS)
 - WindGADS, a similar but separate system from GADS for wind generation, becoming mandatory for larger facilities in 2019
 - Demand Response Availability Data System (DADS)
 - Protection System Mis-operations (MIDAS)
-
- Participate in ERO development of an outcome-based approach to achieve measurable improvements in reliability, utilizing the data above and NERC's adequate level of reliability (ALR) metrics. Collect data and perform analysis as needed to evaluate the ALR metrics and contribute to NERC's annual State of Reliability report along with a Region-specific annual reports and quarterly reviews. While content may change, the number of metrics and level of analysis is expected to remain essentially consistent in 2019 as in 2018.
 - Review NERC Reliability Standards and process developments. Evaluate against existing and proposed Regional criteria and processes for reliability concerns.
 - Continue to implement the NERC event analysis and cause-coding process within the ERCOT region, expecting a similar volume of events as 2018, estimated at 12 Category 1 (minor), and three Category 2 or 3 (moderate impact) events. No Category 4 or 5 events (significant impact) are anticipated but processes and procedures to address this possibility will be maintained. Conduct follow-up on recommendations and trends from past major events within ERCOT and other power systems.
 - Review approximately 80 lesser system events, such as remedial action scheme mis-operations, communications issues, and frequency disturbances, which do not meet the threshold for NERC events analysis, in order to monitor trends and system impacts in these areas.
 - Support the BES Definition exception process and NERC-led panels as needed by providing technical review of exception requests and coordination internally and with other Regions and NERC for consistent application. At this time, the number of such requests is uncertain but is expected to be limited to one or two issues handled by existing staff.
 - Promote the work of NERC Reliability Issues Steering Committee (RISC) to identify the most significant system risks and incorporate into RAPA activities and projects. Tailor RISC observations and Regional information to identify impacts within the Region and means to mitigate them.
 - Provide workshops, webinars, and other outreach to support industry participation in RAPA programs and to disseminate lessons learned, best practices, trends and observations.

- Texas RE staff will continue ongoing day-to-day monitoring for Situation Awareness, including system data, weather, technological developments, industry news, and media to understand trends that affect reliability both in the near and long-term horizon.
- Utilize software applications and data from ERCOT ISO, NERC, and other sources for Regional Situation Awareness, and support use by other departments in Texas RE. Provide regional coordination to maintain the Situation Awareness for FERC, NERC and the Regional Entities (SAFNR) tool, along with internal real-time visualization tools. Texas RE uses these tools to provide regular reporting to NERC along with information on current events in the ERCOT region.
- Continue joint activities with ERCOT ISO to host winter preparation workshops for generators and conduct site visits to promote best practices. There may be 20-30 generator sites included, with the number depending on results from 2018.
- Texas RE will continue to monitor and follow up on NERC Alerts and anticipates that the volume will be similar to 2018, or approximately four, with one alert expected to require response coordination and analysis.
- Texas RE staff will continue to support training initiatives in the Situation Awareness area that concern system resiliency and recovery. Planning with NERC and E-ISAC staff will continue for the fifth NERC GridEx Security exercise to be conducted in late 2019. Texas RE will participate in Regional exercises for blackstart and severe weather operations.

Resource Requirements

Personnel Expenses

The number of FTEs assigned to this Program is .25 less than 2018. The direct costs of the Vice President and Chief Operating Officer have been removed from this Program. Those costs are now assigned to Administrative Services and are allocated among Programs based on Program FTE count during the year.

Consultants and Contracts

No consulting support and contracts are budgeted for 2019, which is consistent with the 2018 budget. No task assignments have been identified that require consulting or contractor support.

Section A — 2019 Business Plan and Budget – Statutory Programs

Reliability Assessment and Performance Analysis Program

The following table shows the funding sources and related expenses for the Reliability Assessment and Performance Analysis Program for 2019. Explanations of variances by expense category are included with the Supplemental Tables found in Section B.

Statement of Activities, Fixed Assets Expenditures and Change in Working Capital					
2018 Budget & Projection, and 2019 Budget					
RELIABILITY ASSESSMENTS and PERFORMANCE ANALYSIS					
	2018	2018	Variance	2019	Variance
	Budget	Projection	2018 Projection v 2018 Budget Over(Under)	Budget	2018 Budget v 2019 Budget Over(Under)
Funding					
ERO Funding					
NERC Assessments	\$ 1,523,241	\$ 1,523,241	\$ -	\$ 1,756,641	\$ 233,399
Penalty Sanctions	37,162	37,162	-	15,176	(21,987)
Total NERC Funding	<u>\$ 1,560,404</u>	<u>\$ 1,560,404</u>	<u>\$ -</u>	<u>\$ 1,771,816</u>	<u>\$ 211,413</u>
Interest	270	270	-	1,989	1,719
Total Funding	<u>\$ 1,560,674</u>	<u>\$ 1,560,674</u>	<u>\$ -</u>	<u>\$ 1,773,805</u>	<u>\$ 213,132</u>
Expenses					
Personnel Expenses					
Salaries	\$ 916,115	\$ 916,115	\$ -	\$ 880,124	\$ (35,991)
Payroll Taxes	62,693	62,693	-	60,689	(2,004)
Benefits	173,029	173,029	-	163,033	(9,996)
Retirement Costs	128,255	128,255	-	126,663	(1,592)
Total Personnel Expenses	<u>\$ 1,280,092</u>	<u>\$ 1,280,092</u>	<u>\$ -</u>	<u>\$ 1,230,509</u>	<u>\$ (49,583)</u>
Meeting & Travel Expenses					
Meetings	\$ 1,000	\$ 1,000	\$ -	\$ 1,000	\$ -
Travel	82,000	82,000	-	82,000	-
Conference Calls	-	-	-	-	-
Total Meeting & Travel Expenses	<u>\$ 83,000</u>	<u>\$ 83,000</u>	<u>\$ -</u>	<u>\$ 83,000</u>	<u>\$ -</u>
Operating Expenses					
Consultants & Contracts	\$ -	\$ -	\$ -	\$ -	\$ -
Office Rent	-	-	-	-	-
Office Costs	62,440	62,440	-	62,440	-
Professional Services	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Depreciation	-	-	-	-	-
Total Operating Expenses	<u>\$ 62,440</u>	<u>\$ 62,440</u>	<u>\$ -</u>	<u>\$ 62,440</u>	<u>\$ -</u>
Total Direct Expenses	<u>\$ 1,425,532</u>	<u>\$ 1,425,532</u>	<u>\$ -</u>	<u>\$ 1,375,949</u>	<u>\$ (49,583)</u>
Indirect Expenses	<u>\$ 646,979</u>	<u>\$ 646,979</u>	<u>\$ -</u>	<u>\$ 685,397</u>	<u>\$ 38,418</u>
Other Non-Operating Expenses	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>
Total Expenses	<u>\$ 2,072,511</u>	<u>\$ 2,072,511</u>	<u>\$ -</u>	<u>\$ 2,061,346</u>	<u>\$ (11,165)</u>
Change in Assets	<u>\$ (511,837)</u>	<u>\$ (511,836)</u>	<u>\$ -</u>	<u>\$ (287,541)</u>	<u>\$ 224,296</u>
Fixed Assets					
Depreciation	-	-	-	-	-
Computer & Software CapEx	-	-	-	-	-
Allocation of Fixed Assets	(18,716)	(18,716)	\$ -	(9,848)	\$ 8,868
Inc(Dec) in Fixed Assets	<u>\$ (18,716)</u>	<u>\$ (18,716)</u>	<u>\$ -</u>	<u>\$ (9,848)</u>	<u>\$ 8,868</u>
TOTAL BUDGET	<u>\$ 2,053,795</u>	<u>\$ 2,053,795</u>	<u>\$ -</u>	<u>\$ 2,051,498</u>	<u>\$ (2,297)</u>
TOTAL CHANGE IN WORKING CAPITAL	<u>\$ (493,121)</u>	<u>\$ (493,120)</u>	<u>\$ -</u>	<u>\$ (277,692)</u>	<u>\$ 215,428</u>
FTEs	6.25	6.25	-	6.00	(0.25)

Approved by the Texas RE Board of Directors May 23, 2018

Training, Education, and Continuing Education Program

Training, Education and Operator Certification (in whole dollars)			
	2018 Budget	2019 Budget	Increase (Decrease)
Total FTEs	2.25	2.25	-
Direct Expenses	\$ 321,657	\$ 309,414	\$ (12,243)
Indirect Expenses	\$ 232,912	\$ 257,024	\$ 24,111
Other Non-Operating Expenses	\$ -	\$ -	\$ -
Inc(Dec) in Fixed Assets	\$ (6,738)	\$ (3,693)	\$ 3,045
Total Funding Requirement	\$ 547,832	\$ 562,745	\$ 14,913

Program Scope and Functional Description

Texas RE’s Training, Education, and Continuing Education Program provides education and training primarily focused on implementation of the CMEP (including processes and expectations), application of NERC and Regional Reliability Standards, lessons learned from event analysis, and other related information pertinent to system reliability and compliance. Texas RE subject matter experts from other Programs provide expertise for educational materials, meetings, and workshops. In addition, Texas RE provides assistance for the annual ERCOT Operator Training Seminar.

Texas RE will continue to coordinate Standards and Compliance workshops and other education and sharing meetings and webinars, including *Talk with Texas RE*, in 2019. The purpose of these workshops, meetings, and webinars is to provide standards, compliance, and procedural information and expectations, share lessons learned and best practices, obtain feedback from stakeholders, and provide sharing opportunities for registered entities and other stakeholders. Texas RE will use cost-effective additional education mechanisms such as webinars, newsletters, and conference calls, and will coordinate presentations by Texas RE subject matter experts at other industry meetings.

2019 Key Assumptions

- Additional resources may be required to support training related to ERO initiatives that are difficult to ascertain at this time.

2019 Goals and Key Deliverables

- Communicate and maintain effective relationships with industry, regulators, and stakeholders.
- Promote stakeholder engagement in Texas RE and the ERO Enterprise, including attending training opportunities.

- Develop technical materials for and present Reliability Standards and Compliance workshops for registered entities.
- Present additional workshops, webinars, meetings, and other industry outreach, including *Talk with Texas RE* meetings to support CMEP implementation and any new or modified NERC Reliability Standards, procedures, or programs.
- Create and publish newsletters that disseminate lessons learned for registered entities and include useful updates regarding standard revisions and interpretations, other reliability or compliance-related information, and Texas RE and NERC activities.
- Maintain the Texas RE website.
- Develop an Annual Report summarizing the prior year's accomplishments.
- Coordinate with and provide Texas RE subject matter experts as a resource for ERCOT regional stakeholder training and NERC compliance and reliability working groups.
- Provide a mechanism for workshop, webinar, and meeting participants and other stakeholders to provide feedback and suggestions to be used to enhance future workshops, webinars, and meetings.

Resource Requirements

Personnel Expenses

The number of FTEs assigned to this Program are remaining constant in 2019.

Consultants and Contracts

Consulting support and contracts costs are remaining constant in 2019.

Section A — 2019 Business Plan and Budget – Statutory Programs

Training, Education, and Continuing Education Program

The following table shows the funding sources and related expenses for the Training, Education, and Continuing Education Program for 2019. Explanations of variances by expense category are included with the Supplemental Tables found in Section B.

Statement of Activities, Fixed Assets Expenditures and Change in Working Capital					
2018 Budget & Projection, and 2019 Budget					
TRAINING, EDUCATION and OPERATOR CERTIFICATION					
	2018 Budget	2018 Projection	Variance 2018 Projection v 2018 Budget Over(Under)	2019 Budget	Variance 2018 Budget v 2019 Budget Over(Under)
Funding					
ERO Funding					
NERC Assessments	\$ 548,367	\$ 548,367	\$ -	\$ 658,740	\$ 110,373
Penalty Sanctions	13,378	13,378	-	5,691	(7,688)
Total NERC Funding	\$ 561,745	\$ 561,745	\$ -	\$ 664,431	\$ 102,686
Interest	97	97	-	746	649
Total Funding	\$ 561,842	\$ 561,842	\$ -	\$ 665,177	\$ 103,334
Expenses					
Personnel Expenses					
Salaries	\$ 194,818	\$ 194,818	\$ -	\$ 197,995	\$ 3,177
Payroll Taxes	13,676	13,676	-	14,114	438
Benefits	46,679	46,679	-	48,701	2,022
Retirement Costs	27,264	27,264	-	26,424	(840)
Total Personnel Expenses	\$ 282,437	\$ 282,437	\$ -	\$ 287,234	\$ 4,797
Meeting & Travel Expenses					
Meetings	\$ 6,000	\$ 6,000	\$ -	\$ 4,500	\$ (1,500)
Travel	3,280	3,280	-	2,480	(800)
Conference Calls	20,000	20,000	-	6,000	(14,000)
Total Meeting & Travel Expenses	\$ 29,280	\$ 29,280	\$ -	\$ 12,980	\$ (16,300)
Operating Expenses					
Consultants & Contracts	\$ 3,000	\$ 3,000	\$ -	\$ 3,000	\$ -
Office Rent	-	-	-	-	-
Office Costs	6,940	6,940	-	6,200	(740)
Professional Services	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Depreciation	-	-	-	-	-
Total Operating Expenses	\$ 9,940	\$ 9,940	\$ -	\$ 9,200	\$ (740)
Total Direct Expenses	\$ 321,657	\$ 321,657	\$ -	\$ 309,414	\$ (12,243)
Indirect Expenses	\$ 232,912	\$ 232,912	\$ -	\$ 257,024	\$ 24,111
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses	\$ 554,570	\$ 554,570	\$ -	\$ 566,438	\$ 11,869
Change in Assets	\$ 7,273	\$ 7,273	\$ -	\$ 98,739	\$ 91,466
Fixed Assets					
Depreciation	-	-	-	-	-
Computer & Software CapEx	-	-	-	-	-
Allocation of Fixed Assets	(6,738)	(6,738)	-	(3,693)	3,045
Inc(Dec) in Fixed Assets	\$ (6,738)	\$ (6,738)	\$ -	\$ (3,693)	\$ 3,045
TOTAL BUDGET	\$ 547,832	\$ 547,832	\$ -	\$ 562,745	\$ 14,913
TOTAL CHANGE IN WORKING CAPITAL	\$ 14,011	\$ 14,011	\$ -	\$ 102,432	\$ 88,421
FTEs	2.25	2.25	-	2.25	-

Approved by the Texas RE Board of Directors May 23, 2018

Administrative Services

Administrative Services						
	Direct Expenses & Fixed Assets			FTEs		
	2018 Budget	2019 Budget	Inc (Dec)	2018 Budget	2019 Budget	Inc (Dec)
General and Administrative	2,233,989	2,564,699	330,711	3.00	4.00	1.00
Legal and Regulatory	544,767	552,887	8,120	2.75	2.75	-
Information Technology	1,341,604	1,374,599	32,994	5.00	5.00	-
Human Resources	96,640	109,410	12,770	-	-	-
Finance and Accounting	432,142	493,166	61,024	3.00	3.00	-
Total Administrative Services	4,649,142	5,094,761	445,619	13.75	14.75	1.00

Program Scope and Functional Description

The Administrative Services Program is comprised of the following programs: General and Administrative, Legal and Regulatory, Information Technology, Human Resources, and Finance and Accounting. The resource requirements and comparative budget information for each of these functions is described below.

Texas RE allocates its general and administrative expenses to the functional/direct areas proportionately based on FTE count. Each direct activity receives a pro-rata allocation of expense based on its FTEs compared to total FTEs.

Fixed asset additions that benefit the entire corporation that are not specific to any one activity/function will be allocated based on FTEs to all of the direct activities.

General and Administrative

This Program includes the President and CEO, the Vice President and Chief Operating Officer (VP), the personnel costs for the HR Department, and the compensation and expenses of the Texas RE Board. The President and CEO carries out the general affairs of Texas RE including administrative and corporate facilities support. The President and CEO reports to the Board and is responsible for leading, overseeing and managing the activities of Texas RE, managing relationships with NERC, FERC, registered entities, and other stakeholders, and for making final decisions with respect to non-contested enforcement actions. The VP performs a leadership role in coordinating and facilitating the activities of all Texas RE programs. The VP reports to the CEO and acts on behalf of the CEO in his absence.

Personnel expenses for Human Resources (HR) are included in General and Administrative (G&A). The benefits expenses in G&A include tuition reimbursement, training and classes, and relocation costs.

The number of FTEs assigned to this Program is 1.0 more than 2018. The Vice President and Chief Operating Officer costs have been removed from individual Program budgets. Those costs are now assigned to Administrative Services and are allocated among Programs based on

Program FTE count during the year. This change increases budgeted Indirect Costs and decreases budgeted direct statutory program costs, without changing total budgeted costs.

Consulting support and contracts costs are remaining constant in 2019.

Legal and Regulatory

The Legal and Regulatory area provides legal advice, counsel, and governmental and external relations support to Texas RE management, Board, and employees, on all legal and regulatory matters affecting the organization. The Legal and Regulatory group also oversees (1) corporate membership enrollment, meetings, and voting; (2) Board meetings, minutes, support, training, and other activities; (3) corporate documents and transactions; (4) governmental, regulatory relations, and communications; (5) the work of any outside legal counsel; and (6) the prosecution of any contested enforcement matters.

2019 Key Assumptions

- Texas RE will maintain the scope of its current operations.
- Activities of the Legal and Regulatory program will be consistent with current levels, but may increase due to external litigation activities.

2019 Key Deliverables and Goals

- Provide timely, useful legal advice to the CEO, the Board, and all Program areas, and provide annual employee and Board ethics and antitrust compliance training.
- Effectively communicate information to the Board, Texas RE members, and registered entities.
- Oversee membership registration, membership voting and meetings, and maintain an accurate roster of members.
- Maintain effective relationships and communications with NERC, FERC, PUCT, and other state and federal representatives, and timely file all documents required by NERC or FERC.
- Review contracts and corporate documents.
- Update and maintain corporate policies and procedures.
- Oversee the prosecution and any appeal of contested enforcement or disputed registration matters.

The budgeted number of FTEs for Legal and Regulatory is remaining constant in 2019.

Consulting support and contracts are consistent with the 2018 budget.

Legal Fees are decreasing by 29.7% to reflect actual cost experience.

Information Technology

Texas RE's Information Technology (IT) and security program provides IT and security support to Texas RE, including the following: hardware, systems, software, and applications support; physical and electronic and security, data center operations, IT and security-related vendor management; strategy, planning, development, and deployment of enterprise systems and applications, including training and planning for improvement and efficiency of business processes and operations.

Texas RE's approach is to keep its in-house IT staff small and efficiently outsource maintenance, services, and major development to ensure that applications and hardware are well maintained, service levels remain high, costs are controlled, and systems are consistent with business, regional, and federal requirements.

Texas RE supports the ERO efforts to implement, operate, and maintain software tools supporting common enterprise-wide operations that have been approved by the ERO Executive Management Group (ERO-EMG), which is comprised of the senior leadership of NERC and each of the Regional Entities. Texas RE's budget assumes the availability of enterprise software tools as described in NERC's Business Plan and Budget. If implementation of these software applications is delayed or otherwise not available as planned, Texas RE could incur additional costs to conduct operations pending the availability of these applications.

NERC and the Regional Entities are committed to working collaboratively to minimize duplication of effort and investments, and improve operational efficiency. This collaboration continues to refine existing strategies, governance, and procurement practices applicable to the development, operation, and maintenance of enterprise architecture, software, and data systems supporting combined NERC and Regional Entity operations.

The NERC information technology budget does not supplant Texas RE's need for IT expenditures for specific regional projects and internal region-specific IT support needs. Texas RE's 2019 Business Plan and Budget assumes agreed-upon ERO Enterprise applications will be available and includes Texas RE costs for internal region-specific support needs.

2019 Key Assumptions

- Focus on better leverage of current technology to support business functions and workflow.
- Increase knowledge of industry best practices for security, data management, and system administration.

2019 Goals and Key Deliverables

- Provide IT and security support to all Texas RE's operations, including: IT and security budget; infrastructure; service support; service design and delivery; service transition; and hardware and network security in a secure and efficient manner, with the following strategy:
 - Continue to develop knowledge of systems through training and experience to reduce the reliance on external vendors.

- Continue to utilize third-party security services to evaluate and test Texas RE's security posture, while fostering maturity in Texas RE's Internal Controls Program and security posture.
 - Continue to maintain the appropriate number of employees to oversee the strategy, policies and procedures, service, and performance, budget, and vendor management. Cross-train employees to serve as backups and mentors to each other.
 - Continue to outsource IT and security services that are not within the core competencies or IT's cost-containment plan, and augment employees with temporary contractors as needed to meet business requirements while developing knowledge of systems through training and experience to reduce the reliance on external vendors.
- Develop internal applications to increase consistency, efficiency, and assist users in business processes.
 - Assist business staff with enhancement requests and other IT-related project requirements, and prioritize and oversee all IT or security-related projects.
 - Coordinate and share best practices with other Regional Entities and NERC.
 - Participate in the design, planning and implementation of ERO Centralized Applications.
 - Continue the Security Awareness Program that addresses, through education and training, social media vulnerabilities that pose threats to Texas RE systems.
 - Train and support Texas RE staff on software and applications.
 - Continue to develop and test failover and disaster recovery methods for all Texas RE systems.

The budgeted number of FTEs for IT are remaining constant in 2019.

IT-Managed Services, which is included in the consulting support and contracts category, are increasing to reflect costs associated with participation in the CRISP program.

Human Resources

The Texas RE Human Resources (HR) program area is responsible for the delivery of all HR functions including: recruitment, staffing, compensation, benefits, health and safety, employee relations, performance management, and employee training and development. HR maintains Human Resources Information System products and ensures compliance with all federal and state requirements.

2019 Key Assumptions

- Provide competitive compensation and benefits.
- Ensure that Texas RE maintains a skilled, qualified workforce.
- Maintain appropriate salaries and benefits based on industry data.

2019 Goals and Key Deliverables

- Recruit highly skilled employees.
- Review and update employee handbook and policies and procedures, as needed.
- Review and manage employee benefit plans.
- Review Texas RE compensation strategy in concert with executive management team to ensure Texas RE remains a competitive employer in its industry.

Personnel expenses are reported under G&A.

Consulting services and contracts are increasing by 14.3% in 2019. The 2018 budget planned for two compensation studies consisting of an all staff survey and custom Regional Entity salary study with different consultants. The 2019 budget plans for three studies: all staff compensation and benefits study, President and CEO compensation study, as well as a potential custom Regional Entity compensation study.

Finance and Accounting

The Finance and Accounting function provides all accounting services and financial analysis for Texas RE. Texas RE Finance and Accounting personnel are responsible for general accounting and reporting, budget preparation and reporting, cash management, and tax filing.

2019 Key Assumptions

- Current accounting systems and controls are adequate.
- Identify and implement efficiencies in financial processes.
- Provide improved reporting and financial analysis to Directors, the Audit, Governance, and Finance Committee, and the Board of Directors.

2019 Goals and Key Deliverables

- Work with all Regional Entities to provide consistency in budget submittals to NERC and FERC.
- Provide improved reporting and financial analysis to the Texas RE CEO, managers, and the Texas RE Board.
- Ensure strong internal controls designed to protect the assets of Texas RE and ensure accurate financial reporting.
- Identify and implement efficiencies in the financial processes.
- Ensure that Texas RE receives an unqualified opinion on the audit of its financial statements.

The budgeted number of FTEs for Finance and Accounting are remaining constant in 2019.

No consulting support and contracts are budgeted for 2019, which is consistent with the 2018 budget.

Administrative Services

The following table shows funding sources and related expenses for the Administrative Services section of the 2019 Business Plan and Budget. Explanations of variances by expense category are included with the Department Section and with the Supplemental Tables found in Section B.

Statement of Activities, Fixed Assets Expenditures and Change in Working Capital					
2018 Budget & Projection, and 2019 Budget					
ADMINISTRATIVE SERVICES					
	2018 Budget	2018 Projection	Variance 2018 Projection v 2018 Budget Over(Under)	2019 Budget	Variance 2018 Budget v 2019 Budget Over(Under)
Funding					
ERO Funding					
NERC Assessments	\$ -	\$ -	\$ -	\$ -	\$ -
Penalty Sanctions	-	-	-	-	-
Total NERC Funding	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>
Total Funding	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>
Expenses					
Personnel Expenses					
Salaries	\$ 1,826,825	\$ 1,826,825	\$ -	\$ 2,096,766	\$ 269,940
Payroll Taxes	100,144	100,144	-	114,670	14,526
Benefits	305,687	305,687	-	356,091	50,403
Retirement Costs	270,388	270,388	-	277,131	6,743
Total Personnel Expenses	<u>\$ 2,503,044</u>	<u>\$ 2,503,044</u>	<u>\$ -</u>	<u>\$ 2,844,657</u>	<u>\$ 341,613</u>
Meeting and Travel Expenses					
Meetings	\$ 16,800	\$ 16,800	\$ -	\$ 14,000	\$ (2,800)
Travel	112,220	112,220	-	111,640	(580)
Conference Calls	650	650	-	-	(650)
Total Meeting & Travel Expenses	<u>\$ 129,670</u>	<u>\$ 129,670</u>	<u>\$ -</u>	<u>\$ 125,640</u>	<u>\$ (4,030)</u>
Operating Expenses					
Consultants & Contracts	\$ 179,200	\$ 179,200	\$ -	\$ 235,250	\$ 56,050
Office Rent	689,648	689,648	-	707,214	17,566
Office Costs	561,380	561,380	-	598,300	36,920
Professional Services	556,200	556,200	-	553,700	(2,500)
Depreciation	168,500	168,500	-	104,273	(64,227)
Total Operating Expenses	<u>\$ 2,154,928</u>	<u>\$ 2,154,928</u>	<u>\$ -</u>	<u>\$ 2,198,738</u>	<u>\$ 43,810</u>
Total Direct Expenses	<u>\$ 4,787,642</u>	<u>\$ 4,787,642</u>	<u>\$ -</u>	<u>\$ 5,169,034</u>	<u>\$ 381,392</u>
Indirect Expenses	<u>\$ (4,787,642)</u>	<u>\$ (4,787,642)</u>	<u>\$ -</u>	<u>\$ (5,169,034)</u>	<u>\$ (381,392)</u>
Other Non-Operating Expenses	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>
Total Expenses	<u>\$ (0)</u>	<u>\$ (0)</u>	<u>\$ -</u>	<u>\$ (0)</u>	<u>\$ 0</u>
Change in Assets	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ -</u>	<u>\$ 0</u>	<u>\$ (0)</u>
Fixed Assets					
Depreciation	(168,500)	(168,500)	-	(104,273)	64,227
Computer & Software CapEx	30,000	30,000	-	30,000	-
Allocation of Fixed Assets	138,500	138,500	-	74,273	(64,227)
Inc(Dec) in Fixed Assets	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>
TOTAL BUDGET	<u>\$ (0)</u>	<u>\$ (0)</u>	<u>\$ -</u>	<u>\$ (0)</u>	<u>\$ 0</u>
TOTAL CHANGE IN WORKING CAPITAL	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ -</u>	<u>\$ 0</u>	<u>\$ (0)</u>
FTEs	3.00	3.00	-	4.00	1.00

Approved by the Texas RE Board of Directors May 23, 2018

Section B – Supplemental Financial Information

2019 Business Plan and Budget



Section B — Supplemental Financial Information

Table B-1 – Reserve Balance

Working Capital Reserve Analysis 2018-2019	
STATUTORY	
Beginning Working Capital Reserve (Deficit), December 31, 2017	2,422,616
Plus: 2018 Funding (from LSEs or designees)	11,546,986
Plus: 2018 Other funding sources	2,000
Less: 2018 Projected expenses & capital expenditures	(12,656,953)
Projected Working Capital Reserve (Deficit), December 31, 2018	1,314,649
Desired Working Capital Reserve, December 31, 2019	1,622,500
Minus: Projected Working Capital Reserve, December 31, 2018	(1,314,649)
Increase(decrease) in funding requirement to achieve Working Capital Reserve	307,850
2019 Expenses and Capital Expenditures	13,069,599
Less: Penalty Sanctions ¹	(114,449)
Less: Other Funding Sources	(15,000)
Adjustment to achieve desired Working Capital Reserve	307,850
2019 NERC Assessment	13,248,000

¹ Represents collections on or prior to June 30, 2018.

Explanation of Changes in Reserve Policy from Prior Years

The Board-approved Working Capital and Operating Reserve Policy calls for Texas RE to retain a \$2,000,000 cash reserve, or an amount as adjusted by the Board, or as required by regulators. For the 2018 budget period, the Board of Directors approved a reduction to the Operating Reserve to \$1,245,000 to reduce the amount of increase in assessments. The reserve will be replenished in the 2019 and 2020 budgets. The projected Operating Reserve for the 2019 budget period is \$1,622,500.

Breakdown by Statement of Activity Sections

The following detailed schedules are in support of the statement of activities on page 9 of the 2019 Texas RE Business Plan and Budget. All significant variances have been disclosed by program area in the preceding pages.

Texas RE anticipates no variance between budgeted and actual/forecasted results for 2018. The 2019 budget was based on this information.

Penalty Sanctions

Penalty monies received by June 30, 2018 are to be used to offset assessments in the 2019 Budget, as documented in the NERC Policy – *ACCOUNTING, FINANCIAL STATEMENT AND BUDGETARY TREATMENT OF PENALTIES IMPOSED AND RECEIVED FOR VIOLATIONS OF RELIABILITY STANDARD*. Penalty monies received from July 1, 2018 through June 30, 2019 will be used to offset assessments in the 2020 Budget.

All penalties received by June 30, 2018 are detailed in Exhibit B-2.

Allocation Method: Penalty sanctions received have been allocated to the following statutory programs to reduce assessments: Reliability Standards; Compliance Monitoring & Enforcement and Organization Registration & Certification; Reliability Assessments and Performance Analysis; and Training, Education and Operator Certification. Penalty sanctions are allocated based on the number of FTEs in the program divided by the aggregate total FTEs in the programs receiving the allocation.

Table B-2 – Penalty Sanctions

Penalty Sanctions Received On or Prior to June 30, 2018	Date Received	Amount Received
General Excise Tax	10/4/2017	\$ 80,000
APR	10/16/2017	34,449
Total Penalties Received		<u>\$ 114,449</u>

Table B-3 – Supplemental Funding

Outside Funding Breakdown By Program (Excluding Penalty Sanction)	Budget 2018	Projection 2018	Budget 2019	Variance 2019 Budget v 2018 Budget
Reliability Standards				
Total	\$ -	\$ -	\$ -	\$ -
Compliance Monitoring, Enforcement & Org. Registration				
Total	\$ -	\$ -	\$ -	\$ -
Reliability Assessment and Performance Analysis				
Total	\$ -	\$ -	\$ -	\$ -
Training and Education				
Total	\$ -	\$ -	\$ -	\$ -
Situation Awareness and Infrastructure Security				
Total	\$ -	\$ -	\$ -	\$ -
General and Administrative				
Interest Income	\$ 2,000	\$ 2,000	\$ 15,000	\$ 13,000
Total	\$ 2,000	\$ 2,000	\$ 15,000	\$ 13,000
Total Outside Funding	\$ 2,000	\$ 2,000	\$ 15,000	\$ 13,000

Explanation of Significant Variances – 2019 Budget versus 2018 Budget

- Texas RE anticipates its investments will earn interest of approximately \$15,000 in 2019. Texas RE’s banking account was converted to the Business Banking U.S. End of Day Money Market Mutual Fund Sweep account. The change in account type allowed for higher interest and dividend collections. The increase reflects interest and dividend income in 2017.

Table B-4 – Personnel Expenses

Personnel Expenses	Budget 2018	Projection 2018	Budget 2019	Variance 2019 Budget v 2018 Budget	Variance %
Total Salaries	\$ 7,151,136	\$ 7,151,136	\$ 7,394,175	\$ 243,039	3.4%
Total Payroll Taxes	470,791	470,791	506,088	35,297	7.5%
Total Benefits	1,321,116	1,321,116	1,383,053	61,936	4.7%
Total Retirement	1,015,772	1,015,772	1,019,478	3,706	0.4%
Total Personnel Costs	\$ 9,958,815	\$ 9,958,815	\$ 10,302,794	\$ 343,979	3.5%
FTEs	60.00	60.00	60.00	-	0.0%
Cost per FTE					
Salaries	\$ 119,186	\$ 119,186	\$ 123,236	4,051	3.4%
Payroll Taxes	7,847	7,847	8,435	588	7.5%
Benefits	22,019	22,019	23,051	1,032	4.7%
Retirement	16,930	16,930	16,991	62	0.4%
Total Cost per FTE	\$ 165,980	\$ 165,980	\$ 171,713	\$ 5,733	3.5%

Explanation of Significant Variances – 2019 Budget versus 2018 Budget

- Total costs for Texas RE personnel expenses are increasing by 3.5%. Salaries expense includes a 3% increase for 2019. An additional 0.4% increase in that category is due to promotions and market adjustments.
- Payroll taxes are increasing 7.5%, which includes a significant increase in State Unemployment Insurance Tax.
- Total Benefits expense is increasing 4.7%. Health-plan expense is projected to increase 15% in 2019. Employee Benefits include education reimbursement, relocation expenses, and training and professional development.
- Retirement costs are only increasing 0.4%. Forfeiture funds are used when available to fund the employer portion of retirement plan cost keeping the expense lower.

Table B-5 – Meeting & Travel Expenses

Meeting and Travel Expenses	Budget 2018	Projection 2018	Budget 2019	Variance 2019 Budget v 2018 Budget	Variance %
Meetings	\$ 23,800	\$ 23,800	\$ 19,800	\$ (4,000)	-16.8%
Travel	372,900	372,900	349,770	(23,130)	-6.2%
Conference Calls	26,950	26,950	20,000	(6,950)	-25.8%
	<u>\$ 423,650</u>	<u>\$ 423,650</u>	<u>\$ 389,570</u>	<u>\$ (34,080)</u>	<u>-8.0%</u>

Explanation of Significant Variances – 2019 Budget versus 2018 Budget

- The budget for all categories travel has been reduced due to cost saving efforts and to align with actual costs in 2017.
- Changing the webinar service provider will reduce costs for online meetings and conference calls.

Table B-6 – Consultants and Contracts

Consultants and Contracts	Budget 2018	Projection 2018	Budget 2019	Variance 2019 Budget v 2018 Budget	Variance %
Reliability Standards	\$ -	\$ -	\$ -	\$ -	
Compliance and Organization Registration and Certification	169,000	169,000	162,000	(7,000)	-4.1%
Reliability Assessment and Performance Analysis	-	-	-	-	
Training and Education	3,000	3,000	3,000	-	0.0%
General and Administrative	80,000	80,000	80,000	-	0.0%
Legal and Regulatory	3,200	3,200	2,250	(950)	-29.7%
Information Technology	26,000	26,000	73,000	47,000	180.8%
Human Resources	70,000	70,000	80,000	10,000	14.3%
Accounting and Finance	-	-	-	-	
Consultants Total	\$ 351,200	\$ 351,200	\$ 400,250	\$ 49,050	14.0%

Explanation of Significant Variances – 2019 Budget versus 2018 Budget

For an explanation of the variances, refer to the Resource Requirements section in each program area in Section A.

Table B-7 – Office Rent

Rent	Budget 2018	Projection 2018	Budget 2019	Variance 2019 Budget v 2018 Budget	Variance %
Office Rent	\$ 477,648	\$ 477,648	\$ 442,214	\$ (35,434)	-7.4%
Utilities	200,000	200,000	\$ 250,000	50,000	25.0%
Maintenance	12,000	12,000	\$ 15,000	3,000	25.0%
Total Office Rent & Utilitites	\$ 689,648	\$ 689,648	\$ 707,214	\$ 17,566	2.5%

Explanation of Significant Variances – 2019 Budget versus 2018 Budget

- Deferred Rent has offset rent expense in 2019 causing the 7.4% decrease.
- Utilities and maintenance are allocated by the property manager based on the prior year’s usage, price, and square footage. Application of these factors results in an anticipated increase in 2019 of \$50,000 for Utilities and \$3,000 in Maintenance.

Table B-8 – Office Costs

Office Costs	Budget		Projection		Variance	
	2018	2018	2018	2019	2019 Budget v 2018 Budget	Variance %
Telephone/Cell Phone	\$ 41,760	\$ 41,760	\$ 41,760	\$ 41,760	\$ -	0.0%
Internet Expense	130,000	130,000	128,000	128,000	(2,000)	-1.5%
Office Supplies	47,920	47,920	40,920	40,920	(7,000)	-14.6%
Computer Supplies & Maintenance	30,650	30,650	36,400	36,400	5,750	18.8%
IT Remote Support	-	-	1,350	1,350	1,350	100.0%
Software & Software Maintenance	189,300	189,300	191,000	191,000	1,700	0.9%
Subscriptions & Publications	28,250	28,250	23,950	23,950	(4,300)	-15.2%
Dues	7,785	7,785	8,305	8,305	520	6.7%
Postage	425	425	685	685	260	61.2%
Express Shipping	700	700	350	350	(350)	-50.0%
Stationary & Office Forms	2,000	2,000	2,200	2,200	200	10.0%
Equipment Repair/Srv. Contracts	2,000	2,000	13,000	13,000	11,000	550.0%
Bank Charges	1,500	1,500	1,500	1,500	-	0.0%
Property Taxes	10,000	10,000	15,400	15,400	5,400	54.0%
Merchant Credit Card Fee	1,400	1,400	500	500	(900)	-64.3%
IT-Leased Equipment	150,000	150,000	177,000	177,000	27,000	18.0%
Office Furniture & Equipment Exp	2,500	2,500	2,500	2,500	-	0.0%
Employment Related Fees	1,250	1,250	1,250	1,250	-	0.0%
Total Office Costs	\$ 647,440	\$ 647,440	\$ 686,070	\$ 686,070	\$ 38,630	5.97%

Explanation of Significant Variances – 2019 Budget versus 2018 Budget

- All categories in the Office Costs have been adjusted in the 2019 budget to more accurately reflect actual experience.
- Office Supplies decreased due to lowering the on-hand supply inventory and ordering as needed.
- Computer Supplies and Maintenance are increasing primarily due to costs for supplies for updated copy machines and equipment.
- IT Remote Support is a new account set up for the support for Go to Assist, which is a remote access tool used by IT to assist users remotely with computer issues.
- Subscriptions and Publications are decreasing for Board of Director meeting package publication software to reflect actual experience.
- Dues increase is due to more employees maintaining professional licenses.
- Postage is increasing but is offset in part by the decrease in Express Shipping.
- Equipment Repair/Service Contracts is increasing due consumables and usage on the Xerox copiers and small repairs not covered under contracts.
- Property Tax rates increased in both Travis County and Bexar County.
- Merchant Credit Card Fee is decreasing due to a change in the type of merchant card for Accounts Payable.

- IT-Leased equipment is increasing due to adding more equipment to the laptop and server lease and adding a new lease for copy machines.

Table B-9 – Professional Services

Professional Services	Budget 2018	Projection 2018	Budget 2019	Variance	
				2019 Budget v 2018 Budget	Variance %
Board of Director Fees	\$ 282,500	\$ 282,500	\$ 298,000	\$ 15,500	5.5%
Accounting & Auditing Fees	45,000	45,000	50,000	5,000	11.1%
Legal Fees	50,000	50,000	40,000	(10,000)	-20.0%
Insurance - Commercial	72,000	72,000	73,000	1,000	1.4%
Professional Services-Other	106,700	106,700	92,700	(14,000)	-13.1%
Total Professional Services	\$ 556,200	\$ 556,200	\$ 553,700	\$ (2,500)	-0.4%

Explanation of Significant Variances – 2019 Budget versus 2018 Budget

- Board of Director Fees have been adjusted to reflect the potential increases recommended by a compensation study.
- Accounting and Auditing Fees are increasing slightly due to annual price adjustment.
- Legal Fees are decreasing to reflect actual cost based on experience.
- Commercial Insurance is projected to increase slightly based on an estimate from the broker.
- Professional Services – Other is decreasing. The 2018 budget included a Social Organization Control Operating (SOCII) audit that is not included in 2019.

