

Attachment 1

Summary tables showing NERC's proposed 2021 budget; the proposed 2021 budget for statutory activities of each Regional Entity; and the 2021 Canadian ERO statutory assessments of NERC and the Regional Entities

NERC Proposed Budget by Program

NERC Program	2020 Budget for Statutory Functions ¹	2021 Budget for Statutory Functions
Reliability Standards and Power Risk Issue Strategic Management	\$ 8,302,592	\$ 7,856,641
Compliance Assurance and Organization Registration and Certification	11,818,703	13,686,302
Compliance Enforcement	6,279,468	7,327,875
Reliability Assessment and Performance Analysis	13,122,303	12,631,436
Situation Awareness	4,326,699	4,450,989
Event Analysis	4,733,857	4,287,213
E-ISAC (including CRISP)	31,320,137	29,821,738
Personnel Certification and Continuing Education	1,738,288	1,736,522
Training and Education	1,014,986	1,084,523
Total Budget	\$ 82,657,034	\$ 82,883,239

¹Starting with the 2021 budget, NERC will report financing activity as part of its Statement of Activities (instead of through its reserve analysis), which adjusts the total budget number. As such, the 2020 budget has been restated accordingly for comparable reporting.

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

	2020 Budget for Statutory Functions	2021 Budget for Statutory Functions
NERC	\$ 82,657,034	\$ 82,883,239
MRO	17,540,969	18,412,202
NPCC	16,601,647	16,440,648
ReliabilityFirst	23,650,862	24,785,492
SERC	24,525,013	25,829,079
Texas RE	13,831,126	14,211,538
WECC	27,756,089	28,605,029
WIRAB	1,255,200	1,205,500
Total Budget	\$ 207,817,940	\$ 212,372,727

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

	Assessments for Statutory Functions 2020	Allocation to Canada 2020	Assessments for Statutory Functions 2021	Allocation to Canada 2021	Allocation to Canada 2021 Budget v 2020 Budget Over (Under)	% Over (Under)
NERC	\$ 72,011,373	\$ 6,655,929	\$ 72,011,373	\$ 6,826,738	\$ 170,810	2.57%
Regional Entities	\$ 115,725,862	\$ 10,553,076	\$ 116,760,116	\$ 10,933,774	\$ 380,698	3.61%
MRO	16,983,251	1,680,541	16,983,251	1,794,465		
NPCC	15,338,737	5,763,048	15,154,584	6,008,840		
ReliabilityFirst	22,318,623	-	22,764,995	-		
SERC	22,459,123	-	23,513,886	-		
Texas RE	13,344,128	-	13,343,400	-		
WECC	25,282,000	3,109,487	25,000,000	3,130,470		
WIRAB	\$ 986,300	\$ 144,259	\$ 986,300	\$ 143,163	\$ (1,096)	-0.76%
Total Budget	\$ 188,723,535	\$ 17,353,264	\$ 189,757,789	\$ 17,903,676	\$ 550,411	3.17%

Attachment 2

NERC Proposed 2021 Business Plan and Budget

NERC

NORTH AMERICAN ELECTRIC
RELIABILITY CORPORATION

2021 Business Plan and Budget

Final

August 13, 2020

RELIABILITY | RESILIENCE | SECURITY



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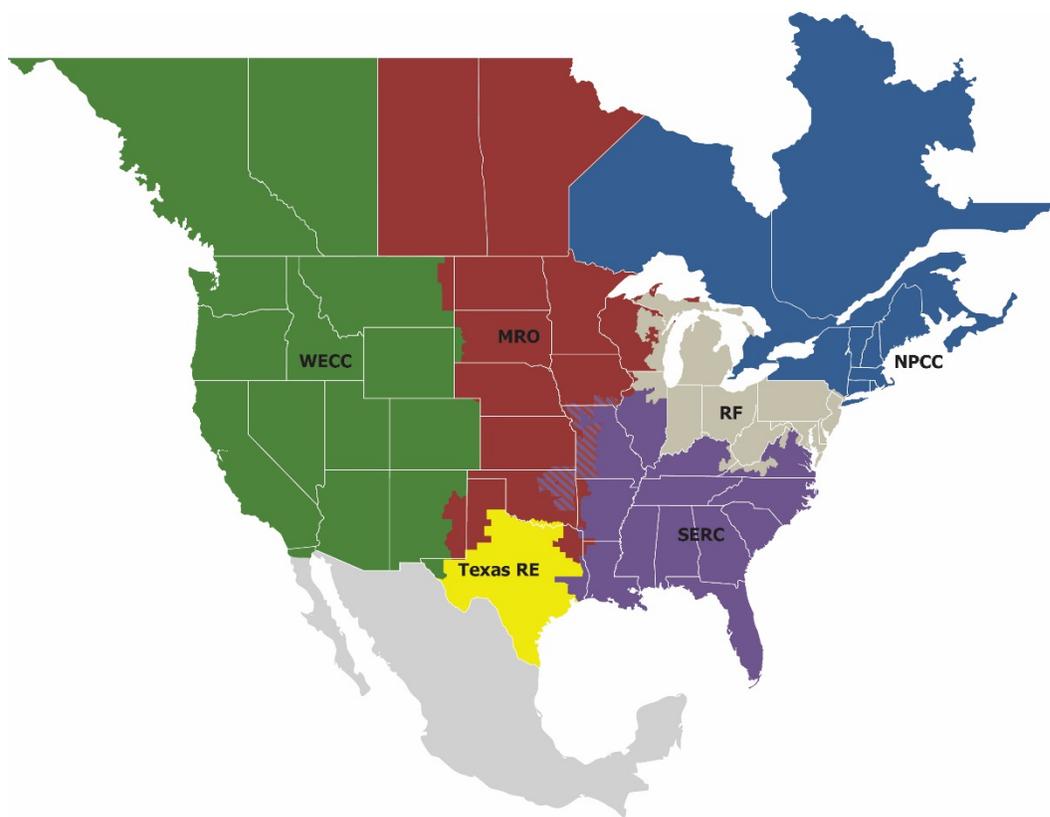
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Preface

Electricity is a key component of the fabric of modern society and the Electric Reliability Organization (ERO) Enterprise serves to strengthen that fabric. The vision for the ERO Enterprise, which is comprised of the North American Electric Reliability Corporation (NERC) and the six Regional Entities (REs), is a highly reliable and secure North American bulk power system (BPS). Our mission is to assure the effective and efficient reduction of risks to the reliability and security of the grid.

Reliability | Resilience | Security
Because nearly 400 million citizens in North America are counting on us

The North American BPS is divided into six RE boundaries as shown in the map and corresponding table below. The multicolored area denotes overlap as some load-serving entities participate in one Region while associated Transmission Owners/Operators participate in another.



MRO	Midwest Reliability Organization
NPCC	Northeast Power Coordinating Council
RF	ReliabilityFirst
SERC	SERC Reliability Corporation
Texas RE	Texas Reliability Entity
WECC	Western Electricity Coordinating Council

About NERC

Overview

NERC is a not-for-profit entity organized under the New Jersey Nonprofit Corporation Act. NERC's area of responsibility spans the continental United States and portions of Canada and Mexico. Entities under NERC's jurisdiction are the users, owners, and operators of the BPS¹—a system that serves the needs of nearly 400 million people and includes installed electricity production capacity of approximately 1.1 million megawatts, operates 469,842 circuit miles of high-voltage transmission (100 kV and above), and is comprised of assets worth more than \$1 trillion.

Electric Reliability Organization

The Federal Energy Regulatory Commission (FERC) certifies and has oversight of NERC as the ERO within the United States to establish and enforce NERC Reliability Standards for the U.S. portion of the BPS, pursuant to Section 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. 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, NERC has memoranda of understandings (MOUs) with eight Canadian provinces² and the Canada Energy Regulator in furtherance of this framework. Mexico is taking steps to implement such a framework pursuant to restructuring of Mexico's electricity industry and reforms of the country's regulatory framework enacted in 2013 and 2014. NERC is working with the Mexican regulator, *Comisión Reguladora de Energía* (CRE), and the Mexican system and market operator, *CENACE*, under a MOU signed in 2017 to ensure consistency with the framework in Canada and the United States.

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 500 entities and individuals are members of NERC. NERC, its members, and each applicable BPS owner, operator, and user must comply with the NERC [Rules of Procedure](#) (ROP).

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 United States 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; and
- 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 the six Regional Entities. These agreements describe the authorities delegated and responsibilities assigned to the Regional Entities in the United States 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.

Statutory and Regulatory Background

NERC's authority as the ERO in the United States is based on FPA Section 215, as added by the Energy Policy Act of 2005,⁴ and FERC's regulations and orders issued pursuant to Section 215. In Canada, NERC's authorities are established by the memoranda of understanding and regulations previously mentioned. In this Business Plan and Budget (BP&B) document, *Exhibit A – Application of NERC Section 215 Criteria*, summarizes the major activities NERC proposes to undertake in 2021 and the approved FPA Section 215 criteria applicable to such activities.⁵

Funding

FPA Section 215 and FERC's regulations specify procedures for NERC's funding in the United States. NERC's annual BP&B is subject to FERC approval in the United States and, once approved, NERC's annual funding is provided primarily through assessments to load-serving entities. These assessments are allocated on a

⁴ Section 215 of the FPA, 16 United States C. 824o.

⁵ North American Electric Reliability Corporation, Order on Compliance, 143 FERC ¶ 61,052 (2013).

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.

ERO Enterprise Model and Transformation

The collective network of leadership, experience, skills, and technologies shared among NERC and the Regional Entities is referred to as the ERO Enterprise. The ERO Enterprise is a collaborative organization with distinct roles between NERC and the Regional Entities. The ERO Enterprise strives for consistency where necessary, but recognizes that each Regional Entity addresses reliability in unique ways based on its own challenges and stakeholder needs; the model enables innovative and distinctive approaches to address these unique reliability risks and challenges locally. As the ERO Enterprise continues to mature, the organization is working on a transformation initiative to further leverage resources, enhance communication and collaboration, and ensure grid reliability. A set of declarations was established in 2019, committing the ERO Enterprise to:

- Work together as one team and honor each of its roles;
- Actively support ERO Enterprise activities while eliminating unnecessary duplication of work;
- Collaborate to develop clear and consistent guidance across the ERO Enterprise;
- Share information, knowledge, and resources across the ERO Enterprise;
- Develop and share harmonized messages across ERO Enterprise communications; and
- Support innovation, initiatives, and the sharing of best-practices across the ERO Enterprise.

NERC has unique responsibilities to oversee program areas, set qualifications and expectations for the performance of delegated activities, and assess, train, and give feedback to corresponding Regional Entity programs. NERC and the Regional Entities also coordinate activities to identify, prioritize, and address risks to reliability. The Regional Entities have a mirrored set of responsibilities within the ERO Enterprise model, providing input into the overall development of each ERO program area, providing training and development to meet ERO qualifications, and ensuring delegated responsibilities are completed. Regional Entities also have an obligation to meet professional standards of independence and objectivity and provide the best available expertise for addressing regional risks.



ERO Enterprise Strategic and Operational Planning

NERC and the Regional Entities are continually refining their individual and collective operating and governance practices in support of strategic and operational goals and objectives that are designed to ensure the ERO fulfills its statutory obligations. This collaboration is done while acknowledging the unique differences across the Regions, and the different corporate and governance responsibilities of each entity.

In 2019, ERO Enterprise leadership came together to revise the [ERO Enterprise Long-Term Strategy](#) as part of an effort to streamline its strategic and operational documents and ensure alignment with the NERC Reliability Issues Steering Committee's (RISC's) currently identified BPS risks. This strategy, which was approved by the NERC Board on December 12, 2019, includes the following strategic focus areas:

1. Expand risk-based focus in all standards, compliance monitoring, and enforcement programs;
2. Assess and catalyze steps to mitigate known and emerging risks to reliability and security, leveraging the RISC's biennial [ERO Reliability Risk Priorities Report](#);
3. Build a strong, Electricity Information Sharing and Analysis Center (E-ISAC)-based security capability;
4. Strengthen engagement across the reliability and security ecosystem in North America; and
5. Capture effectiveness, efficiency, and continuous improvement opportunities.

As part of the business planning and budgeting process, NERC and the Regional Entities identify and discuss departmental goals and activities to ensure alignment with the long-term strategy and harmonization across the ERO Enterprise where appropriate. Program area narratives in each organization's BP&B may reference how activities support each of the strategic focus areas.

NERC and each Regional Entity may also create annual work plan priorities that summarize the most critical goals and objectives for the year. In many cases, these work plan priorities are also used for individual, departmental, and company performance measurement.⁶

⁶ [ERO Work Plan Priorities](#) for NERC for 2020 were approved by the Board in February 2020. NERC management and the Board will evaluate annual work plan priorities each year.

Introduction and Executive Summary

TOTAL RESOURCES (in whole dollars)				
	2021 Budget	U.S.	Canada	Mexico
Statutory FTEs	213.38			
Non-statutory FTEs	-			
Total FTEs	213.38			
Statutory Expenses	\$ 79,287,138			
Non-Statutory Expenses	\$ -			
Total Expenses	\$ 79,287,138			
Statutory Fixed Asset Additions	\$ 2,751,500			
Non-Statutory Fixed Asset Additions	\$ -			
Total Fixed Asset Additions	\$ 2,751,500			
Statutory Funding of Reserves	\$ (1,727,688)			
Non-Statutory Funding of Reserves	\$ -			
Total Working Capital Requirement	\$ (1,727,688)			
Net Proceeds from Financing Activities	\$ 844,601			
Total Statutory Funding Requirement	\$ 81,155,551			
Total Non-Statutory Funding Requirement	\$ -			
Total Funding Requirement	\$ 81,155,551			
	TOTAL	US	CANADA	MEXICO
Statutory Funding Assessments	\$ 72,011,373	\$ 64,957,145	\$ 6,826,738	\$ 227,490
Non-Statutory Fees	\$ -	\$ -	\$ -	\$ -
NEL	4,560,817,618	4,025,357,981	521,362,237	14,097,400
NEL%	100.00%	88.26%	11.43%	0.31%

2021 Business Plan and Budget Summary

Budget Reporting Format and Presentation

NERC and the Regional Entities' budgets are comprised of both operating and fixed asset (capital) costs. Operating costs generally include personnel, contractor support, consulting, meetings, travel, office space, software licensing, communications, and other customary services to support office operations. Fixed asset 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. These operating and fixed asset costs, as well as corresponding funding, are shown in a Statement of Activities and Fixed Asset Expenditures report (SOA report), which is provided at both the total entity and departmental levels. These reports include funding and expenses for the current budget year and prior budget year to show year-over-year changes.

Budget Reporting Change for Financing Activity

NERC is implementing a change to the SOA report to provide enhanced transparency of financing activity (e.g., debt borrowing, leased-financed asset purchases, and principal payments). NERC has a capital financing program for major software development projects that benefit the ERO Enterprise. Additionally, NERC has a lease program for certain IT equipment.

Financing activity affects cash flow and annual assessments, and has historically been shown as part of the reserve summary table (Table B-1, Operating Reserve and Assessment Analysis). Beginning with 2020 budget-to-actual variance reporting and this 2021 BP&B, NERC will instead report financing activity in a new section on the SOA report. The incorporation of this financing activity adjusts the total budget number on the SOA report, which allows for a total budget that more closely reflects the amount of annual revenues required from assessments. For example, the total budget in the 2020 BP&B is \$83.4M. With the incorporation of the financing activity section, the total 2020 budget is \$82.7M because it considers the net of loan and lease proceeds and payments, which were previously addressed only in the calculation of assessments on the reserve summary table. As such, the 2020 assessment is unchanged at \$72.0M. Since the SOA reports in the 2020 BP&B were not presented in this format, in this 2021 BP&B document the 2020 budget has been restated to reflect the incorporation of financing activity to show the year-over-year budget changes on a comparable basis.

Overview of 2021 Budget and Funding Requirements

NERC's 2021 expense and fixed asset budget, including financing activity, is approximately \$82.9M, which represents an increase of approximately \$226k (0.3%) from the 2020 budget. Total expenses are increasing approximately \$1.5M (1.9%) over 2020. The total fixed asset budget is approximately \$2.8M, a decrease of \$2.0M (41.5%) from 2020. Approximately \$8.2M (9.9%) of NERC's 2021 budget is related to the Cybersecurity Risk Information Sharing Program (CRISP), with the majority of the CRISP budget funded by participating utilities, with a small portion funded through assessments.

NERC is planning to fund approximately \$1.8M of the fixed assets budget from Operating Contingency Reserves in 2021 for continued costs associated with the Compliance Monitoring and Enforcement Program (CMEP) Align tool (discussed further below). Factoring in this use of reserves, the total fixed asset budget is approximately \$951k, a decrease of \$3.8M (79.8%) from 2020, and NERC's total expense and fixed assets budget for 2021 is approximately \$81.1M, a decrease of \$1.6M (1.9%) from 2020.

NERC's proposed 2021 assessment is approximately \$72.0M, which is flat versus 2020. Factors contributing to the difference between the proposed budget and the proposed assessment include assumptions regarding other funding sources, such as the use of reserves mentioned above and third-party funding for CRISP. Additionally, 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 Expanded Policy on Allocation of Certain Compliance and Enforcement Costs*, which was included in NERC's filing to FERC requesting acceptance of the NERC 2009 BP&B.⁷

ROP Section 1107.2 specifies that penalties received from July 1 through the following June 30 will offset U.S. assessments in the subsequent budget period. In 2015, the Board and FERC approved the creation of the Assessment Stabilization Reserve, which was established to narrow the gap between annual budget and assessment percentage changes that result from year-to-year variations in penalty collections. This reserve is 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 as part of NERC's BP&B process. For 2020, the assessment did not include a release of funds from the Assessment Stabilization Reserve due to reduced debt service, increased interest income, and a surplus of working capital. Similarly for 2021, NERC management is not recommending a release of funds from the Assessment Stabilization Reserve since 2021 assessments are not increasing over 2020, thereby preserving funds in the Assessment Stabilization Reserve to stabilize assessments in future years. Further, NERC proposes to deposit the \$1.0 million of penalties collected in the 12 months ended June 30, 2020, in the Assessment Stabilization Reserve, rather than use these penalties to reduce the 2021 assessment.

The following table provides a high-level year-over-year comparison of the major categories of expenses, total budget, and full-time equivalents (FTEs). This table includes the \$1.8M for Align costs that will be funded by operating reserves as discussed above.

Statement of Activities and Fixed Asset Additions 2020 Budget & Projection, and 2021 Budget						
STATUTORY						
	2020 Budget	2020 Projection	Variance 2020 Projection v 2020 Budget Over(Under)	2021 Budget	Variance 2021 Budget v 2020 Budget Over(Under)	% Over (Under)
Funding						
NERC Funding						
NERC Assessments	\$ 72,011,373	\$ 72,011,373	\$ -	\$ 72,011,373	\$ -	0.0%
Penalties Released*	-	-	-	-	-	-
Third-Party Funding (CRISP)	\$ 7,814,577	\$ 6,732,693	\$ (1,081,884)	\$ 7,064,343	\$ (750,234)	
Testing Fees	1,735,000	1,735,150	150	1,801,634	66,634	
Services & Software	60,000	60,000	-	60,000	-	
Miscellaneous	-	60,500	60,500	-	-	
Interest & Investment Income	386,000	129,000	(257,000)	218,200	(167,800)	
Total Funding (A)	\$ 82,006,951	\$ 80,728,716	\$ (1,278,234)	\$ 81,155,551	\$ (851,400)	-1.0%
Expenses						
Personnel Expenses	\$ 46,598,160	\$ 44,757,827	\$ (1,840,333)	\$ 48,189,435	\$ 1,591,275	3.4%
Meeting & Travel Expenses	3,323,250	987,292	(2,335,958)	2,201,748	(1,121,502)	-33.7%
Operating Expenses, excluding Depreciation	27,583,094	27,698,723	115,630	28,766,294	1,183,200	4.3%
Other Non-Operating Expenses	306,623	110,800	(195,823)	129,661	(176,962)	-57.7%
Total Expenses (B)	\$ 77,811,127	\$ 73,554,643	\$ (4,256,484)	\$ 79,287,138	\$ 1,476,011	1.9%
Fixed Asset Additions, excluding Right of Use Assets (C)	\$ 4,706,349	\$ 7,250,350	\$ 2,544,001	\$ 2,751,500	\$ (1,954,849)	-41.5%
Financing Activity						
Loan or Financing Lease - Borrowing (-)	(1,338,000)	(2,100,000)	(762,000)	(100,000)	1,238,000	-92.5%
Loan or Financing Lease - Principal Payments (+)	1,477,558	550,000	(927,558)	944,601	(532,957)	-36.1%
Net Financing Activity (D)	\$ 139,558	\$ (1,550,000)	\$ (1,689,558)	\$ 844,601	\$ 705,043	505.2%
Total Budget (=B+C+D)	\$ 82,657,034	\$ 79,254,993	\$ (3,402,041)	\$ 82,883,239	\$ 226,205	0.3%
FTEs	213.38	199.92	(13.46)	213.38	0.00	0.0%

*Penalties Released in the current year reflects the designated amount of funds released from the Assessment Stabilization Reserve to offset U.S. assessments as approved by the NERC Board and FERC. Actual penalties invoiced in the current reporting year are shown as an increase to the Assessment Stabilization Reserve on the reserve summary table and will be reported as income on the audited financial statements in accordance with Generally Accepted Accounting Principles (GAAP).

⁷ North American Electric Reliability Corp., Docket No. RR08-6-000, Attachment 16, (filed August 22, 2008)

Key Budget Assumptions

Key assumptions used in the development of NERC's 2021 budget include the following:

- **No increase to headcount (FTEs).** Though NERC is adding FTEs related to cyber security and to support the ERO Secure Evidence Locker (SEL) (discussed further below), this increase is offset by a decrease of open positions in other areas. A 6.0% reduction to FTEs (vacancy rate) is applied to account for attrition and hiring delays, which is the same as 2020. FTEs by department are discussed later in this section.
- **Market-based compensation for personnel and medical and dental benefit plan costs.** Personnel costs are increasing \$1.6M (3.4%), which reflects (1) a 2.5% increase over actual 2020 base salaries for merit adjustments and up to 0.5% for equity and market adjustments⁸ and (2) anticipated increases for medical and dental benefit plan costs. 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 late 2019. 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 2021.
- **Optimization of current E-ISAC resources.** Management is taking the opportunity to assess the *E-ISAC Long-Term Strategic Plan*, including optimizing resource allocation and improving the effectiveness and efficiency of current products and services. The financial impacts of the revised strategic plan in 2021 are discussed further below.
- **Funding for the CMEP Align and ERO SEL solutions.** This includes funding for the debt service and ongoing software, maintenance, and security standard certification costs for the ERO SEL developed in 2020, and using Operating Contingency Reserves to fund the costs to complete the Align project in 2021. These projects and tools are discussed further below along with financial details.
- **Additional cost savings efforts.** In response to the uncertain economic conditions resulting from the COVID-19 pandemic, NERC is proposing savings in addition to no increase in FTEs by (1) reducing meeting and travel expenses (based on the assumption of continued pandemic conditions), and (2) narrowing or deferring important, but less urgent work supporting evolving reliability and security risks, resulting in lower spending for some project-based contract and professional services resources and certain system enhancements. These savings, in addition to planned 2020 budget savings, help NERC achieve a flat assessment in 2021 without the use of Assessment Stabilization Reserves, preserving funds in the Assessment Stabilization Reserve to mitigate future year assessment increases.

E-ISAC Long-Term Strategic Plan

In 2017, the E-ISAC, with guidance from the Electricity Sector Coordinating Council (ESCC) Member Executive Committee (MEC), the NERC Board, and various trade associations and stakeholder groups, developed a strategic plan to better define its mission and focus its resources in helping the electric sector protect itself from escalating cyber and physical security risks. The strategic plan has three primary areas of focus—engagement, information sharing, and analysis. The strategic plan embraces the ongoing need to review priorities under each focus area.

Starting in 2019, management began assessing the strategic plan to (1) confirm strategic and operational focus; (2) evaluate and refine products and services; (3) optimize resource allocation; and (4) identify additional areas to provide value to members, and the strategic plan was revised to identify near-term

⁸ As directed by the Board, this is a placeholder amount; actual increases will be evaluated by the Board at year-end.

and longer term priorities. For the near-term strategic priorities in 2020 and 2021, the resource focus mitigates upward pressure by:

- Ensuring effectiveness and efficiency of operations;
- Maximizing utilization of current staffing and teamwork;
- Leveraging partnerships; and
- Effectively using technology to support the strategy.

As a result, the 2021 budget for the E-ISAC and CRISP departments is well below the 2021 projection from the 2020 BP&B and slightly below the 2020 budget. See the *Electricity Information Sharing and Analysis Center* section of Section A for further information.

Align and ERO SEL Projects

Since 2014, NERC has been working closely with the Regional Entities to evaluate and implement strategic investments in tools that will replace the various CMEP manual processes and numerous applications used among NERC and the Regional Entities with a single, common business application, known as Align. The objectives and benefits of the Align project include (1) a single common portal and experience for registered entities; (2) improved integration of and access to data, as well as increased analytics; and (3) standardized business processes and consistent application of the CMEP, resulting in increased productivity and reduced application costs across the ERO Enterprise. The original schedule planned for three releases of the tool: one in the last quarter of 2019 to support self-reporting, self-logging, enforcement, and mitigation, and two more releases in 2020 to support Compliance Assurance activities. The total capital expenditure for Align was expected to be approximately \$5.4M, with work spanning from 2017 through 2020.

In August 2019, the Board accepted a schedule change for the Align project to delay the first planned release of the tool. The primary drivers for delaying the release included refining and harmonizing compliance audit and investigation processes across the Regional Entities and addressing stakeholder concerns regarding evidence collection. Since then, harmonization activities have been completed and continue, and the ERO SEL project has been introduced. The ERO SEL will support the highly secure transfer, management, retention, and destruction of sensitive registered entity files used in CMEP activities. It will complement the Align tool, which manages all ERO Enterprise-developed work products used in CMEP activities. Collectively, the Align tool and the ERO SEL will provide a platform to enable harmonization of Regional Entity practices, driving to a common registered entity experience while facilitating the secure submission, review, and retention of evidence generated during CMEP activities. Continued development of Align and the development of the ERO SEL will occur in 2020, with the implementation of the ERO SEL and the first release of Align planned for the first quarter of 2021, with subsequent releases to follow. For more information, see the [Align Project](#) page on the NERC website.

Taking into account the revised schedule for development and release, the costs of and funding strategy for (1) the ERO SEL capital investment and ongoing support costs and (2) continued Align tool development are as follows:

- In 2020, an unbudgeted capital investment for the ERO SEL of \$3.8M, funded by:
 - An Operating Contingency Reserve draw of \$1.8M⁹
 - Financing of \$2.0M

⁹ FERC accepted NERC's petition to expend funds from the Operating Contingency Reserve in 2020 on the capital investment for the ERO SEL in its [Order](#) on June 22, 2020 in Docket No. RR19-8-001.

- Starting fully in 2021, annual debt service for financing and software support costs for the ERO SEL, funded by assessments:
 - Annual debt service – approximately \$430k for five years
 - Annual software support, maintenance, and security standard certification – approximately \$570k
- 2021 Align development costs of approximately \$1.8M (above the original total capital expenditure of \$5.4M) funded fully by a draw of Operating Contingency Reserves.

As discussed above, NERC is implementing cost savings efforts in both 2020 and 2021. This includes cash funding the 2020 Align development costs originally budgeted to be financed, which saves on future year debt service. This savings on debt service combined with the savings discussed above allow NERC to absorb the 2021 ERO SEL debt service and ongoing support costs in the 2021 budget while maintaining a flat assessment without the use of Assessment Stabilization Reserves.