Table B-10 – Miscellaneous Expense

Miscellaneous	Budget		Projection		Budget		Variance	
	2018		2018		2019		2019 Budget v 2018 Budget	Variance %
Miscellaneous Expense	\$	-	\$	-	\$	-	\$	-
Total Miscellaneous Expenses	\$	-	\$	-	\$	-	\$	-

Explanation of Significant Variances – 2019 Budget versus 2018 Budget

- N/A

Table B-11 – Other Non-Operating Expenses

Other Non-Operating Expenses	Budget	Projection	Budget	Variance	
	2018	2018	2019	2019 Budget v 2018 Budget	Variance %
Interest Expense	\$ -	\$ -	\$ -	\$ -	-
Line of Credit Payment					-
Office Relocation	-	-	-	-	-
Total Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	-

Explanation of Significant Variances – 2019 Budget versus 2018 Budget

- N/A

Table B-12 – Fixed Assets

Fixed Assets	Budget	Projection	Budget	Variance	
	2018	2018	2019	2019 Budget v 2018 Budget	Variance %
Depreciation	\$ (168,500)	\$ (168,500)	\$ (104,273)	\$ 64,227	-38.1%
Computer & Software CapEx	30,000	30,000	30,000	-	0.0%
Furniture & Fixtures CapEx	-	-	-	-	
Equipment CapEx	-	-	-	-	
Leasehold Improvements	-	-	-	-	
Total Fix Assets	\$ (138,500)	\$ (138,500)	\$ (74,273)	\$ 64,227	-46.4%

Explanation of Significant Variances – 2019 Budget versus 2018 Budget

- Depreciation is decreasing 38.1% due to certain assets fully depreciating.
- Computer and Software CapEx is remaining the same.

Table B-13 – 2020 and 2021 Projection

Statement of Activities, Fixed Assets Expenditures and Change in Working Capital 2019 Budget & Projected 2020 and 2021 Budgets							
	2019 Budget	2020 Projection	\$ Change 20 v 19	% Change 20 v 19	2021 Projection	\$ Change 21 v 20	% Change 21 v 20
Funding							
ERO Funding							
NERC Assessments	\$ 13,248,000	\$ 13,777,920	\$ 529,920	4.0%	\$ 14,349,037	\$ 571,117	4.0%
Penalty Sanctions	114,449	-	(114,449)	-100.00%	-	-	
Total NERC Funding	\$ 13,362,449	\$ 13,777,920	\$ 415,471	3.1%	\$ 14,349,037	\$ 571,117	4.0%
Membership Dues	-	\$ -	-		-	-	
Interest	15,000	15,600	600	4.00%	16,224	624	4.0%
Total Funding	\$ 13,377,449	\$ 13,793,520	\$ 416,071	3.1%	\$ 14,365,261	\$ 571,741	4.1%
Expenses							
Personnel Expenses							
Salaries	\$ 7,394,175	\$ 7,689,943	\$ 295,767	4.0%	\$ 7,997,540	\$ 307,598	4.0%
Payroll Taxes	506,088	526,332	20,244	4.0%	547,385	21,053	4.0%
Benefits	1,383,053	1,438,375	55,322	4.0%	1,495,910	57,535	4.0%
Retirement Costs	1,019,478	1,060,257	40,779	4.0%	1,102,667	42,410	4.0%
Total Personnel Expenses	\$ 10,302,794	\$ 10,714,906	\$ 412,112	4.0%	\$ 11,143,502	\$ 428,596	4.0%
Meeting & Travel Expenses							
Meetings	\$ 19,800	\$ 20,592	\$ 792	4.0%	\$ 21,415.68	824	4.0%
Travel	349,770	363,761	13,991	4.0%	378,311	14,550	4.0%
Conference Calls	20,000	20,800	800	4.0%	21,632	832	4.0%
Total Meeting & Travel Expenses	\$ 389,570	\$ 405,153	\$ 15,583	4.0%	\$ 421,359	\$ 16,206	4.0%
Operating Expenses							
Consultants & Contracts	\$ 400,250	\$ 416,260	16,010	4.0%	\$ 432,910	16,650	4.0%
Office Rent	707,214	735,503	28,289	4.0%	764,923	29,420	4.0%
Office Costs	686,070	713,513	27,443	4.0%	742,053	28,541	4.0%
Professional Services	553,700	575,848	22,148	4.0%	598,882	23,034	4.0%
Depreciation	104,273	108,444	4,171	4.0%	112,782	4,338	4.0%
Total Operating Expenses	\$ 2,451,508	\$ 2,549,568	\$ 98,060	4.0%	\$ 2,651,551	\$ 101,983	4.0%
Total Direct Expenses	\$ 13,143,872	\$ 13,669,627	\$ 525,755	4.0%	\$ 14,216,412	\$ 546,785	4.0%
Indirect Expenses	\$ -	\$ -	\$ -	0.0%	\$ -	\$ -	0.0%
Other Non-Operating Expenses	\$ -	\$ -	\$ -		\$ -	\$ -	
Total Expenses	\$ 13,143,872	\$ 13,669,627	\$ 525,755	4.0%	\$ 14,216,412	\$ 546,785	4.0%
Change in Assets	\$ 233,577	\$ 123,893	\$ (109,684)	-47.0%	\$ 148,849	\$ 24,956	20.1%
Fixed Assets							
Depreciation	\$ (104,273)	\$ (108,444)	\$ (4,171)	4.0%	\$ (112,782)	\$ (4,338)	4.0%
Computer & Software CapEx	30,000	31,200	1,200	4.0%	32,448	1,248	4.0%
Inc(Dec) in Fixed Assets	\$ (74,273)	\$ (77,244)	\$ (2,971)	4.0%	\$ (80,334)	\$ 24,956	0.0%
TOTAL BUDGET	\$ 13,069,599	\$ 13,592,383	\$ 522,784	4.0%	\$ 14,136,078	\$ 546,785	4.0%
TOTAL CHANGE IN WORKING CAPITAL	\$ 307,850	\$ 201,137	\$ (106,713)	0.0%	\$ 229,183	28,045	13.9%
FTEs	60	60	-	0.0%	60	-	0.0%

2020 and 2021 Projection Analysis

- Assumes overall workload will remain consistent; reflects no additional FTEs and an overall expense increase of approximately 4% per year.

Section C – 2019 State (Non-Statutory) Activities 2019 Business Plan and Budget



Section C — 2019 State (Non-Statutory) Business Plan and Budget

State (Non-Statutory) Activities (in whole dollars)			
	2018 Budget	2019 Budget	Increase (Decrease)
Total FTEs	5.0	5.0	-
Direct Expenses	\$ 1,091,743	\$ 1,124,495	\$ 32,752
Indirect Expenses	-	-	-
Inc(Dec) in Fixed Assets	-	-	-
Total Funding Requirement	\$ 1,091,743	\$ 1,124,495	\$ 32,752

State (Non-Statutory) Functional Scope

Texas RE performs non-statutory activities as the ERCOT region Reliability Monitor on behalf of the Public Utility Commission of Texas (PUCT). As the Reliability Monitor, Texas RE audits and investigates market participants' compliance with ERCOT Protocols and Operating Guides (ERCOT Regional Rules), reports possible non-compliance with reliability-related regional rules to the PUCT, and provides testimony and support to the PUCT in enforcement cases prosecuted by the PUCT. These non-statutory activities are funded through the ERCOT ISO system administration fee and payment to Texas RE is authorized by the PUCT.

Major 2019 Assumptions and Cost Impacts

- Texas RE will continue to be the Reliability Monitor and perform ERCOT Regional Rules compliance monitoring and reporting for the PUCT in 2019.

2019 State (Non-Statutory) Goals and Objectives

- Appropriately monitor, investigate, and report to the PUCT regarding stakeholder compliance with the ERCOT Regional Rules.
- Review and assess system disturbances for potential violations of ERCOT Regional Rules and report all findings to the PUCT.
- Provide technical expertise to the PUCT for the review and modification of ERCOT Regional Rules that impact reliability.
- Provide technical or testimony support as needed to the PUCT for its enforcement of ERCOT Regional Rules violations.

Funding Sources

- State (Non-Statutory) activities are funded through the ERCOT ISO system administration fee and payment to Texas RE is authorized by the PUCT. Texas RE's total 2019 non-statutory budget and funding is \$1,124,495.
- Total expenses for 2019 are increasing 3% over 2018.

Personnel Expenses

- State (Non-statutory) personnel are remaining constant at 5 FTEs. Personnel expenses are increasing 3%. Payroll taxes reflect a significant increase in State
-

Unemployment Insurance. Benefits expenses are less than 2018 due to the cost for health insurance not increasing in 2018 as much as projected. One FTE will continue to represent the composite of time spent on non-statutory activities by employees who report to statutory and G&A program areas.

Meeting and Travel Expenses

- Meeting and travel expense is slightly higher in 2019 to reflect more mileage to attend local meetings. The increase in travel is offset with a decrease in conference call expense.

Operating Expenses

- Operating expenses are increasing in all categories to align with prior year costs.

Indirect Expenses

- Costs are being charged directly to the expense line item in 2019; therefore, no indirect expenses are charged.

Section C — 2019 Business Plan and Budget – 2019 State (Non-Statutory) Activities

2019 Budget and Projection and 2018 Budget Comparisons

Statement of Activities, Fixed Assets Expenditures and Change in Working Capital					
2018 Budget & Projection, and 2019 Budget					
STATE (NON-STATUTORY)					
	2018 Budget	2018 Projection	Variance 2018 Projection v 2018 Budget Over(Under)	2019 Budget	Variance 2018 Budget v 2019 Budget Over(Under)
Funding					
ERO Funding					
NERC Assessments	\$ -	\$ -		\$ -	\$ -
Penalty Sanctions	-	-		-	-
Total NERC Funding	\$ -	\$ -	\$ -	\$ -	\$ -
PUCT	\$ 1,091,743	\$ 1,091,743		\$ 1,124,495	\$ 32,752
Total Funding (A)	\$ 1,091,743	\$ 1,091,743	\$ -	\$ 1,124,495	\$ 32,752
Expenses					
Personnel Expenses					
Salaries	\$ 673,288	\$ 673,288		\$ 687,611	\$ 14,322
Payroll Taxes	37,920	37,920		46,449	8,529
Benefits	139,336	139,336		112,735	(26,601)
Retirement Costs	97,624	97,624		96,348	(1,276)
Total Personnel Expenses	\$ 948,168	\$ 948,168	\$ -	\$ 943,142	\$ (5,026)
Meeting Expenses					
Meetings	\$ -	\$ -		\$ -	-
Travel	1,800	1,800		4,380	\$ 2,580
Conference Calls	1,000	1,000		-	(1,000)
Total Meeting Expenses	\$ 2,800	\$ 2,800	\$ -	\$ 4,380	\$ 1,580
Operating Expenses					
Consultants & Contracts	\$ 24,927	\$ 24,927		\$ 44,132	19,205
Office Rent	58,752	58,752		70,890	12,138
Office Costs	19,960	19,960		29,810	9,850
Professional Services	20,900	20,900		24,292	3,392
Depreciation	16,236	16,236		7,849	(8,387)
Total Operating Expenses	\$ 140,775	\$ 140,775	\$ -	\$ 176,973	\$ 36,198
Total Direct Expenses	\$ 1,091,743	\$ 1,091,743	\$ -	\$ 1,124,495	\$ 32,752
Indirect Expenses	\$ -	\$ -		\$ -	\$ -
Other Non-Operating Expenses	\$ -	\$ -		\$ -	\$ -
Total Expenses (B)	\$ 1,091,743	\$ 1,091,743	\$ -	\$ 1,124,495	\$ 32,752
Change in Assets	\$ 0	\$ 0	\$ -	\$ (0)	\$ (0)
Fixed Assets					
Depreciation	-	-	-	-	-
Computer & Software CapEx					
Allocation of Fixed Assets	\$ -	-	\$ -	\$ -	\$ -
Inc(Dec) in Fixed Assets (C)	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL BUDGET (=B + C)	\$ 1,091,743	\$ 1,091,743	\$ -	\$ 1,124,495	32,752
TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)	\$ 0	\$ 0	\$ -	\$ (0)	\$ (0)
FTEs	5.0	5.0		5.0	

Approved by the Texas RE Board of Directors May 23, 2018

Personnel Analysis

Total FTE's by Program Area	Budget 2018	Projection 2018	Direct FTEs 2019 Budget	Shared FTEs 2019 Budget	Total FTEs 2019 Budget	Change from 2018 Budget
STATE (NON-STATUTORY)						
Operational Programs						
State (Non-Statutory)	4.00	4.00	4.00	0.00	4.00	0.00
Total FTEs Operational Programs	4.00	4.00	4.00	0.00	4.00	0.00
Administrative Programs						
G&A	1.00	1.00	0.00	1.00	1.00	0.00
Total FTEs Administrative Programs	1.00	1.00	0.00	1.00	1.00	0.00
Total FTEs	5.00	5.00	4.00	1.00	5.00	0.00

A shared FTE is defined as an employee who performs both Statutory and Non-Statutory functions.

Reserve Analysis — 2018-2019

Texas RE does not have reserves for State (Non-Statutory) activities due to contractual provisions ensuring minimal risk for this funding.

Section D – Supplemental Information

2019 Business Plan and Budget



Section D – Supplemental Information

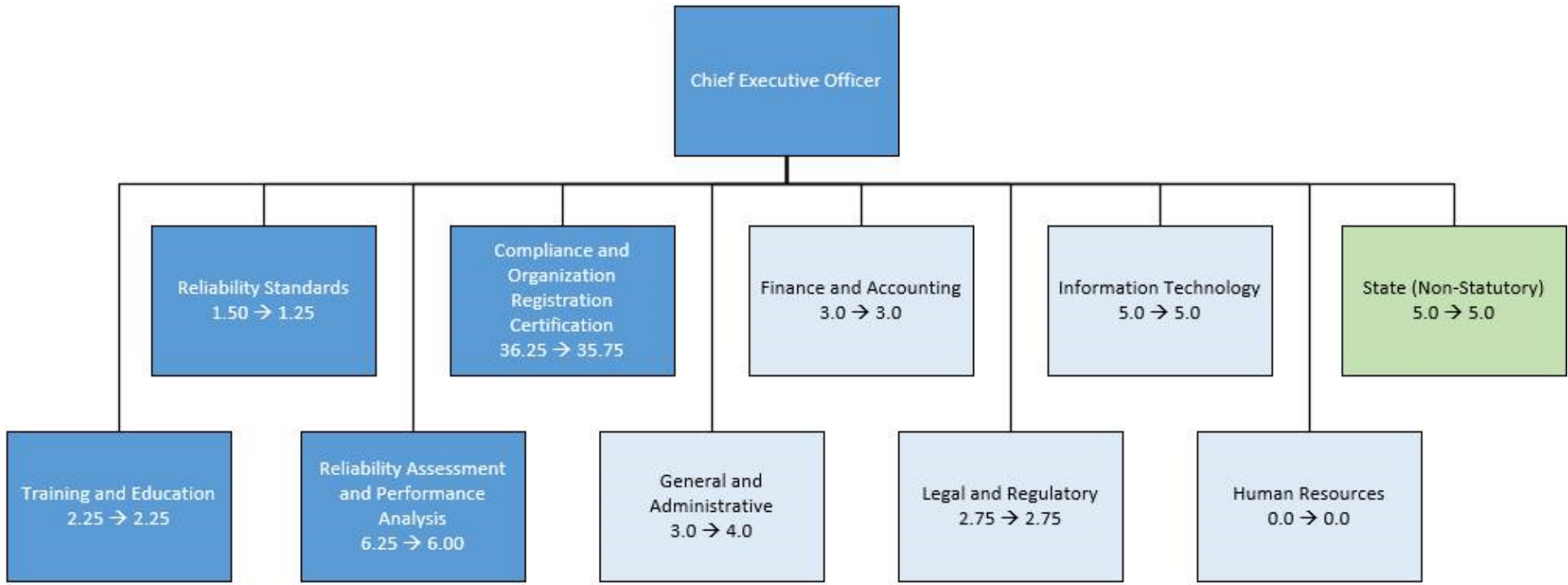
2019 Consolidated Statement of Activities by Program, Statutory and State (Non-Statutory)

Funding	Total	Statutory Total	State (Non-Statutory) Total	Reliability Standards	CMEP	RAPA	Training and Education	General and Administrative	Legal and Regulatory	Information Technology	Human Resources	Accounting and Finance	State (Non-Statutory)
ERO Funding													
NERC Assessments	\$ 13,248,000	\$ 13,248,000	\$ -	\$ 365,967	\$ 10,466,652	\$ 1,756,641	\$ 658,740	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Penalty Sanctions	114,449	114,449	-	3,162	90,421	15,176	5,691	-	-	-	-	-	-
Total NERC Funding	\$ 13,362,449	\$ 13,362,449	\$ -	\$ 369,128	\$ 10,557,073	\$ 1,771,816	\$ 664,431	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
PUCT Fees	1,124,495	-	1,124,495	-	-	-	-	-	-	-	-	-	1,124,495
Interest	15,000	15,000	-	414	11,851	1,989	746	-	-	-	-	-	-
Total Funding	\$ 14,501,944	\$ 13,377,449	\$ 1,124,495	\$ 369,543	\$ 10,568,924	\$ 1,773,805	\$ 665,177	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,124,495
Expenses													
Personnel Expenses													
Salaries	\$ 8,081,785	\$ 7,394,175	\$ 687,611	\$ 156,651	\$ 4,062,640	\$ 880,124	\$ 197,995	\$ 996,023	\$ 363,894	\$ 428,845	\$ -	\$ 308,004	\$ 687,611
Payroll Taxes	552,537	506,088	46,449	11,343	305,272	60,689	14,114	37,140	22,525	33,791	-	21,214	46,449
Benefits	1,495,788	1,383,053	112,735	37,794	777,434	163,033	48,701	91,134	52,596	158,254	-	54,107	112,735
Retirement Costs	1,115,826	1,019,478	96,348	20,583	568,677	126,663	26,424	120,954	52,467	59,334	-	44,376	96,348
Total Personnel Expenses	\$ 11,245,936	\$ 10,302,794	\$ 943,142	\$ 226,371	\$ 5,714,022	\$ 1,230,509	\$ 287,234	\$ 1,245,251	\$ 491,481	\$ 680,224	\$ -	\$ 427,701	\$ 943,142
Meeting Expenses													
Meetings	\$ 19,800	\$ 19,800	\$ -	\$ -	\$ 300	\$ 1,000	\$ 4,500	\$ -	\$ -	\$ -	\$ 14,000	\$ -	\$ -
Travel	354,150	349,770	4,380	12,200	141,450	82,000	2,480	69,595	14,325	17,225	6,185	4,310	4,380
Conference Calls	20,000	20,000	-	7,000	7,000	-	6,000	-	-	-	-	-	-
Total Meeting Expenses	\$ 393,950	\$ 389,570	\$ 4,380	\$ 19,200	\$ 148,750	\$ 83,000	\$ 12,980	\$ 69,595	\$ 14,325	\$ 17,225	\$ 20,185	\$ 4,310	\$ 4,380
Operating Expenses													
Consultants & Contracts	\$ 444,382	\$ 400,250	\$ 44,132	\$ -	\$ 162,000	\$ -	\$ 3,000	\$ 80,000	\$ 2,250	\$ 73,000	\$ 80,000	\$ -	\$ 44,132
Office Rent	778,104	707,214	70,890	-	-	-	-	707,214	-	-	-	-	70,890
Office Costs	715,880	686,070	29,810	100	19,030	62,440	6,200	90,140	4,830	484,150	8,025	11,155	29,810
Professional Services	577,992	553,700	24,292	-	-	-	-	372,500	40,000	90,000	1,200	50,000	24,292
Miscellaneous	-	-	-	-	-	-	-	-	-	-	-	-	-
Depreciation	112,122	104,273	7,849	-	-	-	-	104,273	-	-	-	-	7,849
Total Operating Expenses	\$ 2,628,481	\$ 2,451,508	\$ 176,973	\$ 100	\$ 181,030	\$ 62,440	\$ 9,200	\$ 1,354,128	\$ 47,080	\$ 647,150	\$ 89,225	\$ 61,155	\$ 176,973
Total Direct Expenses	\$ 14,268,367	\$ 13,143,872	\$ 1,124,495	\$ 245,671	\$ 6,043,802	\$ 1,375,949	\$ 309,414	\$ 2,668,974	\$ 552,886	\$ 1,344,599	\$ 109,410	\$ 493,166	\$ 1,124,495
Indirect Expenses	\$ -	\$ -	\$ -	\$ 142,791	\$ 4,083,823	\$ 685,397	\$ 257,024	\$ (2,668,974)	\$ (552,886)	\$ (1,344,599)	\$ (109,410)	\$ (493,166)	\$ -
Other Non-Operating Expenses	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Expenses	\$ 14,268,367	\$ 13,143,872	\$ 1,124,496	\$ 388,462	\$ 10,127,626	\$ 2,061,346	\$ 566,438	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,124,495
Change in Assets	\$ 233,576	\$ 233,576	\$ (0)	\$ (18,919)	\$ 441,298	\$ (287,541)	\$ 98,739	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 0
Fixed Assets													
Depreciation	\$ (104,273)	\$ (104,273)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (104,273)	\$ -	\$ -	\$ -	\$ -	\$ -
Computer & Software CapEx	30,000	30,000	-	-	-	-	-	-	-	30,000	-	-	-
Allocation of Fixed Assets	-	-	-	(2,052)	(58,680)	(9,848)	(3,693)	104,273	-	(30,000)	-	-	-
Inc(Dec) in Fixed Assets	\$ (74,273)	\$ (74,273)	\$ -	\$ (2,052)	\$ (58,680)	\$ (9,848)	\$ (3,693)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL BUDGET	\$ 13,069,599	\$ 13,069,599	\$ -	\$ 386,410	\$ 10,068,946	\$ 2,051,498	\$ 562,745	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL CHANGE IN WORKING CAPITAL	\$ 307,850	\$ 307,850	\$ (0)	\$ (16,868)	\$ 499,978	\$ (277,692)	\$ 102,432	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 0
FTEs	65.00	60.00	5.00	1.25	35.75	6.00	2.25	4.00	2.75	5.00	-	3.00	5.00

Statement of Financial Position

Statement of Financial Position					
STATUTORY and STATE (NON- STATUTORY)					
	(Per Audit)		Projected		Budget
	31-Dec-17		31-Dec-18		31-Dec-19
ASSETS					
Cash	\$ 3,816,612	\$	2,336,756	\$	1,154,186
Accounts receivable, net of allowance for uncollectible	-		-		-
Other Receivables	-		-		-
Prepaid expenses and other current assets	311,257		311,257		311,257
Security deposit	39,705		39,705		39,705
Cash value of insurance policies	-		-		-
Property and equipment	358,960		254,687		78,760
Total Assets	\$ 4,526,534	\$	2,942,405	\$	1,583,908
LIABILITIES AND NET ASSETS					
Liabilities					
Accounts payable and accrued expenses	\$ 902,918	\$	902,918	\$	902,918
Deferred income/rent	335,621		250,240		109,713
Deferred penalty income	-		-		-
Regional assessments	-		-		-
Deferred compensation	-		-		-
Accrued retirement liabilities					
Accrued incentive compensation					
Total Liabilities	\$ 1,238,539	\$	1,153,158	\$	1,012,631
Unrestricted Net Assets					
Undesignated	\$ 2,893,388	\$	1,514,247	\$	456,828
Regulator designated	394,607		275,000		114,449
Total Net Assets	\$ 3,287,995	\$	1,789,247	\$	571,277
Total Liabilities and Net Assets	\$ 4,526,534	\$	2,942,405	\$	1,583,908

2019 Texas RE Combined Statutory and Non-Statutory Organization Chart



- Statutory Program Area
- Administrative Services Program Area
- Non-Statutory Program Area

Arrow indicates number of FTEs from 2018 to 2019.

Approved by the Texas RE Board of Directors May 23, 2018

DOCKET NO. RR18-__-000

**NORTH AMERICAN ELECTRIC RELIABILITY
CORPORATION**

2019 BUSINESS PLAN AND BUDGET FILING

ATTACHMENT 9

WESTERN ELECTRICITY COORDINATING COUNCIL

PROPOSED 2019 BUSINESS PLAN AND BUDGET



2019 Business Plan and Budget

Western Electricity Coordinating Council

Approved by: WECC Board of Directors

Date: June 20, 2018



155 North 400 West, Suite 200

Salt Lake City, Utah 84103-1114

Table of Contents

Introduction.....	4
Organizational Overview.....	4
Membership and Governance	5
2019 Key Assumptions	6
2019 Key Strategic Goals.....	7
2019 Overview of Cost Impacts	7
Personnel Analysis	9
2018 Statutory Budget and Projection and 2019 Budget Comparisons	10
Section A — Statutory Programs	12
Reliability Standards Program.....	12
Compliance Monitoring and Enforcement and Organization Registration and Certification Program...	16
Reliability Assessment and Performance Analysis Program.....	21
Training and Outreach Program	26
Situation Awareness and Infrastructure Security Program	29
Corporate Services.....	32
Technical Committees and Member Forums.....	33
General and Administrative	34
Legal and Regulatory.....	36
Information Technology.....	37
Human Resources	38
Finance and Accounting.....	40
Section B — Supplemental Financial Information	43
Reserve Analysis.....	43
Penalty Sanctions	45
Other Revenue	46
Personnel Expenses	48
Meeting Expenses	50
Office Rent	53
Office Costs	54
Professional Services.....	55
Miscellaneous Expenses	56

Other Non-Operating.....	57
Fixed Assets.....	58
Section C — Non-Statutory Program.....	60
Western Renewable Energy Generation Information System (WREGIS)	60
Personnel Analysis	63
Reserve Analysis.....	63
Section D – Additional Financial Information	65
2019 Consolidated Statement of Activities by Program, Statutory, and Non-Statutory.....	65
Statement of Financial Position	66
Appendix A: Organizational Chart - Changes in Budgeted FTE by Program Area.....	67
Appendix B: 2019 Budget & Projected 2020 and 2021 Budgets	68
Key Assumptions.....	68
Appendix C: Adjustment to the Alberta Electric System Operator (AESO) Assessment.....	70
Appendix D: Statutory and Non-Statutory Budget History Charts.....	71

Introduction

TOTAL RESOURCES (in whole dollars)				
	2019 Budget	U.S.	Canada	Mexico
Statutory FTEs*	143.0			
Non-statutory FTEs	6.0			
Total FTEs	149.0			
Statutory Expenses	\$ 27,061,046			
Non-Statutory Expenses	\$ 1,781,510			
Total Expenses	\$ 28,842,556			
Statutory Incr(Decr) in Fixed Assets	\$ (110,480)			
Non-Statutory Incr(Decr) in Fixed Assets	\$ (6,065)			
Total Inc(Dec) in Fixed Assets	\$ (116,545)			
Statutory Working Capital Requirement**	\$ (536,380)			
Non-Statutory Working Capital Requirement***	\$ 352,326			
Total Working Capital Requirement	\$ (184,054)			
Total Statutory Funding Requirement	\$ 26,414,186			
Total Non-Statutory Funding Requirement	\$ 2,127,771			
Total Funding Requirement	\$ 28,541,957			
Statutory Assessments	\$ 25,282,000	\$ 22,060,867	\$ 2,809,647	\$ 411,486
Non-Statutory Fees	\$ 2,127,771	\$ 2,021,382	\$ 106,389	\$ -
NEL****	867,701,562	728,328,390	126,140,685	13,232,487
NEL%	100.00%	83.94%	14.54%	1.53%

*An FTE is defined as a full-time equivalent employee.

**Refer to the Statutory Reserve Analysis on page 43 in Section B.

***Refer to the Non-Statutory Reserve Analysis on page 63 in Section C.

****NEL is defined as Net Energy for Load.

Organizational Overview

The Western Electricity Coordinating Council (WECC) is a 501(c)(4) social welfare organization funded through Load-Serving Entity (LSE) assessments authorized by the Federal Energy Regulatory Commission (FERC) under Section 215 of the Federal Power Act. WECC's mission is to effectively and efficiently reduce risks to the reliability and security of the Western Interconnection's Bulk Power System (BPS). WECC operates under a delegation agreement with the North American Electric Reliability Corporation (NERC) and in accordance with its Bylaws. WECC executes its mission while working with a broad community consisting of industry stakeholders and two advisory bodies—the Member Advisory Committee (MAC) and the Western Interconnection Regional Advisory Body (WIRAB).

The Western Interconnection is a geographic area in which the use and generation of electricity is synchronized. This area includes all or part of 14 Western states in the United States, the Canadian provinces of British Columbia and Alberta, and a portion of Baja California Norte, Mexico.

WECC's value proposition is to enhance reliability and security through two measures:

1. Providing efficient and effective risk-based Compliance Monitoring and Enforcement of Reliability Standards through standards development, entity registration, compliance risk assessment, and audits and investigations; and
2. Informing the actions, practices, and decisions of industry participants, regulators, and policymakers through reliability assessments, performance analysis, situation awareness, event analysis, training, and outreach.

WECC's business philosophy is guided by three fundamental principles:

Independence – As a 501(c)(4) social welfare organization, WECC's goal is to serve the public interest. WECC represents what is best for reliability within the Western Interconnection with an impartial and unbiased voice.

Perspective – WECC is uniquely situated in a way that allows its subject matter experts to develop comprehensive and influential work products for the Western Interconnection.

Partnership – WECC is focused on assuring a reliable Bulk Electric System (BES) in the West by collaborating with others who have the same reliability-driven mission.

Membership and Governance

WECC has 373 members¹ divided into the following five Membership Classes:

1. Large Transmission Owners,
2. Small Transmission Owners,
3. Electric Line of Business Entities doing business in the Western Interconnection that do not own, control, or operate transmission or distribution lines in the Western Interconnection,
4. End Users and entities that represent the interests of end users, and
5. Representatives of State and Provincial Governments.

WECC membership is open to any person or entity that has an interest in the reliable operation of the Western Interconnection BPS. WECC membership is not a requirement for participation in the WECC Standards Development Process.²

¹ As of April 20, 2018.

² Non-WECC members may participate in standards drafting teams and Participating Stakeholders may vote on Regional Reliability Standards. A Participating Stakeholder is defined in Section 3.23 of the WECC Bylaws and the Participating Stakeholder Application Process is described in Section 8.7.4. WECC's Reliability Standards Voting Procedures are detailed in the Reliability Standards Development Procedures.

WECC is governed by a nine-member Independent Board of Directors (Board) elected by the WECC membership, and WECC's President and Chief Executive Officer. The nine Independent Directors are compensated by WECC for their time.

WECC has five governance committees that provide functional oversight of WECC operations:

1. Compliance Hearing Body (CHB),
2. Finance and Audit Committee (FAC),
3. Governance Committee (GC),
4. Human Resources and Compensation Committee (HRCC), and
5. Nominating Committee (NC).

Under the direction of the WECC Board, additional committees provide the Board with technical advice and policy recommendations:

- Joint Guidance Committee (JGC),
- Market Interface Committee (MIC),
- Member Advisory Committee (MAC),
- Operating Committee (OC),
- Reliability Assessment Committee (RAC), and
- WECC Standards Committee (WSC).

Pursuant to Section 215(j) of the Federal Power Act, FERC created WIRAB. WIRAB's purpose is to advise WECC, NERC, and FERC on the governance of WECC, and whether proposed Reliability Standards and the budget are just, reasonable, not unduly discriminatory or preferential, and in the public interest.

WECC and FERC may ask that WIRAB give advice on other topics. Members are appointed by the Governors/Premiers from Alberta, Arizona, British Columbia, California, Colorado, Idaho, Montana, Nebraska, Nevada, New Mexico, Oregon, South Dakota, Utah, Texas, Washington, Wyoming, and Mexico. WECC's budget does not include any costs related to WIRAB operations.

2019 Key Assumptions

The Board recognizes that the electric industry is undergoing profound changes nationally and in the West, and that other institutions are involved in furthering the understanding of these changes. While WECC will not duplicate the efforts of other qualified entities, the Board believes WECC should proactively address issues where the impact to the Western Interconnection's reliability are less understood or where WECC and its committees are positioned to make a significant contribution to Western BPS reliability and security.

Therefore, in addition to supporting the Electric Reliability Organization (ERO) Enterprise-driven programs and long-term strategy, the Board has established the following strategic priorities for WECC:

- Monitor progress as proposals are developed for structural changes in the West and be prepared to evaluate potential impacts on reliability.

- Assess the reliability implications of the ongoing evolution of load composition and resource mix in the Western Interconnection as well as fuel security, resource and transmission adequacy, and BPS stability.
- Identify key vulnerability issues and work with stakeholders to address them.
- Maximize sharing of operating and system data (within agreed parameters), and insights from Event Analysis including, to the extent possible, near-misses.
- Focus reliability assessment efforts on identifying the impacts and possible mitigation efforts surrounding a handful of future industry evolution scenarios or high-impact/low-probability events.

2019 Key Strategic Goals

NERC and the Regional Entities' business plans and budgets reflect the collaborative development of the ERO Enterprise Long-term Strategy and the ERO Enterprise Operating Plan. These documents are available on NERC's website: <http://www.nerc.com/AboutNERC/Pages/Strategic-Documents.aspx>. WECC supports both the long-term strategy and operating plan as well as deliverables specific to WECC that are discussed in WECC's 2018-2020 Operating Plan and described in each statutory program area in [Section A](#).

Working collaboratively, the ERO Enterprise has established six perennial goals, each of which is supported by key contributing activities of the combined ERO Enterprise, NERC, and WECC:

1. Risk-responsive Reliability Standards;
2. Objective, risk-informed compliance monitoring, mitigation, enforcement, and entity registration;
3. Reduction of known reliability risks;
4. Identification and assessment of emerging reliability risks;
5. Identification and reduction of cyber and physical security risks; and
6. Effective and efficient ERO Enterprise operations.

2019 Overview of Cost Impacts

WECC's proposed 2019 statutory budget is \$26.95 million, a \$147,000 (.54-percent) decrease from the 2018 statutory budget. The net decrease is mainly attributable to the completion of the Gas/Electric Interdependence Study, which is offset by a 3-percent merit pool and labor float assumption changes based on actual turnover and vacancy rates.

Full-time equivalents (FTE) represent the fractional allocation of a full-time position's cost to one or more functional areas. Headcount (HC) represents either vacant or filled positions. Major drivers of the change between the 2019 and 2018 statutory budgets are as follows:

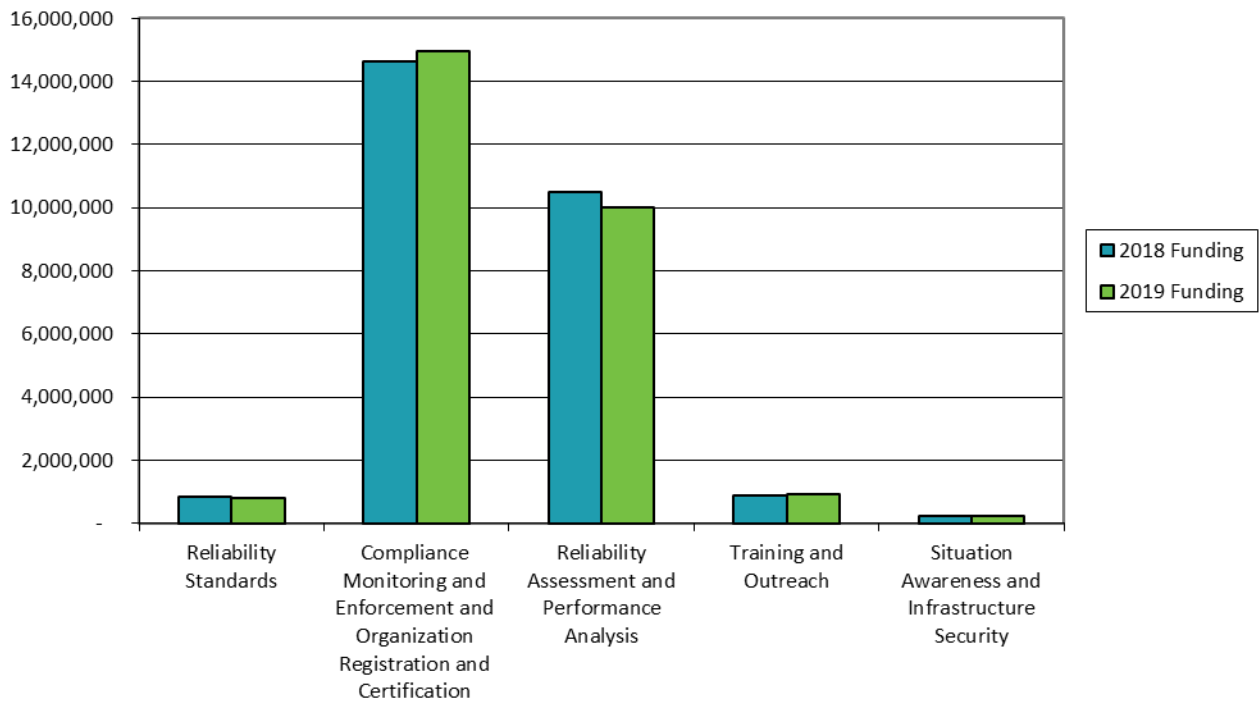
- Personnel Expenses increase by \$645,000 primarily due to a budgeted 3-percent merit pool, continued refinement of labor float percentages, changes in position levels, and the refinement of payroll tax and benefits rates.

- Meetings decrease by \$115,000 primarily due to fine-tuned attendance estimates for outreach events.
- Consultants and Contracts decrease by a net of \$730,000 primarily due to the completion of the Gas/Electric Interdependence Study, decreased reliance on Compliance contract labor, and increased organizational and leadership development consulting.

The following table and graphs present a summary of funding requirements for WECC’s primary statutory program areas:

Program	Budget 2018	Projection 2018	Budget 2019	2018 Budget v 2019	Variance %
Reliability Standards	\$ 858,296	\$ 767,540	\$ 807,516	\$ (50,780)	(5.9%)
Compliance Monitoring and Enforcement and Organization Registration and Certification	14,643,677	15,508,951	14,966,474	322,797	2.2%
Reliability Assessment and Performance Analysis	10,476,295	10,242,366	10,022,744	(453,551)	(4.3%)
Training and Outreach	895,191	819,891	938,456	43,265	4.8%
Situation Awareness and Infrastructure Security	223,887	218,881	215,376	(8,511)	(3.8%)
Total By Program	\$ 27,097,346	\$ 27,557,629	\$ 26,950,566	\$ (146,780)	(0.5%)

Comparison of 2019 to 2018 Budgeted Funding Requirements



Personnel Analysis

In the 2019 budget, WECC is not adding any additional FTEs. WECC realigned some positions between Program Areas in its 2019 budget due to an internal reorganization in 2018. Through attrition, and due to efficiencies gained in Corporate Services, positions were redeployed to Program Areas where resources were needed most. Those shifts account for the balance of the changes in FTEs between 2019 and 2018. Details are discussed in the respective Program Area sections of the Business Plan and Budget.

Total FTEs by Program Area	Budget 2018	Projection 2018	Direct FTEs 2019 Budget	Shared FTEs* 2019 Budget	Total FTEs 2019 Budget	Change from 2018 Budget
STATUTORY						
Operational Programs						
Reliability Standards	3.0	3.0	3.0	0.0	3.0	-
Compliance Monitoring and Enforcement and Organization Registration and Certification	59.0	59.5	60.0	0.0	60.0	1.0
Reliability Assessment and Performance Analysis	38.0	34.4	39.0	0.0	39.0	1.0
Training and Outreach	1.3	2.1	2.0	0.0	2.0	0.7
Situation Awareness and Infrastructure Security	1.0	1.0	1.0	0.0	1.0	-
Total FTEs Operational Programs	102.3	100.0	105.0	0.0	105.0	2.7
Corporate Services						
Technical Committees and Member Forums	0.0	0.0	0.0	0.0	0.0	-
General & Administrative	16.75	16.7	17.05	0.0	17.05	0.30
Legal and Regulatory	7.0	6.0	6.0	0.0	6.0	(1.0)
Information Technology	8.7	9.0	8.7	0.0	8.7	-
Human Resources	4.0	2.9	3.0	0.0	3.0	(1.0)
Finance and Accounting	4.25	2.8	3.25	0.0	3.25	(1.0)
Total FTEs Corporate Services	40.7	37.4	38.0	0.0	38.0	(2.7)
Total FTEs	143.0	137.4	143.0	0.0	143.0	-

2018 Statutory Budget and Projection and 2019 Budget Comparisons

Statement of Activities, Fixed Assets Expenditures, and Change in Working Capital
2018 Budget & Projection, and 2019 Budget

STATUTORY

	2018 Budget	2018 Projection	Variance 2018 Budget v 2018 Projection Over(Under)	2019 Budget	Variance 2019 Budget v 2018 Budget Inc(Dec)
Revenue					
Statutory Funding					
WECC Assessments	\$ 25,282,000	\$ 25,282,000	\$ -	\$ 25,282,000	\$ -
Penalty Sanctions	2,100,000	2,100,000	-	587,686	(1,512,314)
Total Statutory Funding	\$ 27,382,000	\$ 27,382,000	\$ -	\$ 25,869,686	\$ (1,512,314)
Membership Fees	\$ -	\$ -	\$ -	\$ -	\$ -
Services & Software	-	-	-	-	-
Workshops	540,050	373,062	(166,988)	424,500	(115,550)
Interest	75,000	267,193	192,193	120,000	45,000
Miscellaneous	-	-	-	-	-
Total Revenue (A)	\$ 27,997,050	\$ 28,022,255	\$ 25,205	\$ 26,414,186	\$ (1,582,864)
Expenses					
Personnel Expenses					
Salaries	\$ 15,199,335	\$ 15,673,476	\$ 474,141	\$ 15,865,018	\$ 665,683
Payroll Taxes	1,089,355	995,682	(93,673)	1,037,393	(51,962)
Benefits	2,293,855	2,341,496	47,641	2,302,710	8,855
Retirement Costs	1,288,724	1,361,942	73,218	1,311,110	22,386
Total Personnel Expenses	\$ 19,871,269	\$ 20,372,596	\$ 501,327	\$ 20,516,231	\$ 644,962
Meeting Expenses					
Meetings	\$ 755,785	\$ 538,890	\$ (216,895)	\$ 640,953	\$ (114,832)
Travel	1,401,209	1,414,550	13,341	1,408,868	7,659
Conference Calls	75,000	53,527	(21,473)	57,600	(17,400)
Total Meeting Expenses	\$ 2,231,994	\$ 2,006,967	\$ (225,027)	\$ 2,107,421	\$ (124,573)
Operating Expenses					
Consultants & Contracts	\$ 2,023,281	\$ 2,272,513	\$ 249,232	\$ 1,292,890	\$ (730,391)
Office Rent	944,461	962,884	18,423	972,909	28,448
Office Costs	1,598,628	1,478,014	(120,614)	1,557,679	(40,949)
Professional Services	903,710	921,367	17,657	908,280	4,570
Miscellaneous	-	-	-	-	-
Depreciation	217,816	231,834	14,018	238,545	20,729
Total Operating Expenses	\$ 5,687,896	\$ 5,866,612	\$ 178,716	\$ 4,970,303	\$ (717,593)
Total Direct Expenses	\$ 27,791,159	\$ 28,246,175	\$ 455,016	\$ 27,593,955	\$ (197,204)
Indirect Expenses	\$ (545,300)	\$ (526,294)	\$ 19,006	\$ (532,909)	\$ 12,391
Other Non-Operating Expenses	\$ -	\$ 45,000	\$ 45,000	\$ -	\$ -
Total Expenses (B)	\$ 27,245,859	\$ 27,764,881	\$ 519,022	\$ 27,061,046	\$ (184,813)
Change in Assets	\$ 751,191	\$ 257,374	\$ (493,817)	\$ (646,860)	\$ (1,398,051)
Fixed Assets					
Depreciation	\$ (217,816)	\$ (231,834)	\$ (14,018.00)	\$ (238,545)	\$ (20,729)
Computer & Software CapEx	50,000	50,000	-	5,000	(45,000)
Furniture & Fixtures CapEx	-	-	-	-	-
Equipment CapEx	12,000	12,000	-	105,000	93,000
Leasehold Improvements	-	-	-	12,000	12,000
Allocation of Fixed Assets	7,301	7,582	281	6,065	(1,236)
Incr(Dec) in Fixed Assets (C)	\$ (148,515)	\$ (162,252)	\$ (13,737)	\$ (110,480)	\$ 38,035
TOTAL BUDGET (B+C)	\$ 27,097,344	\$ 27,602,629	\$ 505,285	\$ 26,950,566	\$ (146,778)
TOTAL CHANGE IN WORKING CAPITAL (A-B-C)	\$ 899,706	\$ 419,626	\$ (480,080)	\$ (536,380)	\$ (1,436,086)
FTEs	143.0	137.4	(5.6)	143.0	-
HC	143.0	143.0	-	143.0	-

Section A

Statutory Programs

2019 Business Plan and Budget

Section A — Statutory Programs

Reliability Standards Program

Reliability Standards Program (in whole dollars)			
	2018 Budget	2019 Budget	Increase (Decrease)
Total FTEs	3.0	3.0	-
Direct Expenses	\$ 589,296	\$ 544,095	\$ (45,201)
Indirect Expenses	\$ 272,650	\$ 266,454	\$ (6,196)
Other Non-Operating Expenses	\$ -	\$ -	\$ -
Inc(Dec) in Fixed Assets	\$ (3,650)	\$ (3,033)	\$ 617
Total Funding Requirement	\$ 858,296	\$ 807,516	\$ (50,780)

Program Scope and Functional Description

The WECC Reliability Standards Program supports the NERC Reliability Standards Program as well as facilitates the development of WECC Regional Reliability Standards (RRS), WECC Regional Variances to NERC Reliability Standards, and WECC Regional Criteria.

The WECC Reliability Standards Program also conducts a five-year review of each current WECC RRS, WECC Regional Variance to NERC Reliability Standards, and WECC Regional Criteria. These reviews can result in revisions to the reviewed document, a finding that no changes are necessary, or the retirement of the document if it is determined that the document is no longer needed for reliability.

WECC supports the development of Regional Variances to NERC Reliability Standards when it is necessary to address Western Interconnection reliability issues. The variances are necessitated by a physical difference in the BPS or in instances in which Western stakeholders desire more stringent performance. WECC will only develop an RRS (rather than a variance) when a NERC Reliability Standard addressing a reliability issue does not exist.

Regional Criteria may be necessary to implement, augment or comply with NERC Reliability Standards, but they are not Reliability Standards themselves and are not enforceable. Regional Criteria may include acceptable operating or planning parameters, guides or other documents used to enhance BPS reliability.

2019 Key Assumptions

- WECC expects the number of RRS projects to remain low, with the majority focusing on potential retirement of existing RRSs, due to the subject matter now being included in NERC Continent-wide Standards. It is possible, but not likely, that regulatory directives could result in RRS projects. For 2019, it may be necessary to develop either new WECC RRSs or WECC Regional Variances to NERC Reliability Standards to address potential reliability concerns

resulting from the addition of multiple new Reliability Coordinators (RC) in the Western Interconnection.

- WECC will conduct periodic reviews of existing RRSs and Regional Criteria to improve their content and quality.
- WECC will evaluate information obtained from audit and enforcement experiences as well as information learned through events analysis to determine whether any new RRSs or revisions to existing RRSs are necessary.
- WECC expects that much of the work required to develop Regional Reliability Standards, Regional Variances to NERC Reliability Standards, and Regional Criteria will continue to be performed by voluntary stakeholder participation.
- WECC will continue to rely on stakeholder volunteers to staff most NERC Standards drafting teams. WECC staff may, at times, participate as drafting team members or observers.
- WECC Standards staff will take an active role in the communication of NERC Standards drafting teams' activities to the Western stakeholders.
- WECC will continue to review existing WECC RRSs to determine whether any are candidates for incorporation as a Regional Variance to a NERC Continent-wide Reliability Standard and, if so, coordinate with NERC to address the incorporation during NERC's next enhanced periodic review of the NERC Reliability Standard(s).
- Integration of renewable resources and related energy storage devices may require new or modified NERC Reliability Standards or WECC RRSs. WECC supports the concept and will participate, when appropriate, in the enhanced periodic reviews of NERC Reliability Standards.
- Inverter-based resource growth may result in the need for a new WECC RRS or a WECC Regional Variance to NERC Reliability Standards.
- WECC expects that the effort necessary to complete these assumptions can be achieved by existing resources.

2019 Goals and Key Deliverables

- Ensure the Western Interconnection perspective is represented in NERC Continent-wide Reliability Standards or, if necessary, through the development of Regional Variances or RRSs if a NERC Continent-wide Standard addressing a Western Interconnection reliability issue does not exist.
- Ensure that the RRSs and Regional Criteria developed using the WECC Reliability Standards Development Procedures meet the needs of the Western stakeholders.
- Ensure that development of RRSs and Regional Criteria is in accordance with the most recent WECC Reliability Standards Development Procedures.
- Ensure that WECC members and stakeholders are informed and engaged in NERC Standards development efforts.
- Coordinate with NERC's enhanced periodic review process to identify any WECC RRSs that are candidates for inclusion as an improvement to a NERC Reliability Standard or as a Regional Variance.

- Use feedback from WECC's audit and enforcement experience as well as information learned through events analysis for enhancements to WECC RRSs or WECC Regional Criteria.

Resource Requirements/Explanation of Significant Changes**Personnel Expenses**

- Personnel Expenses decrease by \$42,000 primarily due to the conversion of a senior engineering position to a staff level.

Meeting Expenses

- No significant changes.

Operating Expenses

- No significant changes.

Fixed Assets

- No significant changes.

See Section B – Supplemental Financial Information for explanations of other variances between the 2018 and 2019 budgets.

Reliability Standards Program Funding Sources and Expenditures

Statement of Activities, Fixed Assets Expenditures, and Change in Working Capital
2018 Budget & Projection, and 2019 Budget

RELIABILITY STANDARDS

	2018 Budget	2018 Projection	Variance 2018 Budget v 2018 Projection Over(Under)	2019 Budget	Variance 2019 Budget v 2018 Budget Inc(Dec)
Revenue					
Statutory Funding					
WECC Assessments	\$ 823,011	\$ 823,011	\$ -	\$ 771,224	\$ (51,787)
Penalty Sanctions	61,584	61,584	-	16,791	(44,793)
Total Statutory Funding	\$ 884,595	\$ 884,595	\$ -	\$ 788,015	\$ (96,580)
Membership Fees	\$ -	\$ -	\$ -	\$ -	\$ -
Services & Software	-	-	-	-	-
Workshops	-	-	-	-	-
Interest	2,199	8,017	5,818	3,429	1,230
Miscellaneous	-	-	-	-	-
Total Revenue (A)	\$ 886,794	\$ 892,612	\$ 5,818	\$ 791,444	\$ (95,350)
Expenses					
Personnel Expenses					
Salaries	\$ 457,200	\$ 376,076	\$ (81,124)	\$ 423,024	\$ (34,176)
Payroll Taxes	30,434	24,132	(6,302)	26,828	(3,606)
Benefits	37,366	36,495	(871)	37,174	(192)
Retirement Costs	38,696	30,251	(8,445)	34,984	(3,712)
Total Personnel Expenses	\$ 563,696	\$ 466,954	\$ (96,742)	\$ 522,010	\$ (41,686)
Meeting Expenses					
Meetings	\$ 520	\$ 260	\$ (260)	\$ 260	\$ (260)
Travel	20,200	20,311	111	18,290	(1,910)
Conference Calls	-	-	-	-	-
Total Meeting Expenses	\$ 20,720	\$ 20,571	\$ (149)	\$ 18,550	\$ (2,170)
Operating Expenses					
Consultants & Contracts	\$ -	\$ -	\$ -	\$ -	\$ -
Office Rent	-	-	-	-	-
Office Costs	4,880	3,909	(971)	3,535	(1,345)
Professional Services	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Depreciation	-	-	-	-	-
Total Operating Expenses	\$ 4,880	\$ 3,909	\$ (971)	\$ 3,535	\$ (1,345)
Total Direct Expenses	\$ 589,296	\$ 491,434	\$ (97,862)	\$ 544,095	\$ (45,201)
Indirect Expenses	\$ 272,650	\$ 280,142	\$ 7,492	\$ 266,454	\$ (6,196)
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses (B)	\$ 861,946	\$ 771,576	\$ (90,370)	\$ 810,549	\$ (51,397)
Change in Assets	\$ 24,848	\$ 121,036	\$ 96,188	\$ (19,105)	\$ (43,953)
Fixed Assets					
Depreciation	\$ -	\$ -	\$ -	\$ -	\$ -
Computer & Software CapEx	-	-	-	-	-
Furniture & Fixtures CapEx	-	-	-	-	-
Equipment CapEx	-	-	-	-	-
Leasehold Improvements	-	-	-	-	-
Allocation of Fixed Assets	(3,650)	(4,036)	(386)	(3,033)	617
Incr(Dec) in Fixed Assets (C)	\$ (3,650)	\$ (4,036)	\$ (386)	\$ (3,033)	\$ 617
TOTAL BUDGET (B+C)	\$ 858,296	\$ 767,540	\$ (90,756)	\$ 807,516	\$ (50,780)
TOTAL CHANGE IN WORKING CAPITAL (A-B-C)	\$ 28,498	\$ 125,072	\$ 96,574	\$ (16,072)	\$ (44,570)
FTEs	3.0	3.0	-	3.0	-
HC	3.0	3.0	-	3.0	-

Compliance Monitoring and Enforcement and Organization Registration and Certification Program

Compliance Monitoring and Enforcement and Organization Registration and Certification Program (in whole dollars)			
	2018 Budget	2019 Budget	Increase (Decrease)
Total FTEs	59.0	60.0	1.0
Direct Expenses	\$ 9,353,357	\$ 9,698,042	\$ 344,685
Indirect Expenses	\$ 5,362,114	\$ 5,329,085	\$ (33,029)
Other Non-Operating Expenses	\$ -	\$ -	\$ -
Inc(Dec) in Fixed Assets	\$ (71,794)	\$ (60,653)	\$ 11,141
Total Funding Requirement	\$ 14,643,677	\$ 14,966,474	\$ 322,797

Program Scope and Functional Description

WECC's Compliance Monitoring and Enforcement and Organization Registration and Certification Program Area (CMEP) is implemented by WECC Registered Entity Oversight and Enforcement staff members who are independent of all users, owners, and operators of the BPS. All approved and effective mandatory Reliability Standards are monitored and enforced under the CMEP, including:

- Operations and Planning (O&P) Standards made mandatory pursuant to FERC Order 693,
- the Critical Infrastructure Protection (CIP) Standards under FERC Order 706, and
- various other FERC Orders approving standards since Orders 693 and 706.

To accomplish its objectives, staff is divided into six main areas: 1) Organization Registration, 2) O&P Audits and Investigations, 3) CIP Audits and Investigations, 4) Enforcement, 5) Risk Analysis, and 6) Program Administration.

WECC will continue to conduct its monitoring and enforcement activities in accordance with the Board-endorsed Regulatory Philosophy, the key tenets of which are: be an informed regulator, identify top risks to reliability, exercise discretion responsibly and enforce fairly. WECC Registered Entity Oversight staff monitors and enforces the FERC-approved NERC Reliability Standards across 373³ registered owners, operators, and users of the BPS through a variety of risk-based activities.

WECC compliance monitoring and enforcement staff will continue to dedicate, assess, and deploy required resources in support of the ERO Enterprise-level initiatives, which include the following activities:

- Regional Reliability Risk Assessments;
- Inherent Risk Assessments;
- Internal Controls Evaluations;

³ As of April 20, 2018.

- Organization Registration;
- Mitigation plan reviews, acceptance, approvals, and verification;
- Reviews of self-logged minimal risk issues;
- Processing and assessing self-certification requests and guided self-certification responses;
- Review and validation of periodic data submittals;
- Internal compliance program assessments;
- Activities specific to compliance audits, spot-checks, investigations and assessments of complaints;
- Creation of compliance oversight plans along with schedules to align monitoring activities based on potential risk;
- BES Exception request activities; and
- Enforcement activities in accordance with established risk-based approaches.

These are joint ERO Enterprise initiatives that benefit NERC, the Regional Entities, and the registered entities.

Compliance in Alberta, British Columbia, and Mexico

Alberta and British Columbia, Canada; and a portion of Baja California Norte, Mexico; are all part of the Western Interconnection and have adopted or are adopting mandatory Reliability Standards based on FERC-approved Standards. WECC has entered into agreements with the Alberta Market Surveillance Administrator (MSA), the British Columbia Utilities Commission (BCUC), and Mexico's Comisión Reguladora de Energía (CRE) under which WECC performs compliance monitoring activities to help assure reliability across international borders within the Western Interconnection.

2019 Key Assumptions

The Compliance Monitoring and Enforcement and Organization Registration and Certification Program Area incorporates the Regional Entity-specific contributing activities as described in the ERO Enterprise Operating Plan, and includes the following additional WECC-specific assumptions:

- WECC promotes a culture of compliance that addresses reliability risks by monitoring the FERC-approved NERC Reliability Standards for applicable entities through audits and/or spot-checks. WECC applies a risk-based approach that covers and ensures all audit, on-site/off-site and post-audit activities are completed in accordance with the NERC Rules of Procedure and the CMEP within the United States. With respect to non-U.S. jurisdictions, WECC monitors compliance in accordance with the approved agreements and applicable compliance monitoring programs with Canadian and Mexican authorities.
- WECC will develop and implement compliance oversight plans for registered entities focusing on relevant risks, including consideration of inherent risk assessments, entity performance history, and the effectiveness of internal controls.
- WECC will continue work in consultation with the international compliance enforcement authorities to determine which elements of the risk-based CMEP should be incorporated in the respective programs for international entities. Currently, WECC does not conduct Inherent Risk Assessments (IRA) or Internal Controls Evaluations (ICE) for international entities.

- WECC will allocate resources and provide continued support for the implementation of cybersecurity Reliability Standards for CIP v5 training, coordination, and facilitation of ERO Enterprise efforts and initiatives.
- Resource allocation will continue for activities associated with registration. WECC plans to participate in four NERC-led centralized review panel sessions as part of the application process for materiality tests of the risk-based registration process outlined in Appendix 5A of the NERC Rules of Procedure. WECC will continue to review, assess, validate, and submit registration recommendations to NERC for new registrations, partial deactivations, transfer of access and full deregistration changes impacting the NERC Compliance Registry (NCR).
- WECC will fully support ERO Enterprise efforts and activities to evaluate ERO business practices, consistency, implementation, and guidance within the risk-based CMEP. WECC will provide feedback to the ERO Enterprise regarding existing risks, with an emphasis on standard development, standard modification, audit and monitoring approaches, and potential gaps. WECC will work within the ERO Enterprise to develop application business requirements and allocate resources to test business functionality for application projects.
- WECC will use the results of the Regional Reliability Risk Assessment (RRA) to build areas of focus in the WECC CMEP Implementation Plan.
- WECC does not anticipate any hearings in 2019. To date, WECC has never had a hearing and; therefore, does not budget for them. Any costs related to a hearing that may occur will be funded through working capital reserves.
- One position is transferred from Finance and Accounting to realign resources based on business need and efficiencies gained in Finance and Accounting.

2019 Goals and Key Deliverables

- Process and complete organization registration request reviews, validations, and recommendations to NERC in accordance with risk-based registration activities and initiatives.
- Process all BES Exception submittals.
- Participate in ERO Enterprise working groups to ensure consistency in processing registration requests in accordance with the NERC Rules of Procedure outlined in Appendix 5b (Statement of Compliance Registry Criteria).
- Monitor and enforce compliance with mandatory standards in accordance with the WECC/NERC Delegation Agreement, including the Rules of Procedure and the CMEP within the U.S. With respect to non-U.S. jurisdictions, monitor compliance in accordance with the approved agreements and applicable compliance monitoring programs with Canadian and Mexican authorities.
- Complete 25 on-site audits and eight off-site audits of registered entities for 2019. Additional compliance audits and/or spot checks will be determined from risk-based analysis.
- Complete initial Inherent Risk Assessments by the end of 2019 for all entities registered after June 2016.
- Gather and review risk reports and operations information to update WECC's Regional RRA of the Western Interconnection.

- Work with registered entities within the WECC Region to promote a strong culture of compliance and reliability improvement.
- Represent the Western Interconnection on issues that will impact WECC regarding NERC and regional initiatives, for example: refining risk-based concepts in compliance monitoring and enforcement for the risk-based CMEP, streamlining enforcement processing, increasing consistency across the Regions and reviewing information-technology needs.
- Conduct outreach to the industry in various forums—webinars, conferences, and entity-specific engagements—in support of ERO Enterprise activities and priorities.
- Monitor and manage enforcement measures and metrics in support of the ERO Enterprise Strategic Plan, including caseload index, violation aging and mitigation plan aging; and collaborate with the ERO Enterprise to develop better measures of program effectiveness.
- Continue working with NERC and the other Regional Entities to shape and refine the ERO Enterprise enforcement philosophy that supports uniform, repeatable, transparent, and reliability-focused approaches.
- Conduct initial violation fact and circumstance reviews, and resolve enforcement actions in a timely manner using a reliability risk-based focus. Ensure enforcement discretion is consistent with NERC directives and FERC Orders, rules, and regulations.

Resource Requirements/Explanation of Significant Changes

Personnel Expenses

- Personnel Expenses increase by a net of \$538,000 primarily due to one FTE transferred from Finance and Accounting, a budgeted 3-percent merit pool, continued refinement of labor float percentages, changes in position levels, and the refinement of payroll tax and benefits rates.

Meeting Expenses

- No significant changes.

Operating Expenses

- Consultants and Contracts decrease by \$135,000 due to reduced reliance on Compliance contract labor and increased staff skill sets.
- Office Costs decrease by \$49,000 primarily due to renegotiated webCDMS fees.

Fixed Assets

- No significant changes.

See Section B – Supplemental Financial Information for explanations of other variances between the 2018 and 2019 budgets.

Compliance Monitoring and Enforcement and Organization Registration and Certification Program Funding Sources and Expenditures

Statement of Activities, Fixed Assets Expenditures, and Change in Working Capital 2018 Budget & Projection, and 2019 Budget					
COMPLIANCE MONITORING AND ENFORCEMENT AND ORGANIZATION REGISTRATION AND CERTIFICATION					
	2018 Budget	2018 Projection	Variance 2018 Budget v 2018 Projection Over(Under)	2019 Budget	Variance 2019 Budget v 2018 Budget Inc(Dec)
Revenue					
Statutory Funding					
WECC Assessments	\$ 13,875,486	\$ 13,875,486	\$ -	\$ 14,264,214	\$ 388,728
Penalty Sanctions	1,211,143	1,211,143	-	335,821	(875,322)
Total Statutory Funding	\$ 15,086,629	\$ 15,086,629	\$ -	\$ 14,600,035	\$ (486,594)
Membership Fees	\$ -	\$ -	\$ -	\$ -	\$ -
Services & Software	-	-	-	-	-
Workshops	-	-	-	-	-
Interest	43,256	158,922	115,666	68,571	25,315
Miscellaneous	-	-	-	-	-
Total Revenue (A)	\$ 15,129,885	\$ 15,245,551	\$ 115,666	\$ 14,668,606	\$ (461,279)
Expenses					
Personnel Expenses					
Salaries	\$ 6,024,488	\$ 6,549,803	\$ 525,315	\$ 6,521,216	\$ 496,728
Payroll Taxes	457,104	433,458	(23,646)	449,911	(7,193)
Benefits	770,127	794,132	24,005	789,012	18,885
Retirement Costs	509,510	566,818	57,308	538,748	29,238
Total Personnel Expenses	\$ 7,761,229	\$ 8,344,211	\$ 582,982	\$ 8,298,887	\$ 537,658
Meeting Expenses					
Meetings	\$ 5,400	\$ 9,138	\$ 3,738	\$ 4,910	\$ (490)
Travel	843,277	788,169	(55,108)	835,205	(8,072)
Conference Calls	-	-	-	-	-
Total Meeting Expenses	\$ 848,677	\$ 797,307	\$ (51,370)	\$ 840,115	\$ (8,562)
Operating Expenses					
Consultants & Contracts	\$ 397,221	\$ 562,348	\$ 165,127	\$ 261,890	\$ (135,331)
Office Rent	-	-	-	-	-
Office Costs	346,230	295,738	(50,492)	297,150	(49,080)
Professional Services	-	36,000	36,000	-	-
Miscellaneous	-	-	-	-	-
Depreciation	-	-	-	-	-
Total Operating Expenses	\$ 743,451	\$ 894,086	\$ 150,635	\$ 559,040	\$ (184,411)
Total Direct Expenses	\$ 9,353,357	\$ 10,035,604	\$ 682,247	\$ 9,698,042	\$ 344,685
Indirect Expenses	\$ 5,362,114	\$ 5,553,351	\$ 191,237	\$ 5,329,085	\$ (33,029)
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses (B)	\$ 14,715,471	\$ 15,588,955	\$ 873,484	\$ 15,027,127	\$ 311,656
Change in Assets	\$ 414,414	\$ (343,404)	\$ (757,818)	\$ (358,521)	\$ (772,935)
Fixed Assets					
Depreciation	\$ -	\$ -	\$ -	\$ -	\$ -
Computer & Software CapEx	-	-	-	-	-
Furniture & Fixtures CapEx	-	-	-	-	-
Equipment CapEx	-	-	-	-	-
Leasehold Improvements	-	-	-	-	-
Allocation of Fixed Assets	(71,794)	(80,004)	(8,210)	(60,653)	11,141
Incr(Dec) in Fixed Assets (C)	\$ (71,794)	\$ (80,004)	\$ (8,210)	\$ (60,653)	\$ 11,141
TOTAL BUDGET (B+C)	\$ 14,643,677	\$ 15,508,951	\$ 865,274	\$ 14,966,474	\$ 322,797
TOTAL CHANGE IN WORKING CAPITAL (A-B-C)	\$ 486,208	\$ (263,400)	\$ (749,608)	\$ (297,868)	\$ (784,076)
FTEs	59.0	59.5	0.5	60.0	1.0
HC	59.0	62.0	3.0	60.0	1.0

Reliability Assessment and Performance Analysis Program

Reliability Assessment and Performance Analysis (in whole dollars)			
	2018 Budget	2019 Budget	Increase (Decrease)
Total FTEs	38.0	39.0	1.0
Direct Expenses	\$ 7,093,002	\$ 6,602,599	\$ (490,403)
Indirect Expenses	\$ 3,453,565	\$ 3,463,906	\$ 10,341
Other Non-Operating Expenses	\$ -	\$ -	\$ -
Inc(Dec) in Fixed Assets	\$ (70,272)	\$ (43,761)	\$ 26,511
Total Funding Requirement	\$ 10,476,295	\$ 10,022,744	\$ (453,551)

Program Scope and Functional Description

WECC conducts a variety of assessments, analyses, and studies essential to the reliable planning and operation of the BPS in the Western Interconnection. In addition, WECC compiles and distributes data and information used by WECC stakeholders to aid in regional and local planning studies. These integrated assessment and planning efforts enhance WECC's overall ability to assess potential reliability risks in the Western Interconnection.

The RAPA program area is organized into three departments:

1. **The Performance Analysis Department** conducts robust analyses on the historical operation and performance of the Western Interconnection to use as building blocks to assess Interconnection-wide risks and vulnerabilities. The information produced helps to identify best practices and mitigate potential risk.
2. **The Events Analysis Department** analyzes system conditions and events that impact or have the potential to impact the reliable operation of the BPS. The activities of the department ensure that WECC stakeholders, NERC, and FERC are well-informed of system events, emerging trends, lessons learned, and expected actions impacting BPS reliability.
3. **The Reliability Planning Department** develops and maintains WECC's integrated capability to study Western Interconnection reliability issues for the near- and long-term planning horizon. The group is the NERC-designated, Interconnection-wide model builder under MOD-32 and is focused on developing the planning tools and data sets to support transmission planning, and performing special studies on priority reliability issues as they are identified. The studies, made in close collaboration with the WECC technical committees, consider both system adequacy and system stability.

In addition to the Western Interconnection-specific work described above, WECC's RAPA program supports the development of NERC's RAPA activities through targeted data gathering and, as needed, participation in special reliability assessments.

2019 Key Assumptions

The Reliability Assessment and Performance Analysis Program Area incorporates the Regional Entity-specific contributing activities as described in the ERO Enterprise Operating Plan, and includes the following additional WECC-specific assumptions:

- The RAPA staff and WECC technical committees will continue to focus on assessment activities that address the Strategic Priority areas identified by the WECC Board in December 2016 as well as any near-term priorities approved by the Board in June 2018.
- Building on the NERC Reliability Issues Steering Committee (RISC) Report, WECC staff and stakeholders will continue to play a leadership role in the identification of Western Interconnection-specific reliability challenges.
- One position is transferred from Human Resources to realign resources based on business needs and due to efficiencies gained in Human Resources.
- In 2017 and 2018, WECC performed an extensive assessment that identified key vulnerabilities related to the interface between the gas and electric systems, and explored potential mitigating measures. In 2019, WECC will continue to work with stakeholders and policymakers to highlight the key vulnerabilities identified and support efforts to mitigate them.
- The 2019 RAPA budget for meetings and travel to support the committees is forecasted to be slightly higher than 2018 due to the continuation of the 2018 schedule for subcommittee and work group in-person meetings, while allowing each committee, subcommittee, and work group to have one hosted meeting in 2019.

2019 Goals and Key Deliverables

- Implement the three-year planning cycle, in conjunction with the JGC, to align staff and technical committee work plans in support of the Board-approved strategic priorities.
- Coordinate internally with Western Interconnection stakeholders and with NERC to ensure that emerging reliability challenges are identified and addressed in work plans that may include reliability impacts as a result of the changing RC registry.
- Prepare Interconnection-wide power flow and stability base cases, and conduct studies to address key reliability challenges facing the Interconnection. Use base cases and power flow capabilities to study emerging issues (e.g., frequency response) and system vulnerabilities.
- Provide technical oversight, insight, and guidance to analyze frequency response trends and recommend any actions to minimize reliability risks and/or improve modeling capabilities.
- Complete Interconnection-wide reliability assessments that address resource adequacy, transmission infrastructure utilization, and other key factors in the 10- and 20-year planning horizon using the most applicable tools and models to identify potential future reliability risks.
- Implement lessons learned from the 2028 Anchor Data Set (ADS) and begin development of the 2030 ADS by preparing the 2030 Heavy Summer Base Case.
- Facilitate dynamic model development.

- Continue to develop and maintain a database(s) for production cost, capital expansion and other models, and conduct reliability assessments to meet the needs of NERC, WECC and stakeholders.
- Enhance tools and capabilities used for probabilistic-based planning and analysis.
- Conduct reliability assessments evaluating the adequacy and security of the system in the planning horizon, including supporting the NERC Long-Term Reliability Assessment and incorporated probabilistic assessment, Summer Reliability Assessment, and Winter Reliability Assessment.
- Conduct special reliability assessments as needed or requested by NERC for low-probability/high-impact events such as geomagnetic disturbances or prolonged droughts.
- Use data from actual system disturbances to validate power flow and stability base-case models and to identify near-misses.
- Publish WECC Transmission Maps of the existing and planned system.
- Facilitate the Project Coordination and Project Rating Review Process.
- Process BES Exception requests.
- Verify and submit NERC Transmission Availability Data System (TADS), Generator Availability Data System (GADS), Demand-Response Availability Data System (DADS) and Misoperation Information Data Analysis System (MIDAS) filings.
- Analyze trends and patterns in historical system performance, resource and load composition, and publish in reports such as the annual State of the Interconnection report.
- Assess Interconnection performance through site visits or short surveys regarding key operational practices to identify and share best practices and potential risks to Interconnection-wide reliability.
- Evaluate historical system performance trends to identify reliability risk metrics, key indicators, and potential improvement strategies. Work with WECC technical committees to engage in proactive reliability improvement activities.
- Enhance risk analysis capabilities through increased analysis of risk data sources such as Event Analysis Reports, TADS, GADS, and protection system misoperations.
- Identify key vulnerability issues and work with stakeholders to address them (e.g., physical and cyber security, situation awareness and coordination across neighboring systems, human performance, and equipment misoperations or failures).
- Complete Event Analysis Reports and develop Lessons Learned to support a high level of reliability within the BPS while minimizing the possibility of major significant events and preventing reoccurrence of similar events.
- Update and enhance the Reliability Risk Assessment to prospectively identify key risks to the Western Interconnection.
- Develop Reliability Guidelines, technical white papers and reports, and reference documents to address emerging issues, operational risks, and industry concerns related to system operations.
- Ensure the Western Interconnection is represented in reliability matters by participating in various NERC committees, WECC committees, and industry forums.

Resource Requirements/Explanation of Significant Changes**Personnel Expenses**

- Personnel Expenses increase by a net of \$133,000 primarily due to one FTE transferred from Human Resources, a budgeted 3-percent merit pool, continued refinement of labor float percentages, changes in position levels, and the refinement of payroll tax and benefits rates.

Meeting Expenses

- No significant changes.

Operating Expenses

- Consultants and Contracts decrease by a net of \$595,000 primarily due to the completion of the Gas/Electric Interdependence Study.
- Office Costs decrease by \$15,000 primarily due to changes in software products maintained and license fee structures.

Fixed Assets

- No significant changes.

See Section B – Supplemental Financial Information for explanations of other variances between the 2018 and 2019 budgets.

Reliability Assessment and Performance Analysis Program Funding Sources and Expenditures

Statement of Activities, Fixed Assets Expenditures, and Change in Working Capital 2018 Budget & Projection, and 2019 Budget RELIABILITY ASSESSMENT AND PERFORMANCE ANALYSIS					
	2018 Budget	2018 Projection	Variance 2018 Budget v 2018 Projection Over(Under)	2019 Budget	Variance 2019 Budget v 2018 Budget Inc(Dec)
Revenue					
Statutory Funding					
WECC Assessments	\$ 10,016,218	\$ 10,016,218	\$ -	\$ 9,560,414	\$ (455,804)
Penalty Sanctions	780,059	780,059	-	218,283	(561,776)
Total Statutory Funding	\$ 10,796,277	\$ 10,796,277	\$ -	\$ 9,778,697	\$ (1,017,580)
Membership Fees	\$ -	\$ -	\$ -	\$ -	\$ -
Services & Software	-	-	-	-	-
Workshops	-	-	-	-	-
Interest	27,859	91,919	64,060	44,571	16,712
Miscellaneous	-	-	-	-	-
Total Revenue (A)	\$ 10,824,136	\$ 10,888,196	\$ 64,060	\$ 9,823,268	\$ (1,000,868)
Expenses					
Personnel Expenses					
Salaries	\$ 4,127,042	\$ 4,045,231	\$ (81,811)	\$ 4,278,285	\$ 151,243
Payroll Taxes	309,708	257,870	(51,838)	294,608	(15,100)
Benefits	501,612	543,550	41,938	494,397	(7,215)
Retirement Costs	349,627	364,298	14,671	353,659	4,032
Total Personnel Expenses	\$ 5,287,989	\$ 5,210,949	\$ (77,040)	\$ 5,420,949	\$ 132,960
Meeting Expenses					
Meetings	\$ 126,812	\$ 87,506	\$ (39,306)	\$ 128,110	\$ 1,298
Travel	239,345	296,578	57,233	244,640	5,295
Conference Calls	-	-	-	-	-
Total Meeting Expenses	\$ 366,157	\$ 384,084	\$ 17,927	\$ 372,750	\$ 6,593
Operating Expenses					
Consultants & Contracts	\$ 1,185,000	\$ 1,228,828	\$ 43,828	\$ 590,000	\$ (595,000)
Office Rent	-	-	-	-	-
Office Costs	229,824	252,762	22,938	214,564	(15,260)
Professional Services	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Depreciation	24,032	27,742	3,710	4,336	(19,696)
Total Operating Expenses	\$ 1,438,856	\$ 1,509,332	\$ 70,476	\$ 808,900	\$ (629,956)
Total Direct Expenses	\$ 7,093,002	\$ 7,104,365	\$ 11,363	\$ 6,602,599	\$ (490,403)
Indirect Expenses	\$ 3,453,565	\$ 3,212,017	\$ (241,548)	\$ 3,463,906	\$ 10,341
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses (B)	\$ 10,546,567	\$ 10,316,382	\$ (230,185)	\$ 10,066,505	\$ (480,062)
Change in Assets	\$ 277,569	\$ 571,814	\$ 294,245	\$ (243,237)	\$ (520,806)
Fixed Assets					
Depreciation	\$ (24,032)	\$ (27,742)	\$ (3,710)	\$ (4,336)	\$ 19,696
Computer & Software CapEx	-	-	-	-	-
Furniture & Fixtures CapEx	-	-	-	-	-
Equipment CapEx	-	-	-	-	-
Leasehold Improvements	-	-	-	-	-
Allocation of Fixed Assets	(46,240)	(46,274)	(34)	(39,425)	6,815
Incr(Dec) in Fixed Assets (C)	\$ (70,272)	\$ (74,016)	\$ (3,744)	\$ (43,761)	\$ 26,511
TOTAL BUDGET (B+C)	\$ 10,476,295	\$ 10,242,366	\$ (233,929)	\$ 10,022,744	\$ (453,551)
TOTAL CHANGE IN WORKING CAPITAL (A-B-C)	\$ 347,841	\$ 645,830	\$ 297,989	\$ (199,476)	\$ (547,317)
FTEs	38.0	34.4	(3.6)	39.0	1.0
HC	38.0	38.0	-	40.0	2.0

Training and Outreach Program

Training and Outreach (in whole dollars)			
	2018 Budget	2019 Budget	Increase (Decrease)
Total FTEs	1.3	2.0	0.7
Direct Expenses	\$ 778,625	\$ 762,842	\$ (15,783)
Indirect Expenses	\$ 118,148	\$ 177,636	\$ 59,488
Other Non-Operating Expenses	\$ -	\$ -	\$ -
Inc(Dec) in Fixed Assets	\$ (1,582)	\$ (2,022)	\$ (440)
Total Funding Requirement	\$ 895,191	\$ 938,456	\$ 43,265

Program Scope and Functional Description

The Training and Outreach Program Area provides outreach, education, and training on the application of Reliability Standards, compliance issues, improvement of compliance programs, reliability planning and performance analysis, grid operations, human performance, and Train-the-Trainer.

2019 Key Assumptions

The Training and Outreach Program Area incorporates the Regional Entity-specific contributing activities as described in the ERO Enterprise Operating Plan, and includes the following additional WECC-specific assumptions:

- Deliver two Compliance Workshops to provide in-depth education and training related to:
 - lessons learned and process improvement for implementation of risk-based concepts in the Compliance Monitoring and Enforcement Program (CMEP);
 - enforcement trends and statistics; and
 - information on audit approach for upcoming O&P standards and CIP standards changes and transitions.
- Conduct one Western Reliability Summit in 2019 to enhance outreach to all stakeholders as part of the three-year planning process.
- Conduct education webinars and workshops to expand awareness of reliability planning tools, modeling capabilities, and results.
- Transfer one position from Legal and Regulatory to realign resources based on business need and efficiencies gained in Legal and Regulatory.
- Transfer 0.3 FTE to General and Administrative based on changes in roles and responsibilities.

2019 Goals and Key Deliverables

- Provide eight Compliance Open Webinars.
- Deliver four Grid Fundamentals workshops.
- Deliver one Train-the-Trainer workshop.
- Create and deliver one Human Performance Work Group conference.

- Deliver two Compliance Workshops.
- Host a third Western Reliability Summit to gather input to identify and analyze risks and challenges to the reliability of the BPS.
- Create and deliver educational outreach in the form of webinars and workshops on:
 - reliability planning tools and modeling capabilities, including base-case and common-case studies;
 - contingency studies and analysis;
 - RAC studies;
 - scenario planning and regulatory issues and trends; and
 - events analysis.

Resource Requirements/Explanation of Significant Changes

Personnel Expenses

- Personnel Expenses increase by \$101,000 due to an increase of 0.7 FTE, a budgeted 3-percent merit pool, continued refinement of labor float percentages, changes in position levels, and the refinement of payroll tax and benefits rates.

Meeting Expenses

- Meetings decrease by \$105,000 due to reductions in anticipated attendance at outreach events.

Operating Expenses

- No significant changes.

Fixed Assets

- No significant changes.

See Section B – Supplemental Financial Information for explanations of other variances between the 2018 and 2019 budgets.