Fixed Asset (Capital) Budget and Capital Financing

NERC's 2021 fixed asset budget is approximately \$2.8M, which represents a decrease of \$2.0M from 2020. This decrease is primarily due to reduced spending on capital software projects and leasehold improvements. The fixed asset budget for 2021 includes Information Technology (IT) equipment, including computers, hardware servers, and storage, disaster recovery, and network devices and capital ERO Enterprise and NERC software development and enhancements, including:

- The final development year for Align. As mentioned above, NERC is planning to fund the approximately \$1.8M for these 2021 costs from the Operating Contingency Reserve; and
- Ongoing enhancements to the Centralized Organization Registration ERO System (CORES); the Situation Awareness for NERC, FERC, and the Regional Entities (SAFNR) tool; and the Reliability Coordinator Information System (RCIS).

A detailed breakdown by category is provided in Table B-12 – Fixed Assets.

NERC's capital financing program was put in place as part of NERC's 2014 BP&B for ERO Enterprise software projects. The 2021 budget assumes no loan borrowing through the capital financing program, and \$375k of loan payments and \$55k of interest payments for the ERO SEL borrowing in 2020. Further information regarding capital financing can be found in *Exhibit C – Capital Financing*. The 2021 budget also assumes \$100k for financing lease proceeds for IT equipment, as well as approximately \$570k of financing lease payments for existing equipment, including laptops, network switches and servers, and audio visual tools. As discussed above, these loan and financing lease borrowings and payments can be seen in the financing activity section of the applicable SOA reports in this document.

Program Budget and FTE Comparisons

The following table shows a 2021 versus 2020 total budget comparison by program area. The amounts reflect all direct and indirect departmental costs, including fixed asset expenditures. 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.

2021 versus 2020 Total Budget by Program

Total Budget	2020 Budget	2021 Budget	Increase (Decrease)	
Reliability Standards	\$ 8,302,592	\$ 7,856,641	\$ (445,951)	-5.4%
CMEP*	18,098,171	21,014,178	2,916,006	16.1%
RAPA	13,122,303	12,631,436	(490,867)	-3.7%
Event Analysis	4,733,857	4,287,213	(446,644)	-9.4%
Situation Awareness	4,326,699	4,450,989	124,289	2.9%
Personnel Certification	1,738,288	1,736,522	(1,766)	-0.1%
Training and Education	1,014,986	1,084,523	69,537	6.9%
NERC Budget, excluding E-ISAC	\$ 51,336,896	\$ 53,061,501	\$ 1,724,604	3.4%
E-ISAC (non-CRISP)	\$ 22,523,983	\$ 21,625,531	\$ (898,451)	-4.0%
E-ISAC (CRISP)	8,796,155	8,196,207	(599,948)	-6.8%
Total E-ISAC Budget	\$ 31,320,137	\$ 29,821,738	\$ (1,498,399)	-4.8%
Total Budget	\$ 82,657,034	\$ 82,883,239	\$ 226,205	0.3%

*Includes Align and ERO SEL costs, including \$1.8M for Align development costs funded by operating reserves.

The primary areas of increase are in CMEP, Situation Awareness, and Training and Education. The increases for CMEP and Situation Awareness reflect the addition of staff reallocated from other areas and, for CMEP, the 2021 development costs for Align and software expenses and debt service for the ERO SEL (discussed above). The increase for Training and Education is related to a reclassification of expenses from Human Resources and Administration for training that benefits the ERO Enterprise.

The decrease in E-ISAC is related to the reevaluation of the E-ISAC strategic plan and optimization of current resources (discussed above), and a reduction in indirect cost allocation. The decrease in CRISP is primarily due to a reduction in participant-paid costs for the Pacific Northwest National Laboratory (PNNL) (mainly due to additional DOE funding), the annual security review, and pilot programs. The decreases in the remaining programs are the result of either or a combination of (1) reallocation of FTEs to other program areas, which also results in lower allocations of indirect costs and fixed assets from Administrative Services, and (2) lower spending as part of the costs savings efforts discussed above, including lower meeting and travel expenses and reduced or deferred contract resources and system enhancements that are not urgently needed.

The following table presents a 2021 versus 2020 comparison of budgeted FTEs by department and reflects 2021 personnel additions, open position reductions, 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 at any point in time. NERC's 2021 personnel budget is based upon a targeted headcount, associated compensation and benefit costs, and an assumed vacancy rate. The vacancy rate accounts for attrition and for variations from the budget assumptions on the timing of new hires.

2021 versus 2020 FTEs by Department

FTEs*	2020 Budget	2021 Budget	Increase (Decrease)	
Reliability Standards	17.86	16.92	(0.94)	-5.3%
CMEP	33.84	35.72	1.88	5.6%
RAPA	23.50	25.38	1.88	8.0%
Event Analysis	9.40	7.52	(1.88)	-20.0%
Situation Awareness	5.64	6.58	0.94	16.7%
Personnel Certification	2.82	2.82	-	0.0%
Training and Education	1.88	1.88	-	0.0%
Administrative Programs	74.26	77.08	2.82	3.8%
NERC FTEs, excluding E-ISAC	169.20	173.90	4.70	2.8%
E-ISAC (non-CRISP)	41.36	36.66	(4.70)	-11.4%
E-ISAC (CRISP)	2.82	2.82	-	0.0%
Total E-ISAC FTEs	44.18	39.48	(4.70)	-10.6%
Total FTEs	213.38	213.38	(0.00)	0.0%

**Reflects 2021 additions and transfers between departments, anticipated timing of 2021 hires, and assumes 6% attrition in all programs*

The Administrative Programs encompass a number of necessary support functions, including IT, Legal and Regulatory, Finance and Accounting, and Human Resources and Administration. It also includes General and Administrative functions, which include the CEO, the Chief Engineer, the Chief Administrative Officer (CAO), and their support staff, as well as External Affairs staff. For FERC and external reporting purposes, these programs are allocated as indirect expenses to the operating areas on a per FTE basis.

For 2021, NERC is budgeting no increase or decrease in FTEs versus 2020. This includes the addition of two positions in IT related to cyber security and the addition of one position in Compliance Assurance to support the ERO SEL. These additions are offset by reductions of open positions in other areas, especially in the E-ISAC as a result of the reevaluation of its long-term strategy discussed above. The decrease of FTEs in E-ISAC is also attributed to planned use of contract support versus budgeted FTEs. The remaining FTE increases and decreases among the program areas reflect the reallocation of staff among the departments, which is subject to continual strategic evaluation. The table above reflects the addition, reduction, and reallocations of staff resulting in flat FTEs in 2021 as compared to 2020.

The 2020 organizational chart can be found in Appendix 1. The difference between the number of positions reflected and total FTEs is due to assumptions regarding vacancy rates and timing of new hires.

Reserves

NERC is proposing an overall reserve budget of \$10.8M across all categories of reserves. This represents an increase of \$2.0M (22.8%) from the total reserve amounts included in NERC's 2020 budget. The reserve categories are 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 budgeted to be \$1.1M at December 31, 2021.
- **System Operator Certification Reserve** – Includes surplus funding from operator certification fees that are above incurred expenses and shall be used solely to support operator testing and certification needs. The 2021 System Operator Certification Reserve is budgeted at \$921k at December 31, 2021, and is 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 are segregated from other reserves pursuant to the terms of the CRISP agreements. The CRISP reserves are projected to be \$500k in the 2021 budget.
- **Operating Contingency Reserve** – Includes both general working capital funds resulting from day-to-day operations and additional funds for contingencies that were not anticipated. NERC's current policy on Operating Contingency Reserves requires a reserve target of 3.5–7.0% of the company's total expense and fixed asset budget, 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. NERC is proposing to use \$1.8M of the Operating Contingency Reserve for funding for the 2021 budget, resulting in a projected Operating Contingency Reserve of approximately \$5.8M at December 31, 2021, which is 8.0% of total budgeted operating and fixed asset costs. The projected reserve is higher than target to provide additional reserves during uncertain economic conditions due to the pandemic, allowing funding for the deferred projects resulting from cost savings efforts in 2020 and 2021 discussed above if needed.
- **Assessment Stabilization Reserve** – To date, this reserve has been funded entirely by previously received penalties and is projected to have a balance of \$2.5M as of January 1, 2021. This includes \$1.0M in penalty money received for the 12 months ended June 30, 2020, which NERC proposes to leave in the Assessment Stabilization Reserve and not use to reduce the 2021 assessment. For purposes of the company's 2021 BP&B, NERC is not currently proposing any release of Assessment Stabilization Reserve funds to offset U.S. assessments. The Assessment Stabilization Reserve will be used to stabilize and reduce U.S. assessments in one or more future periods in the applicable year's BP&B, subject to review and approval by the Board and FERC.

The following table is a statement of activities and fixed asset expenditures comparing the 2020 budget, 2020 projection, and 2021 budget.

Introduction and Executive Summary

Statement of Activities and Fixed Asset Additions						
2020 Budget & Projection, and 2021 Budget						
STATUTORY						
	2020	2020	Variance		Variance	% Inc
	Budget	Projection	2020 Projection v 2020 Budget Over(Under)	2021 Budget	2021 Budget v 2020 Budget Over(Under)	2021 Over 2020
Funding						
NERC Funding						
NERC Assessments	\$ 72,011,373	\$ 72,011,373	\$ -	\$ 72,011,373	\$ -	
Penalties Released*	-	-	-	-	-	
Total NERC Funding	\$ 72,011,373	\$ 72,011,373	\$ -	\$ 72,011,373	\$ -	0.0%
Third-Party Funding (CRISP)	\$ 7,814,577	\$ 6,732,693	\$ (1,081,884)	\$ 7,064,343	\$ (750,234)	
Testing Fees	1,735,000	1,735,150	150	1,801,634	66,634	
Services & Software	60,000	60,000	-	60,000	-	
Miscellaneous	-	60,500	60,500	-	-	
Interest & Investment Income	386,000	129,000	(257,000)	218,200	(167,800)	
Total Funding (A)	\$ 82,006,951	\$ 80,728,716	\$ (1,278,234)	\$ 81,155,551	\$ (851,400)	-1.0%
Expenses						
Personnel Expenses						
Salaries	\$ 35,462,611	\$ 34,705,981	\$ (756,630)	\$ 36,636,628	\$ 1,174,017	
Payroll Taxes	2,113,486	2,005,530	(107,956)	2,122,568	9,082	
Benefits	5,420,461	4,639,787	(780,675)	5,703,799	283,338	
Retirement Costs	3,601,601	3,406,529	(195,072)	3,726,439	124,838	
Total Personnel Expenses	\$ 46,598,160	\$ 44,757,827	\$ (1,840,333)	\$ 48,189,435	\$ 1,591,275	3.4%
Meeting & Travel Expenses						
Meetings & Conference Calls	\$ 1,112,250	\$ 542,756	\$ (569,494)	\$ 890,751	\$ (221,499)	
Travel	2,211,000	444,536	(1,766,464)	1,310,997	(900,003)	
Total Meeting & Travel Expenses	\$ 3,323,250	\$ 987,292	\$ (2,335,958)	\$ 2,201,748	\$ (1,121,502)	-33.7%
Operating Expenses, excluding Depreciation						
Consultants & Contracts	\$ 12,435,902	\$ 11,939,382	\$ (496,520)	\$ 12,691,813	\$ 255,911	
Office Rent	3,450,468	3,540,468	90,000	3,603,442	152,974	
Office Costs	9,102,374	9,798,748	696,374	10,185,789	1,083,415	
Professional Services	2,511,600	2,328,145	(183,455)	2,185,100	(326,500)	
Miscellaneous	82,750	91,980	9,230	100,150	17,400	
Total Operating Expenses, excluding Depreciation	\$ 27,583,094	\$ 27,698,723	\$ 115,630	\$ 28,766,294	\$ 1,183,200	4.3%
Total Direct Expenses	\$ 77,504,504	\$ 73,443,843	\$ (4,060,661)	\$ 79,157,477	\$ 1,652,973	2.1%
Indirect Expenses	\$ -	\$ -	\$ -	\$ -	\$ -	
Other Non-Operating Expenses	\$ 306,623	\$ 110,800	\$ (195,823)	\$ 129,661	\$ (176,962)	-57.7%
Total Expenses (B)	\$ 77,811,127	\$ 73,554,643	\$ (4,256,484)	\$ 79,287,138	\$ 1,476,011	1.9%
Change in Net Assets (=A-B)	\$ 4,195,824	\$ 7,174,074	\$ 2,978,249	\$ 1,868,413	\$ (2,327,411)	
Fixed Asset Additions, excluding Right of Use Assets (C)	\$ 4,706,349	\$ 7,250,350	\$ 2,544,001	\$ 2,751,500	\$ (1,954,849)	-41.5%
Financing Activity						
Loan or Financing Lease - Borrowing (-)	(1,338,000)	(2,100,000)	(762,000)	(100,000)	1,238,000	
Loan or Financing Lease - Principal Payments (+)	1,477,558	550,000	(927,558)	944,601	(532,957)	
Net Financing Activity (D)	\$ 139,558	\$ (1,550,000)	\$ (1,689,558)	\$ 844,601	\$ 705,043	505.2%
Total Budget (=B+C+D)	\$ 82,657,034	\$ 79,254,993	\$ (3,402,041)	\$ 82,883,239	\$ 226,205	0.3%
Change in Working Capital (=A-B-C-D)	\$ (650,083)	\$ 1,473,724	\$ 2,123,806	\$ (1,727,688)	\$ (1,077,605)	
FTEs	213.38	199.92	(13.46)	213.38	0.00	0.0%

*Penalties Released in the current year reflects the designated amount of funds released from the Assessment Stabilization Reserve to offset U.S. assessments as approved by the NERC Board and FERC. Actual penalties invoiced in the current reporting year are shown as an increase to the Assessment Stabilization Reserve on the reserve summary table and will be reported as income on the audited financial statements in accordance with Generally Accepted Accounting Principles (GAAP).

Projections for 2022–2023

Management is currently developing preliminary operating and fixed asset projections for 2022 and 2023. Significant assumptions considered in preparing these projections include:

- Salary and benefit cost increases generally consistent with 2021 assumptions;
- Continued reduced meeting and travel costs relative to pre-pandemic levels due to anticipated greater leveraging of technology for virtual meetings and collaboration tools for smaller working meetings with stakeholders;
- Debt service repayment obligations in connection with the company’s Capital Financing Program, including financing for the ERO SEL established in 2020;
- Continued execution of the E-ISAC Long-Term Strategic Plan, which focuses on improving effectiveness and efficiency of current products, platforms, and services and, in the longer-term, providing additional value in the areas of analytical capabilities, operational technology risks and mitigation, enhanced information sharing capabilities, and extending services to support the downstream natural gas sector; and
- Funding for additional FTEs and data management system enhancements across the company deferred in 2020 and 2021 that are necessary for the ERO Enterprise to continue to fulfill its mission in the long-term.

While NERC was able to reduce certain human resource and technology investments in the 2020 and 2021 periods, this represents a deferral of short-term cost impacts but not an elimination of these strategies. It is anticipated that NERC will continue to make investments in technology on behalf of the entire ERO Enterprise, including the Align tool and ERO SEL. Since the bulk of NERC’s budget consists of people and technology, continued investments in human resources and software tools are necessary to support NERC’s strategic goals and mission.

NERC’s preliminary 2022 budget projection is \$87.0M, which is a 5.0% increase over 2021, and the 2022 assessment projection is \$77.8M, which is an 8.0% increase over 2021. In 2023, the budget projection is \$91.4M (5.0% increase over 2022) and the assessment projection is \$82.1M (5.5% increase over 2022).

As noted above, these budget and assessment increases versus 2021 reflect a measured return to pre-COVID-19 planning assumptions. However, steps have been taken and are being contemplated to reduce costs in certain budget areas. As a result, the current 2022 budget projection is **\$3.8M less** than the 2022 budget projection of \$90.8M that was included in the 2020 BP&B (including debt service and financing activity), and the 2022 assessment projection is **\$2.8M less** than the 2022 assessment projection of \$80.6M that was included in the 2020 BP&B. As with all future year projections, these numbers are preliminary and the assessments do not yet consider the use of Assessment Stabilization Reserve funds to help mitigate increases, a decision that would be made during the 2022 and 2023 BP&B processes.

NERC continues to be sensitive to the economic uncertainties facing the sector resulting from the COVID-19 pandemic. As most companies, NERC is beginning a process to evaluate its own workforce, facilities, and external engagement model, and contemplates expanded use of technology to reduce meeting and travel costs and potentially real estate costs. NERC commits to thoughtfully balancing fiscal concerns with the evolution of BPS risk into different arenas, and will ensure that its budgets for 2022 and 2023 reflect activities that focus on the highest risks to reliability and security, and to continue to assess program areas and prioritize initiatives. NERC also commits to judicious use of reserves to manage assessment increases.

Introduction and Executive Summary

Statement of Activities and Fixed Asset Additions 2021 Budget & Projected 2022 and 2023 Budgets

	2021 Budget	2022 Projection	\$ Change 22 vs 21	% Change 22 vs 21	2023 Projection	\$ Change 23 vs 22	% Change 23 vs 22
Funding							
ERO Funding							
NERC Assessments	\$ 72,011,373	\$ 77,780,279	\$ 5,768,905	8.0%	\$ 82,093,851	\$ 4,313,572	5.5%
Penalties Released	-	-	-	-	-	-	-
Total NERC Funding	\$ 72,011,373	\$ 77,780,279	\$ 5,768,905	8.0%	\$ 82,093,851	\$ 4,313,572	5.5%
Third-Party Funding							
Third-Party Funding	\$ 7,064,343	\$ 7,362,732	\$ 298,389	4.2%	\$ 7,391,796	\$ 29,064	0.4%
Testing Fees	1,801,634	1,793,367	(8,267)	-0.5%	1,784,267	(9,100)	-0.5%
Services & Software	60,000	60,000	-	0.0%	60,000	-	0.0%
Miscellaneous	-	-	-	-	-	-	-
Interest & Investment Income	218,200	218,200	-	0.0%	218,200	-	0.0%
Total Funding (A)	\$ 81,155,551	\$ 87,214,578	\$ 6,059,027	7.5%	\$ 91,548,114	\$ 4,333,536	5.0%
Expenses							
Personnel Expenses							
Salaries	\$ 36,636,628	\$ 38,914,526	\$ 2,277,898	6.2%	\$ 41,073,320	\$ 2,158,794	5.5%
Payroll Taxes	2,122,568	2,218,966	96,398	4.5%	2,308,184	89,218	4.0%
Benefits	5,703,799	6,433,071	729,272	12.8%	7,218,100	785,029	12.2%
Retirement Costs	3,726,439	3,963,771	237,333	6.4%	4,190,141	226,370	5.7%
Total Personnel Expenses	\$ 48,189,435	\$ 51,530,335	\$ 3,340,900	6.9%	\$ 54,789,746	\$ 3,259,411	6.3%
Meeting Expenses							
Meetings & Conference Calls	\$ 890,751	\$ 1,117,646	\$ 226,895	25.5%	\$ 1,120,963	\$ 3,317	0.3%
Travel	1,310,997	1,310,997	-	0.0%	1,442,098	131,101	10.0%
Total Meeting Expenses	\$ 2,201,748	\$ 2,428,643	\$ 226,895	10.3%	\$ 2,563,061	\$ 134,418	5.5%
Operating Expenses, excluding Depreciation							
Consultants & Contracts	\$ 12,691,813	\$ 12,679,116	\$ (12,697)	-0.1%	\$ 13,413,444	\$ 734,328	5.8%
Office Rent	3,603,442	3,934,030	330,588	9.2%	3,300,553	(633,477)	-16.1%
Office Costs	10,185,789	10,458,513	272,724	2.7%	10,743,244	284,731	2.7%
Professional Services	2,185,100	2,304,100	119,000	5.4%	2,504,600	200,500	8.7%
Miscellaneous	100,150	100,650	500	0.5%	100,650	-	0.0%
Total Operating Expenses, excluding Depreciation	\$ 28,766,294	\$ 29,476,409	\$ 710,115	2.5%	\$ 30,062,491	\$ 586,082	2.0%
Total Direct Expenses							
Total Direct Expenses	\$ 79,157,477	\$ 83,435,386	\$ 4,277,910	5.4%	\$ 87,415,298	\$ 3,979,911	4.8%
Indirect Expenses							
Indirect Expenses	\$ -	\$ -	\$ -	0.0%	\$ -	\$ -	-
Other Non-Operating Expenses							
Other Non-Operating Expenses	\$ 129,661	\$ 135,000	\$ 5,339	4.1%	\$ 135,000	\$ -	0.0%
Total Expenses (B)	\$ 79,287,138	\$ 83,570,386	\$ 4,283,249	5.4%	\$ 87,550,298	\$ 3,979,911	4.8%
Change in Net Assets (=A-B)	\$ 1,868,413	\$ 3,644,191	\$ 1,775,778	95.0%	\$ 3,997,816	\$ 353,625	9.7%
Fixed Asset Additions, excluding Right of Use Assets (C)							
Fixed Asset Additions, excluding Right of Use Assets (C)	\$ 2,751,500	\$ 2,554,000	\$ (197,500)	-7.2%	\$ 2,904,350	\$ 350,350	13.7%
Financing Activity							
Loan or Financing Lease - Borrowing (-)	(100,000)	(100,000)	-	0.0%	(100,000)	-	0.0%
Loan or Financing Lease - Principal Payments (+)	944,601	1,000,000	55,399	5.9%	1,025,000	25,000	2.5%
Net Financing Activity (D)	\$ 844,601	\$ 900,000	\$ 55,399	6.6%	\$ 925,000	\$ 25,000	2.8%
Total Budget (=B+C+D)	\$ 82,883,239	\$ 87,024,386	\$ 4,141,148	5.0%	\$ 91,379,648	\$ 4,355,261	5.0%
Change in Working Capital (=A-B-C-D)	\$ (1,727,688)	\$ 190,191	\$ 1,917,879	-111.0%	\$ 168,466	\$ (21,725)	-11.4%
FTEs	213.38	217.14	3.76	1.8%	223.72	6.58	3.0%

Section A – 2021 Business Plan and Budget Program Area and Department Detail

Reliability Standards and Power Risk Issue Strategic Management

NERC has an Engineering and Standards department that consolidates NERC’s technical resources together and provides engineering services to support the overall needs of the organization. Two groups in this department are focused specifically on the development and improvement of Reliability Standards: the Reliability Standards group and the Power Risk Issues and Strategic Management (PRISM) group.

Reliability Standards and Power Risk Issue Strategic Management (in whole dollars)			
	2020 Budget	2021 Budget	Increase (Decrease)
FTE Reporting	17.86	16.92	(0.94)
Direct Expenses	\$ 3,865,292	\$ 3,627,620	\$ (237,671)
Indirect Expenses	4,090,936	4,087,161	(3,775)
Other Non-Operating Expenses	-	-	-
Fixed Asset Additions	177,804	82,885	(94,919)
Financing Activity	168,560	58,974	(109,586)
Total Budget	\$ 8,302,592	\$ 7,856,641	\$ (445,951)

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 purpose of the Reliability Standards group is to deliver high-quality risk-based Reliability Standards, facilitate continent-wide industry engagement, and support regulatory filings. The group focuses on expanding a risk-based approach to its projects, including ensuring that Reliability Standards are clear, timely, considerate of costs, effective in mitigating material risks, and do not unnecessarily burden industry with administrative requirements and/or detract from reliability or security.

The overarching purpose of the PRISM group is to leverage in-house expertise on Reliability Standards and standards development to implement cross-cutting efforts among NERC functions and NERC standing and technical committees. Particular emphasis is placed on developing NERC’s positions on emerging technologies and the over-arching effect of these technologies on Reliability Standards. Further, this group gauges the responses to address reliability risks and works toward monitoring risk mitigation. Additionally, this group provides in-house training on Reliability Standards to effectuate a consistent view of the meaning and purpose of the standards and their relationship with the various work products of the committees and subcommittees. The PRISM group also conducts statistical analysis around the results of standards to identify potential weaknesses, redundancies, and overall necessity.

Stakeholder Engagement and Benefit

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. As part of the standard development process, industry technical experts scope, draft, and review new or revised Reliability Standards for approval by the industry ballot body, adoption by the Board, and filing with regulatory authorities in the United States and Canada. NERC standards staff provide project management and

leadership to develop solutions necessary to address reliability risks identified through the Reliability Risk Management Process (RRMP). These solutions may include the development of or modifications to Reliability Standards, in which standards staff (1) conduct outreach activities; (2) facilitate drafting teams, including assisting teams in maintaining adherence to the development process in the [Standard Processes Manual](#); (3) provide drafting support; and (4) ensure that the quality of documents produced is appropriate for approval by industry and the Board.

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. These elements are considered by requesting industry feedback on costs throughout the standard development or revision process.

The PRISM group has significant interaction with stakeholder groups, including the NERC Reliability and Security Technical Committee (RSTC), the Standards Committee, and their subcommittees. The purpose of this engagement is to be apprised of all activities within the committee meetings and work plans to drive a cross-cutting approach to addressing standards-related issues. As Standard Authorization Requests (SARs) and Requests for Interpretations (RFIs) are developed, this group ensures the process to address these items is coordinated and efficient.

Tools and Technology

The main tool used by the Reliability Standards program is NERC's Standards Balloting and Commenting System (SBS). This system provides a seamless user interface for balloting and submitting comments on Reliability Standards under development. NERC's annual budget accounts for ongoing maintenance and any necessary enhancements for this system. Additionally, the PRISM group is working to launch a cross-cutting tool, wERock, to serve as a repository to track RISC-identified issues and NERC and Regional Entity stakeholder committee work plan items. The tool's main objective is to ensure complete visibility to the efforts and results of these RISC and ERO Enterprise activities by providing a central tool to (1) track the various work products in response to emerging risks identified by the RISC, RSTC, and Regional Entity committees, providing a greater level of work product efficiency, and (2) cross-cut across the ERO Enterprise organizations so that work products and activities can be leveraged for optimal visibility and ultimate mitigation. wERock is being developed using in-house resources at NERC on existing internal platforms, and will include Regional Entity-facing reports or interfaces. The system will be used to keep the RSTC and other applicable stakeholder updated on project status.

Key Efforts Underway

NERC ensures that the Reliability Standards Development Plan (RSDP) is effectively executed and that standards are focused on and mitigate significant risks to BES reliability. In support of Focus Areas 1, 4, and 5 of the *ERO Enterprise Long-Term Strategy*, the Reliability Standards group's key activities include:

- **Focusing on the selection of projects undertaken.** Resources are expended on issues determined to be a reliability risk through the RRMP. The Reliability Standards group 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.
- **Addressing FERC directives and responding to FERC orders or special reports** through standard development projects, as necessary. Each project determines whether: (1) the directive will be complied with as issued; (2) there is another equally effective way to address the concern that fostered the directive; or (3) there is technical justification that resolution of the directive is no

longer needed, including whether the directive has been overcome by other events, processes, or advances in technology.

- **Standards Efficiency Review.** In 2018, NERC and industry began 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 as compared to the industry burden for their implementation. One outcome of this review was the need to retire or enhance requirements based on operational experience. This includes an analysis of reliability risk, particularly emerging risks, and cost effectiveness. In 2019, projects were initiated to address the results of this review to retire or modify Reliability Standards. For more information, see the [Standards Efficiency Review](#) page on the NERC website.
- **Facilitating smooth transition to new standards.** This includes working with other NERC program areas and the Regional Entities to develop guidelines, webinars, and other activities to support auditor and industry training for new standards.

In support of Focus Areas 1, 2, and 4 of the *ERO Enterprise Long-Term Strategy*, key efforts underway for the PRISM group include:

- Completing NERC position documents for Distributed Energy Resources (DER), Interconnection Reliability Operating Limits (IROL) and System Operating Limits (SOL), and Battery Storage. These position documents will be compiled in collaboration with various NERC stakeholder groups, including but not limited to the RSTC, Inverter-Based Resource Performance Task force (IRPTF), and System Planning Impacts from Distributed Energy Resources Working Group (SPIDERWG);
- Developing statistical analysis around misoperations data to identify trends and discrete areas for improvement;
- Developing statistical analysis around balancing (BAL) standards and the effects of frequency response within the four interconnections;
- Conducting Reliability Standards training for NERC and Regional Entity staff to enable consistent understandings. The PRISM group has extensive experience in standards development. As a result, the PRISM team, as part of the Standards and Engineering Department, provides additional standards training as needed for the ERO Enterprise;
- Launch of the cross cutting tool, wEROCK discussed above; and
- Measuring the effectiveness of the recently approved Electric Gas Working Group (EGWG) industry guideline on fuel assurance. Appropriate measurement and determination of the efficacy of this guideline will be a key driver in a potential fuel assurance standard.

2021 Goals and Deliverables

In 2021, the Reliability Standards group will continue the key activities discussed above by addressing potential improvements to standards, any new directives issued by FERC, as well as any reliability risks identified through RRMP or by the RISC for which a Reliability Standard is part of the solution. Additionally, staff will work with industry to 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. The PRISM group will continue Reliability Standard training efforts for staff, expand analysis for the efficacy of standards and emerging technologies affecting the BPS, and coordinate with the RISC on alignment of identified risks and mitigating activities.

Future Plans

In 2022 and beyond, as emerging technologies that are interconnected at scale continue to provide challenges and uncertainties to BPS reliability, standards alignment with the effects of these technologies is critical. This includes battery storage, DER, the proliferation of electric vehicles, cyber implications on system design, operations, and restoration, and systemic risks from interdependencies among gas, electric, and communications systems. NERC has access to increasing amounts of data for the purpose of identifying trends to BPS reliability risks, which can inform the efficacy of standards with respect to these emerging risks. NERC will continually evaluate approaches to ensure that standards are developed appropriately with respect to the commensurate cross-cutting influence and expertise available.

Resource Requirements

Personnel

The 0.94 decrease in FTEs from the 2020 budget to the 2021 budget is a result of a reallocation of staff as part of the continued effort to realign staff with current strategic needs.

Consultants and Contracts

The \$74k increase for Consultants & Contracts expenses in 2021 is for knowledge-transfer and additional technical support. A detailed breakdown of 2020 and 2021 budgeted expenses is shown in *Exhibit B – Consultants and Contracts Costs*.

Other Costs

The \$127k decrease in Meeting & Travel expenses in the 2021 budget is primarily related to the expected costs savings in this area, which are discussed in the *Introduction and Executive Summary*.

Section A – 2021 Business Plan and Budget Program Area and Department Detail

Statement of Activities and Fixed Asset Additions					
2020 Budget & Projection, and 2021 Budget					
Reliability Standards and Power Risk Issue Strategic Management					
	2020	2020	Variance	2021	Variance
	Budget	Projection	2020 Projection v 2020 Budget Over(Under)	Budget	2021 Budget v 2020 Budget Over(Under)
Funding					
NERC Funding					
NERC Assessments	\$ 8,256,730	\$ 8,256,730	\$ -	\$ 7,833,694	\$ (423,036)
Penalties Released	-	-	-	-	-
Total NERC Funding	\$ 8,256,730	\$ 8,256,730	\$ -	\$ 7,833,694	\$ (423,036)
Third-Party Funding	\$ -	\$ -	\$ -	\$ -	\$ -
Testing Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Interest & Investment Income	45,862	14,309	(31,553)	22,947	(22,915)
Total Funding (A)	\$ 8,302,592	\$ 8,271,039	\$ (31,553)	\$ 7,856,641	\$ (445,951)
Expenses					
Personnel Expenses					
Salaries	\$ 2,622,756	\$ 2,462,692	\$ (160,064)	\$ 2,468,752	\$ (154,004)
Payroll Taxes	165,506	154,419	(11,086)	155,276	(10,230)
Benefits	416,307	334,976	(81,332)	415,057	(1,251)
Retirement Costs	290,052	259,358	(30,694)	272,927	(17,126)
Total Personnel Expenses	\$ 3,494,622	\$ 3,211,446	\$ (283,176)	\$ 3,312,011	\$ (182,610)
Meeting & Travel Expenses					
Meetings & Conference Calls	\$ 59,800	\$ 19,840	\$ (39,960)	\$ 37,860	\$ (21,940)
Travel	220,000	47,034	(172,966)	115,147	(104,853)
Total Meeting & Travel Expenses	\$ 279,800	\$ 66,874	\$ (212,926)	\$ 153,007	\$ (126,793)
Operating Expenses, excluding Depreciation					
Consultants & Contracts	\$ 40,320	\$ 151,280	\$ 110,960	\$ 114,552	\$ 74,232
Office Rent	-	-	-	-	-
Office Costs	50,050	64,608	14,558	45,850	(4,200)
Professional Services	-	-	-	-	-
Miscellaneous	500	1,000	500	2,200	1,700
Total Operating Expenses, excluding Depreciation	\$ 90,870	\$ 216,888	\$ 126,018	\$ 162,602	\$ 71,732
Total Direct Expenses	\$ 3,865,292	\$ 3,495,208	\$ (370,084)	\$ 3,627,620	\$ (237,671)
Indirect Expenses	\$ 4,090,936	\$ 3,998,032	\$ (92,904)	\$ 4,087,161	\$ (3,775)
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses (B)	\$ 7,956,227	\$ 7,493,239	\$ (462,988)	\$ 7,714,782	\$ (241,446)
Change in Net Assets (=A-B)	\$ 346,364	\$ 777,799	\$ 431,435	\$ 141,859	\$ (204,505)
Fixed Asset Additions, excluding Right of Use Assets (C)	\$ 177,804	\$ 80,981	\$ (96,824)	\$ 82,885	\$ (94,919)
Financing Activity					
Loan or Financing Lease - Borrowing (-)	\$ -	\$ (12,958)	\$ (12,958)	\$ (12,558)	\$ (12,558)
Loan or Financing Lease - Principal Payments (+)	168,560	71,262	(97,298)	71,533	(97,028)
Net Financing Activity (D)	\$ 168,560	\$ 58,304	\$ (110,256)	\$ 58,974	\$ (109,586)
Total Budget (=B+C+D)	\$ 8,302,592	\$ 7,632,524	\$ (670,068)	\$ 7,856,641	\$ (445,951)
Change in Working Capital (=A-B-C-D)	\$ -	\$ 638,514	\$ 638,514	\$ -	\$ -
FTEs	17.86	16.59	(1.27)	16.92	(0.94)

Compliance Assurance and Organization Registration and Certification

Compliance Assurance and Organization Registration and Certification (in whole dollars)			
	2020 Budget	2021 Budget	Increase (Decrease)
FTE Reporting	21.62	23.50	1.88
Direct Expenses	\$ 5,881,314	\$ 6,591,671	\$ 710,357
Indirect Expenses	4,952,185	5,730,723	778,538
Other Non-Operating Expenses	-	27,500	27,500
Fixed Asset Additions	1,318,736	1,066,217	(252,519)
Financing Activity	(333,533)	270,191	603,723
Total Budget	\$ 11,818,703	\$ 13,686,302	\$ 1,867,599

Background and Scope

Compliance Assurance

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 identify: (1) the standards or requirements to be monitored; (2) the monitoring processes (tools) to be used 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 Reliability Standards group to assist in the smooth transition of standards from development to enforceability, providing 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 Risk, Performance, and Monitoring group (NERC and Regional Entity collaboration group), NERC Compliance and Certification Committee (CCC), and NERC RSTC.

Organization Registration and Certification

Organization Registration (Registration) identifies and registers BPS users, owners, and operators that are responsible for performing specified reliability functions to which requirements of mandatory Reliability Standards are applicable. Organization Certification (Certification) ensures that an applicant to be a RC, BA, or TOP has the tools, processes, training, and procedures to demonstrate its ability to meet the requirements of all the Reliability Standards applicable to the functions for which it is applying, thereby demonstrating the ability to become certified and then operational. The decision to certify changes to an already operating and certified RC, BA, or TOP is a collaborative decision between the affected Regional Entities and NERC. Together, the Registration and Certification groups manage the Organization Registration and Certification Program (ORCP).

The Registration and Certification group's responsibilities include but are not limited to the following major activities and functions:

- Oversight of the Regional Entities' implementation of the Registration and Certification programs in North America;
- Leading NERC-led Review Panel proceedings;
- Oversight of the use of necessary processes, procedures, IT platforms, tools, and templates;
- Leading and supporting Regional Entity and industry committees, working groups, and task forces, such as the ERO Organization Registration and Certification Group (NERC and Regional Entity collaboration group), NERC CCC, and the CCC Organization Registration and Certification Subcommittee;
- Maintaining the NERC Compliance Registry (NCR) and adhering to the Rules of Procedure, Sections 500, and Appendices 5A, 5B, and 5C; and
- Providing training on IT applications, mainly CORES and the Coordinated Functional Registration (CFR) tool, to Regional Entities and registered entities to enhance utilization of these applications.

Stakeholder Engagement and Benefit

Compliance Assurance engages with stakeholders in two primary ways:

1. Through the CCC. The CCC is chartered to engage with, support, and advise the Board and NERC regarding all facets of the CMEP and Registration and Certification programs. Among other things, Compliance Assurance works with the CCC on activities related to the ERO Enterprise Effectiveness Survey, in seeking input and advice on the development of draft Reliability Standard Audit Worksheets (RSAWs) and the Compliance Guidance process, and coordinating ERO Enterprise Program Alignment Process issues.
2. Through stakeholder outreach. This is conducted through webinars related to specific processes throughout the year, such as to discuss development and evolution of the CMEP IP, and through Regional Entity and NERC workshops and conferences.

Registration and Certification engages with the CCC's Organization Registration and Certification Subcommittee (ORCS), which oversees the ORCP. Registration and Certification staff also work with entities individually on specific questions pertaining to an entity's unique facts and circumstances. As appropriate, the Registration and Certification group conducts webinars and other outreach explaining various work products or high-profile activities, including CMEP Practice Guides, modifications to existing documents, IT application developments, etc. The Registration and Certification group also engages industry stakeholders by presenting at NERC and Regional Entity workshops and other forums.

Tools and Technology

Historically, NERC has used the Compliance Reporting and Tracking System (CRATS) as its compliance database. CRATS also included modules for Reliability Standards, Technical Feasibility Exceptions (TFEs), and Registration. NERC has been working closely with the Regional Entities to implement strategic investments in tools that will replace CRATS and the CMEP and Registration data applications used among the Regional Entities with single, common applications, known as Align and its associated ERO SEL for CMEP and CORES for Registration. CORES was initially released in 2019 and Align and the ERO SEL will both be complete in 2021. Funding for support of the CRATS application in 2021 and beyond, at reduced levels, will be required for historical purposes.

The objectives and benefits of the Align tool include (1) a single common portal and experience for registered entities; (2) improved integration of and access to data, as well as increased analytics; and (3) standardized business processes and consistent application of the CMEP, resulting in increased productivity and reduced application costs across the ERO Enterprise. The ERO SEL will complement the Align tool by supporting the secure transfer, management, retention, and destruction of sensitive registered entity files used in CMEP activities. Collectively, the Align tool and the ERO SEL will provide a platform to enable harmonization of Regional Entity practices, driving to a common registered entity experience while facilitating the secure submission, review, and retention of evidence generated during CMEP activities. Continued development of Align and the development of the ERO SEL will occur in 2020. Implementation of the ERO SEL and the first release of Align to support self-reporting, self-logging, enforcement, and mitigation is planned for the first quarter of 2021, with two more releases in 2021 to support Compliance Assurance activities. For more information, see the [Align Project](#) page on the NERC website.

CORES similarly creates consistent Regional Entity and registered entity processes and improves data maintenance, including capturing data elements to be integrated with the Align application. Additionally, registered entities are able to directly manage their registration needs. The initial release of CORES was implemented in 2019, with further enhancements occurring in 2020. For more information, see the [CORES Technology Project](#) page on the NERC website.

The BES Notification and Exception System tool (BESnet) is also used in support of the Registration group's activities. The BESnet application allows registered entities to submit to their respective Regional Entity notifications of changes to BES assets that affect the registered entity's responsibilities for compliance with the Reliability Standards.

Key Efforts Underway

In support of Focus Areas 1, 4, and 5 of the *ERO Enterprise Long-Term Strategy*, current and ongoing efforts and activities for Compliance Assurance are as follows:

NERC Oversight of Risk-Based Compliance Monitoring

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. For 2021 and beyond, there will be particular emphasis on oversight related to integrating Align into CMEP activities. NERC also produces an ERO Enterprise CMEP annual report, which includes an assessment of the risk-based CMEP implementation.

Program Alignment Process

The ERO Enterprise continues to align CMEP activities across North America. The ERO Enterprise Program Alignment Process provides a structure for collecting, reviewing, resolving, and communicating discrepancies in practices across the ERO Enterprise. Alignment issues come to the ERO Enterprise from a variety of sources, including industry submittals and NERC oversight.

Align and ERO SEL Projects

The development of the Align tool and ERO SEL discussed above have required NERC and the Regional Entities to coordinate extensively to harmonize several aspects of CMEP activities, improving overall program execution and alignment.

Regional Entity Training

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, and 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.

Small Group Advisory Sessions

Compliance Assurance periodically hosts Small Group Advisory Sessions (SGAS) with industry that include in-depth discussions around the possible implementation of controls for newly approved, but not yet effective, Reliability Standards to address and mitigate cyber and physical security risks of the BPS. In 2020, as in 2019, the focus of the SGAS activities was related to supporting implementation of the Cyber Security Supply Chain Risk Management Reliability Standard.

Recent, current, and ongoing activities for Registration and Certification include:

- Development, rollout, and maintenance of CORES, discussed above, including continued focus on functionality for CFRs;
- Execution of Certification engagements and response 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; and
- Processing registration change requests, including NERC-led Review Panels and BES Exceptions.

2021 Goals and Deliverables

In 2021, Compliance Assurance resources will focus on improvements implemented as a result of previous risk-based compliance monitoring activities. In continued support of the *ERO Enterprise Long-Term Strategic Plan*, specific 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 COPs are addressing the relevant risks.

- Work closely with NERC’s Enforcement and IT departments, as well as staff in the Regional Entities, to implement the Align and ERO SEL tools.
- Support the successful implementation of the Cyber Security Supply Chain Risk Management Reliability Standard.
- 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 Standards.
- Enhance and implement training to support monitoring of Reliability Standards, integrating principles from the *Compliance Monitoring Competency Guide*.
- Continue feedback to the Reliability Standards group through coordination between the standards and compliance functions to allow for clear stakeholder implementation of standards, as well as feedback on risks seen in the field. This effort will be supported through a common set of RSAWs, guidance, and outreach.
- Continue to focus on how registered entities have mitigated reliability and security risks while achieving compliance with the Reliability Standards, including applicable internal controls.
- Finalize revisions to BES Reference Document and transition to a CMEP Practice Guide;
- Support international CMEP activities, including reliability and security subject matter expertise and outreach.
- Provide support and leadership to the CCC as well as its subcommittees, working groups, and task forces. Support the CCC leadership and development and implementation of annual work plans.

The Registration and Certification group will continue the ongoing activities described above as applicable. With CORES fully deployed, there will be an opportunity in 2020 and beyond to explore how the ERO IT platforms can further enhance work products, communication, and data tracking and reporting.

Future Plans

For 2022 and beyond, NERC anticipates full implementation of the Align and ERO SEL tool, providing significant impetus for continued harmonization of CMEP processes across the ERO Enterprise and enhanced CMEP workflow management. Additionally, the Align and ERO SEL implementation, along with continued coordination among NERC and the Regional Entities, should result in significant maturation and harmonization of risk-based CMEP processes, particularly in realizing opportunities to enhance the use of the risk-based CMEP processes to support CMEP planning activities.

Resource Requirements

Personnel

The increase of 1.88 FTEs from the 2020 budget to the 2021 budget is a result of an added position to support the ERO SEL and the reallocation of staff as part of the continued effort to realign staff with current strategic needs. There have been no changes to FTEs for Registration and Certification.

Consultants and Contracts

The approximately \$90k for Consultants & Contracts in the 2021 budget is for the annual third-party certification to ensure compliance with security standards for the ERO SEL, for which the total cost is split evenly with Compliance Enforcement, and support and maintenance for BESnet. A detailed breakdown of the 2020 and 2021 budgeted expenses is shown in *Exhibit B – Consultants and Contracts Costs*.

Other Costs

The \$200k decrease in Meeting & Travel expenses from the 2020 budget to the 2021 budget is primarily related to the expected cost savings in this area, which is discussed in the *Introduction and Executive Summary*. The \$311k increase in Office Costs expenses from the 2020 budget to the 2021 budget is primarily attributable to the cost for software licensing, maintenance, and support for the ERO SEL, for which the total annual cost is split evenly with Compliance Enforcement.

The Fixed Asset budget includes approximately \$50k for planned enhancements for CORES and \$900k for the last year of development of Align (the total 2021 expenditure for Align is approximately \$1.8M, split evenly between Compliance Assurance and Compliance Enforcement, and will be fully funded by operating reserves as discussed in the *Introduction and Executive Summary*). Finally, the \$268k for loan or financing lease payments includes approximately \$188k for loan payments for the ERO SEL capital investment borrowing in 2020, again split evenly between Compliance Assurance and Compliance Enforcement.

Section A – 2021 Business Plan and Budget Program Area and Department Detail

Statement of Activities and Fixed Asset Additions					
2020 Budget & Projection, and 2021 Budget					
Compliance Assurance and Organization Registration and Certification					
	2020	2020	Variance	2021	Variance
	Budget	Projection	2020 Projection v 2020 Budget Over(Under)	Budget	2021 Budget v 2020 Budget Over(Under)
Funding					
NERC Funding					
NERC Assessments	\$ 11,763,186	\$ 11,763,186	\$ -	\$ 13,654,127	\$ 1,890,941
Penalties Released	-	-	-	-	-
Total NERC Funding	\$ 11,763,186	\$ 11,763,186	\$ -	\$ 13,654,127	\$ 1,890,941
Third-Party Funding	\$ -	\$ -	\$ -	\$ -	\$ -
Testing Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Interest & Investment Income	55,517	20,261	(35,257)	32,175	(23,342)
Total Funding (A)	\$ 11,818,703	\$ 11,783,446	\$ (35,257)	\$ 13,686,302	\$ 1,867,599
Expenses					
Personnel Expenses					
Salaries	\$ 3,646,298	\$ 3,956,031	\$ 309,733	\$ 4,038,791	\$ 392,493
Payroll Taxes	222,053	227,310	5,256	244,418	22,365
Benefits	686,630	712,894	26,264	824,511	137,881
Retirement Costs	404,705	421,012	16,307	449,687	44,983
Total Personnel Expenses	\$ 4,959,686	\$ 5,317,246	\$ 357,560	\$ 5,557,407	\$ 597,721
Meeting & Travel Expenses					
Meetings & Conference Calls	\$ 89,200	\$ 13,257	\$ (75,943)	\$ 51,742	\$ (37,458)
Travel	400,000	57,347	(342,653)	237,413	(162,587)
Total Meeting & Travel Expenses	\$ 489,200	\$ 70,604	\$ (418,596)	\$ 289,155	\$ (200,045)
Operating Expenses, excluding Depreciation					
Consultants & Contracts	\$ 90,320	\$ 88,400	\$ (1,920)	\$ 89,552	\$ (768)
Office Rent	-	-	-	-	-
Office Costs	341,358	508,489	167,131	652,307	310,949
Professional Services	-	-	-	-	-
Miscellaneous	750	2,750	2,000	3,250	2,500
Total Operating Expenses, excluding Depreciation	\$ 432,428	\$ 599,639	\$ 167,211	\$ 745,109	\$ 312,681
Total Direct Expenses	\$ 5,881,314	\$ 5,987,489	\$ 106,175	\$ 6,591,671	\$ 710,357
Indirect Expenses	\$ 4,952,185	\$ 5,660,866	\$ 708,681	\$ 5,730,723	\$ 778,538
Other Non-Operating Expenses	\$ -	\$ 15,000	\$ 15,000	\$ 27,500	\$ 27,500
Total Expenses (B)	\$ 10,833,499	\$ 11,663,355	\$ 829,856	\$ 12,349,894	\$ 1,516,395
Change in Net Assets (=A-B)	\$ 985,204	\$ 120,091	\$ (865,112)	\$ 1,336,408	\$ 351,204
Fixed Asset Additions, excluding Right of Use Assets (C)	\$ 1,318,736	\$ 3,000,661	\$ 1,681,925	\$ 1,066,217	\$ (252,519)
Financing Activity					
Loan or Financing Lease - Borrowing (-)	\$ (735,667)	\$ (1,018,345)	\$ (282,678)	\$ (17,609)	\$ 718,058
Loan or Financing Lease - Principal Payments (+)	402,134	100,902	(301,232)	287,799	(114,334)
Net Financing Activity (D)	\$ (333,533)	\$ (917,443)	\$ (583,910)	\$ 270,191	\$ 603,723
Total Budget (=B+C+D)	\$ 11,818,703	\$ 13,746,573	\$ 1,927,870	\$ 13,686,302	\$ 1,867,599
Change in Working Capital (=A-B-C-D)	\$ -	\$ (1,963,127)	\$ (1,963,127)	\$ -	\$ -
FTEs	21.62	23.49	1.87	23.50	1.88

Compliance Enforcement

Compliance Enforcement (in whole dollars)			
	2020 Budget	2021 Budget	Increase (Decrease)
FTE Reporting	12.22	12.22	0.00
Direct Expenses	\$ 2,822,301	\$ 3,129,467	\$ 307,165
Indirect Expenses	2,799,061	2,979,976	180,915
Other Non-Operating Expenses	-	27,500	27,500
Fixed Asset Additions	1,025,155	960,433	(64,722)
Financing Activity	(367,050)	230,499	597,549
Total Budget	\$ 6,279,468	\$ 7,327,875	\$ 1,048,407

Background and Scope

The 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. The group focuses on ensuring that the ERO Enterprise dedicates resources to the matters that pose the greatest risk to the reliability of the BPS. The scope of the Enforcement group's activities include the following:

- Monitoring Regional Entities' enforcement processes and providing oversight of their outcomes to ensure alignment across the ERO Enterprise;
- Collecting and analyzing enforcement data and trends to help identify emerging risks to the BPS and inform the development of enforcement policies and processes;
- Filing Notices of Penalty (NOPs) and other disposition documents associated with noncompliance discovered through Regional Entity or NERC-led CMEP activities;
- Collaborating with other NERC departments, including Compliance Assurance, Reliability Standards, and Event Analysis; and
- Training ERO Enterprise staff and registered entities, as well as supporting other outreach efforts.

Stakeholder Engagement and Benefit

Enforcement engages with stakeholders through interaction with and presentations to the CCC, NERC and Regional Entity workshops, and ERO Enterprise webinars to communicate with registered entities about the most significant risks to reliability and security. Enforcement uses those forums to share information about violations and their mitigation to reduce those significant risks.

Tools and Technology

Historically, NERC has used CRATS to track violations, mitigation plans, and reporting required by NERC as the ERO. As discussed in the *Compliance Assurance and Organization Registration and Certification* section above, NERC has been working closely with the Regional Entities to implement strategic investments in tools that will replace CRATS and the CMEP data applications used among the Regional Entities with single, common applications, known as Align and its associated ERO SEL. Align and the ERO SEL will both be complete in 2021. Funding for support of the CRATS application in 2021 and beyond, at reduced levels, will be required for historical purposes. For more information, see the [Align Project](#) page on the NERC website.

Key Efforts Underway

In support of Focus Areas 1, 4, and 5 of the *ERO Enterprise Long-Term Strategy*, current and ongoing efforts and activities for Compliance Enforcement are as follows:

Risk-based Enforcement

The ERO Enterprise's responsibility to address risks to reliability and security includes resolving violations that posed significant risks. Enforcement is identifying those serious violations, ensuring appropriate resolution of those cases, and communicating results to industry.

Streamlining of Minimal Risk Noncompliance

Enforcement continues to enhance risk-based enforcement by identifying additional opportunities to streamline the resolution of minimal risk noncompliance. This effort includes examining the processes to review and assess the risk of noncompliance in order to resolve minimal risk noncompliance more efficiently. Enforcement also considers modifications to the Self-Logging Program to make the program more beneficial to participants and facilitate more efficient resolution of self-logged issues.

Program Alignment Process

The ERO Enterprise continues to align CMEP activities across North America. The ERO Enterprise Program Alignment Process provides a structure for collecting, reviewing, resolving, and communicating discrepancies in practices across the ERO Enterprise. Alignment issues come to the ERO Enterprise from a variety of sources, including industry submittals and NERC oversight.

Align and ERO SEL Projects

The development of the Align tool and ERO SEL discussed above have required NERC and the Regional Entities to coordinate extensively to harmonize several aspects of CMEP activities, improving overall program execution and alignment.

Continued Outreach

NERC CMEP staff provides CMEP training to ERO Enterprise staff through workshops, instructor-led training events, eLearning opportunities, and oversight of the training and education activities of the Regional Entities. These opportunities focus on identifying gaps in staff knowledge and capabilities related to the risk-based CMEP.

2021 Goals and Deliverables

Specific 2021 objectives for the Enforcement department include continuing to:

- Focus on identifying and mitigating the greatest risks to reliability and security.
- Support the implementation of the Align and ERO SEL tools.
- Continue to find ways to efficiently process and close out lower risk violations.
- Educate relevant parties on the risk assessment process.
- Mature the Coordinated Oversight program for MRREs.

Future Plans

In 2022 and beyond, NERC and the Regional Entities will continue to conduct outreach activities that focus on self-logging, compliance exceptions, mitigation, and risk assessment of noncompliance. NERC plans to use existing industry events, such as Regional Entity and NERC conferences and industry webinars, to provide information on enforcement activities. Enforcement will continue to identify areas for improvement and promotion of alignment through training, guidance, or other adjustments.

Resource Requirements

Personnel

There is no change in FTEs from the 2020 budget to the 2021 budget.

Consultants and Contracts

The increase of \$69k in Consultants & Contracts from the 2020 budget to the 2021 budget is primarily for the annual third-party certification to ensure compliance with security standards for the ERO SEL, for which the total cost is split evenly with Compliance Assurance. A detailed breakdown of the 2020 and 2021 budgeted expenses is shown in *Exhibit B – Consultants and Contracts Costs*.

Other Costs

The \$243k increase in Office Costs expenses from the 2020 budget to the 2021 budget is primarily attributable to the cost for software licensing, maintenance, and support for the ERO SEL, for which the total annual cost is split evenly with Compliance Assurance.

The Fixed Asset budget includes \$900k for the last year of development of Align (the total 2021 expenditure for Align is approximately \$1.8M, split evenly between Compliance Assurance and Compliance Enforcement, and will be fully funded by operating reserves as discussed in the *Introduction and Executive Summary*). The \$240k for loan or financing lease payments includes approximately \$188k for loan payments for the ERO SEL capital investment borrowing in 2020, again split evenly between Compliance Assurance and Compliance Enforcement.