Training and Outreach Program Funding Sources and Expenditures

Statement of Activities, Fixed Assets Expenditures, and Change in Working Capital					
2018 Budget & Projection, and 2019 Budget					
TRAINING AND OUTREACH					
	2018 Budget	2018 Projection	Variance 2018 Budget v 2018 Projection Over(Under)	2019 Budget	Variance 2019 Budget v 2018 Budget Inc(Dec)
Revenue					
Statutory Funding					
WECC Assessments	\$ 357,225	\$ 357,225	\$ -	\$ 481,798	\$ 124,573
Penalty Sanctions	26,686	26,686	-	11,194	(15,492)
Total Statutory Funding	\$ 383,911	\$ 383,911	\$ -	\$ 492,992	\$ 109,081
Membership Fees	\$ -	\$ -	\$ -	0.00	\$ -
Services & Software	-	-	-	-	-
Workshops	540,050	373,062	(166,988)	424,500	(115,550)
Interest	953	5,663	4,710	2,286	1,333
Miscellaneous	-	-	-	-	-
Total Revenue (A)	\$ 924,914	\$ 762,636	\$ (162,278)	\$ 919,778	\$ (5,136)
Expenses					
Personnel Expenses					
Salaries	\$ 174,914	\$ 245,678	\$ 70,764	\$ 254,696	\$ 79,782
Payroll Taxes	12,496	18,607	6,111	18,305	5,809
Benefits	19,229	27,824	8,595	29,484	10,255
Retirement Costs	15,656	21,446	5,790	21,064	5,408
Total Personnel Expenses	\$ 222,295	\$ 313,555	\$ 91,260	\$ 323,549	\$ 101,254
Meeting Expenses					
Meetings	\$ 514,130	\$ 284,877	\$ (229,253)	\$ 409,173	\$ (104,957)
Travel	10,315	5,463	(4,852)	10,603	288
Conference Calls	-	-	-	-	-
Total Meeting Expenses	\$ 524,445	\$ 290,340	\$ (234,105)	\$ 419,776	\$ (104,669)
Operating Expenses					
Consultants & Contracts	\$ 4,560	\$ -	\$ (4,560)	\$ -	\$ (4,560)
Office Rent	-	-	-	-	-
Office Costs	27,325	20,973	(6,352)	19,517	(7,808)
Professional Services	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Depreciation	-	-	-	-	-
Total Operating Expenses	\$ 31,885	\$ 20,973	\$ (10,912)	\$ 19,517	\$ (12,368)
Total Direct Expenses	\$ 778,625	\$ 624,868	\$ (153,757)	\$ 762,842	\$ (15,783)
Indirect Expenses	\$ 118,148	\$ 197,874	\$ 79,726	\$ 177,636	\$ 59,488
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses (B)	\$ 896,773	\$ 822,742	\$ (74,031)	\$ 940,478	\$ 43,705
Change in Assets	\$ 28,141	\$ (60,106)	\$ (88,247)	\$ (20,700)	\$ (48,841)
Fixed Assets					
Depreciation	\$ -	\$ -	\$ -	\$ -	\$ -
Computer & Software CapEx	-	-	-	-	-
Furniture & Fixtures CapEx	-	-	-	-	-
Equipment CapEx	-	-	-	-	-
Leasehold Improvements	-	-	-	-	-
Allocation of Fixed Assets	(1,582)	(2,851)	(1,269)	(2,022)	(440)
Incr(Dec) in Fixed Assets (C)	\$ (1,582)	\$ (2,851)	\$ (1,269)	\$ (2,022)	\$ (440)
TOTAL BUDGET (B+C)	\$ 895,191	\$ 819,891	\$ (75,300)	\$ 938,456	\$ 43,265
TOTAL CHANGE IN WORKING CAPITAL (A-B-C)	\$ 29,723	\$ (57,255)	\$ (86,978)	\$ (18,678)	\$ (48,401)
FTEs	1.3	2.1	0.8	2.0	0.7
HC	1.0	2.0	1.0	2.0	1.0

Situation Awareness and Infrastructure Security Program

Situation Awareness and Infrastructure Security (in whole dollars)			
	2018 Budget	2019 Budget	Increase (Decrease)
Total FTEs	1.0	1.0	-
Direct Expenses	\$ 134,221	\$ 127,569	\$ (6,652)
Indirect Expenses	\$ 90,883	\$ 88,818	\$ (2,065)
Other Non-Operating Expenses	\$ -	\$ -	\$ -
Inc(Dec) in Fixed Assets	\$ (1,217)	\$ (1,011)	\$ 206
Total Funding Requirement	\$ 223,887	\$ 215,376	\$ (8,511)

Program Scope and Functional Description

WECC's Situation Awareness and Infrastructure Security (SAIS) Program Area maintains near-Real-time awareness about the conditions and significant occurrences on the BPS in the Western Interconnection, with the objective of recognizing conditions and situations that could impact the reliability of the BPS. WECC has access to limited Real-time data via the Situation Awareness for FERC, NERC, and the Regions (SAFNR) tool, Genscape Real-time Power Application, and the University of Tennessee Frequency Monitoring NETWORK (FNET).

This program is part of WECC's delegation-related accountabilities to NERC and does not in any way duplicate the Real-time situation awareness and operating coordination provided by other entities within the Western Interconnection. WECC's role is to understand system issues when they emerge and coordinate with relevant parties (typically NERC and FERC) about the conditions of the BPS. Through this coordination, WECC is seeking to discern patterns and identify trends that will help in building a stronger and more resilient system. Additionally, WECC staff responds to events by providing coordination, assistance and communication with the Reliability Coordinator(s), stakeholders, WECC management, and NERC SAIS personnel.

2019 Key Assumptions

The SAIS Program Area incorporates the Regional Entity-specific contributing activities as described in the ERO Enterprise Operating Plan, and includes the following additional WECC-specific assumptions. WECC will:

- Continue using the SAFNR tool and Genscape Real-time Power Application to provide situation awareness capabilities to WECC.
- Use WECC's situation awareness capabilities to support NERC and FERC's efforts for situation awareness of current system conditions.
- Continue working with stakeholders, government agencies, NERC, and the Electricity Information Sharing and Analysis Center (E-ISAC) to ensure appropriate event information is being disseminated to industry entities in a timely manner.

- Maximize sharing of operating and system data, within agreed parameters, and insights from Events Analysis, including near-misses, to optimize understanding of reliability issues, promote operational excellence, share best practices/lessons learned in a timely manner, and engage third-party experts to expand capabilities and resources applied to critical reliability issues.
- Collaborate with specific stakeholder groups in the development of lessons learned and recommendations from events and identified risks.

2019 Goals and Key Deliverables

- Monitor system events, collect information, and coordinate the distribution of timely updates on system events to WECC management, industry stakeholders, and NERC SAIS personnel;
- Continue to work with NERC to monitor system data, weather, and technological developments to understand trends that affect reliability for the near- and long-term horizons;
- Participate on daily NERC SAIS calls to coordinate, report, and receive any critical information;
- Continue to support efforts and work to develop and enhance ways to improve the use of SAFNR and Genscape Real-time Power Application data to further support SAIS;
- Ensure the Western Interconnection is represented in reliability matters by participating in various NERC committees and industry forums;
- Participate as appropriate in periodic wide-area security exercises (e.g., GridEx, Monitoring and Situation Awareness Workshop, NERC Human Performance Conference); and
- Ensure support for critical infrastructure security by promoting rapid and appropriate sharing of situation awareness information regarding security occurrences.

Resource Requirements/Explanation of Significant Changes

Personnel Expenses

- No significant changes.

Meeting Expenses

- No significant changes.

Operating Expenses

- No significant changes.

Fixed Assets

- No significant changes.

See Section B – Supplemental Financial Information for explanations of other variances between the 2018 and 2019 budgets.

Situation Awareness and Infrastructure Security Program Funding Sources and Expenditures

Statement of Activities, Fixed Assets Expenditures, and Change in Working Capital					
2018 Budget & Projection, and 2019 Budget					
SITUATION AWARENESS AND INFRASTRUCTURE SECURITY					
	2018 Budget	2018 Projection	Variance 2018 Budget v 2018 Projection Over(Under)	2019 Budget	Variance 2019 Budget v 2018 Budget Inc(Dec)
Revenue					
Statutory Funding					
WECC Assessments	\$ 210,060	\$ 210,060	\$ -	\$ 204,350	\$ (5,710)
Penalty Sanctions	20,528	20,528	-	5,597	(14,931)
Total Statutory Funding	\$ 230,588	\$ 230,588	\$ -	\$ 209,947	\$ (20,641)
Membership Fees	\$ -	\$ -	\$ -	\$ -	\$ -
Services & Software	-	-	-	-	-
Workshops	-	-	-	-	-
Interest	733	2,672	1,939	1,143	410
Miscellaneous	-	-	-	-	-
Total Revenue (A)	\$ 231,321	\$ 233,260	\$ 1,939	\$ 211,090	\$ (20,231)
Expenses					
Personnel Expenses					
Salaries	\$ 105,057	\$ 96,377	\$ (8,680)	\$ 100,159	\$ (4,898)
Payroll Taxes	8,630	6,192	(2,438)	7,516	(1,114)
Benefits	11,652	17,925	6,273	11,620	(32)
Retirement Costs	8,882	6,351	(2,531)	8,274	(608)
Total Personnel Expenses	\$ 134,221	\$ 126,845	\$ (7,376)	\$ 127,569	\$ (6,652)
Meeting Expenses					
Meetings	\$ -	\$ -	\$ -	\$ -	\$ -
Travel	-	-	-	-	-
Conference Calls	-	-	-	-	-
Total Meeting Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Operating Expenses					
Consultants & Contracts	\$ -	\$ -	\$ -	\$ -	\$ -
Office Rent	-	-	-	-	-
Office Costs	-	-	-	-	-
Professional Services	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Depreciation	-	-	-	-	-
Total Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Total Direct Expenses	\$ 134,221	\$ 126,845	\$ (7,376)	\$ 127,569	\$ (6,652)
Indirect Expenses	\$ 90,883	\$ 93,381	\$ 2,498	\$ 88,818	\$ (2,065)
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses (B)	\$ 225,104	\$ 220,226	\$ (4,878)	\$ 216,387	\$ (8,717)
Change in Assets	\$ 6,217	\$ 13,034	\$ 6,817	\$ (5,297)	\$ (11,514)
Fixed Assets					
Depreciation	\$ -	\$ -	\$ -	\$ -	\$ -
Computer & Software CapEx	-	-	-	-	-
Furniture & Fixtures CapEx	-	-	-	-	-
Equipment CapEx	-	-	-	-	-
Leasehold Improvements	-	-	-	-	-
Allocation of Fixed Assets	(1,217)	(1,345)	(128)	(1,011)	206
Incr(Dec) in Fixed Assets (C)	\$ (1,217)	\$ (1,345)	\$ (128)	\$ (1,011)	\$ 206
TOTAL BUDGET (B+C)	\$ 223,887	\$ 218,881	\$ (5,006)	\$ 215,376	\$ (8,511)
TOTAL CHANGE IN WORKING CAPITAL (A-B-C)	\$ 7,434	\$ 14,379	\$ 6,945	\$ (4,286)	\$ (11,720)
FTEs	1.0	1.0	-	1.0	-
HC	-	-	-	-	-

Corporate Services

Corporate Services (in whole dollars) Direct Expenses and Fixed Assets						
	2018 Budget	2019 Budget	Increase (Decrease)	FTEs 2018 Budget	FTEs 2019 Budget	Increase (Decrease)
Committee and Member Forums	\$ 41,633	\$ 11,200	\$ (30,433)	-	-	-
General and Administrative	\$ 4,875,155	\$ 5,206,619	\$ 331,464	16.75	17.05	0.30
Legal and Regulatory	\$ 1,384,758	\$ 1,323,239	\$ (61,519)	7.00	6.00	(1.00)
Information Technology	\$ 1,715,189	\$ 1,803,654	\$ 88,465	8.70	8.70	-
Human Resources	\$ 1,150,319	\$ 868,319	\$ (282,000)	4.00	3.00	(1.00)
Accounting and Finance	\$ 543,822	\$ 533,568	\$ (10,254)	4.25	3.25	(1.00)
Total Corporate Services*	\$ 9,710,876	\$ 9,746,599	\$ 35,723	40.70	38.00	(2.70)

*WECC's 2019 Corporate Services budget (expenses plus fixed asset activity) is \$9,746,599, of which \$526,844 is allocated to non-statutory activities. As a result of the allocation to the non-statutory function, the Corporate Services expenses included in the 2019 statutory budget are \$9,219,755, which is a \$46,878 decrease from the 2018 budget of \$9,172,877.

Program Scope and Functional Description

WECC's Corporate Services encompasses the following program areas and includes all business and administrative functions of the organization:

- Technical Committees and Member Forums,
- General and Administrative,
- Legal and Regulatory,
- Information Technology,
- Human Resources, and
- Finance and Accounting.

These functions are necessary for the existence and operation of the organization and support the performance of WECC's statutory activities. This area provides executive leadership; communications and external affairs; and administrative support for WECC staff, committees, members, and management. Corporate Services includes Board fees and expenses, and provides logistics support for the Salt Lake City office and meeting facilities, and the Vancouver office.

Methodology for Allocation of Corporate Services Expenses to Programs

Corporate Services expenses are allocated to statutory and non-statutory program areas based on FTEs.

Technical Committees and Member Forums

Program Scope and Functional Description

WECC provides forums for members and other interested stakeholders within its footprint to discuss and share reliability, compliance, and operating concerns through the Standing Committees and the JGC.

2019 Key Assumptions

- The Standing Committees (OC, MIC, and RAC) meet three times each year. In 2019, all Standing Committee meeting will be held in Salt Lake City.

Resource Requirements/Explanation of Significant Changes

Personnel Expenses

- No significant changes.

Meeting Expenses

- Meetings decrease by \$30,000 due to all Standing Committee meetings being held in Salt Lake City.

Operating Expenses

- No significant changes.

Fixed Assets

- No significant changes.

General and Administrative

Program Scope and Functional Description

The General and Administrative Department provides executive leadership; communications; and administrative support for WECC staff, committees, members, and management; as well as logistics support of the Salt Lake City office and meeting facilities. In addition, indirect costs such as Office Rent that benefit multiple functional areas are accounted for in this budget.

2019 Key Assumptions

- Transfer 0.3 FTE from Training and Outreach based on changes in roles and responsibilities.
- Provide the same level of meetings and meeting support for the Board of Directors and Board Committees in 2019.
- Hold the 2019 Annual Meeting in Seattle.
- Compensate Board members for meeting participation in accordance with the current Board compensation structure.

2019 Goals and Key Deliverables

- Provide excellent executive leadership and strong strategic guidance for the activities undertaken by WECC and ensure that WECC supports the ERO Enterprise Long-Term Strategy and ERO Enterprise Operating Plan.
- Support and coordinate the logistics for the Board of Directors and Board Committees.
- Continue to enhance the meetings team and stakeholder services groups to drive efficiencies and effective services throughout WECC.
- Continue to enhance the external relations and outreach programs.

Resource Requirements/Explanation of Significant Changes

Personnel Expenses

- Personnel Expenses increase by \$135,000 due to a budgeted 3-percent merit pool, continued refinement of labor float percentages, and the refinement of payroll tax and benefits rates.

Meeting Expenses

- Meetings increase by \$20,000 primarily due to an estimated increase in the cost of off-site meetings.
- Travel decreases by \$20,000 primarily due to the alignment of Board Director travel with historical trends.
- Conference Calls decrease by \$17,000 to align budget with actual usage trends.

Operating Expenses

- Consultants and Contracts increase by \$84,000 primarily due to organizational and leadership development consulting.
- Office Rent increases by \$29,000 due a new lease for the Vancouver, WA office.
- Office Costs increase by \$53,000 primarily due to the replacement of some office furniture, expansion of WECC stakeholder's recognition wall and updating WECC's corporate collateral.

Fixed Assets

- Leasehold Improvements increase by \$12,000 due to improvements for the Salt Lake City office space.

Legal and Regulatory

Program Scope and Functional Description

The Legal and Regulatory Department provides coordinated legal services to the WECC Board, committees, and staff, in addition to consistent legal interpretations of relevant statutes, regulations, court opinions, and regulatory decisions. The department also develops specific subject matter expertise to further assist WECC with its legal needs. On occasion, major efforts may be outsourced to select law firms, but the responsibility for all legal matters remains with the Legal and Regulatory Department.

WECC's international operations and its broad scope of activities require significant legal support and review. Arranging for legal support is complicated by the technical nature of this developing area of law and there are many potential areas of conflict prohibiting the use of law firms with energy practices.

2019 Key Assumptions

- Maintain the scope of its current operations and ensure that WECC contributes positively to the ERO Enterprise's activities.
- Transfer one position to Training and Outreach to realign resources based on business need and due to efficiencies gained in Legal and Regulatory.

2019 Goals and Key Deliverables

- Provide efficient, cost-effective legal support to the WECC Board, committees and staff through a combination of in-house and outside resources.
- Advise WECC departments on specified legal matters and general matters relating to WECC business.

Resource Requirements/Explanation of Significant Changes

Personnel Expenses

- Personnel Expenses decrease by a net of \$54,000 due to one FTE transferred to Training and Outreach, a budgeted 3-percent merit pool, continued refinement of labor float percentages, and the refinement of payroll tax and benefits rates.

Meeting Expenses

- Travel increases by \$14,000 due to increased travel requirements and attendance at off-site meetings.

Operating Expenses

- Professional Services decrease by \$24,000 primarily based on estimates derived from current insurance premiums.

Fixed Assets

- No significant changes.

Information Technology

Program Scope and Functional Description

WECC's Information Technology (IT) Department provides systems support including: servers, data, email, telephone systems, and internet and Intranet website maintenance. In addition, IT includes development of new technology solutions using both internal staff and working with external service providers. IT provides resources and tools to enable the organization to meet evolving requirements to support activities and responsibilities as directed by NERC and FERC.

2019 Key Assumptions

The Information Technology Program Area incorporates the Regional Entity-specific contributing activities as described in the ERO Enterprise Operating Plan, and includes the following additional WECC-specific assumptions.

- Use consultants as needed instead of increasing headcount.
- Achieve long-term levelized costs by obtaining subscription services for software and infrastructure when practical.
- Replace personal computer equipment on a four-year refresh cycle, refresh servers every five years, and replace network equipment every seven-to-10 years.
- Support the ERO Enterprise IT Strategy and continue working collaboratively to minimize duplication of effort and investments and improve operational efficiency.

2019 Goals and Key Deliverables

- Continue to provide increased data support, analysis, and communication.
- Create centralized databases, automated processes, and tools to organize a growing volume of electronic data that will be in high demand.
- Add to WECC's security capabilities with additional authentication controls and enhanced threat detection.
- Enhance document management, business process workflow and records retention solutions.

Resource Requirements/Explanation of Significant Changes

Personnel Expenses

- Personnel Expenses increase by \$40,000 due to a budgeted 3-percent merit pool, continued refinement of labor float percentages, and the refinement of payroll tax and benefits rates.

Meeting Expenses

- No significant changes.

Operating Expenses

- No significant changes.

Fixed Assets

- Fixed Assets increase by a net of \$48,000 primarily due to planned 2019 refreshes of file servers and storage area networks. Additionally, one-time software purchases in 2018 were not replaced with additional tools in 2019.

Human Resources

Program Scope and Functional Description

Human Resources (HR) is responsible for the delivery of all HR functions to WECC, including: recruitment, staffing, compensation, benefits, safety, health and wellness, employee relations, performance management, succession planning, and employee training and development. HR maintains Human Resources-related databases and ensures compliance with all federal and state requirements.

2019 Key Assumptions

- Hold WECC's total headcount flat.
- Maintain current benefit levels and negotiate minimal premium increases.
- Ensure gaps in skills are minimized through training and development.
- Transfer one FTE to RAPA to realign resources based on business need and efficiencies gained in Human Resources.

2019 Goals and Key Deliverables

- Improve the effectiveness of performance management processes through manager training and development.
- Enhance the scope of succession planning and employee development and training, which are vital to ensuring that WECC maintains a highly skilled, qualified and diverse workforce.
- Manage all employee benefits to deliver an attractive benefit package to employees, and to attract potential employees, while managing overall costs to the organization.
- Expand recruiting efforts through college campus outreach, social media platforms, and employee referral programs to attract desired candidates.
- Offer one technical writing course.
- Provide access for all employees to the NERC Learning Management System and develop learning plans for employee training using computer-based training modules and classroom training.

Resource Requirements/Explanation of Significant Changes

Personnel Expenses

- Personnel Expenses increase by a net of \$194,000 due to one FTE transferred to RAPA, a budgeted 3-percent merit pool, continued refinement of labor float percentages, and the refinement of payroll tax and benefits rates.

Meeting Expenses

- Travel increases by \$16,000 due to travel related to human resource information system training and job applicant travel.

Operating Expenses

- Consultants and Contracts decrease by \$70,000 primarily due to the completion of compensation consulting in 2018.

- Office Costs decrease by \$25,000 due to the end of compensation data subscriptions in 2018 and a reduction in the number of job posting sites used.

Fixed Assets

- No significant changes.

Finance and Accounting

Program Scope and Functional Description

The Finance and Accounting Department provides accounting and financial analysis support to WECC. The department is responsible for accounts payable, billing, accounts receivable, budgeting, fixed asset management, banking, cash management, payroll, and financial reporting.

2019 Key Assumptions

- Convert one position from staff-level to senior-level.
- Transfer one FTE to Compliance Monitoring and Enforcement to realign resources based on business need and efficiencies gained in Finance and Accounting.
- Implement secure and reliable cloud-based software.
- Interest rates remain flat.

2019 Goals and Key Deliverables

- Identify and implement efficiencies in financial processes.
- Ensure WECC has effective financial controls.
- Provide quality reporting and financial analysis to WECC managers, the FAC and the WECC Board.

Resource Requirements/Explanation of Significant Changes

Personnel Expenses

- No significant changes.

Meeting Expenses

- No significant changes.

Operating Expenses

- No significant changes.

Fixed Assets

- No significant changes.

See Section B – Supplemental Financial Information for explanations of other variances between the 2018 and 2019 budgets.

Corporate Services Funding Sources and Expenditures

Statement of Activities, Fixed Assets Expenditures, and Change in Working Capital 2018 Budget & Projection, and 2019 Budget CORPORATE SERVICES					
	2018 Budget	2018 Projection	Variance 2018 Budget v 2018 Projection Over(Under)	2019 Budget	Variance 2019 Budget v 2018 Budget Inc(Dec)
Revenue					
Statutory Funding					
WECC Assessments	\$ -	\$ -	\$ -	\$ -	\$ -
Penalty Sanctions	-	-	-	-	-
Total Statutory Funding	\$ -	\$ -	\$ -	\$ -	\$ -
Membership Fees	\$ -	\$ -	\$ -	\$ -	\$ -
Services & Software	-	-	-	-	-
Workshops	-	-	-	-	-
Interest	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Total Revenue (A)	\$ -	\$ -	\$ -	\$ -	\$ -
Expenses					
Personnel Expenses					
Salaries	\$ 4,310,636	\$ 4,360,311	\$ 49,675	\$ 4,287,638	\$ (22,998)
Payroll Taxes	270,983	255,423	(15,560)	240,225	(30,758)
Benefits	953,869	921,570	(32,299)	941,023	(12,846)
Retirement Costs	366,353	372,777	6,424	354,381	(11,972)
Total Personnel Expenses	\$ 5,901,841	\$ 5,910,081	\$ 8,240	\$ 5,823,267	\$ (78,574)
Meeting Expenses					
Meetings	\$ 108,923	\$ 157,109	\$ 48,186	\$ 98,500	\$ (10,423)
Travel	288,072	304,029	15,957	300,130	12,058
Conference Calls	75,000	53,527	(21,473)	57,600	(17,400)
Total Meeting Expenses	\$ 471,995	\$ 514,665	\$ 42,670	\$ 456,230	\$ (15,765)
Operating Expenses					
Consultants & Contracts	\$ 436,500	\$ 481,336	\$ 44,836	\$ 441,000	\$ 4,500
Office Rent	944,461	962,884	18,423	972,909	28,448
Office Costs	990,369	904,633	(85,736)	1,022,913	32,544
Professional Services	903,710	885,366	(18,344)	908,280	4,570
Miscellaneous	-	-	-	-	-
Depreciation	193,784	204,092	10,308	234,209	40,425
Total Operating Expenses	\$ 3,468,824	\$ 3,438,311	\$ (30,513)	\$ 3,579,311	\$ 110,487
Total Direct Expenses	\$ 9,842,660	\$ 9,863,057	\$ 20,397	\$ 9,858,808	\$ 16,148
Indirect Expenses	\$ (9,842,660)	\$ (9,863,057)	\$ (20,397)	\$ (9,858,808)	\$ (16,148)
Other Non-Operating Expenses	\$ -	\$ 45,000	\$ 45,000	\$ -	\$ -
Total Expenses (B)	\$ -	\$ 45,000	\$ 45,000	\$ -	\$ -
Change in Assets	\$ -	\$ (45,000)	\$ (45,000)	\$ -	\$ -
Fixed Assets					
Depreciation	\$ (193,784)	\$ (204,092)	\$ (10,308)	\$ (234,209)	\$ (40,425)
Computer & Software CapEx	50,000	50,000	-	5,000	(45,000)
Furniture & Fixtures CapEx	-	-	-	-	-
Equipment CapEx	12,000	12,000	-	105,000	93,000
Leasehold Improvements	-	-	-	12,000	12,000
Allocation of Fixed Assets	131,784	142,092	10,308	112,209	(19,575)
Incr(Dec) in Fixed Assets (C)	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL BUDGET (B+C)	\$ -	\$ 45,000	\$ 45,000	\$ -	\$ -
TOTAL CHANGE IN WORKING CAPITAL (A-B-C)	\$ -	\$ (45,000)	\$ (45,000)	\$ -	\$ -
FTEs	40.7	37.4	(3.3)	38.0	(2.7)
HC	41.0	38.0	(3.0)	38.0	(3.0)

Section B

Supplemental Financial Information

2019 Business Plan and Budget

Section B — Supplemental Financial Information

Reserve Analysis

Table B-1

Working Capital Reserve Analysis 2018-2019	
STATUTORY	
Beginning Working Capital Reserve (Deficit), December 31, 2017	\$ 5,418,775
Plus: 2018 Funding (from Load-Serving Entities (LSE) or designees)	27,382,000
Plus: 2018 Other funding sources	640,255
Less: 2018 Projected expenses & capital expenditures	(27,602,629)
Projected Working Capital Reserve (Deficit), December 31, 2018	<u>\$ 5,838,401</u>
 Projected Working Capital Reserve, December 31, 2019¹	 \$ 5,302,021
Less: Projected Working Capital Reserve, December 31, 2018	(5,838,401)
Increase(Decrease) in Assessments to Achieve Projected Working Capital Reserve	<u>\$ (536,380)</u>
 2019 Expenses and Capital Expenditures	 \$ 26,950,566
Less: Penalty Sanctions ²	(587,686)
Less: Other Funding Sources	(544,500)
Adjustment to achieve desired Working Capital Reserve	(536,380)
2019 WECC Assessment	<u>\$ 25,282,000</u>

1 – On June 20, 2018, the WECC Board of Directors approved this reserve level.

2 – Represents collections of Penalty Sanctions from July 1, 2017 through June 30, 2018. See page 45 for full disclosure.

WECC's Board has approved a Working Capital Reserve balance equal to one-to-three months of Personnel, Meeting, and Operating Expenses per its Reserve Policy, approved by the FAC on June 19, 2018.

Breakdown of Statement of Activities

The following detailed schedules are in support of the Statutory Statement of Activities and Capital Expenditures on page 10.

Monetary Penalties

As documented in the NERC Policy *Accounting, Financial Statement and Budgetary Treatment of Penalties Imposed and Received for Violations of Reliability Standards*, penalty monies received on or prior to June 30, 2018, will be used to offset assessments in the 2019 WECC budget.

All penalty monies received on or prior to June 30, 2018, are listed in Table B-2, including the amount and the date received.

Allocation Method: Penalty monies received have been allocated to the following Statutory Programs to reduce assessments:

- Reliability Standards;
- Compliance Monitoring and Enforcement and Organization Registration and Certification;
- Reliability Assessment and Performance Analysis;
- Training and Outreach; and
- Situation Awareness and Infrastructure Security.

Penalty monies are allocated based on the number of FTEs in the functional areas divided by the aggregate total FTEs in the programs receiving the allocation.

Penalty Sanctions

Table B-2

Penalty Sanctions Received on or Prior to June 30, 2018	
Date Received	Amount Received
7/5/2017	54,000
7/19/2017	9,000
7/24/2017	95,086
7/27/2017	26,000
8/4/2017	54,000
8/14/2017	74,000
9/6/2017	30,000
11/13/2017	55,000
1/17/2018	22,000
3/6/2018	84,600
5/30/2018	84,000
Total Penalties Received	587,686
Penalties Offset to Assessments	587,686

Other Revenue

Table B-3

Other Revenue Breakdown By Program (Excludes Assessments & Penalty Sanctions)		Budget 2018	Projection 2018	Budget 2019	Variance 2018 Budget v 2019 Budget
Reliability Standards					
Interest		\$ 2,199	\$ 8,017	\$ 3,429	\$ 1,230
Miscellaneous		-	-	-	-
Total		\$ 2,199	\$ 8,017	\$ 3,429	\$ 1,230
Compliance Monitoring, Enforcement & Org. Registration					
Workshops		\$ -	\$ -	\$ -	\$ -
Interest		43,256	158,922	68,571	25,315
Miscellaneous		-	-	-	-
Total		\$ 43,256	\$ 158,922	\$ 68,571	\$ 25,315
Reliability Assessment and Performance Analysis					
Interest		\$ 27,859	\$ 91,919	\$ 44,571	\$ 16,712
Miscellaneous		-	-	-	-
Total		\$ 27,859	\$ 91,919	\$ 44,571	\$ 16,712
Training and Outreach					
Workshops		\$ 540,050	\$ 373,062	\$ 424,500	\$ (115,550)
Interest		953	5,663	2,286	1,333
Miscellaneous		-	-	-	-
Total		\$ 541,003	\$ 378,725	\$ 426,786	\$ (114,217)
Situation Awareness and Infrastructure Security					
Interest		\$ 733	\$ 2,672	\$ 1,143	\$ 410
Miscellaneous		-	-	-	-
Total		\$ 733	\$ 2,672	\$ 1,143	\$ 410
Corporate Services					
Interest		\$ -	\$ -	\$ -	\$ -
Miscellaneous		-	-	-	-
Total		\$ -	\$ -	\$ -	\$ -
Total Outside Funding		\$ 615,050	\$ 640,255	\$ 544,500	\$ (70,550)

Explanation of Significant Variances – 2019 Budget versus 2018 Budget

WECC anticipates its investments will earn interest of approximately \$120,000 in 2019. This revenue is allocated to the Statutory Programs based on FTEs.

Reliability Standards

- No significant changes.

Compliance Monitoring and Enforcement and Organization Registration and Certification

- No significant changes.

Training and Outreach

- Workshops revenue decreases by \$116,000 due to reductions in anticipated attendance at outreach events.

Situation Awareness and Infrastructure Security

- No significant changes.

Corporate Services

- Not applicable.

Personnel Expenses

Table B-4

Personnel Expenses	Budget 2018	Projection 2018	Budget 2019	Variance	
				2018 Budget v 2019 Budget	Variance %
Salaries					
Salaries	\$ 15,199,337	\$ 15,527,975	\$ 15,865,019	\$ 665,682	4.4%
Employment Agency Fees	-	145,500	-	-	
Temporary Office Services	-	-	-	-	
Total Salaries	\$ 15,199,337	\$ 15,673,475	\$ 15,865,019	\$ 665,682	4.4%
Total Payroll Taxes	\$ 1,089,355	\$ 995,682	\$ 1,037,394	\$ (51,961)	(4.8%)
Benefits					
Workers Compensation	\$ 20,004	\$ 14,033	\$ 14,800	\$ (5,204)	(26.0%)
Medical Insurance	1,826,810	1,901,351	1,826,239	(571)	(0.0%)
Life-LTD-STD Insurance	78,404	96,627	87,974	9,570	12.2%
Education	297,150	262,514	300,704	3,554	1.2%
Relocation	56,000	49,922	55,992	(8)	(0.0%)
Other	15,487	17,050	17,000	1,513	9.8%
Total Benefits	\$ 2,293,855	\$ 2,341,497	\$ 2,302,709	\$ 8,854	0.4%
Retirement					
Discretionary 401k Contribution	\$ 1,286,223	\$ 1,359,441	\$ 1,311,109	\$ 24,886	1.9%
Retirement Administration Fees	2,500	2,500	-	(2,500)	(100.0%)
Total Retirement	\$ 1,288,723	\$ 1,361,941	\$ 1,311,109	\$ 22,386	1.7%
Total Personnel Costs	\$ 19,871,270	\$ 20,372,595	\$ 20,516,231	\$ 644,961	3.2%
FTEs	143.0	137.4	143.0	0.0	0.0%
Cost per FTE					
Salaries	\$ 106,289	\$ 114,103	\$ 110,944	\$ 4,655	4.4%
Payroll Taxes	7,618	7,249	7,255	(363)	(4.8%)
Benefits	16,041	17,046	16,103	62	0.4%
Retirement	9,012	9,915	9,169	157	1.7%
Total Cost per FTE	\$ 138,960	\$ 148,312	\$ 143,470	\$ 4,510	3.2%

Explanation of Significant Variances – 2019 Budget versus 2018 Budget

Salaries

- Salaries increase by a net of \$666,000 primarily due to a budgeted 3-percent merit pool, continued refinement of labor float percentages and changes in position levels.

Payroll Taxes

- Payroll Taxes decrease by \$52,000 primarily due to the refinement of budgeted payroll tax rates.

Benefits

- Life-LTD-STD Insurance increases by \$10,000 primarily due to the refinement of budgeted insurance rates.

Retirement

- Discretionary 401(k) Contribution increases by \$25,000 primarily due to increases in salaries and retirement plan participation.

Meeting Expenses

Table B-5

Meeting Expense	Budget 2018	Projection 2018	Budget 2019	Variance	
				2018 Budget v 2019 Budget	Variance %
Reliability Standards	\$ 520	\$ 260	\$ 260	\$ (260)	(50.0%)
Compliance Monitoring and Enforcement and Organization Registration and Certification	5,400	9,138	4,910	(490)	(9.1%)
Reliability Assessment and Performance Analysis	126,812	87,506	128,110	1,298	1.0%
Training and Outreach	514,130	284,877	409,173	(104,957)	(20.4%)
Situation Awareness and Infrastructure Security	-	-	-	-	
Corporate Services	108,923	157,109	98,500	(10,423)	(9.6%)
Total Meeting Expenses	\$ 755,785	\$ 538,890	\$ 640,953	\$ (114,832)	(15.2%)

Travel Expense	Budget 2018	Projection 2018	Budget 2019	Variance	
				2018 Budget v 2019 Budget	Variance %
Reliability Standards	\$ 20,200	\$ 20,311	\$ 18,290	\$ (1,910)	(9.5%)
Compliance Monitoring and Enforcement and Organization Registration and Certification	843,277	788,169	835,205	(8,072)	(1.0%)
Reliability Assessment and Performance Analysis	239,345	296,578	244,640	5,295	2.2%
Training and Outreach	10,315	5,463	10,603	288	2.8%
Situation Awareness and Infrastructure Security	-	-	-	-	
Corporate Services	288,072	304,029	300,130	12,058	4.2%
Total Travel Expenses	\$ 1,401,209	\$ 1,414,550	\$ 1,408,868	\$ 7,659	0.5%

Conference Call Expense	Budget 2018	Projection 2018	Budget 2019	Variance	
				2018 Budget v 2019 Budget	Variance %
Reliability Standards	\$ -	\$ -	\$ -	\$ -	
Compliance Monitoring and Enforcement and Organization Registration and Certification	-	-	-	-	
Reliability Assessment and Performance Analysis	-	-	-	-	
Training and Outreach	-	-	-	-	
Situation Awareness and Infrastructure Security	-	-	-	-	
Corporate Services	75,000	53,527	57,600	(17,400)	(23.2%)
Total Conference Call Expenses	\$ 75,000	\$ 53,527	\$ 57,600	\$ (17,400)	(23.2%)

Explanation of Significant Variances – 2019 Budget versus 2018 Budget

Meeting Expense

- Training and Outreach decreases by \$105,000 due to reductions in anticipated attendance at outreach events.
- Corporate Services decreases by a net of \$10,000 due to all Standing Committee meetings being held in Salt Lake City.

Travel Expense

- Corporate Services increases by \$12,000 due to increased travel requirements and attendance at off-site meetings.

Conference Call Expense

- Corporate Services decreases by \$17,000 to align budget with actual usage trends.

Consultants and Contracts

Table B-6

Consultants	Budget 2018	Projection 2018	Budget 2019	Variance	
				2018 Budget v 2019 Budget	Variance %
Consultants					
Reliability Standards	\$ -	\$ -	\$ -	\$ -	
Compliance Monitoring and Enforcement and Organization Registration and Certification	-	200,000	-	-	
Reliability Assessment and Performance Analysis	1,185,000	1,228,828	590,000	(595,000)	(50.2%)
Training and Outreach	4,560	-	-	(4,560)	(100.0%)
Situation Awareness and Infrastructure Security	-	-	-	-	
Corporate Services	411,500	481,336	441,000	29,500	7.2%
Consultants Total	\$ 1,601,060	\$ 1,910,164	\$ 1,031,000	\$ (570,060)	(35.6%)
Contracts	Budget 2018	Projection 2018	Budget 2019	Variance	
				2018 Budget v 2019 Budget	Variance %
Contracts					
Reliability Standards	\$ -	\$ -	\$ -	\$ -	
Compliance Monitoring and Enforcement and Organization Registration and Certification	397,221	362,348	261,890	(135,331)	(34.1%)
Reliability Assessment and Performance Analysis	-	-	-	-	
Training and Outreach	-	-	-	-	
Situation Awareness and Infrastructure Security	-	-	-	-	
Corporate Services	25,000	-	-	(25,000)	(100.0%)
Contracts Total	\$ 422,221	\$ 362,348	\$ 261,890	\$ (160,331)	(38.0%)
Total Consulting and Contracts	\$ 2,023,281	\$ 2,272,512	\$ 1,292,890	\$ (730,391)	(36.1%)

Explanation of Significant Variances – 2019 Budget versus 2018 Budget

Consultants

- RAPA decreases by a net of \$595,000 primarily due to the completion of the Gas/Electric Interdependence Study.
- Corporate Services increases by a net of \$30,000 due to the following:
 - General and Administrative increases primarily due to organizational and leadership development consulting, and
 - Human Resources decreases primarily due to the completion of compensation consulting in 2018.

Contracts

- Compliance decreases by \$135,000 due to reduced reliance on contract labor and broadened staff skill sets.
- Corporate Services decreases by \$25,000 due to lower reliance on contract labor in lieu of staff for IT projects.

Office Rent

Table B-7

Office Rent	Budget		Projection		Variance				
	2018	2018	2019	2019	2018 Budget v 2019 Budget	Variance %			
Office Rent	\$	925,056	\$	948,181	\$	953,484	\$	28,428	3.1%
Utilities		-		-		-		-	0.0%
Maintenance		19,405		14,703		19,425		20	0.1%
Security		-		-		-		-	0.0%
Total Office Rent	\$	944,461	\$	962,884	\$	972,909	\$	28,448	3.0%

Explanation of Significant Variances – 2019 Budget versus 2018 Budget

- Office Rent increases by \$28,000 due a new lease for the Vancouver, WA office and anticipated increases in operating expenses for the Salt Lake City office.

Office Costs

Table B-8

Office Costs	Budget 2018	Projection 2018	Budget 2019	Variance	
				2018 Budget v 2019 Budget	Variance %
Telephone	\$ 73,320	\$ 67,938	\$ 57,316	\$ (16,004)	(21.8%)
Internet	71,120	82,114	69,252	(1,868)	(2.6%)
Office Supplies	104,540	101,660	129,751	25,211	24.1%
Computer Supplies and Maintenance	878,690	786,007	850,566	(28,124)	(3.2%)
Publications & Subscriptions	54,894	48,801	29,556	(25,338)	(46.2%)
Dues and Fees	277,243	254,745	280,438	3,195	1.2%
Postage	4,240	3,731	4,520	280	6.6%
Express Shipping	4,424	5,557	3,319	(1,105)	(25.0%)
Copying	10,903	18,804	23,837	12,934	118.6%
Bank Charges	60,279	59,557	57,275	(3,004)	(5.0%)
Taxes	58,975	49,101	51,849	(7,126)	(12.1%)
Total Office Costs	\$ 1,598,628	\$ 1,478,015	\$ 1,557,679	\$ (40,949)	(2.6%)

Explanation of Significant Variances – 2019 Budget versus 2018 Budget

- Telephone decreases by \$16,000 due to a renegotiated contract.
- Office Supplies increase by \$25,000 primarily due to the expansion of WECC's stakeholder recognition wall and updating WECC's corporate collateral.
- Computer Supplies and Maintenance decreases by a net of \$28,000 primarily due to a reduction in webCDMS fees and the replacement of some office furniture.
- Publications and Subscriptions decrease by \$25,000 due to the completion of a Human Resources compensation study.
- Copying increases by \$13,000 primarily due to the triennial refresh of WECC pamphlets and booklets.

Professional Services

Table B-9

Professional Services	Budget 2018	Projection 2018	Budget 2019	Variance	
				2018 Budget v 2019 Budget	Variance %
Board Director Fees	\$ 763,750	\$ 803,045	\$ 797,500	\$ 33,750	4.4%
Outside Legal	16,200	17,221	9,000	(7,200)	(44.4%)
Accounting & Auditing Fees	38,760	30,913	31,700	(7,060)	(18.2%)
Insurance Commercial	85,000	70,187	70,080	(14,920)	(17.6%)
Total Services	\$ 903,710	\$ 921,366	\$ 908,280	\$ 4,570	0.5%

Explanation of Significant Variances – 2019 Budget versus 2018 Budget

- Board Director Fees increase by \$34,000 due to increases in Board Director retainer compensation.
- Insurance Commercial decreases by \$15,000 based on estimates derived from current premiums.

Miscellaneous Expenses**Table B-10**

Miscellaneous Expenses	Budget 2018	Projection 2018	Budget 2019	Variance	
				2018 Budget v 2019 Budget	Variance %
Miscellaneous	\$ -	\$ -	\$ -	\$ -	-
Total Miscellaneous Expenses	\$ -	\$ -	\$ -	\$ -	-

Explanation of Significant Variances – 2019 Budget versus 2018 Budget

- Not applicable.