Section A – 2021 Business Plan and Budget Program Area and Department Detail

Statement of Activities and Fixed Asset Additions 2020 Budget & Projection, and 2021 Budget					
Compliance Enforcement					
	2020 Budget	2020 Projection	Variance 2020 Projection v 2020 Budget Over(Under)	2021 Budget	Variance 2021 Budget v 2020 Budget Over(Under)
Funding					
NERC Funding					
NERC Assessments	\$ 6,248,089	\$ 6,248,089	\$ -	\$ 7,311,144	\$ 1,063,055
Penalties Released	-	-	-	-	-
Total NERC Funding	\$ 6,248,089	\$ 6,248,089	\$ -	\$ 7,311,144	\$ 1,063,055
Third-Party Funding	\$ -	\$ -	\$ -	\$ -	\$ -
Testing Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Interest & Investment Income	31,379	8,745	(22,634)	16,731	(14,648)
Total Funding (A)	\$ 6,279,468	\$ 6,256,834	\$ (22,634)	\$ 7,327,875	\$ 1,048,407
Expenses					
Personnel Expenses					
Salaries	\$ 1,829,637	\$ 1,541,039	\$ (288,599)	\$ 1,839,039	\$ 9,401
Payroll Taxes	113,039	101,557	(11,482)	115,307	2,267
Benefits	230,971	124,991	(105,981)	220,988	(9,984)
Retirement Costs	197,746	151,710	(46,036)	196,667	(1,078)
Total Personnel Expenses	\$ 2,371,393	\$ 1,919,296	\$ (452,098)	\$ 2,372,000	\$ 606
Meeting & Travel Expenses					
Meetings & Conference Calls	\$ 6,200	\$ 5,795	\$ (405)	\$ 6,310	\$ 110
Travel	55,000	7,858	(47,142)	32,645	(22,355)
Total Meeting & Travel Expenses	\$ 61,200	\$ 13,653	\$ (47,547)	\$ 38,955	\$ (22,245)
Operating Expenses, excluding Depreciation					
Consultants & Contracts	\$ -	\$ 9,000	\$ 9,000	\$ 69,000	\$ 69,000
Office Rent	-	-	-	-	-
Office Costs	389,208	521,560	132,352	632,612	243,404
Professional Services	-	15,000	15,000	15,000	15,000
Miscellaneous	500	500	-	1,900	1,400
Total Operating Expenses, excluding Depreciation	\$ 389,708	\$ 546,060	\$ 156,352	\$ 718,512	\$ 328,804
Total Direct Expenses	\$ 2,822,301	\$ 2,479,009	\$ (343,293)	\$ 3,129,467	\$ 307,165
Indirect Expenses	\$ 2,799,061	\$ 2,443,643	\$ (355,418)	\$ 2,979,976	\$ 180,915
Other Non-Operating Expenses	\$ -	\$ 15,000	\$ 15,000	\$ 27,500	\$ 27,500
Total Expenses (B)	\$ 5,621,363	\$ 4,937,652	\$ (683,711)	\$ 6,136,943	\$ 515,580
Change in Net Assets (=A-B)	\$ 658,105	\$ 1,319,183	\$ 661,077	\$ 1,190,932	\$ 532,827
Fixed Asset Additions, excluding Right of Use Assets (C)	\$ 1,025,155	\$ 2,895,496	\$ 1,870,341	\$ 960,433	\$ (64,722)
Financing Activity					
Loan or Financing Lease - Borrowing (-)	\$ (602,333)	\$ (1,007,919)	\$ (405,586)	\$ (9,157)	\$ 593,177
Loan or Financing Lease - Principal Payments (+)	235,283	43,557	(191,727)	239,656	4,372
Net Financing Activity (D)	\$ (367,050)	\$ (964,362)	\$ (597,313)	\$ 230,499	\$ 597,549
Total Budget (=B+C+D)	\$ 6,279,468	\$ 6,868,786	\$ 589,317	\$ 7,327,875	\$ 1,048,407
Change in Working Capital (=A-B-C-D)	\$ -	\$ (611,951)	\$ (611,951)	\$ -	\$ -
FTEs	12.22	10.14	(2.08)	12.22	0.00

Reliability Assessments and Performance Analysis

The Reliability Assessments and Performance Analysis (RAPA) program identifies, prioritizes, and enables activities to reduce known and emerging risks to the BPS. Three primary groups between two NERC departments are focused on this program: (1) the Reliability Assessments and Technical Committee group and (2) the Performance Analysis group, which are part of the Risk Identification and Mitigation department, and (3) the Power System Analysis and Advanced System Analytics and Modeling group, which is part of the Engineering and Standards department.

Reliability Assessments and Performance Analysis (in whole dollars)			
	2020 Budget	2021 Budget	Increase (Decrease)
FTE Reporting	23.50	25.38	1.88
Direct Expenses	\$ 6,753,513	\$ 6,554,566	\$ (198,947)
Indirect Expenses	5,382,810	5,873,428	490,618
Other Non-Operating Expenses	-	-	-
Fixed Asset Additions	833,953	118,866	(715,086)
Financing Activity	152,027	84,575	(67,452)
Total Budget	\$ 13,122,303	\$ 12,631,436	\$ (490,867)

Background and Scope

Reliability Assessments and Technical Committee

The Reliability Assessments (RA) and Technical Committee group includes RA staff as well as the NERC staff secretaries of the RSTC. RA staff carry out the ERO's statutory responsibility to conduct assessments of the overall reliability and adequacy of the BPS and associated emerging reliability risks that could impact the short, mid, and long-term planning horizons, as well as other reliability issues requiring in-depth analysis. RA activities directly address the risk priorities established by the RISC, and the group relies on its own engineering and analysis expertise, as well as Regional Entity and stakeholder resources. Annual reports and assessments produced by RA staff include:

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

The NERC RSTC and its subgroups provide the oversight, guidance, and leadership essential to enhancing BPS reliability by addressing areas of strategic focus efficiently and comprehensively, and ensuring technical accuracy. The NERC staff secretaries coordinate and administer these activities and efforts.

The RA and Technical Committee group works closely with stakeholders to create assessment development 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 Reliability Assessment Subcommittee (RAS), and ultimately endorsed by the RSTC. Special assessments often require a separate and specialized task force or advisory group to help construct, conduct, and produce special topic assessments.

Performance Analysis

The Performance Analysis (PA) group monitors the performance of and identifies risks to reliability of the BPS through analyzing industry data from industry and measuring historic trends. PA is responsible for the collection, management, and analysis of data related to the performance of four areas of BPS operations: transmission, generation, protection system misoperations, and demand response. Analysis performed by PA 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 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 analyses provide the foundation for the annual *State of Reliability* (SOR) report and other analytical reports and technical papers to the industry. PA staff leads the ERO, technical committee, and stakeholder process to publish the SOR report examining the year-over-year performance indicators of the grid.

Power System Analysis and Advanced System Analytics and Modeling

Power System Analysis (PSA) staff provide technical leadership and support in the areas of resource and demand balancing and system analysis and modeling, including technical support for the NERC BAL and modeling (MOD) Reliability Standards. This has become particularly important as new technologies are added to the system, and significant changes in the resource mix are being both experienced and projected. PSA staff are responsible for:

- Assisting the RA and Technical Committee group in their independent reliability assessments;
- Interconnection-wide analysis of steady-state and dynamic conditions, including frequency, Essential Reliability Services (ERS), stability, short circuit ratio, and oscillatory behavior aspects, including support for the Resources Subcommittee and its subgroups and submission of the Frequency Response Annual Analysis (FRAA) report to FERC; and
- Assuring that the BES electrical elements necessary for its reliable operation are identified and subject to the Reliability Standards.

Advanced System Analytics and Modeling (ASAM) staff provide 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. As new technology incorporation into the BPS accelerates, there is a need for new and improved models towards simulation of their contributions and impacts on reliability. This will facilitate improved design and maximize technology incorporation while maintaining the reliable operation of the BPS. ASAM staff:

- Provide guidance on the appropriate development and use of new and existing models to study emerging risks, including ensuring that BPS planning can adequately assure system reliability and security as the transmission and distribution interface evolves and resource penetration on the distribution system increases;
- Advance understanding of power system characteristics and behaviors by gathering larger phasor measurement units (PMU) datasets for advanced data analytics and modeling improvements;
- Promote and expand understanding of the growing need and available methods for probabilistic studies to augment deterministic studies in system planning studies, including support for the Probabilistic Assessment Working Group (PAWG) that reports to the RAS;
- Conduct advanced system studies of increasing penetrations of new resource technologies or new technologies facilitating these penetrations, such as Battery Energy Storage Systems (BESS), as well as piloting use of new resource models for system simulations;

- Publish Institute of Electrical and Electronics Engineers (IEEE) and other industry papers to promote continual advancement of BPS knowledge and understanding; and
- Support research projects, including NERC’s work with the Carnegie Mellon Industry Center (CEIC), the Power Systems Energy Research Center (PSERC), the DOE North American Energy Resilience Model (NAERM), and the DOE, Electric Power Research Institute (EPRI), and NERC solar project advancing modeling and protection for solar inverter-based resources.

ASAM further provides advanced statistical analysis functions to support the SOR report and various reliability assessments, the FRAA report and other parameters, analytical review of Reliability Standard effectiveness, and various reports on an emergent basis each year.

Stakeholder Engagement and Benefit

The groups described above work collaboratively with NERC stakeholders, particularly through the RSTC and their technical subgroups, to create a reliability strategy that is relevant, timely, and effective to address the most important reliability risks. These efforts include:

- Synthesizing key 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 knowledge into actionable guidance and recommendations for the Board and industry, along with state, federal, and provincial policymakers.

Further, these groups continue to work closely with other organizations, including but not limited to the DOE, EPRI, IEEE, the Institute of Nuclear Power Operations (INPO), North American Transmission Forum (NATF), North American Generator Forum (NAGF), Interstate Natural Gas Association of America (INGAA), Natural Gas Supply Association (NGSA), Canadian Electricity Association (CEA), and International Council on Large Electric Systems (CIGRÉ).

Tools and Technology

The following tools are used by RA, PA, PSA, and ASAM staff to support their activities:

- Advanced analytics and analysis software (e.g., SAS)
- Engineering software (e.g., PSS/E, PSLF, PowerWorld, TSAT, EMPT)
- Infrastructure and geographic-related vulnerabilities analysis software (e.g., Velocity Suite)
- Data management systems, including the:
 - Generating Availability Data System (GADS) and GADS Wind
 - Transmission Availability Data System (TADS)
 - Demand Response Availability Data System (DADS)
 - Reliability Assessment Data System (RADS)
 - Balancing Authority Submittal Site (BASS)
 - Frequency Response Analysis Tools (FRAT)
 - Inadvertent Interchange Tool (IIT)
 - Process Information (PI) Historian
 - Misoperations Information Data Analysis System (MIDAS)

Key Efforts Underway

In addition to the development of the annual assessments and reports, and in support of Focus Areas 2 and 5 of the *ERO Enterprise Long-Term Strategy*, RA focus areas and ongoing activities include:

- 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;
- Advancing the value of the seasonal reliability assessment by providing predictive evaluations of the operational risk in each assessment area. In addition to the Planning Reserve Margin analysis, seasonal reliability assessments use historical resource performance data to identify expected and potentially extreme operational risks;
- Advancing probabilistic assessments and evaluations of energy assurance; and
- Enhancing ERO Enterprise-wide effectiveness and efficiency of RA-related functions. This includes coordinating data and information systems across the ERO Enterprise and providing consistent oversight regarding data collection, checking, validation, and assessment.

Additionally, in FERC's Order No. 830 approving Reliability Standard TPL-007-1 (*Transmission System Planned Performance for Geomagnetic Disturbance Events*), FERC directed NERC to file a research work plan describing how NERC will conduct research into the geomagnetic disturbance (GMD)-related topics identified in the order. NERC developed a research plan¹⁰ with EPRI and filed it with FERC on April 19, 2018. This \$3.4M research project was co-funded by NERC along with more than 20 owners and operators from the electric industry. As part of this effort and directed by FERC, the Board, on August 16, 2018, approved an ROP Section 1600 data request to collect GMD data. Results of the research plan will be filed with FERC in 2020, and NERC will begin implementing the Section 1600 data request for GMD. Further, NERC continues to work with industry to collect information on geomagnetically induced current (GIC) and the potential impacts on reliability.

PA continues to 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. PA is currently expanding the GADS data trend analysis and has begun reflecting post-seasonal reliability review, insights from analysis of the GADS, TADS, and DADS, and integration of event analysis and misoperations. Additionally, PA is developing reporting requirements for solar and associated energy storage data collection.

Also in support of Focus Areas 2 and 4 of the *ERO Enterprise Long-Term Strategy*, the PSA and ASAM group is focusing on:

- Developing technical analyses in key reliability areas, resulting in comprehensive reports addressing areas of concern (e.g., frequency response, short circuit strength, inter-area oscillation, DER integration, and systemic interdependencies, such as gas/electric and communications/electric). The purpose of these technical analyses is to understand and evaluate BPS characteristics, behavior, and performance due to the changing resource mix and integration of new technology, thereby providing guidance and technical expertise to address key planning-related issues and Interconnection-wide concerns;
- Continuing to explore the use of state-of-the-art software to conduct power system analysis by enhancing 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;

¹⁰ [Revised Geomagnetic Disturbance Research Work Plan of the North American Electric Reliability Corporation](#)

- Conducting detailed forensic analyses of significant system disturbances;
- Providing technical expertise, research, and feedback to the industry, including those that support development of key reliability planning-related standards;
- Providing industry insight related to modeling improvements and interconnection-wide system analysis through a State of Modeling report, with recommendations for enhancement and industry engagement;
- In coordination with the IRPTF, performing event analyses, investigating abnormal performance of inverter-based resources, particularly solar photovoltaic, and developing industry recommendations and addressing potential reliability gaps;
- Supporting industry in the reliable integration of increased levels of DER, providing industry technical guidance on key reliability impacts and developing recommended practices and guidelines (modeling, planning, and operations) to ensure BPS reliability;
- Supporting industry adoption and advancement of synchrophasor technology through the Synchronized Measurement Subcommittee (SMS) and studying interconnection-wide oscillatory behavior (and other interconnection-wide phenomena) through PMU data collected from RCs;
- Supporting industry understanding and expertise in power plant modeling through the System Analysis and Modeling Subcommittee's (SAMS's) Power Plant Modeling and Verification Task Force (PPMVTF), advancing capabilities to perform a disturbance based model verification, working with software vendors, and supporting implementation of MOD-026-1 and MOD-027-1;
- Driving improvements of dynamic load modeling capabilities in support of industry stability studies for planning and real-time reliability assessments, advancing state-of-the-art modeling capability across North America, and supporting the SAMS's Load Modeling Task Force (LMTF);
- Supporting studies and technical positions on the changing nature of end use loads, advocating for grid-friendly load behavior, and engaging with industries collaboratively, working with utility members, to represent BPS needs;
- Performing annual assessments of case quality and fidelity on the interconnection-wide cases released by the MOD-032 designees and developing a feedback loop mechanism with the MOD-032 designees to instigate improvements to models;
- Proactively addressing deficiencies in interconnection-wide models and providing industry education on key modeling topics (e.g., generic model notifications for wind, solar, battery) as identified by NERC or industry;
- Providing a report of results from a Composite Reliability Study using probabilistic—or near probabilistic—methods for transmission as well as resources;
- Supporting a Battery Storage Assessment using the Joint WECC/NERC Battery Study of the Western Interconnection to determine the adequacy of battery energy injection to support frequency response and primary frequency reserve margin, etc.; and
- Conducting advanced statistical studies in support of the Standards Efficiency Review and the SOR report.

Finally, in support of Focus Areas 2 and 4 of the *ERO Enterprise Long-Term Strategy*, in 2020 NERC formed a staff group focused on BPS security and grid transformation. This group will develop and promote cyber security planning, operations, and recovery strategies to improve the posture and performance of the BPS to cyber threats. In addition, this group will support the ERO Enterprise and industry to implement security risk mitigation priorities. NERC is also focusing on security initiatives specifically for the ERO Enterprise,

including sharing of best practices; development of security training and participation in regional and continent-wide security exercises; and supporting NERC, the Regional Entities, and industry on matters related to the interface between reliability and security, including providing support for the implementation of risk mitigation priorities recommended by the RISC.

2021 Goals and Deliverables

In 2021, the groups discussed above will continue the efforts described above as applicable, with particular focus on risk issues identified in the latest RISC report. The groups will focus on various assessments and technical reports under the direction of the RSTC. High risk issues include:

- Protection system misoperations
- Reduced situational awareness from loss of EMS
- Unacceptable inverter performance
- Increased amounts of DER
- Reducing potential for the BES initiating wildfires
- Energy adequacy
- Cyber security in planning and operations

As the grid evolves, the ability to collect and the quality and integration of data becomes increasingly important, requiring continued investment in enhancements to and maintenance of the suite of data management tools. Minor enhancements and modifications to the existing software applications are expected.

Future Plans

In 2022 and beyond, NERC will need to continue to build and maintain the analytical capabilities needed to support the reliability and security of the changing grid. This will include the implementation of data collection applications to include solar inventory, event, and performance reporting, as well as the integration of energy storage with the solar and wind facilities, security assessment and design basis, and the development of a strategic plan to re-platform data collection applications as needed to create better integration of collection efforts and analysis for the ERO Enterprise. These shared analytics, data warehouses, and tools advance the capabilities and credibility of the ERO as a trusted source for reliability and security assessment information and decision-making guidance. In addition, these capabilities provide industry and other stakeholders with important information to assist them in ensuring reliability in light of the unprecedented changes in the character and composition of the BPS.

Resource Requirements

Personnel

The increase of 2.82 FTEs from the 2020 budget to the 2021 budget is the result of resource allocations to realign staff with current needs.

Consultants and Contracts

The decrease of \$349k for Consultants & Contracts from the 2020 budget to the 2021 budget is primarily a result of reduced or deferred project-based contract resources as part of the cost savings efforts discussed in the *Introduction and Executive Summary*. The budget includes \$100k for a research project partnerships with EPRI noted above. A detailed breakdown of 2020 and 2021 budgeted expenses are shown in *Exhibit B – Consultants and Contracts Costs*.

Other Costs

The \$219k decrease for Meeting & Travel expenses from the 2020 budget to the 2021 budget is primarily related to the expected cost savings in this area, which is discussed in the *Introduction and Executive Summary*. Similarly, the \$715k decrease for Fixed Asset expenditures from the 2020 budget to the 2021 budget is related to deferred spending for major enhancements for GADS, TADS, and DADS. The \$143k increase for Office Costs is primarily attributable to additional expenses for software licenses and support, and the inclusion of \$50k of dues expenses for the research partnership with PSERC noted above.

Statement of Activities and Fixed Asset Additions 2020 Budget & Projection, and 2021 Budget					
Reliability Assessments and Performance Analysis					
	2020 Budget	2020 Projection	Variance 2020 Projection v 2020 Budget Over(Under)	2021 Budget	Variance 2021 Budget v 2020 Budget Over(Under)
Funding					
NERC Funding					
NERC Assessments	\$ 13,001,958	\$ 13,001,958	\$ -	\$ 12,538,528	\$ (463,430)
Penalties Released	-	-	-	-	-
Total NERC Funding	\$ 13,001,958	\$ 13,001,958	\$ -	\$ 12,538,528	\$ (463,430)
Third-Party Funding	\$ -	\$ -	\$ -	\$ -	\$ -
Testing Fees	-	-	-	-	-
Services & Software	60,000	60,000	-	60,000	-
Miscellaneous	-	-	-	-	-
Interest & Investment Income	60,345	19,198	(41,147)	32,908	(27,437)
Total Funding (A)	\$ 13,122,303	\$ 13,081,156	\$ (41,147)	\$ 12,631,436	\$ (490,867)
Expenses					
Personnel Expenses					
Salaries	\$ 3,662,883	\$ 3,526,377	\$ (136,506)	\$ 3,830,459	\$ 167,576
Payroll Taxes	233,091	218,576	(14,515)	244,412	11,321
Benefits	595,261	490,213	(105,048)	622,466	27,205
Retirement Costs	407,604	390,295	(17,309)	425,191	17,587
Total Personnel Expenses	\$ 4,898,839	\$ 4,625,461	\$ (273,378)	\$ 5,122,528	\$ 223,689
Meeting & Travel Expenses					
Meetings & Conference Calls	\$ 286,800	\$ 149,588	\$ (137,212)	\$ 168,856	\$ (117,944)
Travel	300,000	63,279	(236,721)	199,429	(100,571)
Total Meeting & Travel Expenses	\$ 586,800	\$ 212,867	\$ (373,933)	\$ 368,285	\$ (218,515)
Operating Expenses, excluding Depreciation					
Consultants & Contracts	\$ 752,570	\$ 596,150	\$ (156,420)	\$ 403,203	\$ (349,367)
Office Rent	-	-	-	-	-
Office Costs	513,304	606,419	93,115	655,950	142,646
Professional Services	-	-	-	-	-
Miscellaneous	2,000	4,000	2,000	4,600	2,600
Total Operating Expenses, excluding Depreciation	\$ 1,267,874	\$ 1,206,569	\$ (61,305)	\$ 1,063,753	\$ (204,121)
Total Direct Expenses	\$ 6,753,513	\$ 6,044,897	\$ (708,616)	\$ 6,554,566	\$ (198,947)
Indirect Expenses	\$ 5,382,810	\$ 5,364,448	\$ (18,363)	\$ 5,873,428	\$ 490,618
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses (B)	\$ 12,136,324	\$ 11,409,345	\$ (726,979)	\$ 12,427,994	\$ 291,671
Change in Net Assets (=A-B)	\$ 985,980	\$ 1,671,811	\$ 685,831	\$ 203,442	\$ (782,538)
Fixed Asset Additions, excluding Right of Use Assets (C)	\$ 833,953	\$ 257,657	\$ (576,295)	\$ 118,866	\$ (715,086)
Financing Activity					
Loan or Financing Lease - Borrowing (-)	\$ -	\$ (17,385)	\$ (17,385)	\$ (18,010)	\$ (18,010)
Loan or Financing Lease - Principal Payments (+)	152,027	95,617	(56,410)	102,585	(49,442)
Net Financing Activity (D)	\$ 152,027	\$ 78,232	\$ (73,795)	\$ 84,575	\$ (67,452)
Total Budget (=B+C+D)	\$ 13,122,303	\$ 11,745,234	\$ (1,377,069)	\$ 12,631,436	\$ (490,867)
Change in Working Capital (=A-B-C-D)	\$ -	\$ 1,335,922	\$ 1,335,922	\$ -	\$ -
FTEs	23.50	22.26	(1.24)	25.38	1.88

Situation Awareness

Situation Awareness (in whole dollars)			
	2020 Budget	2021 Budget	Increase (Decrease)
FTE Reporting	5.64	6.58	0.94
Direct Expenses	\$ 2,578,597	\$ 2,674,692	\$ 96,095
Indirect Expenses	1,291,874	1,604,603	312,728
Other Non-Operating Expenses	-	-	-
Fixed Asset Additions	349,049	148,541	(200,508)
Financing Activity	107,180	23,153	(84,026)
Total Budget	\$ 4,326,699	\$ 4,450,989	\$ 124,289

Background and Scope

NERC's Situation Awareness group and the Regional Entities monitor BPS conditions, significant occurrences and emerging risks, and threats across the 16 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 overall reliability.

The Situation Awareness group assists the RSTC's Operating Reliability Subcommittee (ORS) in enhancing BPS reliability with their efforts to provide operational guidance to the industry by managing NERC-sponsored technology tools and services that support operational coordination, and by providing technical support and advice as requested.

Tools and Technology

The group uses and supports the following reliability-related tools in support of Situation Awareness 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 Network (FNet)** – Operated by the Power Information Technology Laboratory at the University of Tennessee, FNet is a low-cost, quickly deployable 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 120V outlets. This measurement data is continuously transmitted via the Internet to the FNet servers hosted at the University of Tennessee and Virginia Tech.
- **Intelligent Alarms Tool** – This tool detects short-term and long-term frequency deviations using data transmitted to NERC by the BAs. When coupled with FNet, this tool allows immediate differentiation of the cause of a frequency deviation—a generator trip or a scheduling error.
- **PowerIQ and Power RT** – These tools provide more detailed insight into current-day conditions impacting BPS conditions in both normal operations and stressed conditions.
- **SAFNR** – This system provides near real-time information about the current operating conditions of the BPS and valuable information from a wide-area view about BPS impacts from hurricanes, hot and cold weather extremes, and varying system conditions.
- **RCIS** – This system allows RCs to post messages and share operating information in real time.
- **NERC Alerts** – This secure alerting system enables NERC to issue alerts to registered entities and the electricity sector when NERC discovers, identifies, or is provided with information that is critical to ensuring the reliability of the BPS.
- **PI Historian System** – The PI Historian system initially provided the ability to collect and analyze system inertia data in support of the recommendations in the 2015 Essential Reliability Services Task Force (ERSTF) report. The system also offers longer term value by enabling the continued strategy to transition away from outside applications by replicating the functionality of Resource Adequacy and Intelligent Alarms in-house. The system also creates the necessary foundation for NERC’s eventual receipt and consumption of streaming synchrophasor data in near real time.

Key Efforts Underway

In support of Focus Areas 2 and 4 of the *ERO Enterprise Long-Term Strategy*, Situation Awareness is focusing on the following priorities and ongoing activities:

- 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;
- Facilitating the exchange of information among industry, the Regional Entities, and the U.S. and Canadian governments during crisis situations;
- Keeping industry informed of emerging reliability threats and risks, including any expected actions;
- Administering the NERC Alerts process as specified in ROP Section 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;
- Continuing to set the conditions to bring in limited streaming synchrophasor data for wide-area situational awareness and event triage applications; and

- Looking at the importance of having visibility and understanding of the reliability or availability of natural gas and its interdependency with electrical generation.

Additionally, after the initial release of SAFNR v3 at the end of 2019 with ResilientGrid as the new vendor, the Situation Awareness group is continuing to focus on enhancements to the SAFNR application. The new SAFNR platform allows users to have a more robust tool to increase situation awareness and the sharing of information with E-ISAC, FERC, and the Regional Entities. The new software has more functionality and automatic model updates, weather overlays, fire data, and allows users to integrate gas data. The upgrade also allows 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. Further, the enhanced SAFNR incorporates 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.

2021 Goals and Deliverables

In 2021, the Situation Awareness group will continue to execute the activities discussed above, including continued focus on implementation of the upgraded SAFNR system and development of any needed enhancements. Additional 2021 plans include (1) minor enhancements to RCIS; (2) enhancing natural gas situational awareness by working with vendors to gain a better understanding of the tools and methods that are and will be available to monitor natural gas availability, transmission, and distribution across the BES; and (3) working with the E-ISAC to increase situational awareness related to physical security.

Future Plans

In 2022 and beyond, efforts related to natural gas and physical security situational awareness will continue. The Situation Awareness group is also planning for needed upgrades to or replacements of the RCIS, Resource Adequacy Tool, and NERC Alerts applications if need arises.

Resource Requirements

Personnel

The increase of 0.94 FTEs from the 2020 budget to the 2021 budget is the result of resource allocations to realign staff with current needs.

Consultants and Contracts

The \$15k for Consultants & Contracts in the 2021 budget is for PI Historian enhancements. A detailed breakdown of the 2020 and 2021 budgeted expenses is shown in *Exhibit B – Consultants and Contracts Costs*.

Other Costs

The \$22k increase for Meetings & Travel is due to a reclassification of conference server expenses specifically for communication with the RCs from Office Costs to Conference Calls. The \$93k decrease in Office Costs from the 2020 budget to the 2021 budget is also a result of this reclassification as well as lower spending on certain software licenses and support. The decrease of \$200k in Fixed Assets from the 2020 budget to the 2021 budget is primarily due to the fact that the 2020 budget included a one-time expense of \$250k for an upgrade to the video wall in the NERC Atlanta office situation awareness room.