Other Non-Operating

Table B-11

Other Non-Operating Expenses	Budget 2018	Projection 2018	Budget 2019	Variance	
				2018 Budget v 2019 Budget	Variance %
Interest Expense	\$ -	\$ -	\$ -	\$ -	-
Line of Credit Payment	-	-	-	-	-
Office Relocation	-	45,000	-	-	-
Total Non-Operating Expenses	\$ -	\$ 45,000	\$ -	\$ -	(100.0%)

Explanation of Significant Variances – 2019 Budget versus 2018 Budget

- Not applicable.

Fixed Assets

Table B-12

Fixed Assets	Budget 2018	Projection 2018	Budget 2019	Variance	
				2018 Budget v 2019 Budget	Variance %
Computer & Software CapEx	\$ 50,000	\$ 50,000	\$ 5,000	\$ (45,000)	(90.0%)
Furniture & Fixtures CapEx	-	-	-	-	
Equipment CapEx	12,000	12,000	105,000	93,000	775.0%
Leasehold Improvements	-	-	12,000	12,000	
	\$ 62,000	\$ 62,000	\$ 122,000	\$ 60,000	96.8%

Explanation of Significant Variances – 2019 Budget versus 2018 Budget

- Computer and Software CapEx decreases by \$45,000 due to one-time software purchases in 2018 that were not replaced with additional tools in 2019.
- Equipment CapEx increases by \$93,000 primarily due to planned refreshes of file servers and storage area networks.
- Leasehold Improvements increase by \$12,000 due to necessary maintenance-related updates to the Salt Lake City office space.

Section C

Non-Statutory Program

2019 Business Plan and Budget

Section C — Non-Statutory Program

Western Renewable Energy Generation Information System (in whole dollars)			
	2018 Budget	2019 Budget	Increase (Decrease)
Total FTEs	6.0	6.0	-
Direct Expenses	\$ 1,228,780	\$ 1,248,601	\$ 19,821
Indirect Expenses	\$ 545,300	\$ 532,909	\$ (12,391)
Inc(Dec) in Fixed Assets	\$ (7,301)	\$ (6,065)	\$ 1,236
Total Funding Requirement	\$ 32,536	\$ 352,326	\$ 319,790

Western Renewable Energy Generation Information System (WREGIS)

WREGIS is an independent, renewable energy database for the Western Interconnection. WREGIS creates renewable energy certificates (REC) for verifiable renewable generation from units that are registered in the database.

WREGIS was developed through a collaborative process between the Western Governors' Association, the Western Regional Air Partnership, and the California Energy Commission (CEC). This development was further guided by stakeholder input from more than 400 participants over a period greater than three years.

The program's governance was integrated into WECC on March 31, 2012 following the expiration of WECC's contract that had previously provided for backstop funding from the CEC. WREGIS is overseen by a WECC Member Committee consisting of representatives from the WECC membership and various WREGIS stakeholder groups.

WREGIS costs fall outside Section 215 of the Federal Power Act. Participants fund WREGIS through registration and transaction fees. To avoid any crossover of Section 215 dollars, WREGIS pays a portion of WECC's overhead costs based on a formula implemented following a FERC audit.

WREGIS consists of two parts: 1) the information system software, and 2) the administrative operations. The WREGIS staff oversees the software contractor and performs all the administrative tasks required to operate the program including:

- registering account holders and generation units;
- training WREGIS users;
- auditing generation and other data; and
- managing the budgeting, billing, and financial reporting.

Major 2019 Assumptions and Cost Impacts

WREGIS is funded entirely by user fees and is not subsidized by Section 215 funding. There are several types of user fees. Annual fees are paid by all users and are based on size (generation capacity) and user type. Usage fees are paid by all but micro, small, and medium generation owners (as defined by

the WREGIS fee matrix). WREGIS also charges various fees for specific usage to only those requesting the services.

- User fees are based on size (generation capacity) and user type.
 - Approximately 4 percent of revenues are based on size.
 - Approximately 92 percent of revenues are based on usage levels, which can depend on factors such as weather (wind and solar generation levels) and state regulatory policies (retirement, transfers, etc.).
 - Approximately 4 percent of revenues are attributable to fees for specific, requested functions such as tracking e-Tags.
- Revenues can vary greatly from year to year; WECC holds large WREGIS reserves to allow for normal operations during years in which fee levels are low and to fund large, non-recurring expenditures such as major software upgrades.

2019 Goals and Key Deliverables

- Implement the WREGIS program as required by the participating states, provinces, and voluntary programs.
- Register program participants, whether mandatory or voluntary.
- Refine the WREGIS software to ensure optimum performance both in terms of efficiency and ease of use for account holders.
- Refine and improve data collection to ensure high-quality data.
- Keep abreast of possible needs to increase WREGIS's functionality.

Resource Requirements/Explanation of Significant Changes

Funding Sources (other than ERO Assessments)

- Membership Fees increase by \$314,000 due to anticipated increases in account holders and certificate volumes.
- Interest increases by \$15,000 due to anticipated increases in rate of return on reserves.

Personnel Expenses

- No significant changes.

Meeting Expenses

- No significant changes.

Operating Expenses

- Office Costs increase by \$18,000 mainly due to anticipated increases in monthly WREGIS fees and updates to the WREGIS system.

Indirect Expenses

- Indirect Expenses are allocated to statutory and non-statutory program areas based on FTEs.

Other Non-Operating Expenses

- No significant changes.

WREGIS Program Funding Sources and Expenditures

Statement of Activities, Fixed Assets Expenditures, and Change in Working Capital
2018 Budget & Projection, and 2019 Budget

NON-STATUTORY

	2018 Budget	2018 Projection	Variance 2018 Budget v 2018 Projection Over(Under)	2019 Budget	Variance 2019 Budget v 2018 Budget Inc(Dec)
Revenue					
Statutory Funding					
WECC Assessments	\$ -	\$ -	\$ -	\$ -	\$ -
Penalty Sanctions	-	-	-	-	-
Total Statutory Funding	\$ -	\$ -	\$ -	\$ -	\$ -
Membership Fees	\$ 1,745,360	\$ 2,104,661	\$ 359,301	2,058,996	\$ 313,636
Services & Software	-	-	-	-	-
Workshops	1,875	1,725	(150)	1,875	-
Interest	52,080	74,695	22,615	66,900	14,820
Miscellaneous	-	-	-	-	-
Total Revenue (A)	\$ 1,799,315	\$ 2,181,081	\$ 381,766	\$ 2,127,771	\$ 328,456
Expenses					
Personnel Expenses					
Salaries	\$ 478,621	\$ 487,859	\$ 9,238	\$ 477,082	\$ (1,539)
Payroll Taxes	36,772	34,167	(2,605)	32,879	(3,893)
Benefits	73,381	64,424	(8,957)	83,974	10,593
Retirement Costs	40,478	41,558	1,080	39,420	(1,058)
Total Personnel Expenses	\$ 629,252	\$ 628,008	\$ (1,244)	\$ 633,355	\$ 4,103
Meeting Expenses					
Meetings	\$ 3,000	\$ 2,540	\$ (460)	\$ 3,813	\$ 813
Travel	18,880	16,021	(2,859)	17,265	(1,615)
Conference Calls	-	-	-	-	-
Total Meeting Expenses	\$ 21,880	\$ 18,561	\$ (3,319)	\$ 21,078	\$ (802)
Operating Expenses					
Consultants & Contracts	\$ 1,800	\$ 2,000	\$ 200	\$ -	\$ (1,800)
Office Rent	-	-	-	-	-
Office Costs	575,848	541,737	(34,111)	594,168	18,320
Professional Services	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Depreciation	-	-	-	-	-
Total Operating Expenses	\$ 577,648	\$ 543,737	\$ (33,911)	\$ 594,168	\$ 16,520
Total Direct Expenses	\$ 1,228,780	\$ 1,190,306	\$ (38,474)	\$ 1,248,601	\$ 19,821
Indirect Expenses	\$ 545,300	\$ 526,294	\$ (19,006)	\$ 532,909	\$ (12,391)
Other Non-Operating Expenses	\$ -	\$ -	\$ 45,000	\$ -	\$ -
Total Expenses (B)	\$ 1,774,080	\$ 1,716,600	\$ (12,480)	\$ 1,781,510	\$ 7,430
Change in Assets	\$ 25,235	\$ 464,481	\$ 394,246	\$ 346,261	\$ 321,026
Fixed Assets					
Depreciation	\$ -	\$ -	\$ -	\$ -	\$ -
Computer & Software CapEx	-	-	-	-	-
Furniture & Fixtures CapEx	-	-	-	-	-
Equipment CapEx	-	-	-	-	-
Leasehold Improvements	-	-	-	-	-
Allocation of Fixed Assets	(7,301)	(7,582)	(281)	(6,065)	1,236
Incr(Dec) in Fixed Assets (C)	\$ (7,301)	\$ (7,582)	\$ (281)	\$ (6,065)	\$ 1,236
TOTAL BUDGET (=B+C)	\$ 1,766,779	\$ 1,709,018	\$ (12,761)	\$ 1,775,445	\$ 8,666
TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)	\$ 32,536	\$ 472,063	\$ 394,527	\$ 352,326	\$ 319,790
FTEs	6.0	6.0	-	6.0	-
HC	6.0	6.0	-	6.0	-

Personnel Analysis

FTEs are defined as full-time equivalent employees only. Fractional FTEs reflect part-time employees or employees who worked in fewer than all four quarters of the year.

Total FTEs by Program Area	Budget 2018	Projection 2018	Direct FTEs 2019 Budget	Shared FTEs* 2019 Budget	Total FTEs 2019 Budget	Change from 2018 Budget
NON-STATUTORY						
Operational Programs						
Total FTEs Operational Programs	0.0	0.0	0.0	0.0	0.0	0.0
Administrative Programs						
WREGIS	6.0	6.0	6.0	0.0	6.0	0.0
Total FTEs Administrative Programs	6.0	6.0	6.0	0.0	6.0	0.0
Total FTEs	6.0	6.0	6.0	0.0	6.0	0.0

*A shared FTE is defined as an employee who performs both Statutory and Non-Statutory functions.

Reserve Analysis

Working Capital Reserve Analysis	
NON-STATUTORY	
Beginning Working Capital Reserve (Deficit), December 31, 2017	\$ 6,452,646
Plus: 2018 Funding	2,181,081
Plus: 2018 Other funding sources	
Less: 2018 Projected expenses & capital expenditures	(1,709,018)
Projected Working Capital Reserve (Deficit), December 31, 2018	\$ 6,924,709
Projected Working Capital Reserve, December 31, 2019	7,277,035
Less: Projected Working Capital Reserve, December 31, 2018	(6,924,709)
2019 Reserve Increase (Decrease)	\$ 352,326

Section D

Additional Financial Information

2019 Business Plan and Budget

Section D – Additional Financial Information

Section D – Additional Financial Information

2019 Consolidated Statement of Activities by Program, Statutory, and Non-Statutory

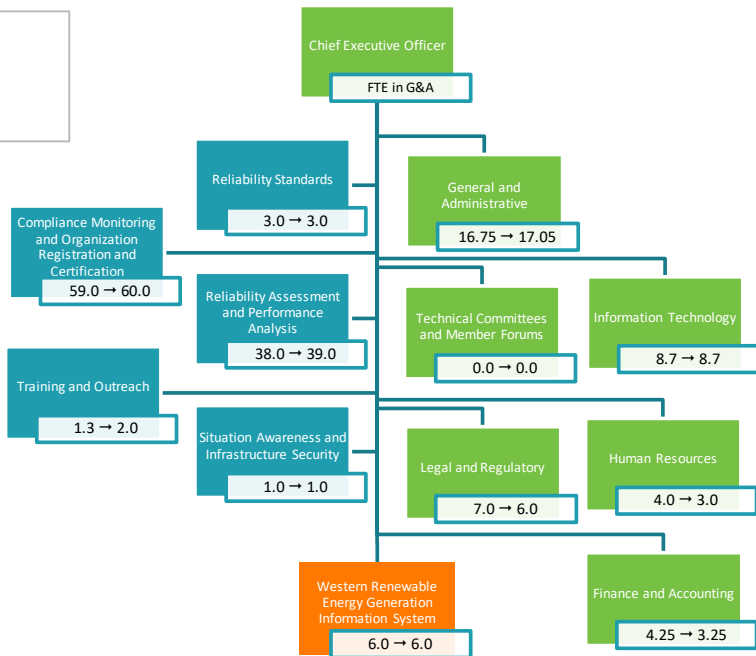
Statement of Activities and Capital Expenditures by Program	Total	Statutory Total	Non-Statutory Total	Statutory Functions							Non-Statutory Functions	
				Statutory Total	Reliability Standards	Compliance and Organization Registration and Certification	Reliability Assessment and Performance Analysis	Training and Outreach	Situation Awareness and Infrastructure Security	Corporate Services	Non-Statutory Total	WREGIS
Revenue												
Statutory Funding												
WECC Assessments	\$ 25,282,000	\$ 25,282,000	\$ -	\$ 25,282,000	\$ 771,224	\$ 14,264,214	\$ 9,560,414	\$ 481,798	\$ 204,350	\$ -	\$ -	\$ -
Penalty Sanctions	587,686	587,686	-	587,686	16,791	335,821	218,283	11,194	5,597	-	-	-
Total Statutory Funding	\$ 25,869,686	\$ 25,869,686	\$ -	\$ 25,869,686	\$ 788,015	\$ 14,600,035	\$ 9,778,697	\$ 492,992	\$ 209,947	\$ -	\$ -	\$ -
Non-statutory Funding												
Workshops	\$ 2,058,996	\$ -	\$ 2,058,996	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,058,996	\$ 2,058,996
Interest	426,375	424,500	1,875	424,500	-	-	-	424,500	-	-	1,875	1,875
Miscellaneous	186,900	120,000	66,900	120,000	3,429	68,571	44,571	2,286	1,143	-	66,900	66,900
Total Revenue (A)	\$ 28,541,957	\$ 26,414,186	\$ 2,127,771	\$ 26,414,186	\$ 791,444	\$ 14,668,606	\$ 9,823,268	\$ 919,778	\$ 211,090	\$ -	\$ 2,127,771	\$ 2,127,771
Expenses												
Personnel Expenses												
Salaries	\$ 16,342,100	\$ 15,865,018	\$ 477,082	\$ 15,865,018	\$ 423,024	\$ 6,521,216	\$ 4,278,285	\$ 254,696	\$ 100,159	\$ 4,287,638	\$ 477,082	\$ 477,082
Payroll Taxes	1,070,272	1,037,393	32,879	1,037,393	26,828	449,911	294,608	18,305	7,516	240,225	32,879	32,879
Benefits	2,386,684	2,302,710	83,974	2,302,710	37,174	789,012	494,397	29,484	11,620	941,023	83,974	83,974
Retirement Costs	1,350,530	1,311,110	39,420	1,311,110	34,984	538,748	353,659	21,064	8,274	354,381	39,420	39,420
Total Personnel Expenses	\$ 21,149,586	\$ 20,516,231	\$ 633,355	\$ 20,516,231	\$ 522,010	\$ 8,298,887	\$ 5,420,949	\$ 323,549	\$ 127,569	\$ 5,823,267	\$ 633,355	\$ 633,355
Meeting Expenses												
Meetings	\$ 644,766	\$ 640,953	\$ 3,813	\$ 640,953	\$ 260	\$ 4,910	\$ 128,110	\$ 409,173	\$ -	\$ 98,500	\$ 3,813	\$ 3,813
Travel	1,426,133	1,408,868	17,265	1,408,868	18,290	835,205	244,640	10,603	-	300,130	17,265	17,265
Conference Calls	57,600	57,600	-	57,600	-	-	-	-	-	57,600	-	-
Total Meeting Expenses	\$ 2,128,499	\$ 2,107,421	\$ 21,078	\$ 2,107,421	\$ 18,550	\$ 840,115	\$ 372,750	\$ 419,776	\$ -	\$ 456,230	\$ 21,078	\$ 21,078
Operating Expenses												
Consultants & Contracts	\$ 1,292,890	\$ 1,292,890	\$ -	\$ 1,292,890	\$ -	\$ 261,890	\$ 590,000	\$ -	\$ -	\$ 441,000	\$ -	\$ -
Office Rent	972,909	972,909	-	972,909	-	-	-	-	-	972,909	-	-
Office Costs	2,151,847	1,557,679	594,168	1,557,679	3,535	297,150	214,564	19,517	-	1,022,913	594,168	594,168
Professional Services	908,280	908,280	-	908,280	-	-	-	-	-	908,280	-	-
Miscellaneous	-	-	-	-	-	-	-	-	-	-	-	-
Depreciation	238,545	238,545	-	238,545	-	-	4,336	-	-	234,209	-	-
Total Operating Expenses	\$ 5,564,471	\$ 4,970,303	\$ 594,168	\$ 4,970,303	\$ 3,535	\$ 559,040	\$ 808,900	\$ 19,517	\$ -	\$ 3,579,311	\$ 594,168	\$ 594,168
Total Direct Expenses												
Total Direct Expenses	\$ 28,842,556	\$ 27,593,955	\$ 1,248,601	\$ 27,593,955	\$ 544,095	\$ 9,698,042	\$ 6,602,599	\$ 762,842	\$ 127,569	\$ 9,858,808	\$ 1,248,601	\$ 1,248,601
Indirect Expenses												
Indirect Expenses	\$ -	\$ (532,909)	\$ 532,909	\$ (532,909)	\$ 266,454	\$ 5,329,085	\$ 3,463,906	\$ 177,636	\$ 88,818	\$ (9,858,808)	\$ 532,909	\$ 532,909
Other Non-Operating Expenses												
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses (B)	\$ 28,842,556	\$ 27,061,046	\$ 1,781,510	\$ 27,061,046	\$ 810,549	\$ 15,027,127	\$ 10,066,505	\$ 940,478	\$ 216,387	\$ -	\$ 1,781,510	\$ 1,781,510
Change in Assets	\$ (300,599)	\$ (646,860)	\$ 346,261	\$ (646,860)	\$ (19,105)	\$ (358,521)	\$ (243,237)	\$ (20,700)	\$ (5,297)	\$ -	\$ 346,261	\$ 346,261
Fixed Assets												
Depreciation	\$ (238,545)	\$(238,545)	\$ -	\$(238,545)	\$ -	\$ -	\$(4,336)	\$ -	\$ -	\$(234,209)	\$ -	\$ -
Computer & Software CapEx	5,000	5,000	-	5,000	-	-	-	-	-	5,000	-	-
Furniture & Fixtures CapEx	-	-	-	-	-	-	-	-	-	-	-	-
Equipment CapEx	105,000	105,000	-	105,000	-	-	-	-	-	105,000	-	-
Leasehold Improvements	12,000	12,000	-	12,000	-	-	-	-	-	12,000	-	-
Allocation of Fixed Assets	-	6,065	(6,065)	6,065	(3,033)	(60,653)	(39,425)	(2,022)	(1,011)	112,209	(6,065)	(6,065)
Inc(Dec) in Fixed Assets (C)	\$ (116,545)	\$ (110,480)	\$ (6,065)	\$ (110,480)	\$ (3,033)	\$ (60,653)	\$ (43,761)	\$ (2,022)	\$ (1,011)	\$ -	\$ (6,065)	\$ (6,065)
TOTAL BUDGET (B+C)	\$ 28,726,011	\$ 26,950,566	\$ 1,775,445	\$ 26,950,566	\$ 807,516	\$ 14,966,474	\$ 10,022,744	\$ 938,456	\$ 215,376	\$ -	\$ 1,775,445	\$ 1,775,445
TOTAL CHANGE IN WORKING CAPITAL (A-B-C)	\$ (184,054)	\$ (536,380)	\$ 352,326	\$ (536,380)	\$ (16,072)	\$ (297,868)	\$ (199,476)	\$ (18,678)	\$ (4,286)	\$ -	\$ 352,326	\$ 352,326
FTEs	149.0	143.0	6.0	143.0	3.0	60.0	39.0	2.0	1.0	38.0	6.0	6.0
HC	149.0	143.0	6.0	143.0	3.0	60.0	40.0	2.0	-	38.0	6.0	6.0

Statement of Financial Position

Statement of Financial Position			
2017 Audited, 2018 Projection, and 2019 Budget			
STATUTORY and NON-STATUTORY			
	(Per Audit)	Projected	Budget
	31-Dec-17	31-Dec-18	31-Dec-19
ASSETS			
Cash and cash equivalents	\$ 27,948,465	\$ 22,075,362	\$ 21,991,907
Investments	9,032,312	8,400,000	8,215,946
Accounts receivable, net	3,072,468	1,250,000	1,250,000
Prepaid expenses and other assets	638,958	500,000	500,000
Property and equipment, net	540,352	378,100	261,555
Total Assets	<u>\$ 41,232,555</u>	<u>\$ 32,603,462</u>	<u>\$ 32,219,408</u>
LIABILITIES AND NET ASSETS			
Liabilities			
Accounts payable	\$ 9,920,746	\$ 1,250,000	\$ 1,250,000
Accrued expenses	1,829,711	1,750,000	1,750,000
Deferred revenue	16,440,418	15,400,000	15,400,000
Other liabilities	629,907	900,000	700,000
Total Liabilities	<u>\$ 28,820,782</u>	<u>\$ 19,300,000</u>	<u>\$ 19,100,000</u>
Unrestricted net assets	<u>12,411,773</u>	<u>13,303,462</u>	<u>13,119,408</u>
Total Liabilities and Net Assets	<u>\$ 41,232,555</u>	<u>\$ 32,603,462</u>	<u>\$ 32,219,408</u>

Appendix A: Organizational Chart - Changes in Budgeted FTE by Program Area

2018 FTE: 149.0
2019 FTE: 149.0



- Statutory Program Area
- Corporate Services Program Area
- Non-statutory Program Area

Appendix B: 2019 Budget & Projected 2020 and 2021 Budgets

Key Assumptions

Assessments

- A 1-percent increase per WECC’s assessment stabilization initiative.

Personnel Expenses

- A 3-percent average merit increase in Salaries.
- A 3-percent increase in Payroll Taxes and Retirements Costs.
- A 4-percent increase in Benefits premiums.

Meeting Expenses

- Travel and Meeting Expenses will be impacted by Standing Committee meeting locations. Standing Committee meetings will be held outside of Salt Lake City in even-numbered years and in Salt Lake City in odd-numbered years.
- All other Travel, Meeting and Conference Call Expenses are assumed to remain at 2019 budgeted levels.

Operating Expenses

- A net increase in Consultants and Contracts of \$195,000 in 2020 due to one-time RAPA consulting projects budgeted in 2020, reduced use of contractors in the CMEP, reduced use of organizational and leadership consultants and the addition of new 2019 one-time projects. Consultants used for ongoing studies and assessments remain at current levels.
- An increase in office rent in 2020 due to the renegotiation and renewal of WECC’s Salt Lake City office lease.

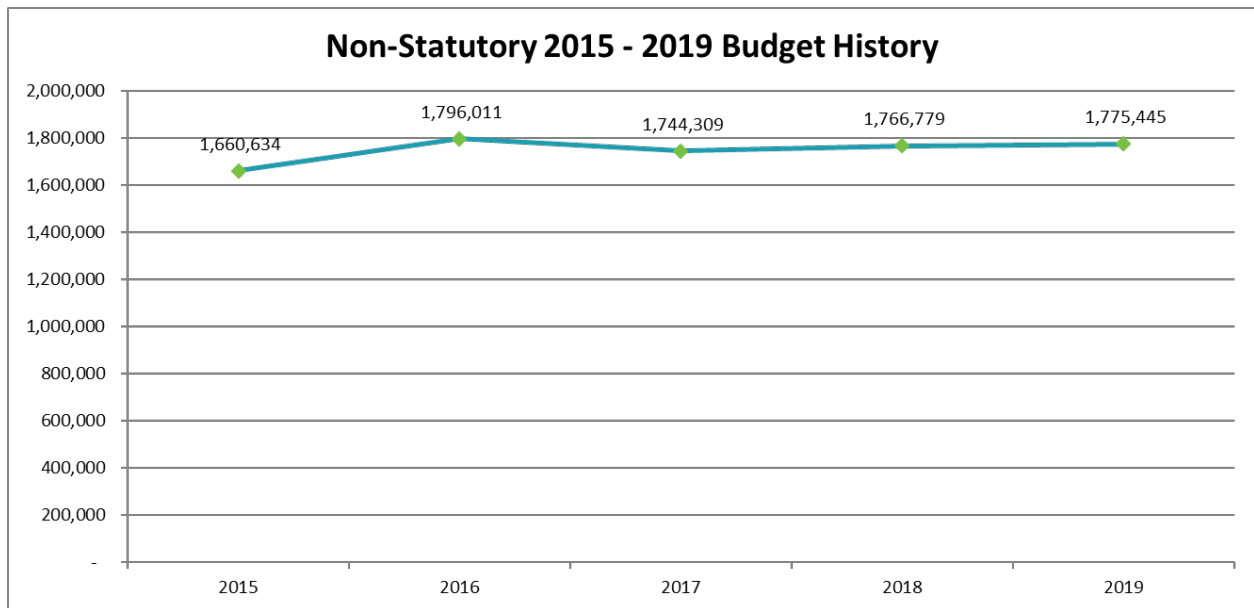
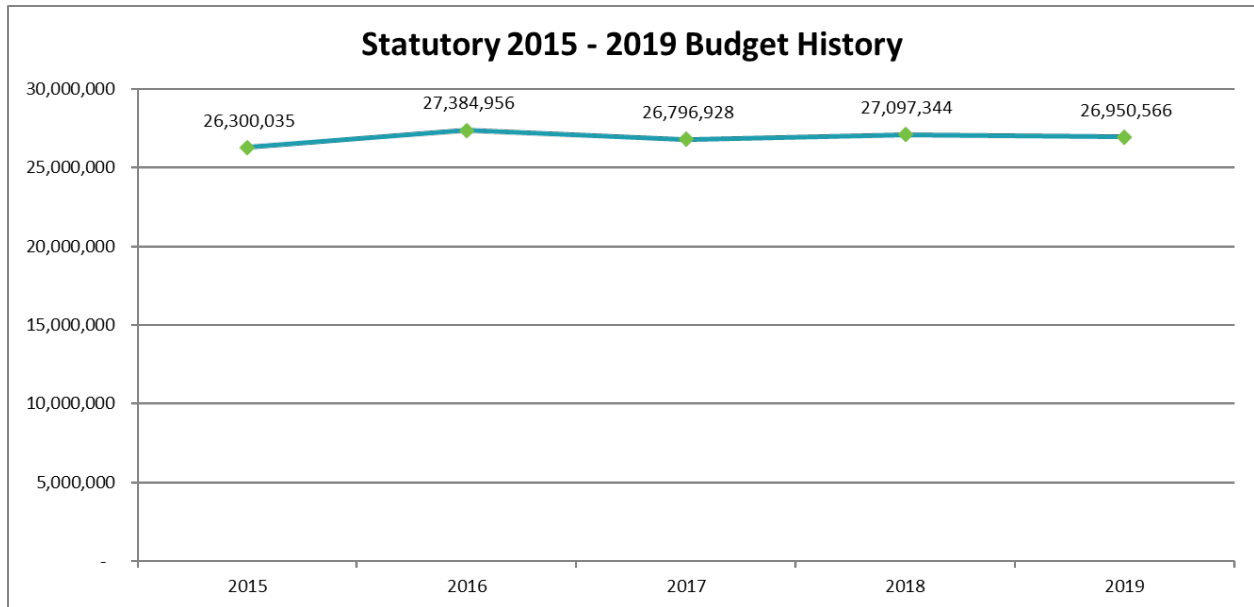
Appendix B – 2019 Budget & Projected 2020 and 2021 Budgets

Statement of Activities and Capital Expenditures							
2019 Budget & Projected 2020 and 2021 Budgets							
Statutory							
	2019 Budget	2020 Projection	\$ Change 19 v 20	% Change 19 v 20	2021 Projection	\$ Change 20 v 21	% Change 20 v 21
Revenue							
Statutory Funding							
WECC Assessments	\$ 25,282,000	\$ 25,534,820	\$ 252,820	1.0%	\$ 25,790,168	\$ 255,348	1.0%
Penalty Sanctions	587,686	-	(587,686)	(100.0%)	-	-	
Total Statutory Funding	\$ 25,869,686	\$ 25,534,820	\$ (334,866)	(1.3%)	\$ 25,790,168	\$ 255,348	1.0%
Membership Fees	\$ -	\$ -	\$ -		\$ -	\$ -	
Workshops	424,500	428,745	4,245	1.0%	433,032	4,287	1.0%
Interest	120,000	120,000	-	0.0%	120,000	-	0.0%
Miscellaneous	-	-	-		-	-	
Total Revenue (A)	\$ 26,414,186	\$ 26,083,565	\$ (330,621)	(1.3%)	\$ 26,343,201	\$ 259,636	1.0%
Expenses							
Personnel Expenses							
Salaries	\$ 15,865,018	\$ 16,340,969	\$ 475,951	3.0%	\$ 16,831,198	\$ 490,229	3.0%
Payroll Taxes	1,037,393	1,068,515	31,122	3.0%	1,100,570	32,055	3.0%
Benefits	2,302,710	2,394,818	92,108	4.0%	2,490,611	95,793	4.0%
Retirement Costs	1,311,110	1,350,443	39,333	3.0%	1,390,957	40,513	3.0%
Total Personnel Expenses	\$ 20,516,231	\$ 21,154,745	\$ 638,514	3.1%	\$ 21,813,336	\$ 658,591	3.1%
Meeting Expenses							
Meetings	\$ 640,953	\$ 670,953	\$ 30,000	4.7%	\$ 645,953	\$ (25,000)	(3.7%)
Travel	1,408,868	1,428,868	20,000	1.4%	1,408,868	(20,000)	(1.4%)
Conference Calls	57,600	57,600	-	0.0%	57,600	-	0.0%
Total Meeting Expenses	\$ 2,107,421	\$ 2,157,421	\$ 50,000	2.4%	\$ 2,112,421	\$ (45,000)	(2.1%)
Operating Expenses							
Consultants & Contracts	\$ 1,292,890	\$ 1,487,890	\$ 195,000	15.1%	\$ 1,042,890	\$ (445,000)	(29.9%)
Office Rent	972,909	1,100,000	127,091	13.1%	1,100,000	-	0.0%
Office Costs	1,557,679	1,573,256	15,577	1.0%	1,588,988	15,733	1.0%
Professional Services	908,280	908,280	-	0.0%	908,280	-	0.0%
Miscellaneous	-	-	-		-	-	
Depreciation	238,545	200,000	(38,545)	(16.2%)	175,000	(25,000)	(12.5%)
Total Operating Expenses	\$ 4,970,303	\$ 5,269,426	\$ 299,123	6.0%	\$ 4,815,158	\$ (454,267)	(8.6%)
Total Direct Expenses	\$ 27,593,955	\$ 28,581,592	\$ 987,637	3.6%	\$ 28,740,915	\$ 159,323	0.6%
Indirect Expenses	\$ (532,909)	\$ (532,909)	\$ -	0.0%	\$ (532,909)	\$ -	0.0%
Other Non-Operating Expenses	\$ -	\$ -	\$ -		\$ -	\$ -	
Total Expenses (B)	\$ 27,061,046	\$ 28,048,683	\$ 987,637	3.6%	\$ 28,208,006	\$ 159,323	0.6%
Change in Assets	\$ (646,860)	\$ (1,965,118)	\$ (1,318,258)	203.8%	\$ (1,864,805)	\$ 100,313	(5.1%)
Fixed Assets							
Depreciation	\$ (238,545)	\$ (200,000)	\$ 38,545	(16.2%)	\$ (175,000)	\$ 25,000	(12.5%)
Computer & Software CapEx	5,000	-	(5,000)	(100.0%)	-	-	
Furniture & Fixtures CapEx	-	-	-		-	-	
Equipment CapEx	105,000	-	(105,000)	(100.0%)	-	-	
Leasehold Improvements	12,000	-	(12,000)	(100.0%)	-	-	
Allocation of Fixed Assets	6,065	-	(6,065)	(100.0%)	-	-	
Incr(Dec) in Fixed Assets (C)	\$ (110,480)	\$ (200,000)	\$ (89,520)	81.0%	\$ (175,000)	\$ 25,000	(12.5%)
TOTAL BUDGET (B+C)	\$ 26,950,566	\$ 27,848,683	\$ 898,117	3.3%	\$ 28,033,006	\$ 184,323	0.7%
TOTAL CHANGE IN WORKING CAPITAL (A-B-C)	\$ (536,380)	\$ (1,765,118)	\$ (1,228,738)	(100.0%)	\$ (1,689,805)	\$ 75,313	(4.3%)
FTEs	143.0	143.0	-	0.0%	143.0	-	0.0%
HC	143.0	143.0	-	0.0%	143.0	-	0.0%

Appendix C: Adjustment to the Alberta Electric System Operator (AESO) Assessment

Adjustment to the AESO Assessments		
Credit for WECC Compliance Costs		
	2018	2019
	Compliance Budget AESO NEL Allocation	Compliance Budget AESO NEL Allocation
WECC Compliance Costs		
Direct Costs less Direct Revenue	\$ 9,310,101	\$ 9,629,471
Indirect Costs	5,362,114	5,329,085
Fixed Asset Expenditures	(71,794)	(60,653)
Total Net Costs, including Fixed Assets	\$ 14,600,421	\$ 14,897,903
Net total to be allocated	\$ 14,600,421	\$ 14,897,903
AESO NEL Share (2016 & 2017)	6.892%	7.173%
AESO Proportional Share of Compliance Costs, including Fixed Assets	\$ 1,006,327	\$ 1,068,692
% Credit (56.54 of 59 FTE for 2018; 58 of 60 FTE for 2019)	95.83%	96.67%
AESO Credit for Compliance Costs	\$ 964,368	\$ 1,033,069

Appendix D: Statutory and Non-Statutory Budget History Charts



DOCKET NO. RR18-__-000

**NORTH AMERICAN ELECTRIC RELIABILITY
CORPORATION**

2019 BUSINESS PLAN AND BUDGET FILING

ATTACHMENT 10

**WESTERN INTERCONNECTION
REGIONAL ADVISORY BODY**

PROPOSED 2019 BUSINESS PLAN AND BUDGET

Western Interconnection Regional Advisory Body

2019 Business Plan and Budget

June 29, 2018

**Approved by:
Appointed Members of the
Western Interconnection Regional Advisory Body**

1600 Broadway, Suite 1700
Denver, CO 80202
303-573-8910
www.westernenergyboard.org

TABLE OF CONTENTS

Introduction..... 3

Organizational Overview 3

Membership and Governance..... 6

Statutory Functional Scope 7

2019 Strategic Priorities and Goals 8

2019 Budget and Assessment Impacts 15

Section A – Statutory Activities 21

 Governance and Strategic Planning 22

 Emerging Trends and System Risks..... 22

 Periodic Reliability Assessments 25

 Reliability Standards and Proactive Enforcement..... 27

Section B – Supplemental Financial Information 30

 Working Capital Reserve 30

 Budget Projections for 2019-2020 32

Section C – Non-Statutory Activities 35

Section D – Additional Consolidated Financial Statements..... 37

 Statement of Financial Position 37

Appendix A Organization Chart..... 38

Introduction

The Western Interconnection Regional Advisory Body (WIRAB) proposed budget for 2019 is \$1,162,700. This amount is \$94,915 (8.9%) higher than the amount in WIRAB's approved budget for 2018. Total proposed FTEs for 2019 are 5.0. WIRAB's total funding requirement is \$750,600. WIRAB's proposed funding assessment is \$750,000, an increase of \$38,974 (5.5%) from the 2018 funding assessment. WIRAB's proposed funding assessment is allocated \$629,550 (84%) to the U.S. portion, \$109,050 (14.5%) to the Canadian portion, and \$11,400 (1.5%) to the Mexican portion of the Western Interconnection. The following table summarizes the WIRAB proposed budget for 2019.

WIRAB - Total Resources (in whole dollars)	2019 Budget	U.S.	Canada	Mexico
Statutory FTEs	5.00			
Non-statutory FTEs				
Total FTEs	5.00			
Statutory Expenses	\$ 1,162,700			
Non-Statutory Expenses				
Total Expenses	\$ 1,162,700			
Statutory Inc(Dec) in Fixed Assets				
Non-Statutory Inc(Dec) in Fixed Assets				
Total Inc(Dec) in Fixed Assets	\$ -			
Statutory Working Capital Requirement	\$ (412,100)			
Non-Statutory Working Capital Requirement	0			
Total Working Capital Requirement	\$ (412,100)			
Total Statutory Funding Requirement	\$ 750,600			
Total Non-Statutory Funding Requirement	\$ -			
Total Funding Requirement	\$ 750,600			
Statutory Funding Assessments	\$ 750,000	\$ 629,550	\$ 109,050	\$ 11,400
Non-Statutory Fees				
NEL	867,701,562	728,328,390	126,140,685	13,232,487
NEL%	100.00%	83.94%	14.54%	1.52%

Table 1. WIRAB Budget for 2019

Organizational Overview

In April 2006, ten Western Governors petitioned the Federal Energy Regulatory Commission (FERC or Commission) to create the Western Interconnection Regional

Advisory Body (WIRAB) under Section 215(j) of the Federal Power Act. The Governors indicated an interest in inviting all U.S. states, Canadian provinces, and Mexican jurisdictions with territory in the Western Interconnection to join WIRAB.

In July 2006, FERC issued an order granting the Governors' petition to establish WIRAB.¹ In FERC's order, the Commission determined that WIRAB should receive funding for its Section 215(j) activities and directed WIRAB to annually develop a budget and related information for submission through the Electric Reliability Organization (ERO) budget approval process. The Commission instructed WIRAB to develop a budget in a form similar to that specified for regional entities as set forth in Order 672.² The Commission also required WIRAB to identify the portion of its funding to be received from Canada and Mexico.

The Governors created WIRAB as a standing advisory committee to the Western Interstate Nuclear Board (WINB), which was formed pursuant to the Western Interstate Nuclear Compact, P.L. 91-461. WIRAB has the same status under the compact as the Western Interstate Energy Board (WIEB). WIRAB operates under the bylaws of WINB, as revised on April 4, 2006. Below is a chart that illustrates these organizational relationships.

¹ Order on Petition to Establish a Regional Advisory Body for the Western Interconnection, 116 FERC ¶ 61,061, Docket No. RR06-2-000, July 20, 2006.

² Rules Concerning Certification of the Electric Reliability Organization; and Procedures for the Establishment, Approval, and Enforcement of Reliability Standards, Order 672, Docket RM05-30-000, Feb. 3, 2006, P. 228. "Each Regional Entity must submit its complete business plan, entire budget and organizational chart to the ERO for it to submit to the Commission. The complete business plan and the entire budget will provide the Commission with necessary information about any non-statutory activities, the source of their funding, and whether the pursuit of such activities presents a conflict of interest for the Regional Entity. For a Cross-Border Regional Entity, this information will also inform the Commission as to what portion of the budget is expended upon activities within the United States."

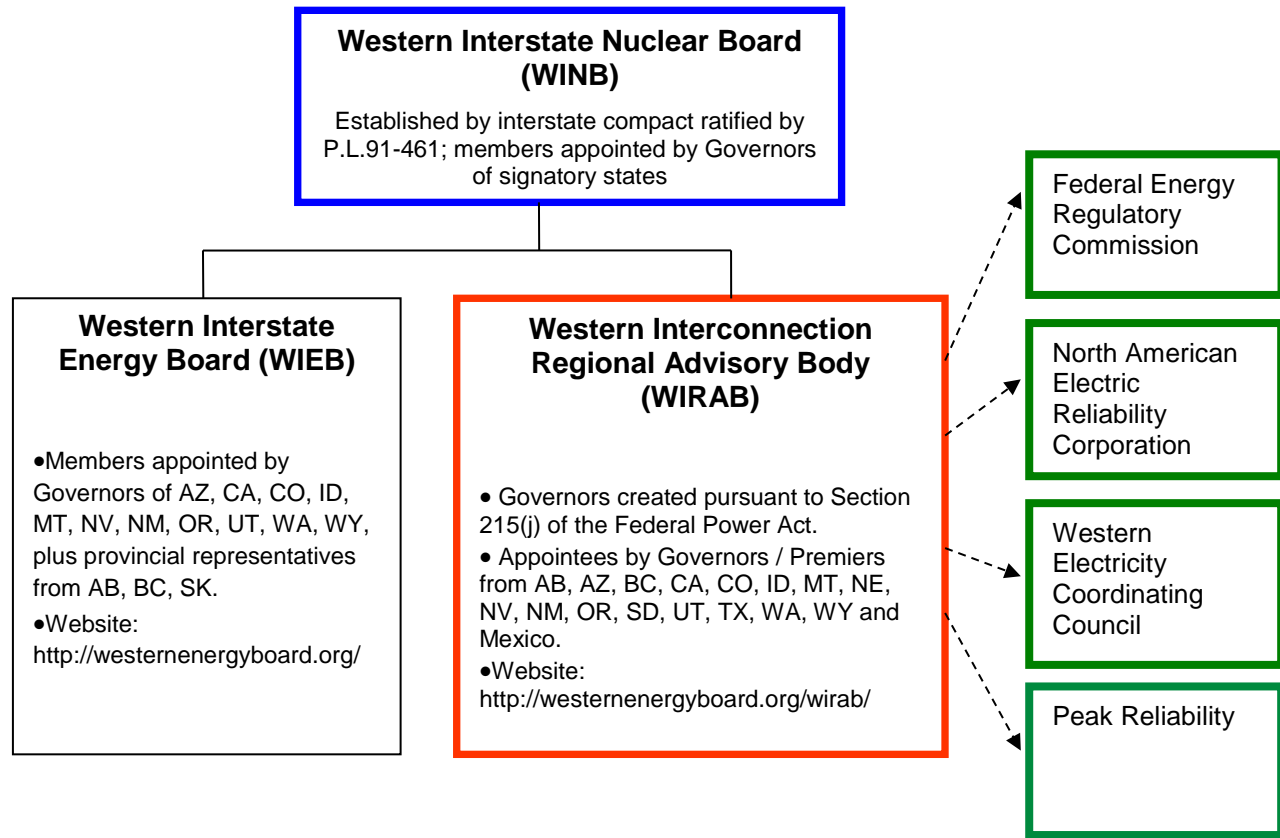


Figure 1. Organizational Relationships

Membership and Governance

All of the states with territory in the Western Interconnection (AZ, CA, CO, ID, MT, NE, NV, NM, OR, SD, TX, UT, WA, WY), the Canadian provinces of Alberta and British Columbia, and Mexico are eligible to appoint members to WIRAB. Member representatives of WIRAB are appointees of the Governors and Premiers, or designated alternates. Below is the list of current WIRAB member representatives:

WIRAB Member Representatives		
Alberta	Christine Lazaruk	Executive Director, Strategy and Integration, Alberta Energy
Arizona	Brian Goretzki	Chief, Bureau of Radiation Control, Arizona Department of Health Services
British Columbia	Les MacLaren	Assistant Deputy Minister, Ministry of Energy, Mines and Petroleum Resources
California	Janea Scott	Commissioner, California Energy Commission
Colorado	Frances Koncilja	Commissioner, Colorado Public Utilities Commission
Idaho	Kristine Raper	Commissioner, Idaho Public Utilities Commission
Montana	Jeff Blend	Economist, Montana Department of Environmental Quality
Nebraska	Tim Texel	Executive Director, Nebraska Power Review Board
Nevada	Angie Dykema	Director, Nevada Governor's Office of Energy
New Mexico	Ken McQueen	Cabinet Secretary, New Mexico Energy, Minerals and Natural Resources Department
South Dakota	Greg Rislov	Commission Advisor, South Dakota Public Utilities Commission
Oregon	Janine Benner	Director, Oregon Department of Energy
Utah	David Clark	Commissioner, Utah Public Service Commission
Washington	Tony Usibelli	Special Assistant for Energy & Climate Policy, Washington State Energy Office
Wyoming	Bill Russell	Commissioner, Wyoming Public Service Commission

Figure 2. WIRAB Membership List

WIRAB holds two in-person meetings each year, typically in April and October. These meetings are open to the public. WIRAB also holds monthly conference calls to discuss emerging issues and hosts periodic webinars with presentations from subject matter experts on key reliability topics.

Statutory Functional Scope

FERC established WIRAB as a Regional Advisory Body under section 215(j) of the Federal Power Act. The language in Section 215(j) specifically provides for WIRAB's authority to advise NERC, FERC and WECC on whether reliability standards, budgets and fees, governance, compliance, assessments, strategic direction and other activities conducted pursuant to Section 215 are just, reasonable, not unduly discriminatory or preferential, and in the public interest.

Additionally, FERC authorized WIRAB to advise Peak Reliability, the Reliability Coordinator (RC) for the Western Interconnection, on these topics: “[D]eference to WIRAB is appropriate here because Peak Reliability funding implicates the following topics listed in FPA section 215(j) on which a Regional Advisory Body may give advice: ‘governance of an existing or proposed regional entity ... [and] whether fees proposed to be assessed within the region are just, reasonable, not unduly discriminatory or preferential, and in the public interest.’” FERC Order on Rehearing, Docket No. EL13-52 et al., P. 46 (Dec. 6, 2013).

WIRAB's advice to FERC, NERC, WECC, and the RC can be grouped into four categories that are appropriately funded under Section 215 of the FPA:

1. Governance and Strategic Planning;
2. Emerging Trends and System Risks;
3. Periodic Reliability Assessments; and
4. Reliability Standards and Proactive Enforcement.

WIRAB's activities in each of these categories are described in Section A – Statutory Activities.

2019 Strategic Priorities and Goals

The resource mix of the Western power system is rapidly changing. Environmental regulations (including those to reduce regional haze and mercury emissions), efforts to transition to a lower carbon economy, and shifting market forces have resulted in announced retirements of coal-fired and nuclear generating units. Utility-scale wind and solar generation is being built in many parts of the West, and California and the Desert Southwest are experiencing rapid growth in the installation of distributed solar photovoltaic generation. State energy storage procurement mandates are also incentivizing a broader implementation of energy storage technologies that may support higher penetrations of asynchronous, variable energy resources (VER). These changes to the generation resource mix will present new reliability challenges and opportunities for the Western Interconnection as more asynchronous generation is added to the system and additional synchronous spinning mass generation is retired.

Grid modernization efforts also present new reliability challenges and opportunities for the West. Increased reliance on distributed energy resources (DER) and electric vehicles (EV) is creating a need for better coordination between Bulk Electric System (BES) operators and distribution system operators and a greater need for implementation, research, and development of new technologies and operational tools that can be used to improve system reliability throughout the West. Grid modernization also necessitates an increasing focus on cyber security, grid resilience, and physical hardening of electric grid infrastructure. Physical and cyber threats to the grid will continue to impact the availability of data and the transparency of periodic reliability assessments, creating a need for better data sharing protocols to improve information sharing, coordination, and overall situational awareness.

The structure of Western power markets is also undergoing significant change, creating new reliability challenges and opportunities for the Western Interconnection. The California Independent System Operator (ISO) Western Energy Imbalance Market (EIM) continues to gain new participants and the California ISO is considering offering day ahead market services to EIM participants. The Southwest Power Pool (SPP) and Peak Reliability-PJM Connex are offering market services to BAs and TOPs within the Western Interconnection. Finally, Alberta is expanding its energy-only market to an energy and capacity market. These market reforms could result in significant changes

to system operations (e.g., transmission scheduling, congestion management, and reliability coordination).

The fragmentation of Reliability Coordinator (RC) responsibilities across the Western Interconnection also raises questions about ongoing reliable operations of the BES. The California ISO and SPP have both announced their intent to offer RC services to Balancing Authorities (BAs) and Transmission Operators (TOPs) throughout the Western Interconnection. Starting in September 2019, Peak Reliability will no longer be the sole RC for the U.S. portion of the Western Interconnection; raising concerns about shared responsibilities for coordinated RC operations across RC boundaries and seams.

In response to these on-going changes in the Western Interconnection, WIRAB has identified four strategic initiatives that it will pursue in 2019:

Initiative 1: Work with WECC and NERC to ensure that all Reliability Coordinators (RCs) in the Western Interconnection work cooperatively and in the public interest to coordinate outages, study seams issues, and share information to maintain or improve the overall reliability of the Bulk Electric System.

In January 2018, the California ISO (CAISO) announced its intent to withdraw from Peak Reliability's Funding Agreement and to offer RC services to Balancing Authorities (BAs) and Transmission Operators (TOPs) within its own footprint and throughout the Western Interconnection starting in September 2019. The Southwest Power Pool (SPP) also expressed its intent to offer RC services to the Mountain West Transmission Group (MWTG) (along with market services) and to other BAs and TOPs within the Western Interconnection. Nearly all of Peak Reliability's Funding Parties have now submitted revocable notices to withdraw from Peak Reliability's Funding Agreement for RC Services by September 1, 2019 or at the end of 2019. The prospect of having multiple reliability coordinators in the Western Interconnection raises concerns about interconnection-wide coordination and shared responsibilities for operations across RC boundaries and seams.

In 2019, WIRAB will encourage Western Interconnection RCs to maintain or improve reliability by working cooperatively and in the public interest to coordinate outages, study seams issues and share information.

The goals of this initiative are to:

- Maintain high-quality RC Services at Peak Reliability as other entities pursue RC certification.
- Maintain or improve reliability in a new, multiple RC environment by encouraging RC providers to analyze, coordinate, collaborate on seams issues.
- Maintain high-quality and cost-effective RC Services across the West.

The actions that WIRAB staff will take to achieve these goals include:

- Participating as an observer in the Western Electricity Coordinating Council (WECC)/NERC Certification Process for all RC Certifications in the Western Interconnection.
- Work with the RCs and WECC to establish a Western Interconnection seams coordination groups to ensure information is being shared between RCs, BAs, and TOPs.
- Work with the RCs and WECC to determine if WECC specific standards, criteria or guidance is necessary to maintain situational awareness at an interconnection-wide level.
- Work with NERC to ensure that any new or updated RC reliability standards appropriately account for the unique operating characteristics of the Western Interconnection.
- Advise RC providers on the RC governance structure to ensure that the RC remains independent within their organization.
- Advise all RCs on RC service rate structures, terms, and fees.

Initiative 2: Advise WECC on the implications of high levels of distributed solar photovoltaic (PV) deployment on the reliable operation of the Bulk Electric System.

In 2019, WIRAB will continue to advise WECC on the implications of high levels of distributed solar PV deployment. By 2026, solar PV generation in the Western U.S. is projected to total more than 16,000 MW in nameplate capacity. While there are many

expected benefits of increasing distributed solar PV generation, several potential reliability concerns are also associated with this trend.

One such concern stems from the potential for many distributed solar PV systems to simultaneously “trip off” or disconnect from the grid. This event could be triggered by the effects of an original system contingency, such as loss of a significant generator. Inverters that interconnect distributed solar PV systems with the grid are typically configured to have narrow tolerance ranges for frequency and voltage deviations. If a system contingency alters grid frequency or voltage to a value outside of inverter tolerance ranges, distributed solar PV generation will disconnect from the grid. This simultaneous tripping of distributed solar systems can exacerbate the original system contingency and potentially result in load-shedding or system outages. Wider inverter tolerance ranges could mitigate the risk by allowing these generators to ride-through some abnormal conditions and could, in some circumstances, provide additional benefits to BES reliability.

Another concern regarding increasing distributed solar PV generation is that this generation is often not visible to system operators. This lack of visibility has been recognized in California, where the Smart Inverter Working Group (SIWG) has provided recommendations to the California Public Utilities Commission (CPUC) concerning deployment and utilization of advanced inverters. Advanced inverters can improve the visibility of distributed generation to system operators because they enable two-way communication between the generator and the utility.

In 2017, WIRAB’s sister organization, WIEB, initiated a three-year project to mitigate or remove barriers to deployment of distributed solar PV generation in the Western Interconnection. WIEB is working with the National Renewable Energy Laboratory (NREL) to address potential reliability barriers. WIRAB will share the key findings and insights of this research with WECC and its stakeholders.

The goals of this initiative are to:

- Inform WECC and its stakeholders of key findings and insights from research on potential reliability concerns with increasing deployment of distributed solar PV.

- Inform the WECC Reliability Assessment Committee of modeling techniques used by NREL to conduct its assessment of reliability concerns associated with distributed solar PV systems.
- Inform WECC and its RAC of reliability concerns that warrant further study and assessment.

The actions that WIRAB staff will take to achieve these goals include:

- Participating directly in RAC subcommittee meetings to share key findings and insights and new modelling techniques.
- Including key findings and insights in WIRAB's reports to the WECC Board of Directors.

Initiative 3: Encourage WECC to systematically perform reliability assessments evaluating the availability of Essential Reliability Services under a wide range of future resource scenarios.

WIRAB continues to build upon a multi-year initiative to improve WECC's ability to assess the availability of essential reliability services under a wide range of future resource scenarios. WECC's Reliability Assessment Committee (RAC) continues to work to better integrate its power flow modeling and production cost modeling. WECC continues to work with stakeholders to develop an "Anchor Data Set," envisioned to be a common, unified data set for power flow and production cost modeling across the Western Interconnection. These steps, if properly implemented, would improve WECC's ability to perform reliability assessments of essential reliability services under a wide-range of future scenarios.

A systematic assessment of essential reliability services includes the evaluation of whether the power system has sufficient ramping capability, frequency response, and voltage stability under a variety of conditions as the resource mix in the Western Interconnection continues to change. It also includes evaluation of mitigation measures when reliability concerns are identified.³

³ See GE Energy Consulting, Final Report: Potential Mitigation of Dynamic Reliability Challenges with High Levels of Variable Energy Resources (discussing the types of analysis and data needed to identify

The goals of this initiative are for WECC to:

- Complete integrated reliability assessments (i.e., ramping, frequency response, and voltage stability) of a future with: 1) high utility-scale development of non-synchronous wind and solar generation; 2) significant retirements of coal-fired generation in the Western Interconnection; and 3) high-penetration of distributed energy resources, including rooftop solar photovoltaics.
- Complete the modeling and analysis, and then publicly disseminate written reports describing the methodology and results of the reliability assessments.

The actions that WIRAB staff will take to achieve these goals include:

- Participating directly in the RAC Studies Subcommittee Governing Body and monitoring other RAC activities that provide the foundation for development of the integrated data set and analytical tools needed to conduct comprehensive reliability assessments of the Western Interconnection and the availability of essential reliability services under a wide-range of future scenarios.
- Advising WECC on the tools and data to be developed for reliability assessments.
- Advising and assisting WECC in reporting on reliability assessments to be completed by the RAC.
- Participating in the WECC process to identify reliability risk priorities and advising WECC on priorities in the Western Interconnection.

Initiative 4: Encourage WECC to share key findings and insights from its Event Analysis and Situational Awareness Program in public briefings with Western policymakers and regulators in an effort to increase awareness of the causes of system events and the actions that can be taken to prevent recurrences of the events.

and quantify potential reliability problems), <http://westernenergyboard.org/download/ge-roadmap-to-improve-reliability-analysis-in-transmission-planning-in-the-changing-resource-mix-april-2015/>

Over the past year, WIRAB has hosted multiple webinars with policymakers and industry experts to discuss recent power system events, such as “Blue Cut Fire Event” in Southern California. During the Blue Cut Fire Event, solar PV inverter settings caused multiple solar PV plants to trip offline simultaneously in response to a brief, momentary decline in system frequency, resulting in a loss of nearly 1,200 MWs of PV power generation. The resulting imbalance between generation and load caused a significant decline in system frequency. The California ISO was able to quickly restore its load/resource balance without shedding load. WIRAB used this event and others as a tutorial to share information on the role of the Reliability Coordinator and Balancing Authorities in responding to deviations in system frequency. Peak and the California ISO discussed how they work together to maintain reliability during these types of events. Sharing lessons learned from these types of events with policymakers and regulators is an important way to raise awareness of key issues and to improve state energy policy. As the regional entity, it is appropriate that WECC share lesson learned from its Event Analysis and Situational Awareness Program in public briefings with Western policymakers and regulators to increase awareness of recent events and to inform future public policy.

The goals of this initiative are for:

- WECC to conduct periodic public briefings with Western policymakers and regulators in order to share lessons learned from the Event Analysis and Situational Awareness Program.
- WECC and WIRAB to increase awareness of the causes of system events and actions that can be taken to prevent recurrences of events with Western policymakers and regulators.

The actions that WIRAB staff will take to achieve these goals include:

- Work with WECC to identify potential power system events for discussion and frame information at a level that policymakers and stakeholders can understand.
- Work with WECC to disseminate information and lessons learned to an audience of Western policymakers and stakeholders.

2019 Budget and Assessment Impacts

The WIRAB proposed budget for 2019 is \$1,162,700. This amount is \$94,915 (8.9%) higher than the amount in WIRAB's approved budget for 2018. Total proposed FTEs for 2019 are 5.0. WIRAB's total funding requirement is \$750,600. WIRAB's proposed funding assessment is \$750,000 an increase of \$38,974 (5.5%) from the 2018 funding assessment.

Personnel and Indirect Expenses

Personnel expenses increase from \$408,111 in the 2018 Budget to \$436,500 (7.0%) in the 2019 Budget due to personnel changes and cost-of-living and merit-based salary increases. WIRAB uses a single rate method for indirect expenses. The indirect expenses include office expenses, medical and retirement expenses as well as holiday, vacation and sick leave for WIRAB staff. The indirect rate is a percent of direct staff time spent on WIRAB. The indirect rate increases from 96% of direct labor costs in the 2018 Budget to 101% in the 2019 Budget. The increase is due to increased expenses for office rent, medical insurance, employee retirement, and other office costs. Table 2 shows personnel and indirect expenses per FTE for the approved 2018 Budget and the proposed 2019 Budget.

WIRAB - Personnel and Indirect Expense Analysis 2018-2019						
STATUTORY						
	Budget 2018	Projection 2018	Budget 2019	Variance 2019 Budget v 2018 Budget	Variance %	
Salary Expense	\$ 408,111	\$ 408,200	\$ 436,500	\$ 28,389	7.0%	
FTEs	5.50	5.50	5.00	(0.50)	-9.1%	
Cost per FTE	\$ 74,202	\$ 74,218	\$ 87,300	\$ 13,098	17.7%	
Indirect Rate	96.0%	96.0%	101.3%			
Indirect Expense	\$ 391,664	\$ 391,700	\$ 442,200	\$ 50,536	12.9%	
FTEs	5.50	5.50	5.00	(0.50)	-9.1%	
Cost per FTE	\$ 71,212	\$ 71,218	\$ 88,440	\$ 17,228	24.2%	

Table 2. Personnel and Indirect Expense Analysis, 2018-2019.

Meeting Expense

Meeting costs increase by \$10,100 to \$80,800. WIRAB will hold two major in-person meetings per year that include participation by state/provincial agencies with electric power responsibilities in the Western Interconnection. Wherever feasible, WIRAB meetings will be coordinated with other meetings of the Western states and provinces. Webinars on topics of concern will continue to be utilized between meetings. WIRAB also conducts monthly conference calls to update members on current activities and to develop positions on reliability issues in the Western Interconnection. Conference call costs increase by \$1,180 to \$3,200.

Travel Expense

Travel costs increase by \$4,720 to \$100,000. WIRAB member travel to biannual meetings and reliability conferences accounts for \$28,200. WIRAB staff travel to attend meetings of WIRAB, WECC and Peak Reliability accounts for \$71,800. Hotel and travel costs are based on experience from the last year.

Consultants and Contracts

The budget includes \$100,000 in contract funding for technical expertise on issues related to improved grid operating practices, reliability standards and compliance. This expertise will help WIRAB prepare technically-sound advice under Section 215(j).

Budget Comparison

Table 3 shows the 2018 Budget and 2018 Projection compared to the 2019 Budget.

WIRAB - Statement of Activities and Change in Working Capital 2018 Budget & Projection, and 2019 Budget							
STATUTORY							
	2018 Budget	2018 Projection	Variance 2018 Projection v 2018 Budget		2019 Budget	Variance 2019 Budget v 2018 Budget	
			Over(Under)	% Change		Over(Under)	% Change
Funding							
WIRAB Funding							
Assessments	\$ 711,026	\$ 711,026	\$ -	0.0%	\$ 750,000	\$ 38,974	5.5%
Penalty Sanctions	-	-	-	-	-	-	-
Total WIRAB Funding	\$ 711,026	\$ 711,026	\$ -	0.0%	\$ 750,000	\$ 38,974	5.5%
Membership Dues	-	-	-	-	-	-	-
Testing Fees	-	-	-	-	-	-	-
Services & Software	-	-	-	-	-	-	-
Workshops	-	-	-	-	-	-	-
Interest	650	650	\$ -	0.0%	600	\$ (50)	-7.7%
Miscellaneous	-	-	-	-	-	-	-
Total Funding (A)	\$ 711,676	\$ 711,676	\$ -	0.0%	\$ 750,600	\$ 38,924	5.5%
Expenses							
Personnel Expenses							
Salaries	408,111	408,200	89	0.0%	436,500	\$ 28,389	7.0%
Payroll Taxes	-	-	-	-	-	-	-
Benefits	-	-	-	-	-	-	-
Retirement Costs	-	-	-	-	-	-	-
Total Personnel Expenses	\$ 408,111	\$ 408,200	\$ 89	0.0%	\$ 436,500	\$ 28,389	7.0%
Meeting Expenses							
WIRAB Meetings	\$ 70,700	\$ 70,700	\$ -	0.0%	\$ 80,800	\$ 10,100	14.3%
State Travel	28,280	28,300	\$ 20	0.1%	28,200	\$ (80)	-0.3%
Staff Travel	67,010	67,000	-	-	71,800	\$ 4,790	7.1%
Conference Calls	2,020	1,900	\$ (120)	-5.9%	3,200	\$ 1,180	58.4%
Total Meeting Expenses	\$ 168,010	\$ 167,900	\$ (100)	-0.1%	\$ 184,000	\$ 15,990	9.5%
Operating Expenses							
Consultants & Contracts	\$ 100,000	\$ 100,000	\$ -	0.0%	\$ 100,000	\$ -	0.0%
Office Rent	-	-	-	-	-	-	-
Office Costs	-	-	-	-	-	-	-
Professional Services	-	-	-	-	-	-	-
Miscellaneous	-	-	-	-	-	-	-
Depreciation	-	-	-	-	-	-	-
Total Operating Expenses	\$ 100,000	\$ 100,000	\$ -	0.0%	\$ 100,000	\$ -	0.0%
Total Direct Expenses	\$ 676,121	\$ 676,100	\$ (21)	0.0%	\$ 720,500	\$ 44,379	6.6%
Indirect Expenses	\$ 391,664	\$ 391,700	\$ 36	0.0%	\$ 442,200	\$ 50,536	12.9%
Other Non-Operating Expenses	\$ -	\$ -	\$ -	-	\$ -	\$ -	-
TOTAL BUDGET (B)	\$ 1,067,785	\$ 1,067,800	\$ 15	0.0%	\$ 1,162,700	\$ 94,915	8.9%
CHANGE IN WORKING CAPITAL (=A-B)¹	\$ (356,109)	\$ (356,124)	\$ (15)	-	\$ (412,100)	\$ (55,991)	-
FTEs	5.50	5.50	-	0.0%	5.00	(0.50)	-9.1%

¹ Fixed Asset included in Indirect Expenses.

Table 3. Budget Comparison, 2018 to 2019.

Statutory Assessments

WIRAB's proposed funding assessment of \$750,000 is allocated \$629,550 (84%) to the U.S. portion, \$109,050 (14.5%) to the Canadian portion, and \$11,400 (1.5%) to the Mexican portion of the Western Interconnection.

Key Assumptions

The WIRAB 2019 Budget and Business Plan is based on the following assumptions:

- There will be no significant expansion of FERC, NERC, WECC, or Peak Reliability responsibilities as a result of legislation or administrative actions.
- WIRAB will continue to provide advice to Peak Reliability.
- WIRAB will hold two in-person meetings in 2019.
- WIRAB will organize and sponsor webinars and workshops on key reliability issues for WIRAB members, state and provincial representatives, industry representatives, and other interested stakeholders.
- WIRAB will attend all WECC and Peak Reliability Board of Directors and Member Advisory Committee (MAC) meetings.
- WIRAB will attend selected NERC meetings and workshops on relevant topics.
- WIRAB will annually visit with FERC in its offices.
- WIRAB will monitor all FERC business meetings.
- WIRAB will attend FERC technical conferences on reliability issues.

Section A – Statutory Activities

2019 Business Plan and Budget

Section A – Statutory Activities

WIRAB's advice to FERC, NERC, WECC, and Peak Reliability can be grouped into four categories that are appropriately funded under Section 215 of the FPA:

1. **Governance and Strategic Planning:** Section 215(j) of the FPA authorizes WIRAB to provide advice to FERC on the governance, strategic direction, budget and fees of WECC. FERC has previously authorized WIRAB to provide advice on the governance, strategic direction, budget and fees of Peak Reliability.
2. **Emerging Trends and System Risks:** WIRAB must maintain awareness of system conditions and emerging trends and system risks in order to provide effective and technically sound advice regarding the strategic direction of FERC and Peak Reliability. WIRAB also uses knowledge of emerging trends and risks to provide advice to WECC on reliability readiness activities and proactive compliance efforts. These activities are appropriately funded under Section 215(j) of the FPA.
3. **Periodic Reliability Assessments:** Section 215(g) of the FPA requires NERC to conduct periodic assessments of the reliability and adequacy of the bulk-power system. WECC assists NERC in performing this statutory activity. WIRAB works closely with WECC to improve reliability assessment in the Western Interconnection.
4. **Reliability Standards and Proactive Enforcement:** Section 215(j) of the FPA authorizes WIRAB to provide advice to FERC on whether reliability standards are just, reasonable, not unduly discriminatory or preferential, and in the public interest. WIRAB works closely with WECC and Peak Reliability to identify emerging problems or conditions that should be considered in the course of drafting and voting on amendments to existing standards or new standards. WIRAB also works closely with WECC to develop reliability readiness activities and to promote proactive compliance efforts.

WIRAB's activities in each of these categories are described in the following subsections.

Governance and Strategic Planning

Section 215(j) of the FPA authorizes WIRAB to advise FERC on the governance, strategic direction, budget, and fees of WECC and Peak Reliability. The WIRAB staff engages with the WECC and Peak Reliability Boards of Directors, standing committees, staff, Member Advisory Committees (MACs), and MAC work groups to monitor and evaluate the effectiveness and efficiency of governance and operations at each organization and to ensure that all “activities conducted pursuant to Section 215 are just, reasonable, not unduly discriminatory or preferential, and in the public interest.”

The WIRAB staff attends meetings of the WECC and Peak Reliability Boards of Directors, standing committees, Member Advisory Committees (MAC), and MAC work groups, and monitors developments related to each organization’s organizational governance, strategic direction, and budget. The WIRAB staff also conducts monthly webinars to provide WIRAB Members, WECC and Peak Reliability’s Class 5 Representatives, and other interested stakeholders with regular updates on current and upcoming activities at WECC and Peak Reliability and to review and develop WIRAB’s written advice and guidance to the Boards of Directors. WIRAB provides WECC and Peak Reliability with independent expert advice on operational practices and performance, annual business plans and budgets, strategic plans, committee charters, proposed bylaw amendments, fees, and other matters. WIRAB and the WIRAB staff will continue to engage with WECC and Peak Reliability and to provide advice and recommendations to each organization as necessary.

Emerging Trends and System Risks

WIRAB staff will engage in the following on-going activities in order to provide independent expert advice on emerging reliability trends and system risks:

Event Analysis and Situational Awareness:

Understanding important operational issues occurring today, as well as in the past, is key to ensuring reliability in the Western Interconnection. Event analysis and situational awareness topics need to be discussed in open and transparent forums that include both utility operators who see these types of issues on a day-to-day basis and thought leaders from diverse backgrounds. It is important to promote best practices and

lessons learned to ensure system operators have access to the tools and knowledge available to maintain a reliable grid in real-time.

WIRAB members and the WIRAB staff provide leadership by attending and participating in WECC's Operating Committee meetings, WECC's Market Implementation Committee meetings and Peak Reliability's RC User Group meetings, as well as other forums outside of WECC and Peak Reliability. The WIRAB staff also provides periodic outreach webinars and panel sessions at in-person meetings to identify and discuss emerging trends and risks associated with event analysis and situational awareness with Western policy makers and other stakeholders.

Distributed Solar PV Generation Resources:

By 2026, solar photovoltaic (PV) generation in the Western U.S. is projected to total more than 16,000 MW in nameplate capacity. While California is projected to contribute the majority of this capacity, several other Western states are also predicted to contribute to Western-wide distributed solar PV capacity. Significant benefits of this trend include distributed solar PV generation's increased capacity, partial coincidence with peak power demand, potential for the provision of grid support services, and reductions in greenhouse gas and conventional air pollutant emissions. Several potentially deleterious impacts are also associated with distributed solar PV capacity, including the potential for simultaneous disconnection of distributed solar PV generation systems with narrow tolerance ranges for frequency and/or voltage deviations, which may be triggered by and exacerbate deviations created by an original system contingency such as the loss of a significant generator. Advanced inverters permit wider tolerance range settings, could provide frequency and/or voltage ride-through in the event of a system contingency, and have other capabilities that could provide additional benefits.

In addition to the trend of increasing distributed solar PV generation, there is a trend for retirement of synchronous generators such as coal-fired power plants in Western states. Non-synchronous generation technologies, specifically solar PV generation, have historically been regarded as unable to provide the grid support services commonly associated with synchronous generation resources, such as frequency support and voltage control. New power electronic technologies, however,

enable non-synchronous generation to provide grid support more rapidly than synchronous generators.

WIEB and WIRAB are leading efforts to study potential reliability problems associated with increasing distributed solar PV generation in the Western Interconnection. WIEB and WIRAB support the technical advisory committees in their efforts to advise research partners and to provide feedback on study findings and interpretations. WIEB and WIRAB representatives and staff also work to disseminate research findings and policy recommendations on potential reliability concerns associated with distributed solar PV generation to regulators and policymakers in Western Interconnection states.

Expanding Market Operations:

Expanding market operations is a growing trend in the Western Interconnection. Western states have engaged in discussions on the potential creation of a regional ISO that would involve a multi-state grid using the California ISO's technology to coordinate and optimize electric systems across the states. The Energy Imbalance Market (EIM), which began operation in 2014, has been continuously expanding to include new participants. Additionally, the California ISO is developing plans to extend day ahead market services to EIM participants. Other market opportunities are also being explored in the West. Peak Reliability and PJM Connex are exploring the possibility of engaging in a joint venture to provide Reliability Coordination (RC) services and energy markets in the West and the Mountain West Transmission Group (MWTG), formed by electricity service providers in the eastern part of the Western Interconnection, is evaluating various options, including membership in an existing regional transmission organization (RTO), the Southwest Power Pool (SPP). These market reforms could result in significant changes to system operations (e.g., transmission scheduling, congestion management) and create new reliability challenges and opportunities for the Western Interconnection.

The WIRAB staff monitors market reform efforts in the West and provides a forum for discussions about related issues such as the potential for a regional ISO, expansion of the EIM to new participants, extending the California ISO's day ahead market services to EIM participants, and opportunities and challenges for the MWTG. The WIRAB staff monitors and participates in other forums that are exploring these

issues, such as PUC and RTO meetings and workshops. Additionally, the WIRAB staff attends and participates in relevant WECC committee meetings and activities, such as those of the Market Interface Committee (MIC). WIRAB will continue to provide advice to WECC and Peak Reliability and to make recommendations as appropriate on reliability challenges and opportunities associated with expanding market operations.

Essential Reliability Services:

With the rapidly changing resource mix, the BES is becoming increasingly reliant on more variable, asynchronous generating resources. It is important that the electric utility industry examine emerging issues and ensure that policies and practices set today do not adversely impact reliability, now and in the future. With the changing resource mix, some reliability services that are inherently provided by traditional generation resources may not be available to the same extent in the future. However, policies and practices accounting for these emerging technologies can ensure grid reliability, even if the future grid operates differently.

WIRAB staff provides leadership and advice by attending, participating in and monitoring WECC's Reliability Assessment Committee, Operating Committee and Market Implementation Committee meetings, Peak Reliability's RC User Group meetings, NERC's Essential Reliability Service Work Group meetings, FERC's Reliability Technical Conferences and other forums within the industry. WIRAB provides written advice to WECC, Peak, and FERC on policies regarding the provision of essential reliability services. WIRAB staff also provides periodic outreach webinars and develops panel sessions for WIRAB's in-person meetings to discuss emerging trends and to inform Western policy makers and other interested stakeholders of the emerging risks associated with the changing resource mix and the provision of essential reliability services.

Periodic Reliability Assessments

WIRAB staff engage in the following on-going activities in order to provide guidance and independent expert advice on WECC's periodic reliability assessments:

Variable Energy Resources:

High priority reliability topics for the Western Interconnection include the increasing penetration of variable renewable resources, increasing retirements of baseload coal generation that would reduce inertia on the grid, and the growth of distributed energy resources that interface with the Bulk Electric System. WIRAB strives for high quality resource assessments that address the reliability implications of the changing resource mix in the Western Interconnection over a 10- to 20-year timeframe. Production cost modeling can identify economic dispatch of a potential new resource mix for every hour over a future year and identify critical hours of system stress. Power flow analysis then examines these critical stress hours for traditional reliability parameters. The integrated use of production cost modeling and power flow analysis will be an essential tool for future reliability assessments of the Western Interconnection.

WIRAB monitors, advises, and participates in WECC's Reliability Assessment Committee (RAC) to promote improved reliability assessments of the Western Interconnection. WIRAB will encourage and support the RAC in its efforts to integrate WECC's data and modeling capability to perform roundtrip reliability assessments that combine power flow analysis and production cost modeling. WIRAB will also monitor, engage, and communicate findings on leading research about the integration of variable energy resources into the Western Interconnection, such as the work of NERC's Inverter-Based Resource Performance Joint Task Force. Further, WIRAB staff monitors and engages with the National Renewable Energy Laboratory (NREL), the Utility Variable Integration Group, the California ISO, and other researchers investigating the flexibility and reliability of the power system to integrate higher levels of renewable energy. WIRAB also provides outreach to Western states and provinces on the policy implications associated with new research.

Gas-Electric Interdependencies:

The North American power sector's reliance on natural gas for electric generation has grown significantly. Low natural gas prices, environmental regulations, and improving technologies have all contributed to rapid and sustained investment in new gas-fired power plants across the U.S. The natural gas and electricity industries evolved independently but are now inextricably interdependent. In the West, issues

surrounding the Aliso Canyon natural gas storage field in southern California highlighted these interdependencies. In response to growing concerns about electric reliability, both FERC and NERC directed focused inquiries into issues related to gas-electric coordination, including NERC's assessment of single points of disruption.

In 2014, WIRAB's sister organization, WIEB, commissioned a Western-Interconnection-wide assessment of gas-electric interdependencies. Phase 1 of the study assessed natural gas infrastructure. Phase 2 of the study assessed short term operational flexibility. In 2017-2018, WIRAB staff participated in WECC's Gas and Electric Interface Study, which analyzed potential vulnerabilities between the gas sector and the electric sector in the Western Interconnection. WIRAB members and the WIRAB staff continue to work with WIRAB's partners in the Western Interconnection to assess the adequacy, security, and risks associated with natural gas infrastructure and its ability to reliably meet evolving BES needs.

Reliability Standards and Proactive Enforcement

WIRAB staff engage in the following on-going activities in order to provide independent expert advice on the development and proactive enforcement of reliability standards:

Reliability Standards:

NERC reliability standards were created to provide minimum requirements for planning and operating the electric grid. The compliance and enforcement of these reliability standards ensures there is oversight and accountability of BES owners and operators and that system-wide reliability is maintained. It is important that reliability standards are strict enough to guarantee that system reliability is maintained, but flexible enough to respond to the changing industry. It is important to develop and review reliability standards to ensure they effectively preserve reliability while not being overly burdensome on the entities required to comply.

WIRAB staff provides independent expert advice on the development and proactive enforcement of reliability standards by contracting with subject matter experts with direct knowledge of the efficacy of reliability standards and the burden of compliance on regulated entities. WIRAB staff attends, participates and/or monitors

WECC's Operating Committee meetings, WECC's Standards Committee meetings, NERC's standard development process and other industry forums. When necessary, WIRAB provides written advice to WECC, NERC and FERC on the implementation of specific standards within the Western Interconnection. WIRAB staff also provide periodic outreach webinars and panel sessions at in-person meetings to lead discussions on emerging trends and risks associated with enforceable reliability standards and to inform Western policy makers and other stakeholders on these issues.

Physical Security and Cybersecurity:

Physical security and cybersecurity of the electric grid are of great concern. Until recent years, physical and cyber security incidents were confined to other sectors. Recently, however, physical incidents (including two incidents at a California substation) and cyber incidents (including a late 2015 incident in the Ukraine that left one-quarter of a million customers without power) have impacted the power sector.

WIRAB has monitored incidents that have compromised the physical security and cybersecurity of the grid for several years. In 2014, 2015, and 2017, WIRAB conducted webinars on the physical security and/or cybersecurity of the grid. In addition, WIRAB has monitored NERC's Critical Infrastructure Protection (CIP) standards. As appropriate, WIRAB will provide updates on CIP standards during its Monthly Teleconference with WIRAB members.

Section B – WIRAB Supplemental Financial Information

2019 Business Plan and Budget

Section B – Supplemental Financial Information

Working Capital Reserve

WIRAB projects it will have a working capital reserve of \$1,012,100 on December 31, 2018, as compared to a desired working capital reserve at December 31, 2019, of \$600,000. The surplus working capital reserve results in a \$412,100 reduction in WIRAB's funding requirement for 2019. WIRAB is changing its reserve policy to stabilize statutory assessments over the next several budget cycles. WIRAB has traditionally maintained a working capital reserve of \$100,000. Higher working capital reserves in 2019 and 2020 are intended to stabilize assessments during the transition from the current high level of reserves. Starting in 2021, WIRAB will strive to maintain a reserve equal to 20% of budgeted expenses. Table B.1 shows WIRAB's analysis of working capital reserve.

WIRAB - Working Capital Reserve Analysis 2018-2019	
STATUTORY	
Beginning Working Capital Reserve (Deficit), December 31, 2017	1,368,238
Plus: 2018 Funding (from LSEs or designees)	711,026
Plus: 2018 Other funding sources	650
Minus: 2018 Projected expenses & capital expenditures	(1,067,800)
Projected Working Capital Reserve (Deficit), December 31, 2018	1,012,100
Desired Working Capital Reserve, December 31, 2019¹	600,000
Minus: Projected Working Capital Reserve, December 31, 2018	(1,012,100)
Increase(decrease) in funding requirement to achieve Working Capital Reserve	(412,100)
2019 Expenses and Capital Expenditures	1,162,700
Less: Penalty Sanctions ²	0
Less: Other Funding Sources	(600)
Adjustment: To achieve desired Working Capital Reserve	(412,100)
2019 NERC Assessment	750,000
¹ Desired working capital reserve is 52 percent of budgeted expenses. ² Penalty sanctions are not applicable to WIRAB.	

Table B-1. Working Capital Reserve Analysis 2018 – 2019.

Budget Projections for 2019-2021

WIRAB - Statement of Activities and Change in Working Capital 2019 Budget & 2020 and 2021 Projections							
STATUTORY							
	2019	2020	Variance 2020 Projection v 2019 Budget		2021	Variance 2021 v 2020 Projections	
	Budget	Projection	Over(Under)	% Change	Projection	Over(Under)	% Change
Funding							
WIRAB Funding							
Assessments	\$ 750,000	\$ 1,012,100	\$ 262,100	34.9%	\$ 1,115,700	\$ 103,600	10.2%
Penalty Sanctions	-	-	-	-	-	-	-
Total WIRAB Funding	\$ 750,000	\$ 1,012,100	\$ 262,100	34.9%	\$ 1,115,700	\$ 103,600	10.2%
Membership Dues	-	-	-	-	-	-	-
Testing Fees	-	-	-	-	-	-	-
Services & Software	-	-	-	-	-	-	-
Workshops	-	-	-	-	-	-	-
Interest	600	600	\$ -	0.0%	600	\$ -	0.0%
Miscellaneous	-	-	-	-	-	-	-
Total Funding (A)	\$ 750,600	\$ 1,012,700	\$ 262,100	34.9%	\$ 1,116,300	\$ 103,600	10.2%
Expenses							
Personnel Expenses							
Salaries	436,500	449,600	13,100	3.0%	463,100	\$ 13,500	3.0%
Payroll Taxes	-	-	-	-	-	-	-
Benefits	-	-	-	-	-	-	-
Retirement Costs	-	-	-	-	-	-	-
Total Personnel Expenses	\$ 436,500	\$ 449,600	\$ 13,100	3.0%	\$ 463,100	\$ 13,500	3.0%
Meeting Expenses							
WIRAB Meetings	\$ 80,800	\$ 83,200	\$ 2,400	3.0%	\$ 85,700	\$ 2,500	3.0%
State Travel	\$ 28,200	\$ 29,000	\$ 800	2.8%	\$ 29,900	\$ 900	3.1%
Staff Travel	\$ 71,800	\$ 74,000	\$ 2,200	3.1%	\$ 76,200	\$ 2,200	3.0%
Conference Calls	\$ 3,200	\$ 3,300	\$ 100	3.1%	\$ 3,400	\$ 100	3.0%
Total Meeting Expenses	\$ 184,000	\$ 189,500	\$ 5,500	3.0%	\$ 195,200	\$ 5,700	3.0%
Operating Expenses							
Consultants & Contracts	\$ 100,000	\$ 100,000	\$ -	0.0%	\$ 100,000	\$ -	0.0%
Office Rent	-	-	-	-	-	-	-
Office Costs	-	-	-	-	-	-	-
Professional Services	-	-	-	-	-	-	-
Miscellaneous	-	-	-	-	-	-	-
Depreciation	-	-	-	-	-	-	-
Total Operating Expenses	\$ 100,000	\$ 100,000	\$ -	0.0%	\$ 100,000	\$ -	0.0%
Total Direct Expenses	\$ 720,500	\$ 739,100	\$ 18,600	2.6%	\$ 758,300	\$ 19,200	2.6%
Indirect Expenses	\$ 442,200	\$ 455,500	\$ 13,300	3.0%	\$ 469,200	\$ 13,700	3.0%
Other Non-Operating Expenses	\$ -	\$ -	\$ -	-	\$ -	\$ -	-
TOTAL BUDGET (B)	\$ 1,162,700	\$ 1,194,600	\$ 31,900	2.7%	\$ 1,227,500	\$ 32,900	2.8%
CHANGE IN WORKING CAPITAL (=A-B)¹	\$ (412,100)	\$ (181,900)	\$ 230,200	-	\$ (111,200)	\$ 70,700	-
FTEs	5.00	5.00	-	0.0%	5.00	-	0.0%

¹ Fixed Asset included in Indirect Expenses.