Section A – 2021 Business Plan and Budget Program Area and Department Detail

Statement of Activities and Fixed Asset Additions					
2020 Budget & Projection, and 2021 Budget					
Situation Awareness					
	2020	2020	Variance	2021	Variance
	Budget	Projection	2020 Projection v 2020 Budget Over(Under)	Budget	2021 Budget v 2020 Budget Over(Under)
Funding					
NERC Funding					
NERC Assessments	\$ 4,312,217	\$ 4,312,217	\$ -	\$ 4,441,980	\$ 129,763
Penalties Released	-	-	-	-	-
Total NERC Funding	\$ 4,312,217	\$ 4,312,217	\$ -	\$ 4,441,980	\$ 129,763
Third-Party Funding	\$ -	\$ -	\$ -	\$ -	\$ -
Testing Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Interest & Investment Income	14,483	5,099	(9,384)	9,009	(5,474)
Total Funding (A)	\$ 4,326,699	\$ 4,317,316	\$ (9,384)	\$ 4,450,989	\$ 124,289
Expenses					
Personnel Expenses					
Salaries	\$ 900,228	\$ 951,118	\$ 50,889	\$ 993,129	\$ 92,900
Payroll Taxes	59,293	58,918	(374)	65,048	5,756
Benefits	227,569	214,237	(13,332)	268,930	41,360
Retirement Costs	100,163	99,224	(939)	111,336	11,174
Total Personnel Expenses	\$ 1,287,253	\$ 1,323,497	\$ 36,244	\$ 1,438,443	\$ 151,190
Meeting & Travel Expenses					
Meetings & Conference Calls	\$ 30,000	\$ 37,324	\$ 7,324	\$ 66,310	\$ 36,310
Travel	35,000	9,450	(25,550)	20,774	(14,226)
Total Meeting & Travel Expenses	\$ 65,000	\$ 46,774	\$ (18,226)	\$ 87,084	\$ 22,084
Operating Expenses, excluding Depreciation					
Consultants & Contracts	\$ -	\$ -	\$ -	\$ 15,000	\$ 15,000
Office Rent	-	-	-	-	-
Office Costs	1,225,844	1,070,189	(155,655)	1,133,065	(92,779)
Professional Services	-	-	-	-	-
Miscellaneous	500	1,000	500	1,100	600
Total Operating Expenses, excluding Depreciation	\$ 1,226,344	\$ 1,071,189	\$ (155,155)	\$ 1,149,165	\$ (77,179)
Total Direct Expenses	\$ 2,578,597	\$ 2,441,460	\$ (137,137)	\$ 2,674,692	\$ 96,095
Indirect Expenses	\$ 1,291,874	\$ 1,424,254	\$ 132,379	\$ 1,604,603	\$ 312,728
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses (B)	\$ 3,870,471	\$ 3,865,713	\$ (4,758)	\$ 4,279,294	\$ 408,823
Change in Net Assets (=A-B)	\$ 456,228	\$ 451,602	\$ (4,626)	\$ 171,694	\$ (284,534)
Fixed Asset Additions, excluding Right of Use Assets (C)	\$ 349,049	\$ 271,748	\$ (77,300)	\$ 148,541	\$ (200,508)
Financing Activity					
Loan or Financing Lease - Borrowing (-)	\$ -	\$ (4,616)	\$ (4,616)	\$ (4,930)	\$ (4,930)
Loan or Financing Lease - Principal Payments (+)	107,180	25,386	(81,793)	28,084	(79,096)
Net Financing Activity (D)	\$ 107,180	\$ 20,770	\$ (86,409)	\$ 23,153	\$ (84,026)
Total Budget (=B+C+D)	\$ 4,326,699	\$ 4,158,232	\$ (168,467)	\$ 4,450,989	\$ 124,289
Change in Working Capital (=A-B-C-D)	\$ -	\$ 159,084	\$ 159,084	\$ -	\$ -
FTEs	5.64	5.91	0.27	6.58	0.94

Event Analysis

Event Analysis (in whole dollars)			
	2020 Budget	2021 Budget	Increase (Decrease)
FTE Reporting	9.40	7.52	(1.88)
Direct Expenses	\$ 2,426,341	\$ 2,389,731	\$ (36,610)
Indirect Expenses	2,153,124	1,833,832	(319,293)
Other Non-Operating Expenses	-	-	-
Fixed Asset Additions	93,581	37,190	(56,392)
Financing Activity	60,811	26,461	(34,350)
Total Budget	\$ 4,733,857	\$ 4,287,213	\$ (446,644)

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, retire, or consider new Reliability Standards. The group analyzes and determines the cause of the events, promptly ensures tracking of corrective actions, and provides lessons learned for industry consumption. Event Analysis ensures that reporting and analysis are consistent to allow wide-area assessment of trends and risks. The group analyzes all voluntarily 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 group focus on identifying human-error risks and those precursor factors that allow human error to impact system reliability. The group educates industry regarding risks, precursors, and mitigation methods. Resources also support compliance and Reliability Standards training initiatives and trending and analysis to identify emerging reliability risks. These efforts are conducted in collaboration with industry human performance projects, including those of ERO Enterprise human performance groups, the RSTC's Event Analysis Subcommittee (EAS), and other partners.

Stakeholder Engagement and Benefit

The Event Analysis group coordinates the use of collective resources, consistency in analysis, and timely delivery of event analysis reports as per the [ERO Event Analysis Process](#). 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. Each year, the team also conducts calls facilitated by the Regional Entities with over 140 registered entities to discuss in detail and finalize root and contributing causes for the categorized events analyzed. Major analysis to date includes continuing assessment of EMS outages, continued collaboration with the RAPA 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. Additionally, substantial work and analysis is being done in the area of inverters and inverter technologies.

Tools and Technology

The Event Analysis Management System (TEAMS) is used to track and process records originating from the EOP-004 reporting, OE-417 reporting, Event Analysis, and the ERO Cause Code Assignment processes.

Relevant reports are recorded, uploaded, and tied together into a single event. The data in TEAMS is used to fuel event cause coding, general system performance analysis, and key performance indicators.

Key Efforts Underway

In support of Focus Areas 2 and 4 of the *ERO Enterprise Long-Term Strategic Plan*, Event Analysis focus areas and ongoing activities include:

- Work with the Regional Entities to obtain and review information from registered entities on qualifying events and disturbances to advance 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 events (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, including events like the annual NERC Monitoring and Situational Awareness Conference and annual Electric Human Performance Symposium.
- 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.

The Event Analysis department also supports several of the top-priority reliability risk projects as identified and described in the *Reliability Assessment and Performance Analysis* section.

2021 Goals and Deliverables

In addition to continuing the activities described above, in 2021 the Event Analysis group will continue to update/upgrade data collection and storage capabilities and capacity for TEAMS commensurate with resource availability for the year. Additionally, the Event Analysis and PA groups will work to improve the linkage between performance and event analysis data in an effort to enhance the ability to conduct event analyses, as well as to identify key areas for trend analyses across multiple databases. The Event Analysis group will also lead the planning and execution of the annual ERO Enterprise and industry-wide Electric Power Human Performance Symposium.

Future Plans

In 2022 and beyond, the Event Analysis group will continue to work to improve the depth of event analyses across the ERO Enterprise, including enhancing data collection abilities, data analysis tools, and capacity and integration with other database systems. The group will also work with industry leaders to provide education on human-error and performance topics to improve human-system interaction on the BES going forward.

Resource Requirements

Personnel

The 1.88 decrease in FTEs from the 2020 budget to the 2021 budget is the result of resource allocations to realign staff with current needs.

Consultants and Contracts

The \$105k increase for Consultants & Contracts from the 2020 budget to the 2021 budget is primarily attributable to a reclassification of TEAMS support and maintenance from the IT department to the Event Analysis department. A detailed breakdown of the 2020 and 2021 budgeted expenses is shown in *Exhibit B – Consultants and Contracts Costs*.

Other Costs

The \$76k decrease for Meeting & Travel expenses from the 2020 budget to the 2021 budget is primarily related to the expected cost savings in this area, which is discussed in the *Introduction and Executive Summary*.

Section A – 2021 Business Plan and Budget Program Area and Department Detail

Statement of Activities and Fixed Asset Additions					
2020 Budget & Projection, and 2021 Budget					
Event Analysis					
	2020 Budget	2020 Projection	Variance 2020 Projection v 2020 Budget Over(Under)	2021 Budget	Variance 2021 Budget v 2020 Budget Over(Under)
Funding					
NERC Funding					
NERC Assessments	\$ 4,709,719	\$ 4,709,719	\$ -	\$ 4,276,917	\$ (432,802)
Penalties Released	-	-	-	-	-
Total NERC Funding	\$ 4,709,719	\$ 4,709,719	\$ -	\$ 4,276,917	\$ (432,802)
Third-Party Funding	\$ -	\$ -	\$ -	\$ -	\$ -
Testing Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Interest & Investment Income	24,138	8,427	(15,711)	10,296	(13,842)
Total Funding (A)	\$ 4,733,857	\$ 4,718,145	\$ (15,711)	\$ 4,287,213	\$ (446,644)
Expenses					
Personnel Expenses					
Salaries	\$ 1,651,222	\$ 1,756,762	\$ 105,539	\$ 1,630,745	\$ (20,477)
Payroll Taxes	94,949	95,205	256	85,892	(9,056)
Benefits	259,683	208,594	(51,089)	218,265	(41,418)
Retirement Costs	181,837	192,158	10,321	179,177	(2,660)
Total Personnel Expenses	\$ 2,187,691	\$ 2,252,719	\$ 65,028	\$ 2,114,080	\$ (73,611)
Meeting & Travel Expenses					
Meetings & Conference Calls	\$ 33,600	\$ 8,483	\$ (25,117)	\$ 18,930	\$ (14,670)
Travel	150,000	27,942	(122,058)	89,031	(60,969)
Total Meeting & Travel Expenses	\$ 183,600	\$ 36,425	\$ (147,175)	\$ 107,961	\$ (75,639)
Operating Expenses, excluding Depreciation					
Consultants & Contracts	\$ 10,000	\$ 93,200	\$ 83,200	\$ 115,590	\$ 105,590
Office Rent	-	-	-	-	-
Office Costs	44,550	44,617	67	50,500	5,950
Professional Services	-	-	-	-	-
Miscellaneous	500	500	-	1,600	1,100
Total Operating Expenses, excluding Depreciation	\$ 55,050	\$ 138,317	\$ 83,267	\$ 167,690	\$ 112,640
Total Direct Expenses	\$ 2,426,341	\$ 2,427,461	\$ 1,120	\$ 2,389,731	\$ (36,610)
Indirect Expenses	\$ 2,153,124	\$ 2,354,477	\$ 201,353	\$ 1,833,832	\$ (319,293)
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses (B)	\$ 4,579,465	\$ 4,781,938	\$ 202,473	\$ 4,223,562	\$ (355,903)
Change in Net Assets (=A-B)	\$ 154,392	\$ (63,793)	\$ (218,185)	\$ 63,651	\$ (90,741)
Fixed Asset Additions, excluding Right of Use Assets (C)	\$ 93,581	\$ 47,690	\$ (45,891)	\$ 37,190	\$ (56,392)
Financing Activity					
Loan or Financing Lease - Borrowing (-)	\$ -	\$ (7,630)	\$ (7,630)	\$ (5,635)	\$ (5,635)
Loan or Financing Lease - Principal Payments (+)	60,811	41,967	(18,843)	32,096	(28,715)
Net Financing Activity (D)	\$ 60,811	\$ 34,337	\$ (26,473)	\$ 26,461	\$ (34,350)
Total Budget (=B+C+D)	\$ 4,733,857	\$ 4,863,966	\$ 130,109	\$ 4,287,213	\$ (446,644)
Change in Working Capital (=A-B-C-D)	\$ -	\$ (145,820)	\$ (145,820)	\$ -	\$ -
FTEs	9.40	9.77	0.37	7.52	(1.88)

Electricity Information Sharing and Analysis Center

E-ISAC (including CRISP) (in whole dollars)			
	2020 Budget	2021 Budget	Increase (Decrease)
FTE Reporting	44.18	39.48	(4.70)
Direct Expenses	\$ 20,018,016	\$ 20,100,328	\$ 82,312
Indirect Expenses	10,119,683	9,315,576	(804,107)
Other Non-Operating Expenses	-	-	-
Fixed Asset Additions	861,280	271,624	(589,656)
Financing Activity	321,157	134,209	(186,948)
Total Budget	\$ 31,320,137	\$ 29,821,738	\$ (1,498,399)

Background and Scope

In 2017 the E-ISAC, with guidance from the ESCC MEC, the NERC Board, and various trade associations and stakeholder groups, developed a long-term strategic plan to better define its mission and focus its resources in helping the electric sector protect itself from escalating cyber and physical security risks. The E-ISAC strategic plan has three primary areas of focus—engagement, information sharing, and analysis. The strategic plan embraces the ongoing need to review priorities under each focus area, ensure alignment between priorities, optimize resource allocation, and establish metrics to measure progress. The central underpinning of the strategic plan is for the E-ISAC to focus on providing timely and actionable information and analysis to industry regarding cyber and physical security threats and mitigation strategies. To advance this important objective, the strategic plan also recognizes the critical interdependencies between the E-ISAC, industry, U.S. and Canadian government agencies, and other stakeholders.

The E-ISAC also oversees the Cybersecurity Risk Information Sharing Program (CRISP), a unique public-private initiative among the E-ISAC, the North American electric utility industry, DOE, and the U.S. Intelligence Community that delivers real-time, relevant, and actionable cyber security risk information to all E-ISAC member electricity asset owners and operators, including those from Canada and Mexico. The program leverages subject matter expertise and resources from the E-ISAC, DOE, PNNL, and the Argonne National Laboratory. Using passive information sharing devices (ISD) on participant networks outside boundary firewalls, participant data is collected 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. The majority of the CRISP budget is funded by participating utilities, with a small portion funded through NERC assessments.

Stakeholder Engagement and Benefit

The E-ISAC focuses on providing value to the electricity industry asset owners and operators, and active engagement of members and partners (government and other security organizations) increases data sources and leverages cross-sector security resources. Successful engagement with electric industry members and other stakeholders is critical to building trust, which is vital to cyber and physical security risk identification, sharing, analysis, and mitigation.

Tools and Technology

The primary technologies and tools used in support of the E-ISAC's operations include:

- The E-ISAC Portal
- Hardware and software funded and supported as part of CRISP
- Industry broadcast communication systems
- A customer relationship management (CRM) system
- An event management system
- A high frequency disaster recovery communication system
- Data storage and management systems
- E-mail and secure text communications systems
- Technology to facilitate threat communications among members
- Incident management tools
- Various third-party physical and cyber security sharing information services

Key Efforts Underway

During 2019, the E-ISAC took steps to improve the efficiency of operations and reduce or eliminate certain lower value activities. In support of Focus Areas 3, 4, and 5 of the *ERO Enterprise Long-Term Strategy*, leadership was strengthened and security operations reorganized to align and optimize cyber and physical security teams as part of an integrated watch operations team. Portal posting and other publications were also reorganized and enhanced to provide greater context and more information that is actionable. In addition, a performance management group was created to oversee the implementation of process improvements, technology, and metrics to improve the quality, timeliness, and value of information sharing, data management, and analysis. Recent accomplishments include:

- Establishing 24x5 watch operations and hiring experienced security operations staff to facilitate a migration to a 24x7 model by Q3 2020;
- Launching a critical broadcast program to quickly disseminate information regarding imminent threats and other important notifications;
- Increasing inbound and outbound information sharing with members and government partners;
- Supporting numerous DOE initiatives, including CRISP expansion and Cyber Analytics Tools and Techniques (CATT) 2.0™;
- Implementing a CRM system based on the Salesforce platform;
- Increasing and diversifying membership, both within the United States and Canada;
- Establishing an Industry Engagement Program and increasing and diversifying participation in security exercises and training;
- Developing, in coordination with the industry-supported Physical Security Advisory Group, a two-year action plan to expand physical security risk identification, risk mitigation, and preparedness;
- Entering into detailed collaboration agreements with the Canadian Independent System Operator (IESO), the Downstream Natural Gas ISAC (DNG-ISAC) and the Multi-State ISAC (MS-ISAC); and
- Building analytical capabilities and strengthening the E-ISAC's talent pool, including both cyber and physical security expertise.

As part of management’s planning efforts for 2020 and 2021, and taking into account feedback from the Board, MEC, members and other stakeholders, E-ISAC leadership assessed progress to date, re-confirmed operating and strategic priorities, and identified both gaps and opportunities to further improve products, services and, ultimately, provide greater value to members. The following is a summary of actions the E-ISAC will be undertaking to address these gaps and opportunities.

The primary focus of the E-ISAC over the next two years will be improving the effectiveness and efficiency of current products, platforms, and services. These efforts support Focus Area 5 of the *ERO Enterprise Long-Term Strategy* to capture effectiveness, efficiency, and continuous improvement opportunities. The E-ISAC will sharpen its focus and execution in building and maintaining membership by demonstrating value through improved analysis, timely sharing of actionable information, and collaboration with key government and strategic partners, while ensuring that E-ISAC operations are both effective and efficient. These efforts and the actions identified below are closely aligned with the *ERO Enterprise Long-Term Strategy* objective to develop and share information to foster BPS resiliency through security. Key efforts will include:

- Demonstrating the value of information sharing by providing improved and more frequent information to our members;
- Engaging with both industry and government to ensure alignment on key priorities and making improvements to increase the effectiveness of our supporting products, services, and platforms; and
- Focusing and, as appropriate, reallocating resources to ensure proper support for these key priorities.

With these efforts in mind, the following practices will be used to guide resource allocation and investments while ensuring alignment with the three primary focus areas under the E-ISAC strategic plan:

- Fostering an inclusive, stable, productive and effective work environment that attracts and maintains a diverse, talented, and action-oriented workforce;
- Aggressively pursuing initiatives that increase operational effectiveness;
- Prudently choosing resource intensive initiatives that expand the E-ISAC’s scope and avoiding or deferring those that disperse its focus; and
- Exploring opportunities to refine and increase the effectiveness and efficiency of resource utilization supporting security exercises (e.g. GridEx), conferences (e.g. GridSecCon), and other resource intensive activities.

2021 Goals and Deliverables

The E-ISAC remains focused on furtherance of the strategic efforts discussed above as 2021 marks the fourth year of the long-term strategy. Building on its existing foundation and current resources, the E-ISAC 2021 budget reflects a continued measured approach in strengthening the resources and technology required to support the three primary elements of the E-ISAC’s strategic plan—engagement, information sharing, and analysis.

Engagement

- Expand and diversify membership by leveraging industry data and the CRM platform to identify and target prospects and proactively engage with underrepresented segments of the industry, including those in the public power segment.

- Develop more robust mechanisms to obtain and act upon stakeholder feedback, and improve services for existing members.

Information Sharing

- Increase the span, quality, and volume of voluntary shares from members.
- Improve and expand automated information sharing to increase the timeliness and volume of sharing and reduce the effort required by members to share information with the E-ISAC and use information from the E-ISAC.
- Work with government partners to increase E-ISAC and industry access to classified information through threat briefings and collaboration.
- Mature security operations processes to provide members with more timely and relevant information, leveraging 24x7 security operations staffing.

Analysis

- Improve the frequency, timeliness, and quality of valuable, in-depth analysis and reports.
- Operationalize the objectives described in agreements with DOE, IESO, DNG-ISAC and MS-ISAC.
- Facilitate collaboration between U.S. and Canadian government agencies in support of mutual priorities and programs, including Pathfinder, Cyber Space Solarium,¹¹ Project Lighthouse, and the recommendations of the National Infrastructure Advisory Council (NIAC).¹²
- Expand CRISP program participation, streamline governance, and drive greater program value through data enrichment and analysis.

Future Plans

For the long-term horizon (three to five years), the E-ISAC will focus on providing additional value to members and other stakeholders in four key areas:

1. Enhancing analytical capabilities, both internal and in partnership with third parties, while ensuring these enhancements provide value to members;
2. Working closely with the MEC working group, government, and industry partners to identify and share operational technology risks and risk mitigation strategies;
3. Enhancing capability to better leverage classified and other critical threat and intelligence information (both non-public governmental and private sector) to provide timely and actionable information to the sector regarding security risks; and
4. Conducting a detailed evaluation of the benefits, costs, governance, and funding issues and options for extending E-ISAC services and capabilities to support the downstream natural gas sector, given cross-sector interdependencies.

In addition, the E-ISAC will continue to evaluate partnership opportunities with the commercial sector, other ISACs, and government sponsored research and development organizations. The E-ISAC will also work closely with stakeholders and government partners to carefully evaluate the benefits, resource requirements, potential challenges, and risks associated with each of these initiatives, as well as in the

¹¹ Cyberspace Solarium Report, March 2020

¹² NIAC, Transforming the U.S. Cyber Threat Partnership Final Report, December 2019

formulation of appropriate program activities, budgets, and schedules through transparent resource planning and budget approval processes.

Resource Requirements

Personnel

The decrease of 4.70 FTEs from the 2020 budget to the 2021 budget is a result of the reevaluation of the E-ISAC strategic plan as discussed above, including an increased use of contract support versus budgeted FTEs as part of a phased transition of contractors to full-time employees.

Consultants and Contracts

Consultants & Contracts expenses for the E-ISAC 2021 budget, including CRISP, are approximately \$8.7M, which is an increase of \$636k from 2020. Excluding CRISP, E-ISAC's Consultants & Contracts expenses are increasing \$987k over 2020, primarily attributable to the increased use of contract support noted above, which is offset by lower spending in Personnel. CRISP's Consultants & Contracts expenses are \$6.3M, which is \$352k less than the 2020 budget, due to a decrease in participant-paid costs for PNNL (primarily due to an offset of additional DOE funding), the annual security review, and pilot programs. A detailed breakdown of the budgeted 2020 and 2021 costs for E-ISAC is provided in *Exhibit B – Consultants and Contracts Costs*.

Other Costs

The \$167k decrease for Meeting & Travel expenses from the 2020 budget to the 2021 budget is primarily related to the expected cost savings in this area, which is discussed in the *Introduction and Executive Summary*. The \$338k decrease for Fixed Assets from the 2020 budget to the 2021 budget is due a combination of a reduction of costs and reclassification of expenses to Consultants & Contracts.

Section A – 2021 Business Plan and Budget Program Area and Department Detail

Statement of Activities and Fixed Asset Additions					
2020 Budget & Projection, and 2021 Budget					
E-ISAC (including CRISP)					
	2020 Budget	2020 Projection	Variance 2020 Projection v 2020 Budget Over(Under)	2021 Budget	Variance 2021 Budget v 2020 Budget Over(Under)
Funding					
NERC Funding					
NERC Assessments	\$ 23,363,353	\$ 23,363,353	\$ -	\$ 22,673,035	\$ (690,318)
Penalties Released	-	-	-	-	-
Total NERC Funding	\$ 23,363,353	\$ 23,363,353	\$ -	\$ 22,673,035	\$ (690,318)
Third-Party Funding	\$ 7,814,577	\$ 6,732,693	\$ (1,081,884)	\$ 7,064,343	\$ (750,234)
Testing Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Miscellaneous	-	60,000	60,000	-	-
Interest & Investment Income	142,207	47,262	(94,945)	84,360	(57,847)
Total Funding (A)	\$ 31,320,137	\$ 30,203,308	\$ (1,116,829)	\$ 29,821,738	\$ (1,498,399)
Expenses					
Personnel Expenses					
Salaries	\$ 7,494,261	\$ 6,618,002	\$ (876,259)	\$ 7,283,602	\$ (210,659)
Payroll Taxes	461,786	391,376	(70,410)	413,208	(48,578)
Benefits	1,060,720	766,810	(293,910)	990,022	(70,698)
Retirement Costs	808,861	657,300	(151,561)	776,988	(31,874)
Total Personnel Expenses	\$ 9,825,628	\$ 8,433,488	\$ (1,392,140)	\$ 9,463,819	\$ (361,809)
Meeting & Travel Expenses					
Meetings & Conference Calls	\$ 103,200	\$ 63,600	\$ (39,600)	\$ 82,812	\$ (20,388)
Travel	361,000	59,994	(301,006)	214,268	(146,732)
Total Meeting & Travel Expenses	\$ 464,200	\$ 123,594	\$ (340,606)	\$ 297,080	\$ (167,120)
Operating Expenses, excluding Depreciation					
Consultants & Contracts	\$ 8,090,000	\$ 8,058,816	\$ (31,184)	\$ 8,725,641	\$ 635,641
Office Rent	-	-	-	-	-
Office Costs	1,462,689	1,527,317	64,628	1,469,438	6,749
Professional Services	175,000	135,545	(39,455)	135,000	(40,000)
Miscellaneous	500	600	100	9,350	8,850
Total Operating Expenses, excluding Depreciation	\$ 9,728,189	\$ 9,722,278	\$ (5,911)	\$ 10,339,429	\$ 611,240
Total Direct Expenses	\$ 20,018,016	\$ 18,279,360	\$ (1,738,657)	\$ 20,100,328	\$ 82,312
Indirect Expenses	\$ 10,119,683	\$ 8,417,848	\$ (1,701,836)	\$ 9,315,576	\$ (804,107)
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses (B)	\$ 30,137,699	\$ 26,697,207	\$ (3,440,492)	\$ 29,415,905	\$ (721,795)
Change in Net Assets (=A-B)	\$ 1,182,438	\$ 3,506,100	\$ 2,323,663	\$ 405,833	\$ (776,604)
Fixed Asset Additions, excluding Right of Use Assets (C)	\$ 861,280	\$ 671,953	\$ (189,327)	\$ 271,624	\$ (589,656)
Financing Activity					
Loan or Financing Lease - Borrowing (-)	\$ -	\$ (27,281)	\$ (27,281)	\$ (28,579)	\$ (28,579)
Loan or Financing Lease - Principal Payments (+)	321,157	150,045	(171,112)	162,789	(158,369)
Net Financing Activity (D)	\$ 321,157	\$ 122,764	\$ (198,393)	\$ 134,209	\$ (186,948)
Total Budget (=B+C+D)	\$ 31,320,137	\$ 27,491,925	\$ (3,828,212)	\$ 29,821,738	\$ (1,498,399)
Change in Working Capital (=A-B-C-D)	\$ -	\$ 2,711,383	\$ 2,711,383	\$ -	\$ -
FTEs	44.18	34.93	(9.25)	39.48	(4.70)