Table B-2. Budget 2019 Compared with 2019-2020 Projections.

WIRAB projects a 2.7% increase to its annual budget in 2020 and a 2.8% increase in 2021. These increases reflect expected cost-of-living adjustments to personnel expenses for employees working in Denver, Colorado and increased costs for meetings and travel.

Section C – Non-Statutory Activities

2019 Business Plan and Budget

Section C – Non-Statutory Activities

WIRAB does not engage in non-statutory activities.

Section D – Additional Consolidated Financial Statements

2019 Business Plan and Budget

Section D – Additional Consolidated Financial Statements

Statement of Financial Position

Table D-1 provides WIRAB's Statement of Financial Position as of the following dates:

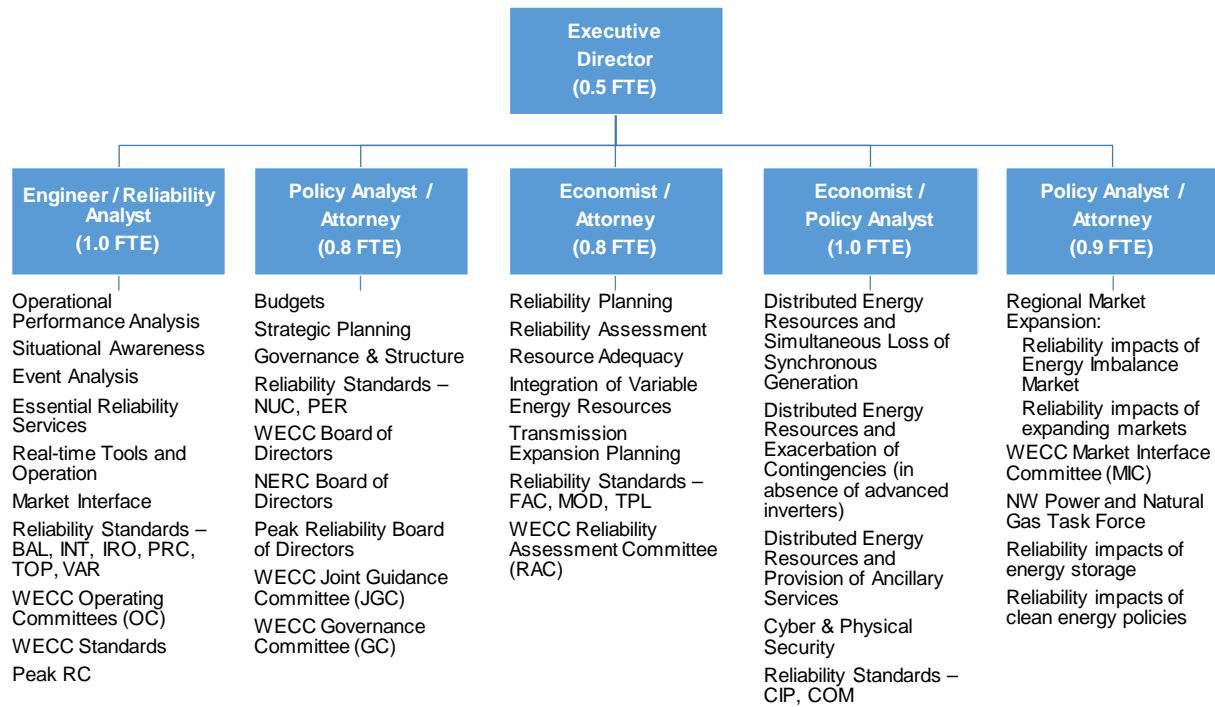
- As of December 31, 2016, per audit
- As of December 31, 2018, projected
- As of December 31, 2019, as budgeted

WIRAB - Statement of Financial Position				
STATUTORY				
	As of June 30, 2017 (Audit)	As of December 31, 2018 (Projected)	As of December 31, 2019 (Budgeted)	
Assets				
Cash and Investments	\$ 1,805,619	\$ 1,012,100	\$ 600,000	
Total Assets	\$ 1,805,619	\$ 1,012,100	\$ 600,000	

Table D-1. Statement of Financial Position, Three-Year Comparison

Appendix A Organization Chart

The WIRAB Organization Chart is shown below.



DOCKET NO. RR18-__-000

**NORTH AMERICAN ELECTRIC RELIABILITY
CORPORATION**

2019 BUSINESS PLAN AND BUDGET FILING

ATTACHMENT 11

**NERC MANAGEMENT'S RESPONSES
TO STAKEHOLDER COMMENTS SUBMITTED
ON DRAFT #1 AND DRAFT #2 OF NERC'S
2019 BUSINESS PLAN AND BUDGET**

RE: Management Response to Comments

Draft #1

The stakeholder comment period on the first draft of NERC's 2019 Business Plan and Budget (BP&B) was May 18–June 29, 2018. Comments were submitted by six entities and covered a range of topics. Below is a summary of those comments and NERC management's responses as applicable.

*E-ISAC Member Executive Committee (MEC)*¹

The MEC, comprised of the leadership of several large electric utilities across the country, provided a resolution in support of the proposed 2019 budget for the E-ISAC, agreeing to the aggressive approach to strategy and funding. The MEC also expressed appreciation for the focus of the overall NERC budget on making investments in tools and technology to increase efficiency.

American Public Power Association (APPA)

APPA expressed support for the 2019 E-ISAC budget and offered comments on the non-E-ISAC proposed 2019 budget increase. APPA requested additional clarity and explanation on the following: (1) the need for the upgrade to the situational awareness tool, SAFNR; (2) the associated savings from the SPP RE dissolution; (3) the additional costs for the CMEP Technology Project; and (4) the expected cost savings resulting from the office rent expense increase for facility expansion. APPA also encouraged NERC to consider benchmarking medical and other benefit expenses, and to use stakeholder engagement as much as possible for the CMEP Technology Project.

1. SAFNR Upgrade

SAFNR, a situation awareness system that was initiated in February 2010, is a critical tool for NERC situation awareness staff, as it provides valuable, near real-time information about the current operating conditions of the BPS from a wide-area view. The tool is also used during the E-ISAC's grid security exercises (GridEx) to provide E-ISAC and NERC situation awareness staff the ability to collaborate on a common relative operating picture. Though NERC funds SAFNR as the primary user, the tool is also used by and benefits Regional Entity and FERC staff. NERC continually coordinates and collaborates with these additional users to ensure the system is providing the necessary capabilities and not duplicative of other resources.

While the tool has been maintained and used successfully for more than eight years, the aging technology does not allow NERC staff to efficiently update the underlying power system information or real-time data feeds on risks to reliability. Re-platforming the tool will allow for a

¹ The MEC is a sub-group of the Electricity Subsector Coordinating Council (ESCC). For more information, please see the ESCC [website](#).

more a precise wide-area view of system conditions, and will also meet the GridEx IV recommendation to enhance the ability to provide reliable, timely, and accurate information regarding the state of grid reliability and security threats and events. Because the tool benefits both the situation awareness and E-ISAC teams, approximately one-third of the costs for the SAFNR upgrade are budgeted to the E-ISAC with the rest under the Situation Awareness program, which is subject to change as the benefits of the upgrade are realized. The upgrade to SAFNR will go through the same business case and approval process as other enterprise IT investments.

2. *Associated Savings from SPP RE Dissolution*

NERC does not expect any direct cost savings as a result of the dissolution, but anticipates that any savings realized by the ERO Enterprise will be felt primarily at the Regional Entity level by the registered entities in those Regions. During the budget approval process in 2019 and 2020, those Regions taking additional registered entities (MRO and SERC) will provide information on the impacts of the dissolution and related transition of entities and associated responsibilities.

3. *CMEP Technology Project*

There have been no additions to the existing scope and estimated costs for the CMEP Technology Project, and the current estimated annual operating costs are actually below the business case estimate based on recent contract negotiations. The additional costs in question are related to the Standards Database and Entity Registration IT projects. While these are separate projects that will go through their own business case and approval process, they complement the CMEP project and have been accelerated to more smoothly integrate them during development. These IT solutions have been part of the ERO Enterprise IT roadmap for several years.

NERC is currently engaging with stakeholders during the development of the new CMEP system, particularly through the Compliance and Certification Committee's (CCC's) Alignment Working Group, and NERC and the Regional Entities continue to look for new opportunities to engage stakeholders. NERC recognizes that the tool needs to provide greater transparency to registered entities on compliance monitoring and enforcement processes and enhance the consistency of the registered entity experience among the Regional Entities. Additionally, NERC is acutely aware of the importance of protecting registered entity data; in addition to the protection measures already in place, the CMEP solution will provide the opportunity for enhanced data security mechanisms, including multi-factor user authentication and additional data encryption, adopting federal standards to the greatest extent possible even though not required.

4. *Office Rent Increase*

The cost increase for office rent is due to the NERC Atlanta office expansion from two-and-half floors to three. The intent is to reconfigure one of the floors to be used almost entirely for meeting space, providing a larger footprint to accommodate additional meetings now being held off-site. The expected cost savings complement current ERO Enterprise initiatives to improve efficiency and effectiveness of the standing committees and overall stakeholder engagement. As both the meeting space is developed (likely later in 2018) and discussions continue on the strategy for standing committee engagement, NERC will work toward a more precise estimate of cost savings.

5. *Medical and Other Benefits*

NERC does benchmark benefit costs with industry and similar organizations and works actively with a broker to keep costs reasonable to stay competitive for talent acquisition and retention, and increases to medical benefits have been below market for several years. However, the past two years have shown increases closer to market, including the 2018 premiums that were slightly higher than originally budgeted. The increase in medical benefit costs in 2019 (compared to the 2018 budget) is partly because that budgeted number for 2018 was lower than the final negotiated amount, combined with an additional increase between the actual 2018 premiums and anticipated 2019 premiums. NERC continues to negotiate these premiums and will have final amounts for 2019 at the end of 2018.

Canadian Electricity Association (CEA) and Independent Electricity System Operator (IESO)

The CEA and IESO, both Canadian entities, provided similar comments with respect to concern with the trend of NERC budget increases. Both organizations urged NERC to focus on maximizing efficiency and work to achieve budget increases that more closely align with economic realities and stakeholder expectations. Additionally, both organizations expressed concern with the E-ISAC budget increase in light of the Canadian entity engagement with the E-ISAC.

Overall NERC budget projections for 2020 and 2021 will be included in the second draft the NERC budget, with the expectation that those years will show a budget increase much lower than 2019. NERC believes the investments being made in ERO Enterprise technology and tools, such as the CMEP technology solution, along with initiatives in support of the *ERO Enterprise Long-Term Strategy* to improve efficiency and effectiveness of stakeholder engagement, the standing committees, and overall ERO operations, will result in efficiency gains that will be reflected in future budget cycles. NERC recognizes the Canadian entities' concern with the E-ISAC budget increases and is currently engaged with these entities to discuss and address their concerns.

Edison Electric Institute (EEI)

EEI expressed support for NERC's investment in the E-ISAC. EEI also requested consideration of the following with regard to the rest of the NERC budget: (1) develop a business case for the SAFNR upgrade and coordinate with DOE, FERC, and others to leverage existing capabilities; (2) engage stakeholders in the CMEP Technology project and prioritize CMEP information security; (3) continue benchmarking medical benefit expenses with industry and similar organizations; and (4) provide additional clarity on the expected meeting cost savings that will occur with the planned facility expansion.

See responses to APPA above.

National Rural Electric Cooperative Association (NRECA)

NRECA indicated support for the increased investment in E-ISAC and appreciation for NERC's effort to control non-E-ISAC costs. NRECA encouraged NERC to focus on long-term leveling of the budget, and requested NERC to (1) provide E-ISAC projected costs for additional years and (2) consider using additional funds from the Assessment Stabilization Reserve to reduce 2019 assessments.

As mentioned above in the response to CEA and IESO comments above, overall NERC budget projections for 2020 and 2021 will be included in the second draft the NERC budget, and the expectation is that those years will show a budget increase much lower than 2019. The second draft of the budget will also include projections for the E-ISAC strategy.

While the amount of funds released from the Assessment Stabilization Reserve (ASR) to reduce assessments is a Board of Trustees (Board) decision, the current NERC strategy and recommendation for the 2019 budget is to align assessments and budgets increases; therefore, at a minimum, ASR funds will buy down the proposed 10.3% assessment increase to match the proposed budget increase of 9.5%.

Draft #2 and Additional Comments Received

The stakeholder comment period on the second draft of NERC's 2019 BP&B was July 13–July 31, 2018. Comments were submitted by two entities. Comments were also received on the 2019 BP&B as part of the Member Representative's Committee (MRC) policy input requested by the NERC Board for its August 2018 quarterly meetings. Below is a summary of those comments and NERC management's responses.

APPA

APPA requested further clarity on the discussions occurring regarding Canadian entity engagement with the E-ISAC. APPA also requested NERC to consider delaying the SAFNR upgrade or work on other tools in light of other budget increases.

NERC has engaged with leadership of Canadian entities to discuss concerns regarding the value of the information being received from the E-ISAC in the context of the E-ISAC budget increase and availability of cyber threat information from other sources in Canada. NERC has expressed its commitment to demonstrate the value of E-ISAC through the ongoing implementation of its long-term strategy, particularly with respect to its position to integrate industry and government sources of information across North America.

The significant investments in tools for 2019 include the CMEP Technology Project and the upgrade to SAFNR. The CMEP Technology Project is approved and underway, and the SAFNR upgrade is necessary to meet the GridEx IV recommendation to enhance the ability to provide reliable, timely, and accurate information regarding the state of grid reliability and security threats and events. The current cost for the upgrade is a placeholder in the budget and is still subject to business case review and normal approvals.

Bonneville Power Administration (BPA)

BPA requested future information on the coordination of information sharing among the E-ISAC and the other various cyber and physical security organizations, as well as the costs savings resulting from the facility expansion at the NERC Atlanta office.

NERC will work to provide further information on coordination efforts of cyber and physical security information. NERC will also be tracking cost savings from the office expansion with respect to reducing meetings held offsite as the benefits are realized.

EEI and State Municipal Transmission Dependent Utility Sectors (SM-TDUs)

Both EEI and SM-TDUs (supported by APPA, TAPS, and LPPC) provided policy input expressing the desire to further enhance the ERO's BP&B development process to provide more transparency and engagement and therefore enable more timely and informed input by stakeholders. EEI also reiterated its support for the NERC's investment in the E-ISAC.

NERC's BP&B development process provides for multiple touchpoints with and input from stakeholders, including opportunities for input through MRC policy input, public comment periods, webinars, and informal stakeholder groups and meetings. NERC remains committed to this open and transparent process and will work to provide opportunities for input earlier in the development of the BP&B and to further engage stakeholder groups.

DOCKET NO. RR18-__-000

**NORTH AMERICAN ELECTRIC RELIABILITY
CORPORATION**

2019 BUSINESS PLAN AND BUDGET FILING

ATTACHMENT 12

**CALCULATION OF ADJUSTMENTS
THE AESO 2019 NERC ASSESSMENT,
THE IESO 2019 NERC ASSESSMENT,
THE NEW BRUNSWICK 2019 NERC ASSESSMENT,
AND THE QUEBEC 2019 NERC ASSESSMENT**

2019 AESO Assessment Adjustment

Credit for NERC Compliance Costs

Includes adjustment for 2017 Actual v Budgeted Costs

	2019 NERC Budget		AESO NEL Share (2017) <u>1.399%</u>	2019 Compliance FTEs			AESO Credit	Costs Paid by AESO
				Total	Credit	% Credit		
NERC Compliance Program Budget								
Compliance Assurance	\$	8,922,937	\$ 124,794	16.45	15.17	92.2%	\$ 115,060	\$ 9,734
Analysis and Certification		5,021,479	70,229	5.64	5.03	89.1%	62,574	7,655
Enforcement		6,857,235	95,903	13.16	13.16	100.0%	95,903	-
Total Compliance Costs, including Fixed Assets	\$	20,801,651	\$ 290,926	35.25	33.35		\$ 273,537	\$ 17,389
True-up 2017 Actual							18,984	
Additional Non-Compliance Costs								
Event Analysis	\$	5,339,268	\$ 74,673	11.28	2.26	20.0%	\$ 14,935	\$ 59,739
SAFNR		493,000	6,895			100.0%	6,895	
2019 Total Compliance, Event Analysis and SAFNR	\$	26,633,919	\$ 372,494	46.53	35.61		\$ 314,351	\$ 77,128
2018	\$	26,235,467	\$ 343,948	52.17	41.75		\$ 255,627	\$ 62,963
Change from 2018	\$	398,452	\$ 28,546	(5.64)	(6.14)		\$ 58,724	\$ 14,165
2019 Assessment								
2019 NERC Assessment	\$	656,732						
2019 RE Assessment (WECC & WIRAB)		876,478						
Total 2019 Assessment	\$	1,533,210						
2018 Assessment								
2018 NERC Assessment	\$	577,974						
2018 RE Assessment (WECC & WIRAB)		979,700						
Total 2018 Assessment	\$	1,557,674						
Change in Total Assessment	\$	(24,464)						-1.6%

2019 IESO Assessment Adjustment

Credit for NERC Compliance Costs

Includes adjustment for 2017 Actual v Budgeted Costs

			IESO NEL Share			Costs Paid by	
	<u>2019 NERC Budget</u>	<u>2.968%</u>	<u>2019 Compliance FTEs</u>			<u>IESO Credit</u>	<u>IESO</u>
			<u>Total</u>	<u>Credit</u>	<u>% Credit</u>		
NERC Compliance Program Budget							
Compliance Assurance	\$ 8,922,937	\$ 264,830	16.45	13.69	83.2%	\$ 220,339	\$ 44,491
Analysis and Certification	5,021,479	149,036	5.64	5.03	89.1%	132,791	16,245
Enforcement	6,857,235	203,521	13.16	13.16	100.0%	203,521	-
Total Compliance Costs, including Fixed Assets	\$ 20,801,651	\$ 617,387	35.25	31.87		\$ 556,651	\$ 60,736
True-up 2017 Actual						39,628	
Additional Non-Compliance Costs							
Event Analysis	\$ 5,339,268	\$ 158,468	11.28	2.26	20.0%	\$ 31,694	\$ 126,774
SAFNR v1 support and maintenance	493,000	14,632			100.0%	14,632	-
Total Compliance, Event Analysis and SAFNR	\$ 26,633,919	\$ 790,487	46.53	34.13		\$ 642,605	\$ 187,511
2018	\$ 26,235,467	\$ 797,444	52.17	40.01		\$ 572,896	\$ 170,357
Change from 2018	\$ 398,452	\$ (6,956)	(5.64)	(5.89)		\$ 69,709	\$ 17,154
2019 Assessment							
2019 NERC Assessment	\$ 1,418,177						
2019 RE Assessment	2,164,350						
Total 2019 Assessment	\$ 3,582,527						
2018 Assessment							
2018 NERC Assessment	\$ 1,359,810						
2018 RE Assessment	2,074,231						
Total 2018 Assessment	\$ 3,434,041						
Change in Total ERO Assessment	\$ 148,486						
		4.3%					

2019 New Brunswick Assessment Adjustment

Credit for NERC Compliance Costs

Includes adjustment for 2017 Actual v Budgeted Costs

	NB NEL Share		2019 Compliance FTEs			Costs Paid by	
	2019 NERC Budget	(2017) 0.310%	Total	Credit	% Credit	NB Credit	NB
NERC Compliance Program Budget							
Compliance Assurance	\$ 8,922,937	\$ 27,660	16.45	13.69	83.2%	\$ 23,013	\$ 4,647
Analysis and Certification	5,021,479	15,566	5.64	5.03	89.1%	13,869	1,697
Enforcement	6,857,235	21,256	13.16	13.16	100.0%	21,256	-
Total Compliance Costs, including Fixed Assets	\$ 20,801,651	\$ 64,482	35.25	31.87		\$ 58,138	\$ 6,344
True-up 2017 Actual						4,107	
Additional Non-Compliance Costs							
Event Analysis	\$ 5,339,268	16,551	11.28	2.26	20.0%	\$ 3,310	\$ 13,241
SAFNR v1 support and maintenance	493,000	1,528			100.0%	1,528	
2019 Total Compliance, Event Analysis and SAFNR	\$ 26,633,919	\$ 82,561	46.53	34.13		\$ 67,083	\$ 19,584
2018	\$ 26,235,467	\$ 79,739	52.17	40.01		\$ 57,288	\$ 17,034
Change from 2018	\$ 398,452	\$ 2,822	(5.64)	(5.89)		\$ 9,795	\$ 2,550
2019 Assessment							
2019 NERC Assessment	\$ 148,152						
2019 RE Assessment	354,392						
Total 2019 Assessment	\$ 502,544						
2018 Assessment							
2018 NERC Assessment	\$ 135,969						
2018 RE Assessment	288,998						
Total 2018 Assessment	\$ 424,967						
Change in Total Assessment	\$ 77,577						
	18.3%						

2019 Quebec Assessment Adjustment

Credit for NERC Compliance Costs

Includes adjustment for 2017 Actual v Budget

	2019 NERC Budget	Quebec NEL	2019 Compliance FTEs			Quebec	Costs Paid by	Payment Allocation	
		Share (2017)	Total	Credit	% Credit	Credit	Quebec	Regie	Hydro Quebec
NERC Compliance Program Budget		3.836%							
Compliance Assurance	\$ 8,922,937	\$ 342,244	16.45	5.92	36.0%	\$ 123,208	\$ 219,036		\$ 219,036
Analysis and Certification	5,021,479	192,601	5.64	5.03	89.1%	171,608	20,994	\$ 18,485	2,508
Enforcement	6,857,235	263,013	13.16	13.16	100.0%	263,013	-		
Total Compliance Costs, including Fixed Assets	\$ 20,801,651	\$ 797,858	35.25	24.11		\$ 557,828	\$ 240,030	\$ 18,485	\$ 221,544
True-up 2017 Actual						40,521			
Additional Non-Compliance Costs									
Event Analysis	\$ 5,339,268	\$ 204,790	11.28	2.26	20.0%	\$ 40,958	\$ 163,832		\$ 163,832
SAFNR v1 support and maintenance	493,000	18,909			100.0%	18,909			
2019 Total Compliance, Event Analysis and SAFNR	\$ 26,633,919	\$ 1,021,558	46.53	26.36		\$ 658,216	\$ 403,862	\$ 18,485	\$ 385,377
2018 Budget	\$ 26,235,467	\$ 1,059,694	52.17	30.92		\$ 612,191	\$ 395,883	\$ 18,750	\$ 377,133
Change from 2018	\$ 398,452	\$ (38,136)	(5.64)	(4.55)		\$ 46,025	\$ 7,979	\$ (265)	\$ 8,244
2019 Assessment (including Compliance credit)									
2019 NERC Assessment	\$ 2,004,960							\$ 18,485	\$ 1,986,475
2019 RE Assessment	3,058,277							1,050,695	2,007,582
Total 2018 Assessment	\$ 5,063,237							\$ 1,069,180	\$ 3,994,057
2018 Assessment (including Compliance credit)									
2018 NERC Assessment	\$ 1,956,112							\$ 18,750	\$ 1,937,362
2018 RE Assessment	2,985,158							1,050,695	1,934,463
Total 2018 Assessment	\$ 4,941,270							\$ 1,069,445	\$ 3,871,825
Change in Total Assessment	\$ 121,967							\$ (265)	\$ 122,232
	2.5%							0.0%	3.2%

DOCKET NO. RR18-__-000

**NORTH AMERICAN ELECTRIC RELIABILITY
CORPORATION**

2019 BUSINESS PLAN AND BUDGET FILING

ATTACHMENT 13

**METRICS COMPARING
REGIONAL ENTITY OPERATIONS
BASED ON
THE 2019 BUDGETS**

2019 Metrics for Budget Submissions

	Budget Metrics	FRCC	MRO	NPCC ⁶	ReliabilityFirst	SERC	Texas RE	WECC
1	Number of registered entities ¹	39	211	213	233	201	212	274
2	Number of registered functions	157	596	448	484	513	391	918
3	Total NEL (GWh)	232,720	485,381	605,097	871,790	1,028,837	359,022	867,702
4	NEL (GWh) per registered entity	5,967	2,300	2,841	3,742	5,119	1,694	3,167
5	Total ERO Funding ²	\$ 5,827,925	\$ 15,530,922	\$ 15,003,411	\$ 21,583,046	\$ 17,455,215	\$ 13,362,449	\$ 25,869,686
6	ERO Funding per registered entity	\$ 149,434	\$ 73,606	\$ 70,439	\$ 92,631	\$ 86,842	\$ 63,030	\$ 94,415
7	ERO Funding per registered function	\$ 37,121	\$ 26,059	\$ 33,490	\$ 44,593	\$ 34,026	\$ 34,175	\$ 28,180
8	Total Budget ³	\$ 6,695,787	\$ 15,980,354	\$ 15,803,891	\$ 22,648,458	\$ 18,144,949	\$ 13,069,599	\$ 26,950,566
9	Total Budget per registered entity	\$ 171,687	\$ 75,736	\$ 74,197	\$ 97,204	\$ 90,273	\$ 61,649	\$ 98,360
10	Total Budget per registered function	\$ 42,648	\$ 26,813	\$ 35,277	\$ 46,794	\$ 35,370	\$ 33,426	29357.91503
11	Total Statutory FTE ⁴	20.75	59.00	38.86	78.20	78.00	60.00	143.00
12	Registered entity per Statutory FTE	1.880	3.576	5.481	2.980	2.577	3.533	1.916
13	Registered function per Statutory FTE	7.566	10.102	11.529	6.189	6.577	6.517	6.420
14	Total Compliance Budget ⁵	\$ 4,984,329	\$ 10,763,709	\$ 8,816,687	\$ 16,163,392	\$ 13,373,347	\$ 10,068,946	\$ 14,966,474
15	Compliance budget per registered entity	\$ 127,803	\$ 51,013	\$ 41,393	\$ 69,371	\$ 66,534	\$ 47,495	\$ 54,622
16	Compliance budget per registered function	\$ 31,747	\$ 18,060	\$ 19,680	\$ 33,395	\$ 26,069	\$ 25,752	\$ 16,303
17	Total Compliance FTE	12.18	32.35	17.00	44.00	34.00	35.75	60.00
18	Registered entity per Compliance FTE	3.2	6.5	12.5	5.3	5.9	5.9	4.6
19	Registered function per Compliance FTE	12.9	18.4	26.4	11.0	15.1	10.9	15.3

¹ As of June 2018.

² ERO Funding is the sum of Assessments and Penalty Sanctions only. (Excludes funding such as Membership Dues, Testing Fees, Services & Software, Workshops, Interest, and Miscellaneous.)

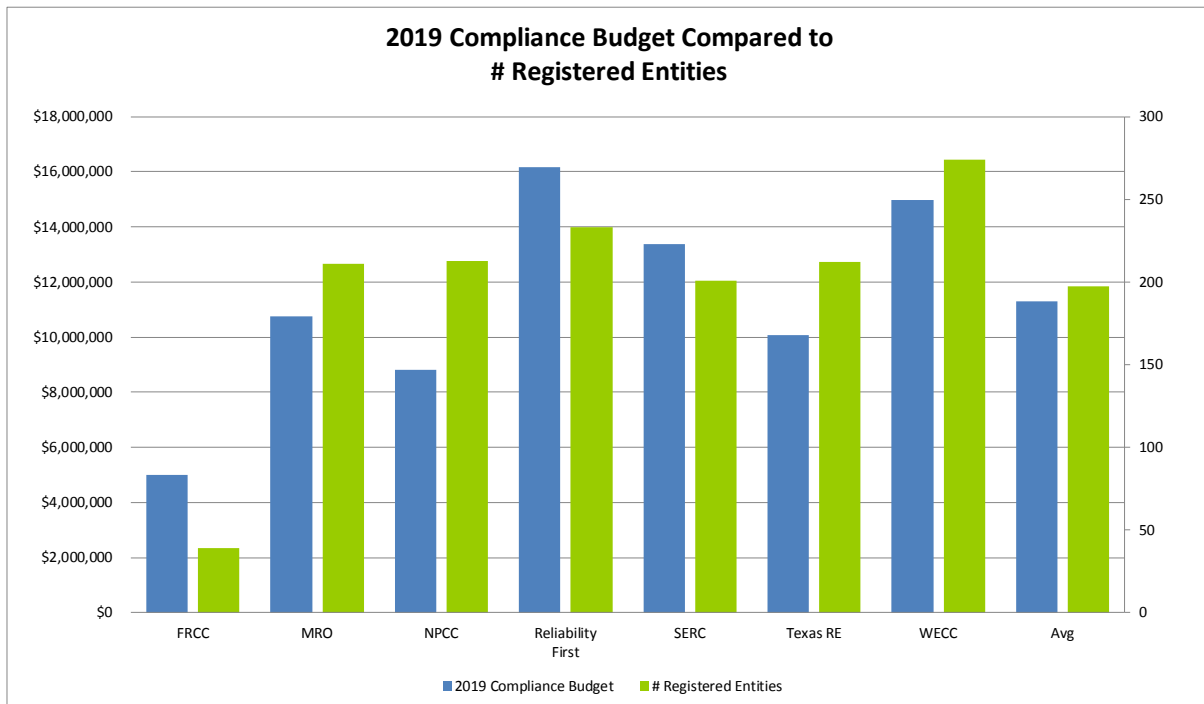
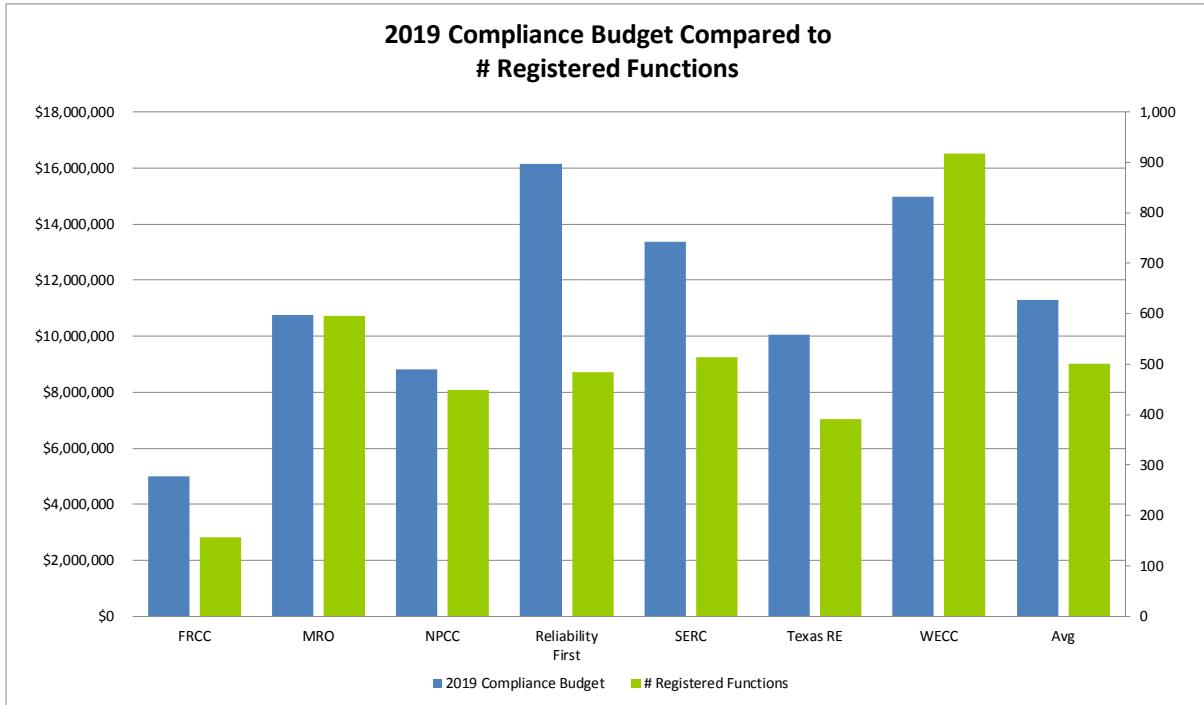
³ Total Budget is the sum of Total Expenses and the Increase/(Decrease) in Fixed Assets.

⁴ Each FTE that works 2,080 hours per year is counted as one FTE. An FTE working less than the 2,080 hours per year is counted as a fractional FTE.

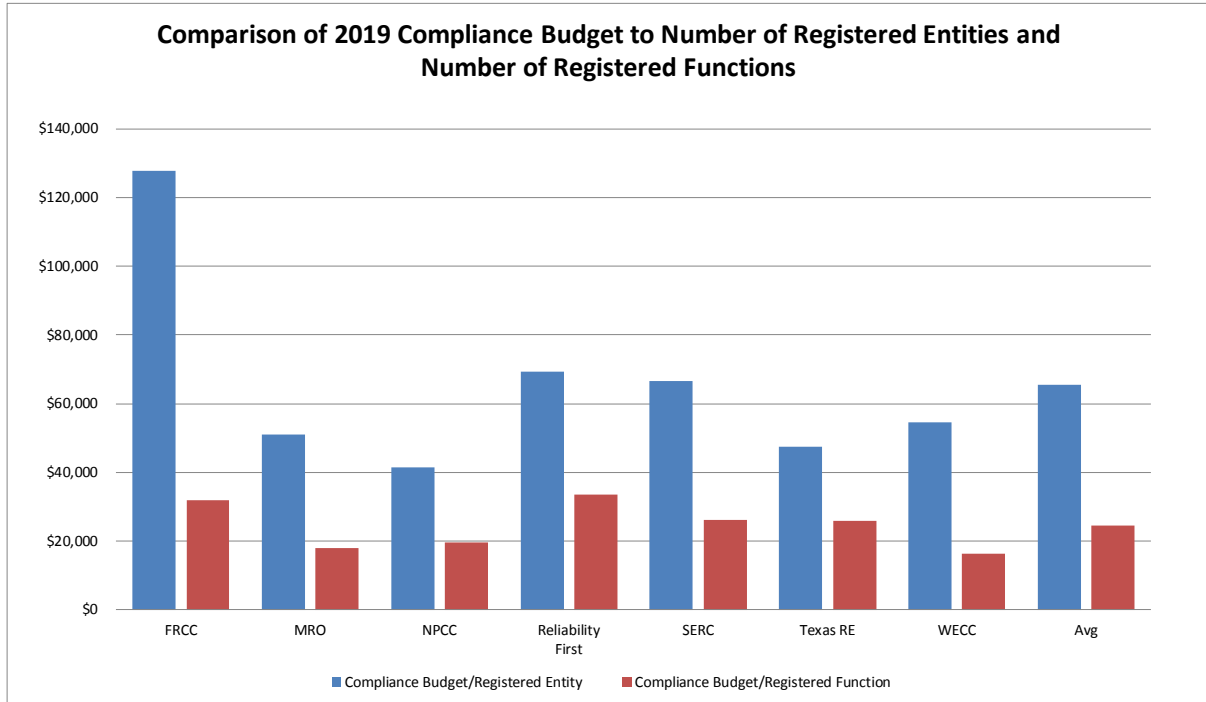
⁵ Total Compliance Budget is a sum of Direct Expenses, Indirect Expenses, and Capital Expenditures.

⁶ Due to the specifics of the compliance program included in the individual provincial MOUs for cross-border regional entities, some of these metrics are not directly comparable.