Section A – 2021 Business Plan and Budget Program Area and Department Detail

Statement of Activities and Fixed Asset Additions					
2020 Budget & Projection, and 2021 Budget					
E-ISAC Only					
	2020	2020	Variance	2021	Variance
	Budget	Projection	2020 Projection	Budget	2021 Budget
			v 2020 Budget		v 2020 Budget
			Over(Under)		Over(Under)
Funding					
NERC Funding					
NERC Assessments	\$ 22,417,776	\$ 22,417,776	\$ -	\$ 21,577,172	\$ (840,604)
Penalties Released	-	-	-	-	-
Total NERC Funding	\$ 22,417,776	\$ 22,417,776	\$ -	\$ 21,577,172	\$ (840,604)
Third-Party Funding	\$ -	\$ -	\$ -	\$ -	\$ -
Testing Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Miscellaneous	-	60,000	60,000	-	-
Interest & Investment Income	106,207	27,262	(78,945)	48,360	(57,847)
Total Funding (A)	\$ 22,523,983	\$ 22,505,038	\$ (18,945)	\$ 21,625,531	\$ (898,451)
Expenses					
Personnel Expenses					
Salaries	\$ 7,024,462	\$ 6,103,560	\$ (920,902)	\$ 6,608,091	\$ (416,371)
Payroll Taxes	433,408	368,519	(64,889)	384,291	(49,117)
Benefits	981,788	709,332	(272,455)	912,362	(69,425)
Retirement Costs	758,234	612,087	(146,148)	726,065	(32,170)
Total Personnel Expenses	\$ 9,197,892	\$ 7,793,498	\$ (1,404,394)	\$ 8,630,808	\$ (567,084)
Meeting & Travel Expenses					
Meetings & Conference Calls	\$ 90,000	\$ 61,742	\$ (28,258)	\$ 75,240	\$ (14,760)
Travel	325,000	46,169	(278,831)	192,901	(132,099)
Total Meeting & Travel Expenses	\$ 415,000	\$ 107,911	\$ (307,089)	\$ 268,141	\$ (146,859)
Operating Expenses, excluding Depreciation					
Consultants & Contracts	\$ 1,412,500	\$ 2,423,545	\$ 1,011,045	\$ 2,399,918	\$ 987,418
Office Rent	-	-	-	-	-
Office Costs	1,025,974	1,220,147	194,173	1,357,910	331,936
Professional Services	-	545	545	-	-
Miscellaneous	250	350	100	8,900	8,650
Total Operating Expenses, excluding Depreciation	\$ 2,438,724	\$ 3,644,587	\$ 1,205,863	\$ 3,766,728	\$ 1,328,004
Total Direct Expenses	\$ 12,051,616	\$ 11,545,996	\$ (505,620)	\$ 12,665,677	\$ 614,061
Indirect Expenses	\$ 9,473,746	\$ 7,617,759	\$ (1,855,987)	\$ 8,627,890	\$ (845,856)
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses (B)	\$ 21,525,362	\$ 19,163,755	\$ (2,361,607)	\$ 21,293,567	\$ (231,795)
Change in Net Assets (=A-B)	\$ 998,621	\$ 3,341,282	\$ 2,342,662	\$ 331,964	\$ (666,656)
Fixed Asset Additions, excluding Right of Use Assets (C)	\$ 695,706	\$ 473,247	\$ (222,459)	\$ 207,678	\$ (488,028)
Financing Activity					
Loan or Financing Lease - Borrowing (-)	\$ -	\$ (24,688)	\$ (24,688)	\$ (26,466)	\$ (26,466)
Loan or Financing Lease - Principal Payments (+)	302,914	135,784	(167,130)	150,753	(152,161)
Net Financing Activity (D)	\$ 302,914	\$ 111,096	\$ (191,818)	\$ 124,286	\$ (178,628)
Total Budget (=B+C+D)	\$ 22,523,983	\$ 19,748,099	\$ (2,775,884)	\$ 21,625,531	\$ (898,451)
Change in Working Capital (=A-B-C-D)	\$ -	\$ 2,756,939	\$ 2,756,939	\$ -	\$ -
FTEs	41.36	31.61	(9.75)	36.66	(4.70)

Section A – 2021 Business Plan and Budget Program Area and Department Detail

Statement of Activities and Fixed Asset Additions					
2020 Budget & Projection, and 2021 Budget					
CRISP Only					
	2020 Budget	2020 Projection	Variance 2020 Projection v 2020 Budget Over(Under)	2021 Budget	Variance 2021 Budget v 2020 Budget Over(Under)
Funding					
NERC Funding					
NERC Assessments	\$ 945,577	\$ 945,577	\$ -	\$ 1,095,863	\$ 150,286
Penalties Released	-	-	-	-	-
Total NERC Funding	\$ 945,577	\$ 945,577	\$ -	\$ 1,095,863	\$ 150,286
Third-Party Funding	\$ 7,814,577	\$ 6,732,693	\$ (1,081,884)	\$ 7,064,343	\$ (750,234)
Testing Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Interest & Investment Income	36,000	20,000	(16,000)	36,000	-
Total Funding (A)	\$ 8,796,155	\$ 7,698,270	\$ (1,097,884)	\$ 8,196,207	\$ (599,948)
Expenses					
Personnel Expenses					
Salaries	\$ 469,799	\$ 514,442	\$ 44,643	\$ 675,511	\$ 205,712
Payroll Taxes	28,378	22,857	(5,521)	28,917	539
Benefits	78,933	57,477	(21,455)	77,660	(1,273)
Retirement Costs	50,627	45,214	(5,413)	50,923	296
Total Personnel Expenses	\$ 627,736	\$ 639,990	\$ 12,254	\$ 833,011	\$ 205,275
Meeting & Travel Expenses					
Meetings & Conference Calls	\$ 13,200	\$ 1,858	\$ (11,342)	\$ 7,572	\$ (5,628)
Travel	36,000	13,825	(22,175)	21,367	(14,633)
Total Meeting & Travel Expenses	\$ 49,200	\$ 15,683	\$ (33,517)	\$ 28,939	\$ (20,261)
Operating Expenses, excluding Depreciation					
Consultants & Contracts	\$ 6,677,500	\$ 5,635,271	\$ (1,042,229)	\$ 6,325,723	\$ (351,777)
Office Rent	-	-	-	-	-
Office Costs	436,715	307,170	(129,545)	111,528	(325,187)
Professional Services	175,000	135,000	(40,000)	135,000	(40,000)
Miscellaneous	250	250	-	450	200
Total Operating Expenses, excluding Depreciation	\$ 7,289,465	\$ 6,077,691	\$ (1,211,774)	\$ 6,572,701	\$ (716,764)
Total Direct Expenses	\$ 7,966,400	\$ 6,733,364	\$ (1,233,036)	\$ 7,434,651	\$ (531,749)
Indirect Expenses	\$ 645,937	\$ 800,088	\$ 154,151	\$ 687,687	\$ 41,750
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses (B)	\$ 8,612,337	\$ 7,533,452	\$ (1,078,885)	\$ 8,122,338	\$ (490,000)
Change in Net Assets (=A-B)	\$ 183,817	\$ 164,818	\$ (18,999)	\$ 73,869	\$ (109,948)
Fixed Asset Additions, excluding Right of Use Assets (C)	\$ 165,574	\$ 198,706	\$ 33,132	\$ 63,946	\$ (101,628)
Financing Activity					
Loan or Financing Lease - Borrowing (-)	\$ -	\$ (2,593)	\$ (2,593)	\$ (2,113)	\$ (2,113)
Loan or Financing Lease - Principal Payments (+)	18,243	14,261	(3,982)	12,036	(6,207)
Net Financing Activity (D)	\$ 18,243	\$ 11,668	\$ (6,575)	\$ 9,923	\$ (8,320)
Total Budget (=B+C+D)	\$ 8,796,155	\$ 7,743,826	\$ (1,052,329)	\$ 8,196,207	\$ (599,948)
Change in Working Capital (=A-B-C-D)	\$ -	\$ (45,556)	\$ (45,556)	\$ -	\$ -
FTEs	2.82	3.32	0.50	2.82	0.00

Personnel Certification and Continuing Education

Personnel Certification and Continuing Education (in whole dollars)			
	2020 Budget	2021 Budget	Increase (Decrease)
FTE Reporting	2.82	2.82	-
Direct Expenses	\$ 1,046,033	\$ 982,466	\$ (63,567)
Indirect Expenses	645,937	687,687	41,750
Other Non-Operating Expenses	-	-	-
Fixed Asset Additions	28,074	56,446	28,372
Financing Activity	18,243	9,923	(8,320)
Total Budget	\$ 1,738,288	\$ 1,736,522	\$ (1,766)

Background and Scope

The Personnel Certification group oversees the System Operator Certification Program that promotes reliability of the North American BPS by ensuring that employers have a workforce of system operators that meet minimum qualifications. NERC monitors system operators to ensure they maintain their required credentials to work in system control centers across North America. NERC's system operator certification exam tests specific knowledge of job skills and Reliability Standards. It also prepares operators to handle the BPS during normal and emergency operations. Certification is maintained by completing NERC-approved Credential Maintenance Program courses and activities. These industry-accepted qualifications are set through internationally recognized processes and procedures for agencies that certify persons. ROP Section 600 addresses Personnel Certification activities in the area of System Operator Certification.

The Personnel Certification Governance Committee (PCGC) is a NERC standing committee that provides oversight to the policies and processes used to implement and maintain the integrity and independence of the NERC System Operator Certification Program. The PCGC provides reports to the Board regarding the governance and administration of the System Operator Certification Program.

The Credential Maintenance Working Group (CMWG) reports to the PCGC and is responsible for developing and maintaining the Credential Maintenance Program under the general guidelines set by the PCGC. Credential maintenance of the System Operator Certification program is accomplished by obtaining Continuing Education Hours (CEHs). The Credential Maintenance Program acknowledges high quality learning activities within the electric utility industry via the approval of continuing education providers and their approved courses.

The Exam Working Group (EWG) consists of subject matter experts from all regions of North America and is responsible for doing an extensive job analysis survey of certified operators across the industry, which provides the basis for the exams. The job analysis survey results in an exam content outline for each of the four exams. The exam content outline is the framework used to associate tasks to exam questions. NERC contracts with psychometric consultants who assist a working group of certified system operators in the development and maintenance of each exam.

The System Operator Certification and Credential Maintenance programs are self-funded through exam and continuing education provider fees, and the PCGC oversees the programs' budgets.

Stakeholder Engagement and Benefit

The Personnel Certification group collaborates with the PCGC, CMWG, and EWG on the completion of System Operator Certification program tasks. Personnel Certification staff coordinate and administer the PCGC, CMWG, and EWG meetings and all activities associated with the System Operator Certification program. Industry stakeholders also benefit from the ability to participate in the Job Task Analysis (JTA) and the Item Writing Workshop (IWW), which occur every three years.

Tools and Technology

The primary tool of the System Operator Certification and the Credential Maintenance programs is a credential maintenance database known as the System Operator Certification Continuing Education Database (SOCCED). Candidates and System Operators use the tool for purchasing a certification exam application and, upon successfully passing the exam, credential maintenance. Continuing education providers use SOCCEd to become a provider and upload courses for approval as well as earned CEHs to System Operator transcripts.

Key Efforts Underway

The Personnel Certification department is focused on the following priorities and ongoing activities:

- Analysis of System Operator Certification program survey results;
- Updates to the System Operator Certification Exam Item Bank to ensure relevance to current Reliability Standards;
- Enhancements to the exam “skills assessment” process to better assess the skills and knowledge of System Operators;
- Upon industry and FERC acceptance, development of an implementation plan for One Credential transition;
- Evaluating credential review and rationalization to maintain credentials;
- Reinstatement of Provider Renewal Audits;
- Revising the Credential Maintenance Program Manual; and
- Continued improvements to the SOCCEd system to enhance user experiences.

2021 Goals and Deliverables

Under the guidance of the PCGC, the Personnel Certification group is dedicated to enhancing the System Operator Certification program to support reliable operation of the BPS. In 2021, the group will focus on further development of the credential maintenance portion of the certification program. Key deliverables for the System Operator Certification program include:

- Analysis of System Operator Certification Program survey results;
- Annual analysis of the System Operator Certification Exam Item Bank;
- Annual analysis of Appendix A topics;
- Credential maintenance requirements; and
- Continued enhancements for SOCCEd.

Under the guidance of the PCGC and CMWG, the Personnel Certification group will continue to focus on revisions, approval, and implementation of the Credential Maintenance Program Manual to provide clear and concise definitions, instructions, and processes for the program. The CMWG is also overseeing the

development of guidelines that will assist industry with the creation and administration of their own System Operator Certification credential maintenance programs.

Future Plans

In 2022 and beyond, the Personnel Certification group will focus on transition and implementation plans for the primary activities in 2021. For the System Operator Certification Program, this includes transitioning to One Credential and the appropriate credential maintenance requirements, and for the Credential Maintenance Program this includes improvement of the Credential Maintenance Program Manual.

Resource Requirements

Personnel

There is no change in FTEs from the 2020 budget to the 2021 budget.

Consultants and Contracts

The \$107k increase for Consultants & Contracts from the 2020 budget to the 2021 budget is primarily attributable to the inclusion of expenses for the JTA, which occurs every three years, and a reclassification of expenses from Office Costs to Consultants & Contracts (with a corresponding decrease in Office Costs). A detailed breakdown of 2020 and 2021 budgeted expenses is shown in *Exhibit B – Consultants and Contracts Costs*.

Other Costs

The \$31k decrease for Meeting & Travel expenses from the 2020 budget to the 2021 budget is primarily related to the expected cost savings in this area, which is discussed in the *Introduction and Executive Summary*. The \$28k increase in Fixed Assets from the 2020 budget to the 2021 budget is mainly attributable to expenses related to a re-platform of SOCCED.

Section A – 2021 Business Plan and Budget Program Area and Department Detail

Statement of Activities and Fixed Asset Additions 2020 Budget & Projection, and 2021 Budget					
Personnel Certification					
	2020 Budget	2020 Projection	Variance 2020 Projection v 2020 Budget Over(Under)	2021 Budget	Variance 2021 Budget v 2020 Budget Over(Under)
Funding					
NERC Funding					
NERC Assessments	\$ -	\$ -	\$ -	\$ -	\$ -
Penalties Released	-	-	-	-	-
Total NERC Funding	\$ -	\$ -	\$ -	\$ -	\$ -
Third-Party Funding					
Testing Fees	1,735,000	1,735,150	150	1,801,634	66,634
Services & Software	-	-	-	-	-
Miscellaneous	-	500	500	-	-
Interest & Investment Income	7,241	4,000	(3,241)	7,200	(41)
Total Funding (A)	\$ 1,742,241	\$ 1,739,650	\$ (2,591)	\$ 1,808,834	\$ 66,593
Expenses					
Personnel Expenses					
Salaries	\$ 372,765	\$ 354,227	\$ (18,538)	\$ 304,433	\$ (68,333)
Payroll Taxes	24,774	26,349	1,575	22,091	(2,683)
Benefits	64,235	40,049	(24,187)	44,346	(19,890)
Retirement Costs	40,459	33,882	(6,577)	33,665	(6,794)
Total Personnel Expenses	\$ 502,233	\$ 454,507	\$ (47,726)	\$ 404,534	\$ (97,699)
Meeting & Travel Expenses					
Meetings & Conference Calls	\$ 34,400	\$ 10,796	\$ (23,604)	\$ 20,192	\$ (14,208)
Travel	30,000	7,140	(22,860)	13,190	(16,810)
Total Meeting & Travel Expenses	\$ 64,400	\$ 17,936	\$ (46,464)	\$ 33,382	\$ (31,018)
Operating Expenses, excluding Depreciation					
Consultants & Contracts	\$ 282,000	\$ 288,650	\$ 6,650	\$ 388,650	\$ 106,650
Office Rent	-	-	-	-	-
Office Costs	197,400	164,076	(33,324)	155,600	(41,800)
Professional Services	-	-	-	-	-
Miscellaneous	-	30	30	300	300
Total Operating Expenses, excluding Depreciation	\$ 479,400	\$ 452,756	\$ (26,644)	\$ 544,550	\$ 65,150
Total Direct Expenses	\$ 1,046,033	\$ 925,199	\$ (120,834)	\$ 982,466	\$ (63,567)
Indirect Expenses	\$ 645,937	\$ 718,152	\$ 72,214	\$ 687,687	\$ 41,750
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses (B)	\$ 1,691,971	\$ 1,643,351	\$ (48,620)	\$ 1,670,153	\$ (21,818)
Change in Net Assets (=A-B)	\$ 50,271	\$ 96,299	\$ 46,029	\$ 138,681	\$ 88,410
Fixed Asset Additions, excluding Right of Use Assets (C)	\$ 28,074	\$ 14,546	\$ (13,528)	\$ 56,446	\$ 28,372
Financing Activity					
Loan or Financing Lease - Borrowing (-)	\$ -	\$ (2,327)	\$ (2,327)	\$ (2,113)	\$ (2,113)
Loan or Financing Lease - Principal Payments (+)	18,243	12,801	(5,442)	12,036	(6,207)
Net Financing Activity (D)	\$ 18,243	\$ 10,474	\$ (7,769)	\$ 9,923	\$ (8,320)
Total Budget (=B+C+D)	\$ 1,738,288	\$ 1,668,371	\$ (69,917)	\$ 1,736,522	\$ (1,766)
Change in Working Capital (=A-B-C-D)	\$ 3,953	\$ 71,279	\$ 67,326	\$ 72,312	\$ 68,359
FTEs	2.82	2.98	0.16	2.82	0.00

Training and Education

Training and Education (in whole dollars)			
	2020 Budget	2021 Budget	Increase (Decrease)
FTE Reporting	1.88	1.88	-
Direct Expenses	\$ 553,483	\$ 610,153	\$ 56,670
Indirect Expenses	430,625	458,458	27,833
Other Non-Operating Expenses	-	-	-
Fixed Asset Additions	18,716	9,297	(9,419)
Financing Activity	12,162	6,615	(5,547)
Total Budget	\$ 1,014,986	\$ 1,084,523	\$ 69,537

Background and Scope

ROP Section 901 acknowledges the need to acquire and sustain informed, knowledgeable, and skilled personnel in order to assure the reliable operation of the North American BPS. The Training and Education group facilitates the learning and development of ERO Enterprise staff¹³ as well as BPS industry participants. The program oversees and coordinates learning activities and resources that support the acquisition and increase of knowledge and skills among stakeholders.

In support of the ERO Enterprise's efforts to engage and retain highly qualified talent with the leadership and technical skills needed to support its mission, the Training and Education group facilitates continuous learning among the ERO Enterprise's executive and professional staff. These learning opportunities and resources are aimed at improving competencies critical to success and succession planning.

Stakeholder Engagement and Benefit

The Training and Education group's stakeholders are comprised of ERO Enterprise employees and BPS industry learners, project sponsors and managers, subject matter experts, and anyone else with an interest in the outcome of a learning event. The Training and Education program uses one-way mass communication media, such as emails, newsletters, flyers and marketing videos to convey information about learning events and resources. Two-way communication methods, such as face-to-face meetings and webinars, are used whenever three or more stakeholders are engaged to analyze learning needs, mutually solve problems, or delegate responsibilities and tasks. Learners are typically engaged through learning events and products and resources, such as custom-made and off-the-shelf interactive self-paced e-learning modules, video-based learning, and in-person and live-webinar instructor-led training.

Tools and Technology

The Training and Education group uses the following tools and technology to support their activities:

- Learning Management System (LMS) platform and content library for online learning modules
- E-learning content management systems and authoring tools
- Graphic design and video editing software
- Video camera, lighting, green screen, and audio equipment
- Audience Response Ware (ARW) (interactive audience response software and hardware)

¹³ NERC's Human Resources group focuses on learning and development for NERC staff specifically.

Key Efforts Underway

The Training and Education team’s key efforts are based on the ERO Enterprise’s long-term strategic goal of increasing workforce training that develops the skills needed to perform high quality rigorous activities while keeping up with the fast changing pace of supporting technology. The Training and Education group is currently focused on the follow priorities and ongoing activities:

- Assisting in the facilitation of the ERO Enterprise CMEP staff workshop by designing, developing, and delivering video-based and interactive e-learning resources as well as the management of supporting resources, such as the ARW technology;
- Developing learning products for industry-facing workshops and conferences;
- Developing CMEP e-learning modules for ERO Enterprise auditors, systems training products for data systems, including DADS and GADS Wind, and functional program training modules, such as the Cause Analysis e-learning module;
- Designing the ERO Enterprise Systems Training website; and
- Deploying a new LMS system as well as a new off-the-shelf content management system for the ERO Enterprise.

2021 Goals and Deliverables

The Training and Education group’s deliverables for 2021 include:

- Development of promotional and training videos, e-learning modules and instructor-led training in support of the releases of the Align and ERO SEL system software;
- Identification, design, development, and implementation of a management development program and other employee training;
- Any necessary updates or enhancements to existing instructional design support tools and software;
- Implementing training and adoption for the new LMS among ERO Enterprise employees;
- Continued development of the ERO Enterprise Systems Training website;
- Updating systems training products for data systems including GADS, GADS Wind, TADS, DADS, etc. to reflect the enhancements to the data systems; and
- Design and development of cause analysis training.

Future Plans

In 2022 and beyond, the Training and Education group expects to focus on the following:

- Development of learning resources for subsequent releases of/enhancements to the Align and ERO SEL tools;
- Implementation of the management development program;
- Continued development of the ERO Enterprise Systems Training website;
- Delivery of an orientation/onboarding program for ERO Enterprise employees; and
- Any necessary updates or enhancements to existing instructional design support tools and software.

Resource Requirements

Personnel

There is no change in FTEs from the 2020 budget to the 2021 budget.

Consultants and Contracts

The \$60k increase for Consultants & Contracts from the 2020 budget to the 2021 budget is due to the reclassification of staff training expenses benefiting the ERO Enterprise from the Human Resources department to Training and Education. A detailed breakdown of 2020 and 2021 budgeted expenses is shown in *Exhibit B – Consultants and Contracts Costs*.

Statement of Activities and Fixed Asset Additions					
2020 Budget & Projection, and 2021 Budget					
Training and Education					
	2020	2020	Variance	2021	Variance
	Budget	Projection	2020 Projection v 2020 Budget Over(Under)	Budget	2021 Budget v 2020 Budget Over(Under)
Funding					
NERC Funding					
NERC Assessments	\$ 1,010,158	\$ 1,010,158	\$ -	\$ 1,081,949	\$ 71,791
Penalties Released	-	-	-	-	-
Total NERC Funding	\$ 1,010,158	\$ 1,010,158	\$ -	\$ 1,081,949	\$ 71,791
Third-Party Funding	\$ -	\$ -	\$ -	\$ -	\$ -
Testing Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Interest & Investment Income	4,828	1,700	(3,127)	2,574	(2,254)
Total Funding (A)	\$ 1,014,986	\$ 1,011,859	\$ (3,127)	\$ 1,084,523	\$ 69,537
Expenses					
Personnel Expenses					
Salaries	\$ 212,108	\$ 232,307	\$ 20,198	\$ 226,511	\$ 14,403
Payroll Taxes	17,391	17,725	334	18,582	1,191
Benefits	52,397	64,670	12,273	63,864	11,468
Retirement Costs	23,836	26,045	2,208	25,471	1,635
Total Personnel Expenses	\$ 305,733	\$ 340,746	\$ 35,014	\$ 334,429	\$ 28,696
Meeting & Travel Expenses					
Meetings & Conference Calls	\$ 12,250	\$ 1,159	\$ (11,091)	\$ 1,262	\$ (10,988)
Travel	10,000	226	(9,774)	3,297	(6,703)
Total Meeting & Travel Expenses	\$ 22,250	\$ 1,385	\$ (20,865)	\$ 4,559	\$ (17,691)
Operating Expenses, excluding Depreciation					
Consultants & Contracts	\$ 110,000	\$ 154,180	\$ 44,180	\$ 170,000	\$ 60,000
Office Rent	-	-	-	-	-
Office Costs	115,000	91,280	(23,720)	100,465	(14,535)
Professional Services	-	-	-	-	-
Miscellaneous	500	500	-	700	200
Total Operating Expenses, excluding Depreciation	\$ 225,500	\$ 245,960	\$ 20,460	\$ 271,165	\$ 45,665
Total Direct Expenses	\$ 553,483	\$ 588,091	\$ 34,609	\$ 610,153	\$ 56,670
Indirect Expenses	\$ 430,625	\$ 474,751	\$ 44,126	\$ 458,458	\$ 27,833
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses (B)	\$ 984,107	\$ 1,062,842	\$ 78,735	\$ 1,068,610	\$ 84,503
Change in Net Assets (=A-B)	\$ 30,878	\$ (50,984)	\$ (81,862)	\$ 15,913	\$ (14,966)
Fixed Asset Additions, excluding Right of Use Assets (C)	\$ 18,716	\$ 9,616	\$ (9,100)	\$ 9,297	\$ (9,419)
Financing Activity					
Loan or Financing Lease - Borrowing (-)	\$ -	\$ (1,539)	\$ (1,539)	\$ (1,409)	\$ (1,409)
Loan or Financing Lease - Principal Payments (+)	12,162	8,462	(3,700)	8,024	(4,138)
Net Financing Activity (D)	\$ 12,162	\$ 6,923	\$ (5,239)	\$ 6,615	\$ (5,547)
Total Budget (=B+C+D)	\$ 1,014,986	\$ 1,079,382	\$ 64,396	\$ 1,084,523	\$ 69,537
Change in Working Capital (=A-B-C-D)	\$ -	\$ (67,523)	\$ (67,523)	\$ -	\$ -
FTEs	1.88	1.97	0.09	1.88	0.00

Administrative Programs

Administrative Programs (in whole dollars)						
	Direct Expenses, Fixed Assets, and Net Financing Activity			FTEs		
	2020 Budget	2021 Budget	Increase (Decrease)	2020 Budget	2021 Budget	Increase (Decrease)
General & Administrative	\$ 11,584,094	\$ 11,304,770	\$ (279,324)	16.92	17.86	0.94
Legal and Regulatory	4,588,376	4,631,911	43,535	15.04	15.98	0.94
Information Technology	12,830,975	12,936,602	105,627	24.44	26.32	1.88
Human Resources & Administration	2,724,553	2,775,720	51,167	9.40	9.40	-
Finance and Accounting	2,423,239	2,052,043	(371,196)	8.46	7.52	(0.94)
Total Administrative Programs	\$ 34,151,237	\$ 33,701,046	\$ (450,191)	74.26	77.08	2.82

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 and Administrative; (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. 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.

General and Administrative

The General and 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 Chief Engineer, the CAO, and their support staff; (2) External Affairs staff, described below; and (3) Board costs, detailed below.

External Affairs

The External Affairs group provides strategic and communications advice on policy-related matters, manages internal and external messaging and outreach, and serves as the primary representative for NERC on policy-related matters to external audiences, including those in the United States, Canada, and Mexico. The External Affairs group includes staff who are focused on three areas:

- **Legislative and Regulatory** – Addresses policy matters that arise in legislative arenas and manages regulatory outreach related to FPA Section 215. Engagement occurs with federal and state regulators and legislators, and other governmental and non-governmental stakeholder organizations. NERC is registered as a lobbying organization under applicable laws and complies with all lobbying rules and regulations. Engagement occurs through direct communication with legislators, regulators, government officials and their staffs.
- **Communications** – Manages all external and internal communications that support NERC initiatives, including newsletters, media coordination and messaging, as well as facilitating consistency of message across the ERO Enterprise. This group works with senior management on identified strategic objectives of the corporation as well as internal initiatives, and is responsible for managing the content of NERC's website and NERC's social media presence.
- **North American Affairs** – Serves as the liaison with government entities and industry stakeholders in Mexico and Canada. Key activities include supporting NERC business units and Regional Entities. This group also facilitates communication and information exchange with entities outside North America.

The External Affairs group is focused on the following efforts and activities:

Legislative and Regulatory

- Communications coordination with Congress and executive branch agencies (i.e., DOE, White House) on reliability, security, and related matters;
- Coordinating with Government Accountability Office, Congressional Research Service, and other government entities on reports;
- Congressional hearing preparation and coordination on energy and security legislation and related matters;
- Support of FERC technical conferences, coordination and strategic import related to meetings with the Chairman, Commissioners, and FERC staff;
- Education and communication on reliability and security matters to states (e.g., the National Association of Regulatory Utility Commissioners);
- Building strategic partnerships with stakeholders and policymakers;
- Supporting business units through guidance, advice, and written materials related to external messaging for the E-ISAC, Reliability Assessments, and other initiatives;

Communication

- Supporting ERO Enterprise-wide communication efforts;
- Coordinating with the IT department to improve the NERC website, reducing extraneous, outdated pages and documents, and improving search capability and user experience;
- Supporting the E-ISAC in communication and outreach efforts, especially as related to GridSecCon and GridEx, including convening and chairing a communications working group;
- Managing media inquiries and messaging, including social media presence;
- Working with NERC departments on communication matters related to Align and the ERO SEL and adapting the Standards and Compliance Bulletin to reflect the entire ERO Enterprise footprint ;
- Managing internal communications in coordination with Human Resources;

North American Affairs

- Reviewing standards adoption and Canadian enforcement status in coordination with NERC business units;
- Identifying and expanding messaging related to international value of the ERO with international organizations and agencies;
- Maintaining relationships across the ERO Enterprise, focusing on those Regional Entities with international borders;
- Acting as the primary liaison with Canadian provincial, federal, and industry stakeholder groups related to reliability;
- Supporting the outreach efforts to Canada and Mexico by NERC business units and the E-ISAC; and
- Communicating the value of a North American ERO to external stakeholders and policymakers.

External Affairs continues to see increased activity in the legislative and regulatory arenas. As a registered lobbying organization in a number of jurisdictions, tracking and monitoring advocacy efforts for reliability and security could potentially trigger reporting requirements at the state level, calling for more vigilance in tracking costs. Additionally, communications activities are increasing to support further coordination across the ERO Enterprise, the E-ISAC, and a potential future website redesign.

Resource Requirements

The 0.94 increase in FTEs from the 2020 budget to the 2021 budget is a result of a shift in personnel previously charged to Finance and Accounting to the General and Administrative area for financial reporting purposes. The \$20k for Consultants & Contracts in the 2021 budget is for communications support for External Affairs. A detailed breakdown of 2020 and 2021 budgeted expenses are shown in *Exhibit B – Consultant and Contracts Costs*.

Board Costs

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

Board of Trustee Expenses	2020 Budget	2021 Budget	Increase (Decrease)	
Meeting and Travel Expenses				
Quarterly Board Meetings	\$ 185,000	\$ 145,130	\$ (39,870)	-21.6%
Trustee Travel	165,000	97,934	(67,066)	-40.6%
Total	\$ 350,000	\$ 243,064	\$ (106,936)	-30.6%
Professional Services				
Independent Trustee Fees	\$ 1,410,000	\$ 1,392,500	\$ (17,500)	-1.2%
Trustee Search Fees	50,000	50,000	-	0.0%
Total	\$ 1,460,000	\$ 1,442,500	\$ (17,500)	-1.2%
Total	\$ 1,810,000	\$ 1,685,564	\$ (124,436)	-6.9%

The \$107k decrease for Meeting & Travel expenses from the 2020 budget to the 2021 budget is primarily related to the expected cost savings in this area, which is discussed in the *Introduction and Executive Summary*.

Legal and Regulatory

The Legal and Regulatory department supports the NERC program areas and 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. Additionally, the Legal and Regulatory department includes the Internal Audit and Corporate Risk Management group, explained further below.

Internal Audit and Corporate Risk Management

The Internal Audit and Corporate Risk Management (IACRM) group performs independent, objective activities designed to add value and improve NERC and Regional Entity operations. The activities ensure:

- Risks are appropriately identified, prioritized, and managed across NERC and the ERO Enterprise;
- The effectiveness of risk management processes is monitored and evaluated;
- Systems of internal control are adequately promoted and are effectively functioning; and

- Significant risk exposures and control issues, including fraud risks, governance issues, and other matters needed or requested by the Board are reported.

The Internal Audit (IA) function specifically engages with the CCC to collaborate on ERO Enterprise audits as required by ROP Sections 406, 506, and Appendix 4A. As part of IA's audit efforts on behalf of the CCC, IA collaborates with NERC's CMEP and ORCP teams to take an ERO Enterprise-wide approach to the annual CMEP and ORCP self-certification process. IA, the CCC, and the Board Enterprise-wide Risk Committee (EWRC) collectively determine whether NERC and the ERO Enterprise comply with the ROP, allowing for timely reporting and consistent remediation effort, as necessary.

The Corporate Risk Management (CRM) function is also continuing to work with the Regional Entities to enhance the ERO Enterprise-wide corporate risk identification and risk mitigation efforts. This occurs through collaborative interactions to identify high priority ERO Enterprise risks, remediating internal control weaknesses, implementing performance improvement recommendations, and sharing lessons learned and best practices. Deliverables include more streamlined and coordinated reports and harmonized assessment of ERO Enterprise risks and processes. At times, CRM also interfaces with stakeholders to perform risk assessment activities.

In 2021 and beyond, IACRM will continue to perform risk-based audits and participate in special projects that will provide value to NERC and the ERO Enterprise. IACRM also will seek to leverage the CMEP's Align application, with minimum customization, to implement a governance, risk management, and compliance (GRC) tool to support IACRM activities.

Resource Requirements

The 0.94 decrease in FTEs from the 2020 budget to the 2021 budget is the result of resource allocations to realign staff with current needs. There is a \$90k decrease for Contracts & Consultants from the 2020 budget to the 2021 budget as a result of reduced spending on outside auditor support for IACRM. A detailed breakdown of 2020 and 2021 budgeted expenses are shown in *Exhibit B – Consultants and Contracts Costs*. Outside law firms and consultants supporting Legal area are budgeted as Professional Services. The Professional Services budget for Legal and Regulatory in 2021 is \$100k less than 2020.

Information Technology

NERC's IT department provides the technology needed for the organization to meet ERO statutory obligations. IT also supports, configures, and secures corporate and enterprise applications and infrastructure leveraged by the ERO Enterprise and registered entities. The IT department includes a Project Management Office (PMO) that provides project management skills and leadership for major ERO Enterprise and NERC IT projects, including those of the E-ISAC.

NERC's IT strategy includes the following:

- Emphasis on reducing the NERC infrastructure and support footprint in order to allocate a larger portion of budget funding to enhance and improve the registered entity and Regional Entity experience;
- Adoption of an enterprise IT investment planning methodology that ensures only projects with compelling and approved business cases are funded; and
- A "platform" strategy that enables more cost-effective configuration solutions versus creating custom solutions. Examples of these platforms include Microsoft Dynamics xRM, Microsoft SharePoint, the Salesforce CRM system, and the BWISE GRC system.

NERC's IT department is currently focused on four key areas: ERO Enterprise new functionality, ERO Enterprise applications, E-ISAC, and NERC infrastructure support.

ERO Enterprise New Functionality. This includes technologies designed to improve or add capability to the registered entities, Regional Entities, and NERC staff. For those projects that involve regional or registered entities, subject matter experts are regularly engaged on the project team to provide business requirements, functionality testing, and outreach. The benefits of this approach ensure that the systems delivered are the systems that meet stakeholder needs now and in the future. IT and PMO staff are currently focused on supporting the following key ERO Enterprise IT projects, including development, implementation, and future enhancements:

- The Align, ERO SEL, and CORES projects – NERC has been working closely with the Regional Entities to implement strategic investments in tools to support key ERO statutory functions. These tools will replace various manual processes and numerous applications in use today with robust, platform-based tools that can serve the needs of the entire ERO Enterprise. The existing CMEP and Registration data applications, along with the various evidence storage solutions in use today by NERC and the Regional Entities, are being replaced with three enterprise-grade tools:
 - Align, a single, common business application for use in implementing the risk-based CMEP;
 - The ERO SEL, a highly secure storage area to protect and manage certain registered entity data; and
 - The CORES system, which provides a single tool for use in Entity Registration.

For more information, see the *Compliance Assurance and Organization Registration and Certification* section and the [Align Project](#) and [CORES Technology Project](#) pages on the NERC website.

- Situation Awareness tools – The initial release of SAFNR v3 occurred at the end of 2019, and additional ongoing enhancements are scheduled for 2020 and beyond. This system provides near real-time information to NERC, FERC, and the Regional Entities on current operating conditions of the BPS from a wide-area view. The upgrade allows 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. Additionally, minor enhancements to RCIS are planned for 2021, with an evaluation of a replacement solution in 2022, as well as potential future enhancements or replacements for the Resource Adequacy Tool and NERC Alerts system. For more information, see the *Situation Awareness* section.
- Data management system enhancements – As the grid evolves, the collection, quality, and integration of data becomes increasingly important, requiring continued investment in enhancements to the suite of data management tools, including GADS, GADS Wind, TADS, DADS, RADS, MIDAS, and TEAMS. Enhancements and modifications to these existing software applications are expected in 2021, with the potential for expanded enhancements in 2022 and beyond, including a system for data associated with solar energy storage. For more information, see the *Reliability Assessment and Performance Analysis* and *Event Analysis* sections.

ERO Enterprise Application and Infrastructure Support. This includes the underlying infrastructure and resources required to support existing and future ERO Enterprise applications, such as server host machines, virtual servers, storage, back-up and restore systems, networks, and communications. This also includes event preparedness and business continuity, as well as a continued strong emphasis on security processes and tools. Collaboration and sharing information between NERC and the Regional Entities will continue to be a cornerstone of this work, with strong efforts to support consistent technology approaches across the ERO Enterprise when and where possible.

E-ISAC. This includes ongoing efforts to support E-ISAC resource needs to provide analysis of information received from various sources, share and disseminate actionable intelligence about threats to the sector, and optimize the exchange of information both within and externally to the E-ISAC. Integrating key service and support functions across the E-ISAC technology ecosystem will help to eliminate any inefficiencies and ensure E-ISAC staff are able to continue their efforts to expand analysis and information sharing services. Additionally, work will continue to develop data sharing and support the vision of the E-ISAC long-term strategy.

NERC Infrastructure Support. This includes similar items as noted above in the ERO Enterprise application and infrastructure support category, including but not limited to Microsoft Office productivity tools, audio visual systems, and laptops, as well as business continuity and security technologies.

In 2022 and beyond, NERC IT and PMO staff will continue to oversee the requirements, design, and implementation of new and enhanced technology for NERC and the ERO Enterprise. This includes planned enhancements for Align and the ERO SEL, CORES, and the suite of data management tools, as well as potential upgrades to or replacements of RCIS, the NERC Alerts system, and the NERC website.

Resource Requirements

The increase of 1.88 FTEs in IT from the 2020 budget to the 2021 budget is the result of additional positions related to cyber security to enhance the cyber security posture of the ERO Enterprise. There is a \$170k decrease for Consultants & Contracts expenses from the 2020 budget to the 2021 budget primarily as a result of the reclassification of application support expenses to other departments and some cost savings efforts. A detailed breakdown of 2020 and 2021 budgeted consultants and contracts expenses is shown in *Exhibit B – Consultants and Contracts Costs*. There is a \$427k increase in Office Costs from the 2020 budget to the 2021 budget as a result of increased software license and support expenses, particularly for enhanced security, and there is a \$225k decrease in Fixed Assets primarily due to reduced spending on capital software. Finally, the 2021 budget assumes \$100k for financing lease proceeds for IT equipment, as well as approximately \$570k of financing lease payments for existing equipment, including laptops, network switches and servers, and audio visual equipment.

Human Resources and Administration

The Human Resources and Administration group primarily includes benefits administration, employee relations, performance and compensation management, training and development, facilities management of NERC's two office locations, and meeting planning and coordination.

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. As such, NERC continues to invest in learning opportunities in several areas, including (1) an e-learning platform for improving soft and technical skills; (2) broad-based staff development training through real-world access via tours of and training on control centers, electric substations, and power generation plants; and (3) access to additional 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. A key current and future focus includes ongoing coaching, education, and culture and leadership training with respect to the ERO Enterprise transformation discussed in the *About NERC* section at the beginning of this document, as well as a concerted focus on diversity and inclusion training.

Compensation Strategy

NERC relies on data and advisory from multiple perspectives to hire and retain the necessary staff to support the company's goals and objectives. Under the mandate of the CGHRC, NERC performs periodic market compensation studies to benchmark the pay practices of similar organizations and roles for which NERC hires. Management will continue to closely monitor market conditions through periodic compensation studies and real-time pay trends of its candidate pool.

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 continues 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

There is no change in FTEs from the 2020 budget to the 2021 budget in the Human Resources and Administration area. Consultants & Contracts expenses are decreasing \$150k for this area primarily as a result of cost savings efforts discussed in the *Introduction and Executive Summary*. A detailed breakdown of 2020 and 2021 budgeted expenses is shown in *Exhibit B – Consultants and Contracts Costs*.

Finance and Accounting

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 systems, 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

The 0.94 decrease in FTEs from the 2020 budget to the 2021 budget is a result of a shift in personnel previously charged to Finance and Accounting to the General and Administrative area for financial reporting purposes. Consultants & Contracts expenses are decreasing \$50k for this area primarily as a

result of cost savings efforts discussed in the *Introduction and Executive Summary*. A detailed breakdown of 2020 and 2021 budgeted expenses is shown in *Exhibit B – Consultants and Contacts Costs*.

Miscellaneous Expenses

Miscellaneous expenses include employee engagement and employee rewards and recognition.

Statement of Activities and Fixed Asset Additions 2020 Budget & Projection, and 2021 Budget					
Administrative Programs					
	2020 Budget	2020 Projection	Variance 2020 Projection v 2020 Budget Over(Under)	2021 Budget	Variance 2021 Budget v 2020 Budget Over(Under)
Funding					
NERC Funding					
NERC Assessments	\$ (654,036)	\$ (654,036)	\$ -	\$ (1,800,000)	\$ (1,145,964)
Penalties Released	-	-	-	-	-
Total NERC Funding	\$ (654,036)	\$ (654,036)	\$ -	\$ (1,800,000)	\$ (1,145,964)
Third-Party Funding	\$ -	\$ -	\$ -	\$ -	\$ -
Testing Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Interest & Investment Income	-	-	-	-	-
Total Funding (A)	\$ (654,036)	\$ (654,036)	\$ -	\$ (1,800,000)	\$ (1,145,964)
Expenses					
Personnel Expenses					
Salaries	\$ 13,070,451	\$ 13,307,427	\$ 236,976	\$ 14,021,169	\$ 950,718
Payroll Taxes	721,605	714,095	(7,510)	758,335	36,729
Benefits	1,826,687	1,682,354	(144,333)	2,035,351	208,664
Retirement Costs	1,146,339	1,175,545	29,206	1,255,330	108,991
Total Personnel Expenses	\$ 16,765,082	\$ 16,879,422	\$ 114,340	\$ 18,070,184	\$ 1,305,102
Meeting & Travel Expenses					
Meetings & Conference Calls	\$ 456,800	\$ 232,914	\$ (223,886)	\$ 436,477	\$ (20,323)
Travel	650,000	164,266	(485,734)	385,803	(264,197)
Total Meeting & Travel Expenses	\$ 1,106,800	\$ 397,180	\$ (709,620)	\$ 822,280	\$ (284,520)
Operating Expenses, excluding Depreciation					
Consultants & Contracts	\$ 3,060,692	\$ 2,499,706	\$ (560,986)	\$ 2,600,625	\$ (460,067)
Office Rent	3,450,468	3,540,468	90,000	3,603,442	152,974
Office Costs	4,762,971	5,200,193	437,222	5,290,002	527,031
Professional Services	2,336,600	2,177,600	(159,000)	2,035,100	(301,500)
Miscellaneous	77,000	81,100	4,100	75,150	(1,850)
Total Operating Expenses, excluding Depreciation	\$ 13,687,731	\$ 13,499,067	\$ (188,664)	\$ 13,604,319	\$ (83,412)
Total Direct Expenses	\$ 31,559,613	\$ 30,775,669	\$ (783,944)	\$ 32,496,783	\$ 937,170
Indirect Expenses	\$ (31,866,236)	\$ (30,856,469)	\$ 1,009,767	\$ (32,571,444)	\$ (705,208)
Other Non-Operating Expenses	\$ 306,623	\$ 80,800	\$ (225,823)	\$ 74,661	\$ (231,962)
Total Expenses (B)	\$ -	\$ -	\$ -	\$ -	\$ -
Change in Net Assets (=A-B)	\$ (654,036)	\$ (654,036)	\$ -	\$ (1,800,000)	\$ (1,145,964)
Fixed Asset Additions, excluding Right of Use Assets (C)	\$ -	\$ -	\$ -	\$ -	\$ -
Financing Activity					
Loan or Financing Lease - Borrowing (-)	\$ -	\$ -	\$ -	\$ -	\$ -
Loan or Financing Lease - Principal Payments (+)	-	-	-	-	-
Net Financing Activity (D)	\$ -	\$ -	\$ -	\$ -	\$ -
Total Budget (=B+C+D)	\$ -	\$ -	\$ -	\$ -	\$ -
Change in Working Capital (=A-B-C-D)	\$ (654,036)	\$ (654,036)	\$ -	\$ (1,800,000)	\$ (1,145,964)
FTEs	74.26	71.88	(2.38)	77.08	2.82

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 ²	System Operator Certification Reserve	CRISP Reserve	Assessment Stabilization Reserve ³
Beginning Operating Reserves Balance - 1/1/2020	\$ 12,117,076	\$ 2,119,719	\$ 6,199,083	\$ 777,274	\$ 500,000	\$ 2,521,000
Generation or (Use) from 2020 Operations						
From 2020 budgeted operations, including debt service and financing	\$ (1,136,041)	\$ (485,958)	\$ (654,036)	\$ 3,953	\$ -	\$ -
From 2020 approved addition/(use) of reserves	(1,800,000)	-	(1,800,000)	-	-	-
Other addition/(use) of reserves	3,923,862	-	3,856,535	67,327	-	-
Projected Operating Reserves - 12/31/20	\$ 13,104,897	\$ 1,633,761	\$ 7,601,582	\$ 848,554	\$ 500,000	\$ 2,521,000
Required Working Capital and Operating Reserves - 12/31/21	\$ 10,825,609	\$ 1,082,161	\$ 5,801,582	\$ 920,866	\$ 500,000	\$ 2,521,000
Adjustment in funding to achieve required reserve balance	(2,279,288)	(551,600)	(1,800,000)	72,312	-	-
Less: Assessment Stabilization Reserve Release - Penalties	-	-	-	-	-	-
Total Adjustments to Reserves	\$ (2,279,288)	\$ (551,600)	\$ (1,800,000)	\$ 72,312	\$ -	\$ -
Assessment Reconciliation						
2021 Expenses, Capital Expenditures & Net Financing	\$ 82,883,239					
Less: Assessment Stabilization Reserve Release - Penalties	-					
Adjustment in funding to achieve required reserve balance	(1,727,688)					
Less: Other Funding Sources	(9,144,177)					
2021 NERC Assessment	\$ 72,011,373					

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

²Except as otherwise approved by the Board, after review by the FAC, the amount of the Operating Contingency Reserve shall be between three and one half (3.5%) percent and seven (7%) percent of the company's total expense and fixed asset budget minus the sum of the System Operator Certification and CRISP budgets, each of which have separate reserves.

³Includes \$1.0M of Penalties received on September 19, 2019, and deposited in the Assessment Stabilization Reserve.

Table B-2 – Penalties

Penalty Sanctions and Allocation Method

ROP Section 1107.2 specifies 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 ROP Section 1107.4, to place penalty funds into an Assessment Stabilization Reserve for use in future years to offset assessments. Penalty sanctions released from the Asset Stabilization Reserve are allocated to the following statutory programs to reduce assessments: (1) Reliability Standards and PRISM, (2) Compliance Assurance and Organization Registration and Certification, (3) Compliance Enforcement, (4) RAPA, (5) Situation Awareness, (6) Event Analysis, (7) E-ISAC (including CRISP), and (8) 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.

For the 2021 budget, with Board and FERC approval, which is hereby requested, NERC will deposit \$1.0M of penalties collected during the period July 1, 2019–June 30, 2020 into the Assessment Stabilization Reserve. The 2021 assessment does not reflect a proposed release of funds from this reserve. The balance held in the Assessment Stabilization Reserve will be used for assessment offsets to stabilize and reduce assessments in future years.

Penalty Sanctions	Date Received	Amount Received
Penalties received between 7/1/2019 and 6/30/2020		
	September-19	\$ 1,000,000
		<u>\$ 1,000,000</u>
Penalties received prior to 6/30/2019, held in the assessment stabilization reserve		<u>\$ 1,521,000</u>
Total penalties available on 1/1/2021 to offset assessments		<u>\$ 2,521,000</u>
Adjustments		
Total penalties released to offset assessments in the 2021 Budget		\$ -
Total penalties held in Assessment Stabilization Reserve 12/31/2021		<u><u>\$ 2,521,000</u></u>

Table B-3 – Outside Funding

Outside Funding Breakdown By Program (Excludes Penalty Sanction)	2020 Budget	2021 Budget	Increase (Decrease)
Reliability Standards			
Interest & Investment Income Allocation	\$ 45,862	\$ 22,947	\$ (22,915)
Total	\$ 45,862	\$ 22,947	\$ (22,915)
Compliance Assurance, Certification, and Registration			
Interest & Investment Income Allocation	\$ 55,517	\$ 32,175	\$ (23,342)
Total	\$ 55,517	\$ 32,175	\$ (23,342)
Compliance Enforcement			
Interest & Investment Income Allocation	\$ 31,379	\$ 16,731	\$ (14,648)
Total	\$ 31,379	\$ 16,731	\$ (14,648)
Reliability Assessment and Performance Analysis			
Services and Software	\$ 60,000	\$ 60,000	\$ -
Interest & Investment Income Allocation	60,345	32,908	(27,437)
Total	\$ 120,345	\$ 92,908	\$ (27,437)
Personnel Certification and Continuing Education			
Testing Fees	\$ 455,000	\$ 520,000	\$ 65,000
Certificate Renewals	780,000	800,000	20,000
Continuing Education Fees	500,000	481,634	(2,675)
Interest & Investment Income Allocation	7,241	7,200	(41)
Total	\$ 1,742,241	\$ 1,808,834	\$ 82,284
Training and Education			
Interest & Investment Income Allocation	\$ 4,828	\$ 2,574	\$ (2,254)
Total	\$ 4,828	\$ 2,574	\$ (2,254)
Event Analysis			
Interest & Investment Income Allocation	\$ 24,138	\$ 10,296	\$ (13,842)
Total	\$ 24,138	\$ 10,296	\$ (13,842)
Situation Awareness			
Interest & Investment Income Allocation	\$ 14,483	\$ 9,009	\$ (5,474)
Total	\$ 14,483	\$ 9,009	\$ (5,474)
E-ISAC			
Third Party Funding (CRISP)	\$ 7,814,577	\$ 7,064,343	\$ (750,234)
Interest & Investment Income Allocation	142,207	84,360	(57,847)
Total	\$ 7,956,784	\$ 7,148,703	\$ (808,081)
Grand Total	\$ 9,995,577	\$ 9,144,177	\$ (835,709)

Interest & Investment Income – The \$168k decrease is due to anticipated lower interest rates in 2021.

Testing Fees and Certificate Renewals – The \$65k increase in testing fees and \$20k increase in certificate renewals is due to an increase in the estimate of the numbers of tests and renewals in 2021.

Third Party Funding (CRISP) – The \$750k decrease is due to a decrease in participant-paid costs for PNNL (primarily due to additional DOE funding), the annual security review, and pilot programs.

Table B-4 – Personnel

Personnel	2020 Budget	2021 Budget	Increase (Decrease)	
Salaries	\$ 35,462,611	\$ 36,636,628	\$ 1,174,017	3.3%
Payroll Taxes	2,113,486	2,122,568	9,082	0.4%
Benefits	5,420,461	5,703,799	283,338	5.2%
Retirement	3,601,601	3,726,439	124,838	3.5%
Total	\$ 46,598,160	\$ 48,189,435	\$ 1,591,275	3.4%
FTEs	213.38	213.38	-	0.0%
Cost per FTE				
Salaries	\$ 166,195	\$ 171,697	\$ 5,502	3.3%
Payroll Taxes	9,905	9,947	43	0.4%
Benefits	25,403	26,731	1,328	5.2%
Retirement	16,879	17,464	585	3.5%
Total	\$ 218,381	\$ 225,839	\$ 7,457	3.4%

Total salary expense is comprised of base salaries, incentive compensation, deferred compensation, employment agency fees, and temporary office expenses. The 2021 budget for base salaries assumes a 2.5% increase over actual 2020 base salaries for merit adjustments and up to 0.5% for equity and market adjustments. As directed by the Board, this is a placeholder increase; actual increases will be evaluated by the Board at year-end. The 2021 budget for incentive compensation is based on historical actuals and is comparable to prior years. The 2021 budgets for deferred compensation, employment agency fees, and temporary office expenses are generally consistent with 2020.

Benefits are increasing 5.2% primarily due to an estimated 15.0% increase in medical insurance premiums due to high loss-ratio trends and a 5.0% increase for vision and dental insurance premiums, offset by lower negotiated costs for NERC's benefits broker.

There have been no changes to NERC's retirement plans.

Table B-5 – Meetings & Travel

Meetings & Travel	2020 Budget	2021 Budget	Increase (Decrease)	
Meetings & Conference Calls	\$ 1,112,250	\$ 890,751	\$ (221,499)	-19.9%
Travel	2,211,000	1,310,997	(900,003)	-40.7%
Total	\$ 3,323,250	\$ 2,201,748	\$ (1,121,502)	-33.7%

Meetings & Travel expenses are decreasing due to the assumption that there will be fewer in-person meetings and reduced travel in 2021 as result of continued COVID-19 pandemic conditions as part of the overall cost savings efforts discussed in the *Introduction and Executive Summary*.

Table B-6 – Consultants and Contracts

Refer to *Exhibit B – Consultant and Contract Costs*

Table B-7 – Rent

Office Rent	2020 Budget	2021 Budget	Increase (Decrease)
Office Rent	\$ 3,228,468	\$ 3,329,442	\$ 100,974 3.1%
Maintenance	222,000	274,000	52,000 23.4%
Total	\$ 3,450,468	\$ 3,603,442	\$ 152,974 4.4%

Maintenance is increasing \$52k primarily due to recent higher real estate tax expense allocations on leased office space.

Table B-8 – Office Costs

Office Costs	2020 Budget	2021 Budget	Increase (Decrease)
Telephone	\$ 356,562	\$ 330,800	\$ (25,762) -7.2%
Internet	269,350	294,650	25,300 9.4%
Office Supplies	250,050	276,450	26,400 10.6%
Computer Supplies	186,448	140,250	(46,198) -24.8%
Software License and Support	7,214,718	8,022,452	807,734 11.2%
Subscription and Publications	307,370	363,299	55,929 18.2%
Dues	86,050	142,445	56,395 65.5%
Postage	10,540	10,500	(40) -0.4%
Express Shipping	33,742	34,700	958 2.8%
Copying	80,042	39,500	(40,542) -50.7%
Audio/Visual and Hardware Lease	55,501	282,743	227,242 409.4%
Equipment Repair/Service Contracts	144,000	130,000	(14,000) -9.7%
Bank Charges	28,000	28,000	- 0.0%
Merchant Card Fees	80,000	90,000	10,000 12.5%
Total	\$ 9,102,374	\$ 10,185,789	\$ 1,083,415 11.9%

Computer Supplies are decreasing \$46k, Copying expenses are decreasing \$41k, and Office Supplies are increasing \$26k in 2021 to bring the budget closer to recent actual costs.

Software Licenses and Support includes non-capital software license and support costs, as well as support and service expenses for infrastructure management software, data center co-location, offsite backup of data, and network and security monitoring. The \$808k increase in 2021 is primarily due to an increase in these expenses in IT, particularly for enhanced security, as well as the addition of the software licenses and support costs for the ERO SEL in the Compliance Assurance and Enforcement departments.

Audio/Visual and Hardware Lease costs are increasing \$227k in the 2021 budget as a result of a reclassification of managed services and taxes expenses from Financing Lease Payments to Office Costs.

Table B-9 – Professional Services

Professional Services	2020 Budget	2021 Budget	Increase (Decrease)	
Independent Trustee Fees	\$ 1,410,000	\$ 1,392,500	\$ (17,500)	-1.2%
Trustee Search Fees	50,000	50,000	-	0.0%
Outside Legal	585,500	388,500	(197,000)	-33.6%
Government Relations	72,000	-	(72,000)	-100.0%
Accounting and Auditing Fees	155,000	155,000	-	0.0%
Insurance Commercial	225,000	185,000	(40,000)	-17.8%
Outside Services	14,100	14,100	-	0.0%
Total	\$ 2,511,600	\$ 2,185,100	\$ (326,500)	-13.0%

The \$197k decrease in Outside Legal and the \$72k decrease in Government Relations is due primarily to the cost savings efforts discussed in the *Introduction and Executive Summary*. The \$40k decrease for Insurance Commercial in 2021 is to bring the CRISP liability insurance budget closer to recent actual costs.