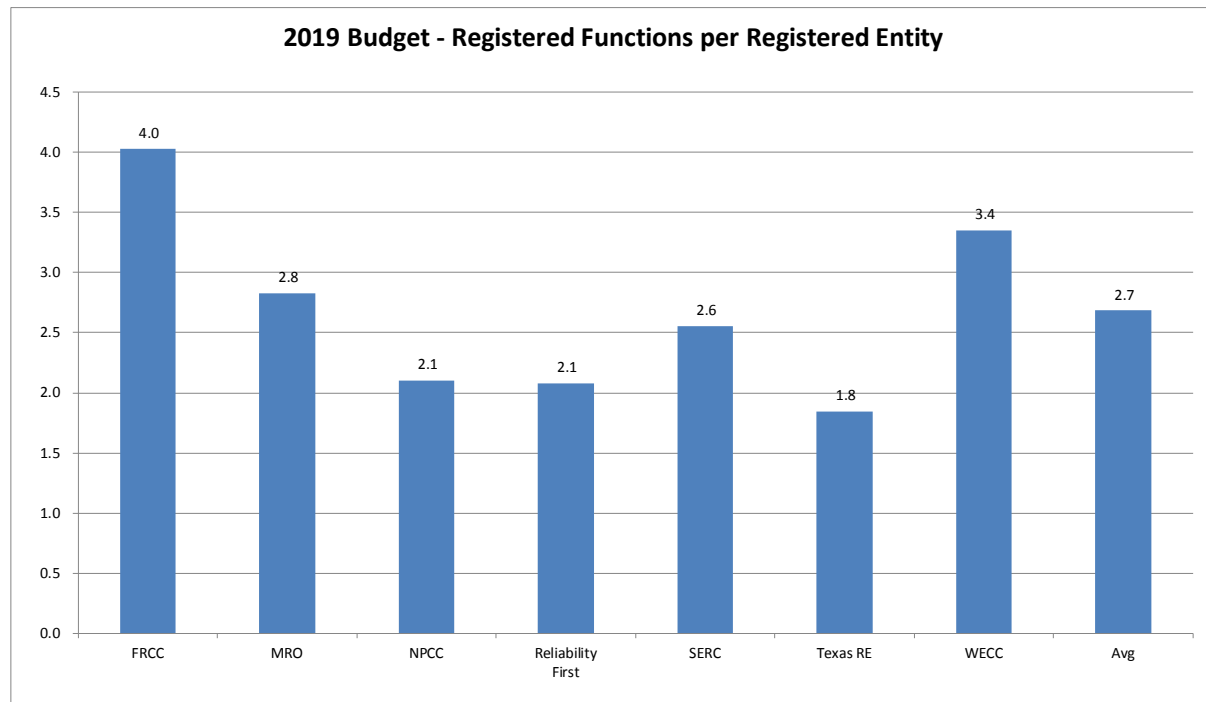
	FRCC	MRO	NPCC	Reliability First	SERC	Texas RE	WECC	Avg
2019 Compliance Budget	\$4,984,329	\$10,763,709	\$8,816,687	\$16,163,392	\$13,373,347	\$10,068,946	\$14,966,474	\$11,305,269
# Registered Entities	39	211	213	233	201	212	274	198
# Registered Functions	157	596	448	484	513	391	918	501



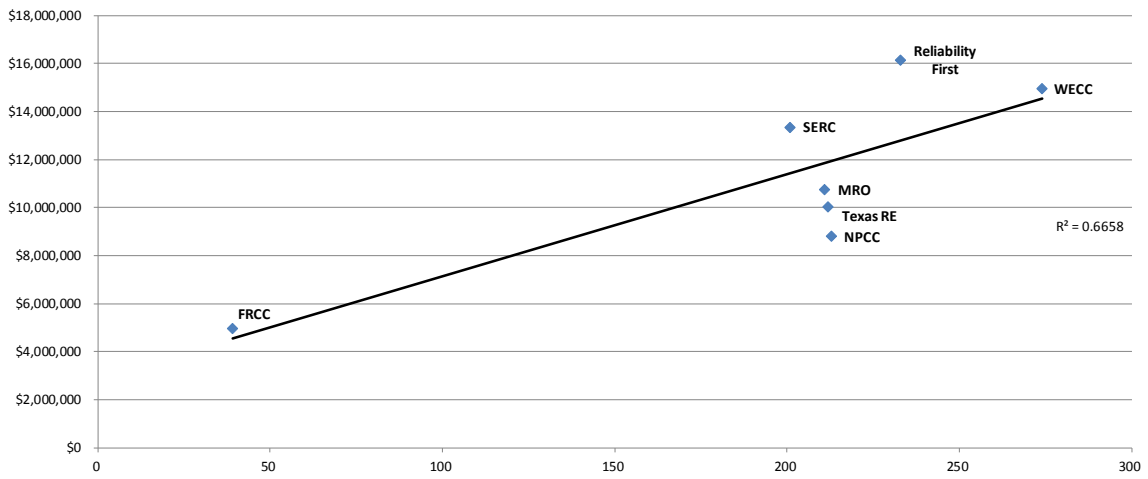
	FRCC	MRO	NPCC	Reliability First	SERC	Texas RE	WECC	Avg
Compliance Budget/Registered Entity	\$127,803	\$51,013	\$41,393	\$69,371	\$66,534	\$47,495	\$54,622	\$65,462
Compliance Budget/Registered Function	\$31,747	\$18,060	\$19,680	\$33,395	\$26,069	\$25,752	\$16,303	\$24,430



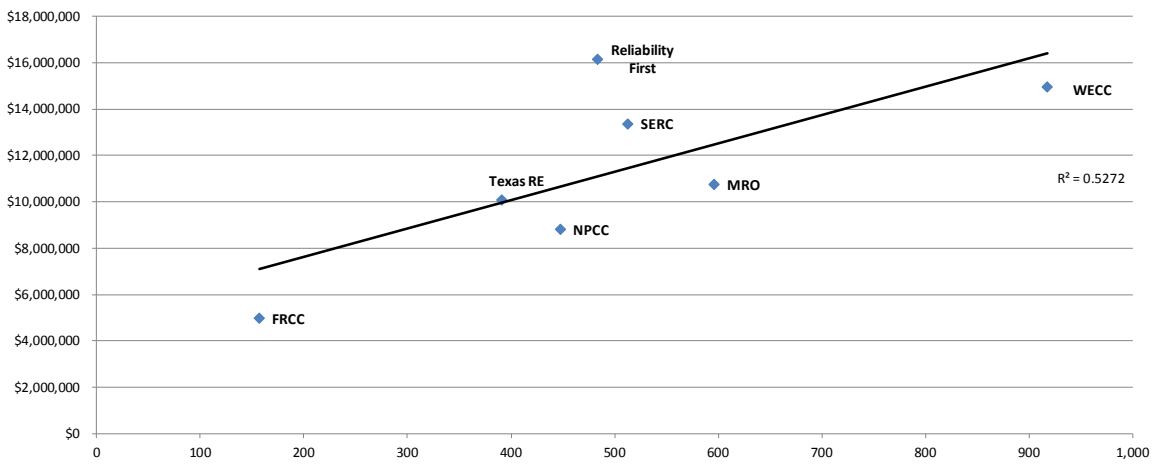
	FRCC	MRO	NPCC	Reliability First	SERC	Texas RE	WECC	Avg
Registered Functions per Registered Entity 2019 Budget	4.0	2.8	2.1	2.1	2.6	1.8	3.4	2.7



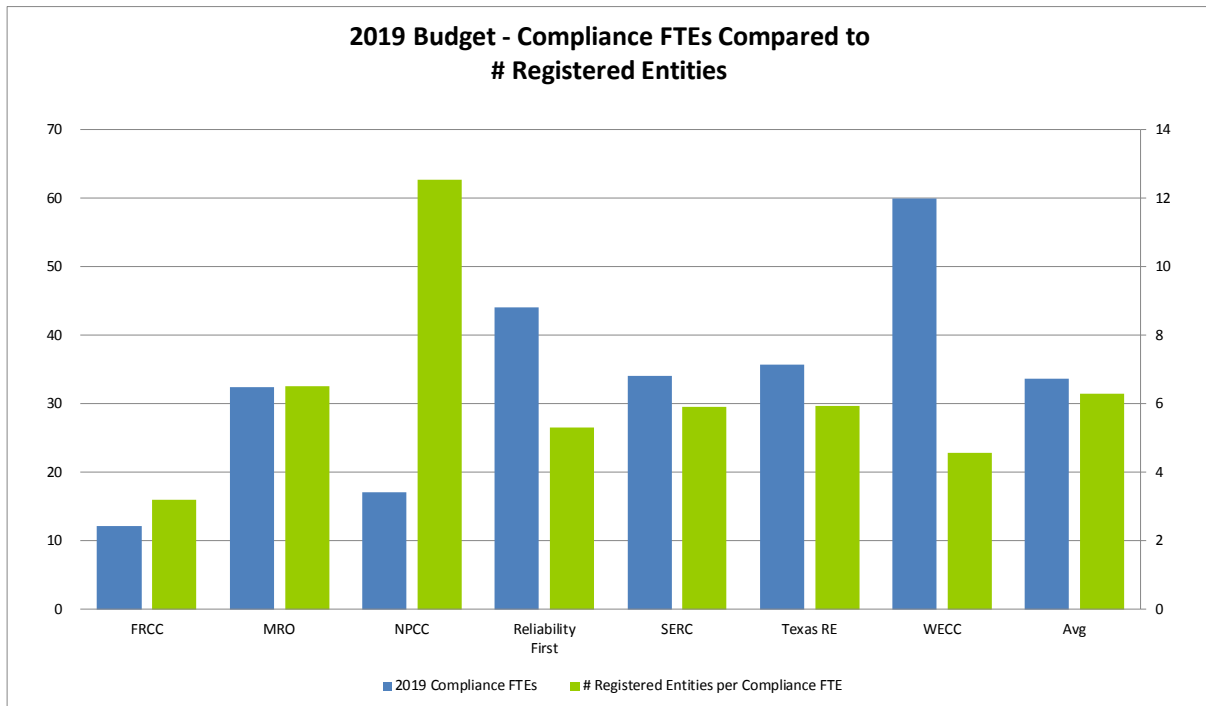
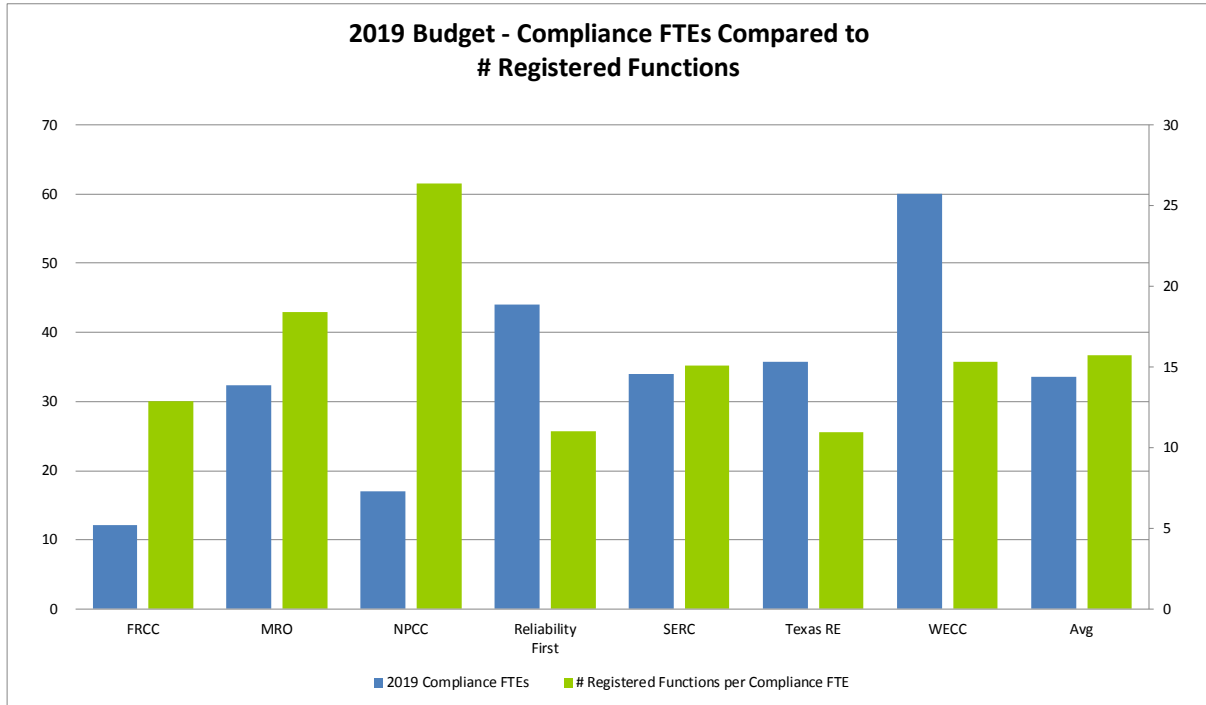
Regional Entity 2019 Compliance Program Budget as Function of Number of Registered Entities



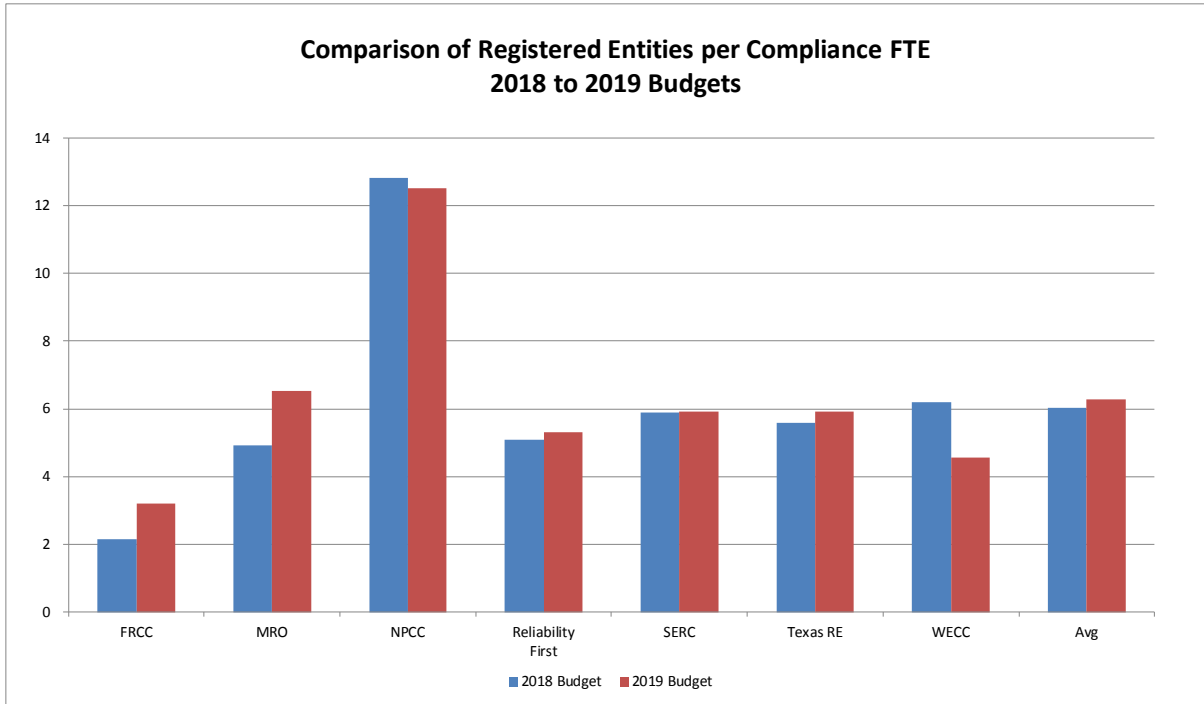
Regional Entity 2019 Compliance Program Budget as Function of Number of Registered Functions



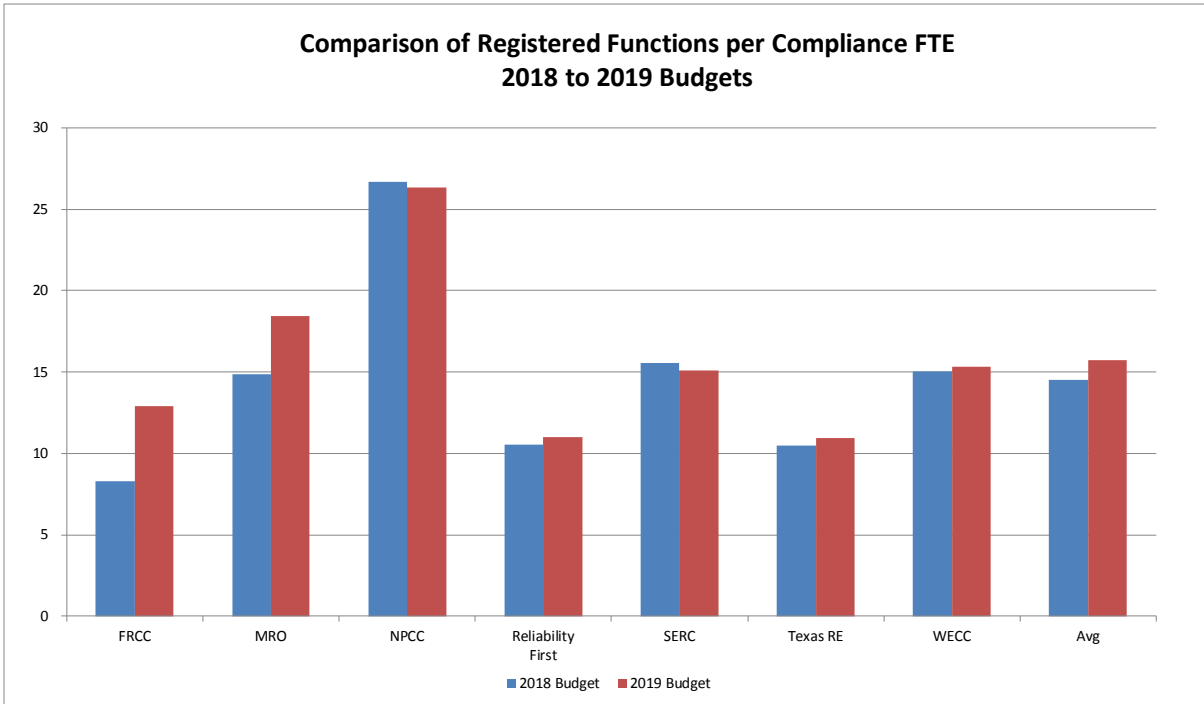
	FRCC	MRO	NPCC	Reliability First	SERC	Texas RE	WECC	Avg
2019 Compliance FTEs	12.18	32.35	17.00	44.00	34.00	35.75	60.00	33.61
# Registered Entities per Compliance FTE	3.2	6.5	12.5	5.3	5.9	5.9	4.6	6.3
# Registered Functions per Compliance FTE	12.9	18.4	26.4	11.0	15.1	10.9	15.3	15.7



	FRCC	MRO	NPCC	Reliability First	SERC	Texas RE	WECC	Avg
2018 Budget	2.1	4.9	12.8	5.1	5.9	5.6	6.2	6.0
2019 Budget	3.2	6.5	12.5	5.3	5.9	5.9	4.6	6.3



	FRCC	MRO	NPCC	Reliability First	SERC	Texas RE	WECC	Avg
2018 Budget	8.3	14.9	26.7	10.5	15.6	10.5	15.1	14.5
2019 Budget	12.9	18.4	26.4	11.0	15.1	10.9	15.3	15.7



DOCKET NO. RR18-__-000

**NORTH AMERICAN ELECTRIC RELIABILITY
CORPORATION**

2019 BUSINESS PLAN AND BUDGET FILING

ATTACHMENT 14

METRICS ON NERC AND REGIONAL ENTITY

ADMINISTRATIVE (INDIRECT) COSTS

BASED ON

THE 2018 AND 2019 BUDGETS

**Analysis of Indirect (Administrative Services) Costs
2019 Budget versus 2018 Budget**

2018 BUDGET						2019 BUDGET				
Total Statutory Budget	Total Statutory Direct Budget	Total Statutory Indirect Budget	% Statutory Indirect Budget to Total Statutory Budget	Ratio of Statutory Direct Budget to Indirect Budget		Total Statutory Budget	Total Statutory Direct Budget	Total Statutory Indirect Budget	% Statutory Indirect Budget to Total Statutory Budget	Ratio of Statutory Direct Budget to Indirect Budget
\$ 73,135,156	\$ 43,145,222	\$ 29,989,934	41.0%	1.44	NERC	\$ 80,049,653	\$ 48,703,291	\$ 31,346,362	39.2%	1.55
7,514,112	6,506,605	1,007,507	13.4%	6.46	FRCC	6,695,787	5,634,096	1,061,691	15.9%	5.31
11,726,736	7,272,018	4,454,718	38.0%	1.63	MRO	15,980,354	10,967,562	5,012,792	31.4%	2.19
15,106,967	9,684,689	5,422,278	35.9%	1.79	NPCC	15,803,890	10,086,863	5,717,027	36.2%	1.76
21,393,899	15,185,134	6,208,764	29.0%	2.45	RF	22,648,458	15,832,553	6,815,905	30.1%	2.32
17,182,868	8,884,242	8,298,626	48.3%	1.07	SERC	18,144,949	8,637,442	9,507,507	52.4%	0.91
10,793,195	5,786,488	5,006,707	46.4%	1.16	SPP RE	-	-	-	-	-
12,656,953	8,007,811	4,649,142	36.7%	1.72	Texas RE	13,069,599	7,974,836	5,094,762	39.0%	1.57
\$ 27,097,344	\$ 17,924,467	\$ 9,172,877	33.9%	1.95	WECC	\$ 26,950,566	\$ 17,730,811	\$ 9,219,755	34.2%	1.92
			35.8%	2.18	AVERAGE				30.9%	1.95

2018 BUDGETED FTEs					2019 BUDGETED FTEs					
Total Statutory FTEs	Total Statutory Direct FTEs	Total Statutory Indirect FTEs	Indirect FTE as % of Total FTE	# Direct to Indirect Statutory FTEs		Total Statutory FTEs	Total Statutory Direct FTEs	Total Statutory Indirect FTEs	Indirect FTE as % of Total FTE	# Direct to Indirect Statutory FTEs
199.28	131.84	67.44	33.8%	1.95	NERC	204.92	137.24	67.68	33.0%	2.03
30.63	26.01	4.62	15.1%	5.63	FRCC	20.75	16.37	4.38	21.1%	3.74
45.00	33.59	11.41	25.4%	2.94	MRO	59.00	47.78	11.22	19.0%	4.26
36.86	28.86	8.00	21.7%	3.61	NPCC	38.86	29.86	9.00	23.2%	3.32
76.20	60.60	15.60	20.5%	3.88	RF	78.20	61.60	16.60	21.2%	3.71
75.00	44.70	30.30	40.4%	1.48	SERC	78.00	44.85	33.15	42.5%	1.35
32.30	27.80	4.50	13.9%	6.18	SPP RE	-	-	-	-	-
60.00	46.25	13.75	22.9%	3.36	Texas RE	60.00	45.25	14.75	24.6%	3.07
143.00	102.30	40.70	28.5%	2.51	WECC	143.00	105.00	38.00	26.6%	2.76
			24.7%	3.51	AVERAGE				23.5%	2.69

**NORTH AMERICAN ELECTRIC RELIABILITY
CORPORATION**

2019 BUSINESS PLAN AND BUDGET FILING

ATTACHMENT 15

REPORT ON

BOARD OF TRUSTEE REMUNERATION REVIEW

JULY 2018

PREPARED BY WILLIS TOWERS WATSON

North American Electric Reliability Corporation

Board of Trustee Remuneration Review

July 2018



Introduction

North American Electric Reliability Corporation (NERC) engaged Willis Towers Watson to conduct a Board of Trustees' (or Directors') compensation and structure assessment examining four market perspectives

- Willis Towers Watson last performed this assessment for NERC in July 2015 and utilized the same methodology
- The four market perspectives examined are as follows (see the Appendix for peer companies):
 1. **Regional Entities (RE):** 6 of 8 organizations¹ are included in the analysis
 2. **Regional Transmission Organization / Independent System Operator (RTO/ISO):** 7 of 9 organizations² are included in the analysis
 3. **Investor Owned Utilities (IOU):** 12 organizations with median revenues of \$1.4 billion
 4. **General Industry (GI):** 13 organizations with median revenues of \$474 million and median asset size of \$711 million

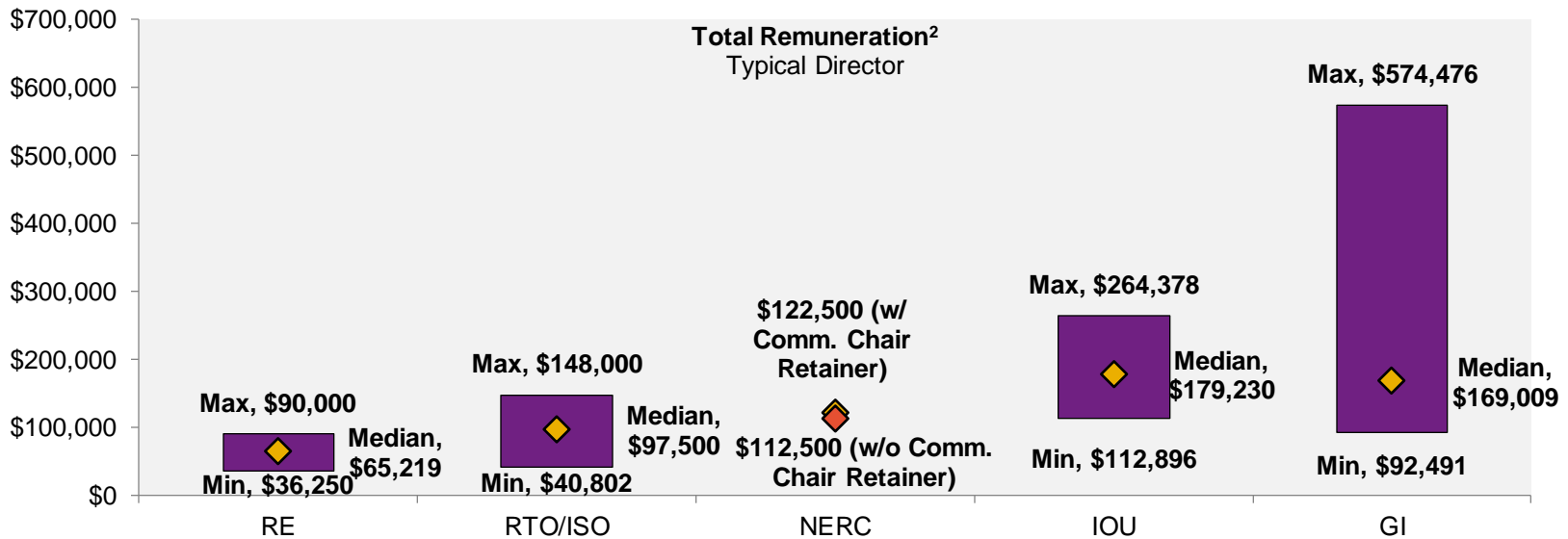
Notes:

(1) 2 of 8 organizations have all stakeholder boards and thus do not compensate their board members.

(2) PJM Interconnection and Ontario Independent Electric System Operator do not publicly disclose their Director compensation program. We received data from them in 2015, but were not able to secure data for this year's study.

Typical Trustee Total Remuneration

- NERC’s “typical Trustee¹” total remuneration of \$112,500 falls above the median value provided by RE and RTO/ISO peers, but below the median value at IOU and GI peers
 - The chart below presents the range (minimum to maximum) and median of total remuneration provided to a “typical Director¹” for each market perspective

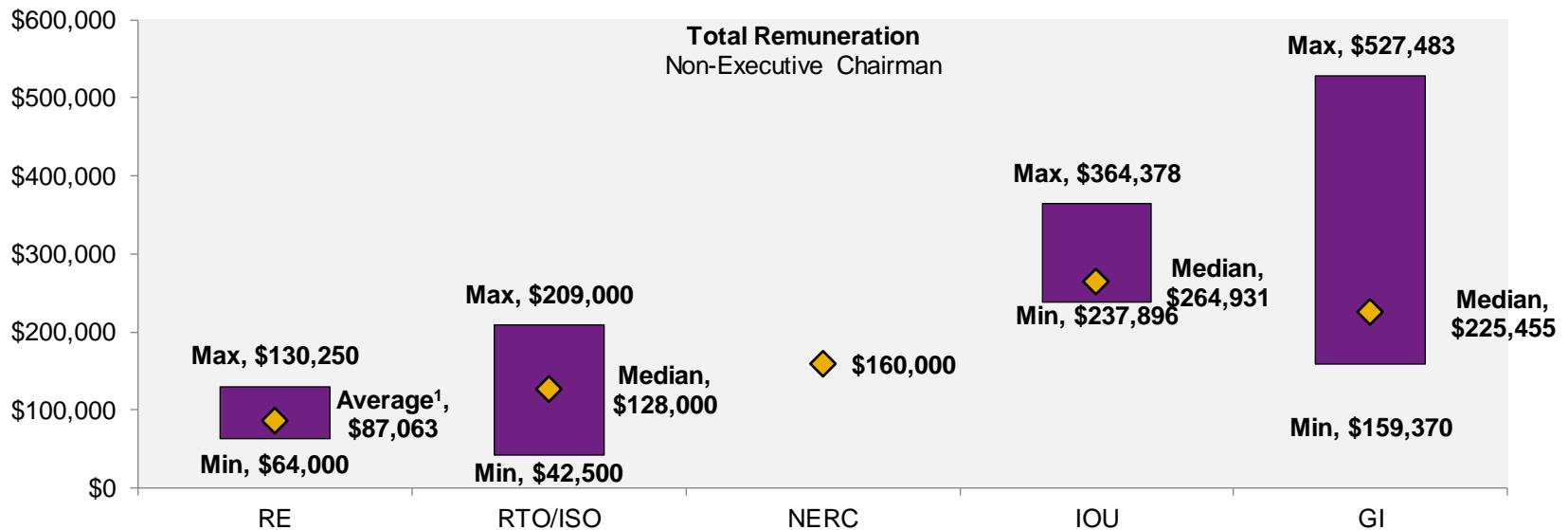


NERC Total Remuneration as a % of Peer Median					
Retainer	188%	126%	100%	68%	72%
No Retainer	172%	115%	100%	63%	67%

Notes:
 (1) A “typical Trustee” or “Director” cannot be in a Board leadership position, an employee of the company or serve as a Director for less than a full year.
 (2) Compensation for Regional Entities, RTOs / ISOs, and NERC includes Committee Chair compensation while it has been excluded from IOUs and the General Industry market perspectives, given applicable disclosure.

Non-Executive Chair Total Remuneration

- NERC's total remuneration to the Non-Executive Chair of the Board of \$160,000 falls above the median value provided by RE and RTO/ISO peers, but below the median value at IOU and GI peers
 - The chart below presents the range (minimum to maximum) and median of total remuneration provided to a Non-Executive Chairman for each market perspective



NERC Total Remuneration as a % of Peer Median				
184%	125%	100%	60%	71%

Notes:

(1) Average data was provided due to insufficient sample size to calculate the median.

Committee Chair Additional Retainers

- The additional compensation provided to NERC Committee Chairs is comparable to or above the median (50th percentile) of Committee Chairs of the three most common types of committees for both the IOU and General Industry peers
 - NERC provides an annual cash amount of \$10,000 to Committee Chairs and the independent Trustee serving on the Electricity Sub-Sector Coordinating Council

Committee Chair Additional Pay Element	NERC	Investor Owned Utilities				General Industry			
		Prevalence	25th Percentile	50th Percentile	75th Percentile	Prevalence	25th Percentile	50th Percentile	75th Percentile
<i>Finance & Audit Committee</i>									
Additional Total Compensation	\$10,000	100%	\$10,000	\$11,250	\$13,125	92%	\$9,750	\$10,500	\$18,125
<i>Corporate Governance / Compensation Committee¹</i>									
Additional Total Compensation	\$10,000	100%	\$9,625	\$10,000	\$11,563	92%	\$6,750	\$7,750	\$13,125
<i>Nominating Committee²</i>									
Additional Total Compensation	\$10,000	92%	\$7,500	\$7,500	\$10,000	92%	\$3,938	\$5,000	\$7,750
<i>Compliance Committee</i>									
Additional Total Compensation	\$10,000		N/A	N/A	N/A		N/A	N/A	N/A
<i>Standards Oversight and Technology Committee</i>									
Additional Total Compensation	\$10,000		N/A	N/A	N/A		N/A	N/A	N/A
<i>Enterprise-Wide Risk Committee</i>									
Additional Total Compensation	\$10,000		N/A	N/A	N/A		N/A	N/A	N/A

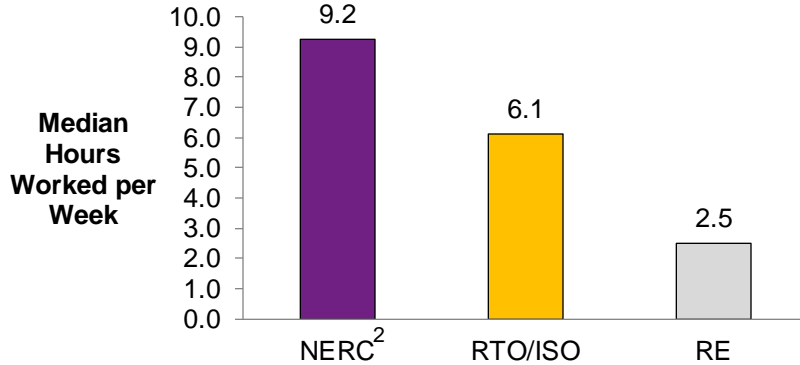
Notes:

- (1) Market data for Investor Owned Utilities and General Industry are reflective of Compensation Committees.
- (2) Market data for Investor Owned Utilities and General Industry are reflective of Corporate Governance and Nominating Committees.

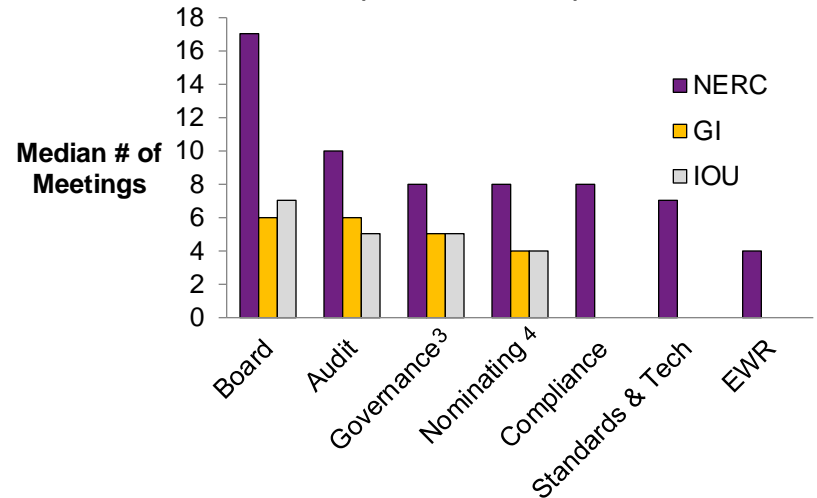
Workload

- Compared to all four market perspectives, NERC ranks among the highest in regards to average hours worked and number of meetings held (both Board and Committees)
 - Findings do not include the regional board meetings NERC's Trustees attend throughout the year

NERC vs. RTO/ISO & RE Peers
(Fiscal 2016 Data)¹



NERC vs. General Industry & IOUs
(Fiscal 2017 Data)

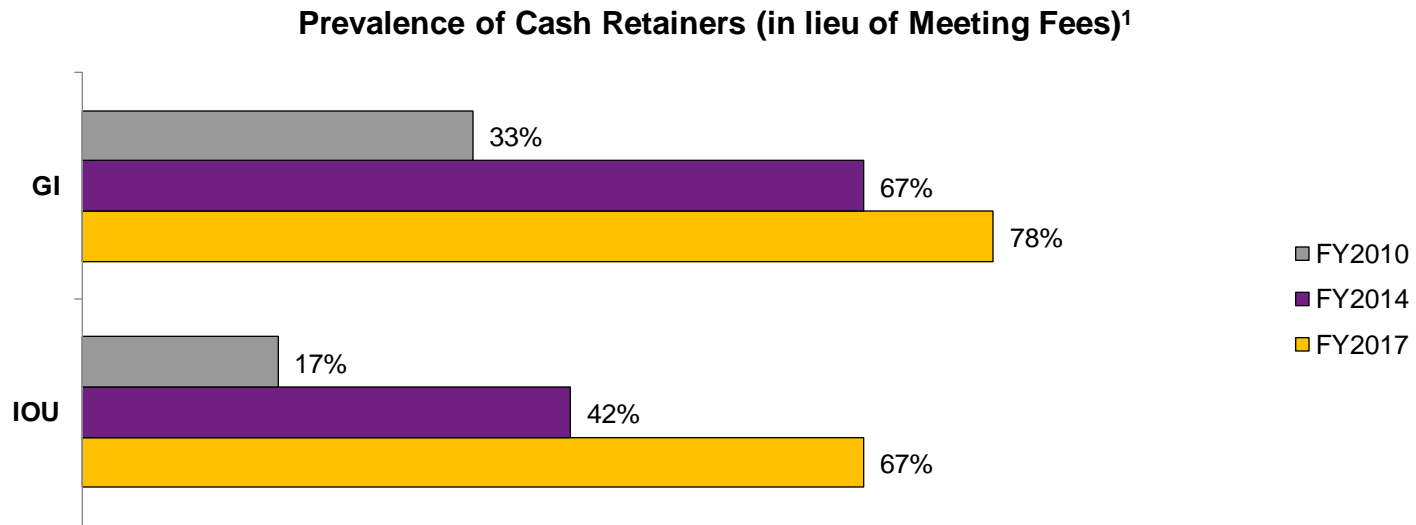


Notes:

- Hours disclosed excludes the Chairman of the Board.
- NERC's 2017 average hours increased to 9.9 hours, but 2017 market data are currently unavailable.
- Market data for Investor Owned Utilities and General Industry is reflective of Compensation Committees.
- Market data for Investor Owned Utilities and General Industry is reflective of Corporate Governance and Nominating Committees.

Pay Structure

- NERC's practice of paying retainers (in lieu of board of committee meeting fees) is consistent with IOU and GI peer practices and continues to align with broader market best practice



Notes:

(1) Data reflect constant sample of peer companies year-over-year.

Director Compensation Trends

- The table below shows median total remuneration increases for NERC peers:

	RE ¹	RTO / ISO ¹	IOU ¹	GI ¹
Annual % Increase	1%	2%	5%	9%

- Consistent with prior years, companies continue to deliver cash compensation via retainers instead of per-meeting fees

Market Perspective	Prevalence			
	Board		Committee	
	Retainer	Meeting Fee	Retainer	Meeting Fee
IOU	100%	33%	33%	33%
GI	85%	15%	69%	8%

- Majority of companies continue to provide additional retainers for leadership positions within the board, such as Non-Executive Chairman of the Board and Committee Chairs, especially Audit, Compensation and Governance Committees

Notes:

(1) Annual increase in total remuneration is based on companies included in both the 2015 and 2018 analyses.

Design Considerations

Pay Levels

- Maintain the practice of targeting pay between the market 50th percentile of RTO/ISO peers and market 25th percentile of IOU peers (lower market positioning reflects NERC's not-for-profit status)
- Given the greater workload carried by NERC Trustees versus peers, current positioning of NERC pay in the bottom half of the competitive pay range and the increase in market pay levels since the last study conducted by Willis Towers Watson, the following adjustments should be considered to maintain competitive market position of NERC Trustee compensation:
 1. Increase Trustee annual cash retainer by \$5,000 a year, effective in 2019 - 2021
 2. Increase Non-Executive Chairman annual cash retainer by \$5,000 a year, effective in 2019 - 2021

Annual Cash Retainer	2015 Analysis		2018 Analysis		Proposed \$ and Annual % Increase
	NERC	Competitive Pay Range	NERC	Competitive Pay Range	
Trustee	\$97,500	\$80,000 – \$145,000	\$112,500	\$97,500 – \$165,000	\$117,500 4% increase
Committee Chair ¹	\$10,000	\$7,500 – \$10,000	\$10,000	\$7,500 – \$10,000	\$10,000 No change
Non-Executive Chairman	\$132,500	\$95,000 – \$225,000	\$160,000	\$130,000 – \$250,000	\$165,000 3% Increase

Pay Structure

- Maintain alignment with market best practices by continuing with current all retainer approach – Trustee, Committee Chair and Non-Executive Chairman retainers

(1) Reflects IOU market data reference points only, as RTO/ISO data are not available.

Appendix

Appendix

Peer Group Financial Data: Regional Entities

Organization	Operating Budget (millions)	Data Effective Date
Florida Reliability Coordinating Council (FRCC)	\$16	2016
Midwest Reliability Organization (MRO)	\$11	2016
Northeast Power Coordinating Council (NPCC)	\$16	2016
ReliabilityFirst Corporation (RFC)	\$22	2016
SERC Reliability Corporation (SERC)	\$15	2016
Southwest Power Pool RE (SPP RE)	N/A	2016
Texas Reliability Entity (Texas RE)	\$11	2016
Western Electricity Coordinating Council (WECC)	\$30	2016

n = 8

25th %ile	\$13
50th %ile	\$16
Average	\$17
75th %ile	\$19

North American Electric Reliability Corporation ¹	\$200
Percentile Rank	Highest

Notes:

Data based on 2016 Form 990s unless footnoted otherwise.

N/A = Data are not available.

(1) Data provided by NERC and reflects their operating budget.

Appendix

Peer Group Financial Data: RTOs/ISOs

Organization	Operating Budget (millions)	Data Effective Date
Alberta Electric System Operator	N/A	2017
California ISO (CAISO)	\$214	2016
Electric Reliability Council of Texas (ERCOT)	\$216	2016
ISO New England (ISO - NE)	\$182	2016
Midwest ISO (MISO)	\$340	2016
New York ISO (NYISO)	\$175	2016
Ontario Independent Electricity System Operator	\$151	2017
PJM Interconnection (PJM) ¹	\$366	2017
Southwest Power Pool (SPP)	\$182	2016

n = 9

25th %ile	\$180
50th %ile	\$198
Average	\$228
75th %ile	\$247

North American Electric Reliability Corporation ²	\$200
Percentile Rank	51%

Notes:

Data based on 2016 Form 990s unless footnoted otherwise.

N/A = Data are not available.

(1) Data based on its 2017 Financial Statement as the organization is not required to file a Form 990.

(2) Data provided by NERC and reflects their operating budget.

Appendix

Peer Group Financial Data: Investor Owned Utilities

Company	Revenues (millions) ¹
Great Plains Energy Incorporated	\$2,708
Westar Energy, Inc.	\$2,571
OGE Energy Corp.	\$2,261
Portland General Electric Company	\$2,009
Avista Corporation	\$1,446
PNM Resources, Inc.	\$1,445
ALLETE, Inc.	\$1,419
IDACORP, Inc.	\$1,349
NorthWestern Corporation	\$1,306
El Paso Electric Company	\$917
Otter Tail Corporation	\$849
MGE Energy, Inc.	\$563
n = 12	
25th %ile	\$1,014
50th %ile	\$1,432
75th %ile	\$2,198
North American Electric Reliability Corporation²	\$200
Percentile Rank	Lowest

Notes:

- (1) Financial figures are as reported by S&P Capital IQ. All financials are as of 2017 fiscal year end.
- (2) The data was provided by NERC and reflects their operating budget.

Appendix

Peer Group Financial Data: General Industry

Company	Revenues (millions) ¹	Assets (millions) ¹
Nasdaq, Inc.	\$3,965	\$15,786
Old National Bancorp	\$606	\$17,518
Trustmark Corporation	\$585	\$13,798
Emergent BioSolutions Inc.	\$561	\$1,070
FormFactor, Inc.	\$548	\$647
Seattle Genetics, Inc.	\$482	\$878
Cogent Communications Holdings, Inc.	\$474	\$711
Iridium Communications Inc.	\$448	\$3,782
Badger Meter, Inc.	\$402	\$392
Sun Hydraulics Corporation	\$343	\$460
NIC Inc.	\$337	\$296
Imperva, Inc.	\$322	\$528
AeroVironment, Inc.	\$265	\$433
n = 13		
25th %ile	\$340	\$446
50th %ile	\$474	\$711
75th %ile	\$573	\$8,790
North American Electric Reliability Corporation²	\$200	--
Percentile Rank	Lowest	--

Notes:

- (1) Financial figures are as reported by S&P Capital IQ. All financials are as of 2017 fiscal year end.
- (2) The data was provided by NERC and reflects their operating budget.