Table B-10 – Miscellaneous

Miscellaneous Expenses	2020 Budget	2021 Budget	Increase (Decrease)	
Miscellaneous Expense	\$ 7,750	\$ 10,250	\$ 2,500	32.3%
Employee Rewards and Recognition	48,000	20,900	(27,100)	-56.5%
Employee Engagement	4,500	41,000	36,500	811.1%
Sponsorships	22,500	28,000	5,500	24.4%
Total	\$ 82,750	\$ 100,150	\$ 17,400	21.0%

The \$27k decrease in Employee Rewards and Recognition in 2021 is due to a reclassification of some of these expenses to Employee Engagement, which contributes to the \$36k increase in that category.

Table B-11 – Other Non-Operating Expenses

Other Non-Operating Expenses	2020 Budget	2021 Budget	Increase (Decrease)	
Property and Other Tax Expense	\$ 165,000	\$ 60,000	\$ (105,000)	-63.6%
Interest Expense	141,623	69,661	(71,962)	-50.8%
Total	\$ 306,623	\$ 129,661	\$ (176,962)	-57.7%

The \$105k decrease in Property and Other Tax Expense in 2021 is primarily due to the recent repeal of certain federal and state excise taxes on not-for-profit entities. The \$72k decrease in Interest Expense is due to lower assumed outstanding debt balances and lower interest rates.

Table B-12 – Fixed Assets

Fixed Asset Additions	2020 Budget	2021 Budget	Increase (Decrease)	
Computer & Software CapEx	\$ 3,271,349	\$ 2,091,500	(1,179,849)	-36.1%
Furniture & Fixtures CapEx	-	-	-	
Equipment CapEx	935,000	660,000	(275,000)	-29.4%
Leasehold Improvements	500,000	-	(500,000)	-100.0%
Total	\$ 4,706,349	\$ 2,751,500	\$ (1,954,849)	-41.5%

Expenditures for Fixed Assets are budgeted to be \$2.0M less in 2021 compared to 2020, inclusive of the Align 2021 development costs proposed to be funded by Operating Contingency Reserves, due to no leasehold improvements expected in 2021 and reduced spending in all areas as a result of the costs savings efforts discussed in the *Introduction and Executive Summary*.

Table B-13 – 2021–2022 Projections
Refer to the *Introduction and Executive Summary* section on page 15

Section C – Non-Statutory Activity

NERC has no non-statutory activities.

Section D - Consolidated Statement of Activities by Program

Statement of Activities, Fixed Asset Expenditures, Financing Activity, and Change in Working Capital by Program 2021 Budget	Statutory Activities														
	Statutory Total	Reliability Standards and Power Risk Issue Strategic Management	Compliance Assurance, Registration, and Certification	Event Analysis	Compliance Enforcement	Personnel Certification	Training and Education	Reliability Assessments and Performance Analysis	Situation Awareness	E-ISAC (including CRISP)	General and Administrative (Includes Executive and External Affairs)	Legal and Regulatory	Information Technology	Human Resources and Administration	Accounting and Finance
Funding															
ERO Funding															
NERC Assessments	\$ 72,011,373	\$ 7,833,694	\$ 13,654,127	\$ 4,276,917	\$ 7,311,144	\$ -	\$ 1,081,949	\$ 12,538,528	\$ 4,441,980	\$ 22,673,035	\$ (1,800,000)	\$ -	\$ -	\$ -	\$ -
Penalties Released	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total NERC Funding	\$ 72,011,373	\$ 7,833,694	\$ 13,654,127	\$ 4,276,917	\$ 7,311,144	\$ -	\$ 1,081,949	\$ 12,538,528	\$ 4,441,980	\$ 22,673,035	\$ (1,800,000)	\$ -	\$ -	\$ -	\$ -
Third-Party Funding															
Testing Fees	\$ 7,064,343	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 7,064,343	\$ -	\$ -	\$ -	\$ -	\$ -
Services & Software	1,801,634	-	-	-	-	1,801,634	-	-	-	-	-	-	-	-	-
Miscellaneous	60,000	-	-	-	-	-	-	60,000	-	-	-	-	-	-	-
Interest & Investment Income	218,200	22,947	32,175	10,296	16,731	7,200	2,574	32,908	9,009	84,360	-	-	-	-	-
Total Funding (A)	\$ 81,155,551	\$ 7,856,641	\$ 13,686,302	\$ 4,287,213	\$ 7,327,875	\$ 1,808,834	\$ 1,084,523	\$ 12,631,436	\$ 4,450,989	\$ 29,821,738	\$ (1,800,000)	\$ -	\$ -	\$ -	\$ -
Expenses															
Personnel Expenses															
Salaries	\$ 36,636,628	\$ 2,468,752	\$ 4,038,791	\$ 1,630,745	\$ 1,839,039	\$ 304,433	\$ 226,511	\$ 3,830,459	\$ 993,129	\$ 7,283,602	\$ 4,034,648	\$ 3,073,305	\$ 4,407,055	\$ 1,439,701	\$ 1,066,460
Payroll Taxes	2,122,568	155,276	244,418	85,892	115,307	22,091	18,582	244,412	65,048	413,208	188,247	167,227	257,969	77,258	67,634
Benefits	5,703,799	415,057	824,511	218,265	220,988	44,346	63,864	622,466	268,930	990,022	535,253	444,310	636,116	225,799	193,873
Retirement Costs	3,726,439	272,927	449,687	179,177	196,667	33,665	25,471	425,191	111,336	776,988	215,175	331,244	471,140	122,693	115,079
Total Personnel Expenses	\$ 48,189,435	\$ 3,312,011	\$ 5,557,407	\$ 2,114,080	\$ 2,372,000	\$ 404,534	\$ 334,429	\$ 5,122,528	\$ 1,438,443	\$ 9,463,819	\$ 4,973,323	\$ 4,016,085	\$ 5,772,280	\$ 1,865,451	\$ 1,443,046
Meeting and Travel Expenses															
Meetings & Conference Calls	\$ 890,751	\$ 37,860	\$ 51,742	\$ 18,930	\$ 6,310	\$ 20,192	\$ 1,262	\$ 168,856	\$ 66,310	\$ 82,812	\$ 277,640	\$ 6,310	\$ 146,217	\$ 3,155	\$ 3,155
Travel	1,310,997	115,147	237,413	89,031	32,645	13,190	3,297	199,429	20,774	214,268	242,165	44,516	59,354	16,026	23,742
Total Meeting & Travel Expenses	\$ 2,201,748	\$ 153,007	\$ 289,155	\$ 107,961	\$ 38,955	\$ 33,382	\$ 4,559	\$ 368,285	\$ 87,084	\$ 297,080	\$ 519,805	\$ 50,826	\$ 205,571	\$ 19,181	\$ 26,897
Operating Expenses, excluding Depreciation															
Consultants & Contracts	\$ 12,691,813	\$ 114,552	\$ 89,552	\$ 115,590	\$ 69,000	\$ 388,650	\$ 170,000	\$ 403,203	\$ 15,000	\$ 8,725,641	\$ 20,000	\$ 210,000	\$ 1,635,625	\$ 610,000	\$ 125,000
Office Rent	3,603,442	-	-	-	-	-	-	-	-	-	3,603,442	-	-	-	-
Office Costs	10,185,789	45,850	652,307	50,500	632,612	155,600	100,465	655,950	1,133,065	1,469,438	548,150	101,500	4,175,564	228,988	235,800
Professional Services	2,185,100	-	-	-	15,000	-	-	-	-	135,000	1,552,500	253,500	-	9,100	220,000
Miscellaneous	100,150	2,200	3,250	1,600	1,900	300	700	4,600	1,100	9,350	27,550	-	3,300	43,000	1,300
Total Operating Expenses, excluding Depreciation	\$ 28,766,294	\$ 162,602	\$ 745,109	\$ 167,690	\$ 718,512	\$ 544,550	\$ 271,165	\$ 1,063,753	\$ 1,149,165	\$ 10,339,429	\$ 5,751,642	\$ 565,000	\$ 5,814,489	\$ 891,088	\$ 582,100
Total Direct Expenses	\$ 79,157,477	\$ 3,627,620	\$ 6,591,671	\$ 2,389,731	\$ 3,129,467	\$ 982,466	\$ 610,153	\$ 6,554,566	\$ 2,674,692	\$ 20,100,328	\$ 11,244,770	\$ 4,631,911	\$ 11,792,340	\$ 2,775,720	\$ 2,052,043
Indirect Expenses	\$ 0	\$ 4,087,161	\$ 5,730,723	\$ 1,833,832	\$ 2,979,976	\$ 687,687	\$ 458,458	\$ 5,873,428	\$ 1,604,603	\$ 9,315,576	\$ (11,304,770)	\$ (4,631,911)	\$ (11,807,001)	\$ (2,775,720)	\$ (2,052,043)
Other Non-Operating Expenses	\$ 129,661	\$ -	\$ 27,500	\$ -	\$ 27,500	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 60,000	\$ -	\$ 14,661	\$ -	\$ -
Total Expenses (B)	\$ 79,287,138	\$ 7,714,782	\$ 12,349,894	\$ 4,223,562	\$ 6,136,943	\$ 1,670,153	\$ 1,068,610	\$ 12,427,994	\$ 4,279,294	\$ 29,415,905	\$ -	\$ (0)	\$ -	\$ -	\$ -
Change in Net Assets (=A-B)	\$ 1,868,413	\$ 141,859	\$ 1,336,408	\$ 63,651	\$ 1,190,932	\$ 138,681	\$ 15,913	\$ 203,442	\$ 171,694	\$ 405,833	\$ (1,800,000)	\$ 0	\$ -	\$ -	\$ -
Fixed Asset Additions, excluding Right of Use Assets (C)	\$ 2,751,500	\$ 82,885	\$ 1,066,217	\$ 37,190	\$ 960,433	\$ 56,446	\$ 9,297	\$ 118,866	\$ 148,541	\$ 271,624	\$ -	\$ -	\$ -	\$ -	\$ -
Financing Activity															
Loan or Financing Lease - Borrowing (-)	\$ (100,000)	\$ (12,558)	\$ (17,609)	\$ (5,635)	\$ (9,157)	\$ (2,113)	\$ (1,409)	\$ (18,010)	\$ (4,930)	\$ (28,579)	\$ -	\$ -	\$ -	\$ -	\$ -
Loan or Financing Lease - Principal Payments (+)	944,601	71,533	287,799	32,096	239,656	12,036	8,024	102,585	28,084	162,789	-	-	-	-	-
Net Financing Activity (D)	\$ 844,601	\$ 58,974.17	\$ 270,191	\$ 26,461	\$ 230,499	\$ 9,923	\$ 6,615	\$ 84,575	\$ 23,153	\$ 134,209	\$ -	\$ -	\$ -	\$ -	\$ -
Total Budget (=B+C)	\$ 82,883,239	\$ 7,856,641	\$ 13,686,302	\$ 4,287,213	\$ 7,327,875	\$ 1,736,522	\$ 1,084,523	\$ 12,631,436	\$ 4,450,989	\$ 29,821,738	\$ -	\$ (0)	\$ -	\$ -	\$ -
Change in Working Capital (=A-B-C-D)	\$ (1,727,688)	\$ 0	\$ 0	\$ 0	\$ (0)	\$ 72,312	\$ -	\$ 0	\$ 0	\$ 0	\$ (1,800,000)	\$ 0	\$ -	\$ -	\$ -
FTEs	213.38	16.92	23.50	7.52	12.22	2.82	1.88	25.38	6.58	39.48	17.86	15.98	26.32	9.40	7.52

Exhibit A – Application of NERC Section 215 Criteria

DISCUSSION OF HOW THE NERC MAJOR ACTIVITIES IN THE 2021 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 2021 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 review of NERC conducted by the Federal Energy Regulatory Commission’s (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.¹⁴ NERC submitted the written criteria to the Commission in a compliance filing dated February 21, 2013 in Docket No. FA11-21-000.¹⁵ The Commission approved the NERC written criteria, with modifications, in an order issued in that docket on April 18, 2013.¹⁶ The NERC written criteria as used in this Exhibit incorporate the modifications specified in the Compliance Order.¹⁷

II. Reliability Standards and Power Risk Issue Strategic Management 2021 Major Activities

The major activities of Reliability Standards and Power Risk Issue Strategic Management (PRISM) are described at pages 17–19 of the 2021 Business Plan and Budget. Reliability Standards 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, and limit interruptions. This group focuses on expanding a risk-based approach to its projects, to ensure that Reliability Standards are clear, timely, consider costs, effective in mitigating material risks, and do not unnecessarily burden industry with administrative requirements and/or detract from reliability or security. The major activity of PRISM is to leverage in-house expertise on Reliability Standards and standards development to implement cross-cutting efforts among NERC functions and the NERC standing and technical committees, with emphasis on developing NERC’s positions on emerging technologies and the effect of these technologies on Reliability Standards. The PRISM group provides in-house training on Reliability Standards and conducts statistical analyses concerning the results of standards to identify potential weaknesses, redundancies, and overall necessity.

The major activities for the Reliability Standards 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 provide solutions to address reliability risks identified

¹⁴ *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.

¹⁵ *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.

¹⁶ *North American Electric Reliability Corporation, Order on Compliance*, 143 FERC ¶ 61,052 (2013) (“Compliance Order”).

¹⁷ 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.

through the Reliability Risk Management Process, 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. In response to input from regulatory authorities, Regional Entities, and industry stakeholders, the Reliability Standards program gathers industry feedback during the standard development and revision processes on costs of proposed standards and the risks they are intended to address. The PRISM group interacts with stakeholder groups, including the NERC Reliability and Security Technical Committee (RSTC), and ensures that the processes to address Standards Authorization Requests and Requests for Interpretations of standards are coordinated and efficient.

For 2021, 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 and special reports as necessary through the standards development process; (3) continuing to implement the results of the comprehensive review of standards initiated in 2018, through projects to modify or retire standards, including analyzing the need to retire or enhance standards requirements based on operational experience; and (4) facilitating smooth transitions to new standards, including by working with the other NERC program areas and the Regional Entities to develop guidelines, webinars, and other activities to support auditor and industry training for new standards. Also in 2021, this program will continue to work with stakeholders to 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.

Current activities of the PRISM group include completing NERC position documents for Distributed Energy Resources, Interconnection Reliability Operating Limits, System Operating Limits, and Battery Storage; developing statistical analyses around misoperations, balancing standards, and the effects of frequency response within the four interconnections; conducting Reliability Standards training for NERC and Regional Entity staff; launching the wERock cross-cutting tool to track Reliability Issues Steering Committee (RISC) issues and work plan items from NERC and Regional Entity committees; and measuring the effectiveness of the Electric Gas Working Group industry guidelines on fuel assurance. In 2021, the PRISM group will continue standards training activities for NERC staff, expand its analysis for the efficacy of standards and emerging technologies affecting the BPS, and coordinate with the RISC on alignment of identified risks and mitigating activities.

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 (ii) 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, Organization Registration and Certification, and Compliance Enforcement 2021 Major Activities

The major activities of Compliance Assurance and Organization Registration and Certification and of Compliance Enforcement are described on pages 22–26 and 29–30 of the 2021 Business Plan and Budget.

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 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) and other factors; (2) development and execution of the annual CMEP Implementation Plan; (3) oversight of use of necessary compliance-related processes, procedures, information technology (IT) platforms, tools and templates; (4) development and delivery of education and training for ERO

Enterprise staff; (5) training and outreach activities for the Critical Infrastructure Protection (CIP) Reliability Standards and subsequent enhancements to support industry compliance and security; (6) coordinating with the Reliability Standards program 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 (7) supporting Regional Entity and industry committees, working groups and task forces, such as the ERO Risk, Performance, and Monitoring Group (NERC and Regional Entity collaboration group), NERC Compliance and Certification Committee (CCC), and NERC RSTC. Ensuring successful implementation of the risk-based CMEP is the priority of Compliance Assurance’s oversight plan for the Regional Entities. Compliance Assurance provides training to Regional Entity staffs on the elements of risk-based compliance monitoring, including enhancements to registered entities’ IRAs, internal controls reviews, COP development, and Reliability Standards monitoring. Compliance Assurance is also involved, with the Regional Entities, in development of the ERO Enterprise-wide Align application and the related ERO SEL.

The ongoing and new major activities of the Compliance Assurance group for 2021 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 (MRREs), and ensuring that COPs are addressing the relevant risks; (2) working with NERC Enforcement and IT and with Regional Entities to implement the Align tool; (3) supporting successful implementation of the Cyber Security Supply Chain Risk Management Reliability Standard; (4) supporting the continued successful implementation of CIP V5 standards and subsequent enhancements as they become effective; (5) monitoring and supporting effective implementation and monitoring of the Physical Security Reliability Standard; (6) enhancing and implementing training to support monitoring of compliance with Reliability Standards, integrating principles from the Compliance Monitoring Competency Guide; (7) continuing to provide feedback to the Reliability Standards program through coordination between the standards and compliance functions to allow clear stakeholder implementation of standards and feedback on risks seen in the field, and supporting this effort through a common set of Reliability Standard Audit Worksheets, guidance, and outreach; (8) continuing to focus on how registered entities have mitigated reliability and security risks while achieving compliance with Reliability Standards, including internal controls; (9) finalizing revisions to the BES reference document and transitioning to a CMEP Practice Guide; (10) supporting international CMEP activities including reliability and security subject matter expertise and outreach; and (11) providing support and leadership to applicable committees and subcommittees including the CCC.

Organization Registration and Certification manages the Organization Registration and Certification Program (ORCP). Organization Registration identifies and registers BPS users, owners, and operators that are responsible for performing specific reliability functions to which Reliability Standards requirements are applicable. Organization Certification ensures that an applicant to be a Reliability Coordinator (RC), Balancing Authority (BA), or Transmission Operator (TOP) has the tools, processes, training, and procedures to demonstrate its ability to become certified and operational for the applicable functions. This includes responding to industry changes requiring Certification review, including control center relocations, energy management system replacements, and RC, BA and TOP footprint changes. Organization Registration and Certification work with the CCC’s Organization Registration and Certification Subcommittee, which oversees the ORCP, and provides training, guidance, and outreach to stakeholders through NERC and Regional Entity workshops and other forums as well as on an individual basis with entities. Organization Registration and Certification is involved in development and implementation of the Align-ERO SEL and the Centralized Organization Registration ERO System (CORES) applications, including in particular development, roll-out, and maintenance of CORES, with continued focus on functionality for Coordinated Functional Registrations (CFRs). Organization Registration and

Certification also processes registration change requests, including NERC-led review panels and BES Exceptions. Organization Registration and Certification’s responsibilities include oversight of the Regional Entities’ implementation of the Registration and Certification programs; leading NERC-led Review Panel proceedings; oversight of the use of necessary processes, procedures, IT platforms, tools, and templates; leading and supporting Regional Entity and industry committees, working groups, and task forces, including that ERO Organization Registration and Certification Group, the NERC CCC, and the CCC Organization Registration and Certification subcommittee; maintaining the NERC Compliance Registry and adhering to NERC ROP Section 500 and ROP Appendices 5A, 5B and 5C; and providing training on IT applications, including CORES and the CFR tool, to Regional Entities and registered entities.

Compliance Enforcement 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. Compliance Enforcement monitors Regional Entities’ enforcement processes and provides oversight over the outcomes of such processes, to ensure alignment across the ERO Enterprise; collects and analyzes compliance enforcement data and trends to help identify emerging risks to the BPS and inform the development of enforcement policies and procedures; files Notices of Penalty and other disposition documents associated with noncompliance discovered through Regional Entity or NERC-led CMEP activities; collaborates with other NERC departments, including Reliability Standards, Compliance Assurance, and Event Analysis; and delivers training to ERO Enterprise staff and registered entities and supports other outreach efforts. During 2021, the major activities of Compliance Enforcement will include: (1) identifying and mitigating the greatest risks to reliability and security; (2) supporting implementation of the Align and ERO SEL tools; (3) continuing to find ways to efficiently process and close out lower risk violations; (4) educating relevant parties on the risk assessment process; and (5) maturing the Coordinated Oversight program for MRREs.

The major activities of Compliance Assurance, Organization Registration and Certification, and Compliance Enforcement 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. 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 BPS 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 RCs, TOPs, and BAs 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?
 - 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.
- 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 BPS major events, off-normal occurrences and near miss events, and other BPS monitoring activities? (4) Registered Entity internal processes for compliance with Reliability Standards, such as development, implementation and maintenance of internal reliability compliance programs?
- 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 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 Assessments and Performance Analysis 2021 Major Activities

The major activities of Reliability Assessments and Performance Analysis (RAPA) are described at pages

33–38 of the 2021 Business Plan and Budget. RAPA is comprised of the Risk Identification and Mitigation Department, which in turn is comprised of the Reliability Assessments and Technical Committees (RATC) group and the Performance Analysis (PA) group; and the Engineering and Standards department, which in turn is comprised of the Power System Analysis (PSA) group and the Advanced System Analytics and Modeling (ASAM) group.

The RATC group, which includes the NERC staff secretaries of the RSTC, carries out the ERO’s responsibility to conduct assessments of the reliability and adequacy of the BPS and associated emerging reliability risks, as well as other reliability issues requiring in-depth analysis. Annual reports and assessments produced by this group include the Long-Term Reliability Assessment (supplemented by the Probabilistic Assessment), the Summer and Winter Reliability Assessments, and Special Reliability Assessments that are selected based on high risk issues requiring an independent assessment from the ERO. The NERC RSTC and its subgroups provide oversight, guidance, and leadership essential to enhancing BPS reliability; the NERC staff secretaries of the RSTC coordinate and administer these activities and efforts. In addition to developing the annual and other assessments, the major ongoing activities of the RATC include focusing on effective Essential Reliability Services (ERS), advancing the value of the seasonal reliability assessments, advancing probabilistic assessments and evaluations of energy assurance, and enhancing ERO Enterprise-wide effectiveness and efficiency of reliability assurance-related functions. Activities in 2021 will include a Special Reliability Assessment on electricity storage, an interconnection-wide short circuit study and report, and implementation of an effectiveness and efficiency strategy for NERC’s committee structure. The RATC group is also implementing the research work plan concerning geomagnetic disturbance effects that was developed and submitted to the Commission pursuant to Order No. 830, including collection of data pursuant to an ROP Section 1600 data request and other means of collecting information on geomagnetically-induced current and the potential impacts on reliability.

PA monitors the performance of and identifies risks to reliability of the BPS through analyzing data from industry and measuring historic trends, in four areas of BPS operations: transmission, generation, protection system misoperations, and demand response. Analysis performed by PA includes identifying potential risks that may indicate a need to develop remediation strategies, improvements to reporting applications, and new data collection or analysis tools which may be used to create, retire, or revise Reliability Standards. These analyses provide the foundation for the annual State of Reliability (SOR) report and other analytical reports and technical papers to the industry. PA staff leads the ERO, technical committees, and stakeholder process to publish the SOR report examining year-over-year performance indicators of the grid. To evaluate reliability trends that identify reliability risks, PA analyzes data in the Generation Availability Data System (GADS), Transmission Availability Data System (TADS), and Demand Response Availability Data System (DADS), as well as reliability metrics and protection and control system misoperations data. PA is also developing reporting requirements for solar and associated energy storage data collection.

PSA staff provides technical leadership and support in the areas of resource and demand balancing and system analysis and modeling, including technical support for the balancing (BAL) and modeling (MOD) Reliability Standards. PSA assists the RATC in its independent reliability assessments; performs Interconnection-wide analysis of steady state and dynamic conditions, including frequency, ERS, stability, short circuit ratio, and oscillatory behavior aspects including support for the Resources Subcommittee and its subgroups and submission of the Frequency Report Annual Analysis (FRAA) to FERC; and assures that the BES electrical elements necessary for reliable operation are identified and subject to Reliability Standards.

ASAM staff provides support for development and improvement of long-term, sustainable

interconnection-based power flow, dynamic, and load models that reflect actual BES reliability performance and dynamic conditions. ASAM provides guidance on appropriate use of new and existing models to study emerging risks; advances understanding of power system characteristics and behaviors by gathering larger phasor measurement unit data sets for advanced data analytics and modeling improvements; promotes understanding of the need and available methods for probabilistic studies to augment deterministic studies in system planning, including support for the Probabilistic Assessment Working Group; conducts advanced system studies of increasing penetrations of new resource technologies or new technologies facilitating these penetrations, as well as piloting use of new resource models for system simulations; publishes Institute of Electrical and Electronic Engineers (IEEE) and other industry papers to promote continual advancement of BPS knowledge and understanding; and supports research projects, including those of the Carnegie Mellon Industry Center, the Power Systems Energy Research Center, the Department of Energy (DOE) North American Energy Resilience Model, and the DOE-Electric Power Research Institute (EPRI)-NERC project advancing modeling and protection for solar inverter-based resources. ASAM also provides advanced statistical analysis support for the SOR report and various reliability assessments; the FRAA report; analytical review of Reliability Standard effectiveness; and various reports on an emergent basis each year.

PSA's and ASAM's ongoing major activities include developing technical analyses in key reliability areas to address areas of concern, including frequency response, short-circuit strength, inter-area oscillation, distributed energy resource integration, and system interdependencies such as gas/electric and communications/electric, in order to evaluate BPS characteristics, behavior and performance due to the changing resource mix and integration of new technologies; continuing to explore use of state-of-the-art software to conduct power system analysis; conducting detailed forensic analysis of significant system disturbances; and providing technical expertise, research, and feedback to the industry, including those that support development of key reliability planning-related Reliability Standards. Ongoing major activities also include providing industry insight on modeling improvements through a State of Modeling report; in coordination with the Inverter-Based Resource Performance Task Force, performing event analyses and investigating abnormal performance of inverter-based resources to develop industry recommendations and address potential reliability gaps; supporting industry in the reliable integration of increased levels of distributed energy resources; supporting industry adoption and advancement of synchrophasor technology through the Synchronized Measurement Subcommittee; supporting industry understanding and expertise in power plant modeling through the System Analysis and Modeling Subcommittee's Power Plant Modeling and Verification Task Force and supporting implementation of MOD-026-1 and MOD-027-1; advancing improvements in dynamic load modeling in support of industry stability studies for planning and real-time reliability assessments; supporting studies and technical positions on the changing nature of end-use loads; performing annual assessments of case quality and fidelity on interconnection-wide cases released by the MOD-032 designees; addressing deficiencies in interconnection-wide models and providing industry education on key modeling topics; providing a report of results from a Composite Reliability Study using probabilistic or near-probabilistic methods for transmission and resources; supporting a Battery Storage Assessment using the WECC/NERC Battery Study of the Western Interconnection to determine the adequacy of battery energy injection to support frequency response and primary frequency reserve margin; and conducting advanced statistical studies in support of the Standards Efficiency Review and the SOR report.

Additionally, NERC has formed a staff group focused on BPS security and grid transformation which will develop and promote cyber security planning, operations and recovery strategies to improve the posture and performance of the BPS to cyber threats. NERC is also focusing on security initiatives specifically for the ERO Enterprise, including sharing of best practices; development of security training and participation in regional and continent-wide security exercises; and supporting NERC, the Regional Entities and industry

on matters related to the interface between reliability and security, including supporting implementation of risk mitigation priorities recommended by the RISC.

The RAPA groups work closely with other governmental and industry organizations, including the U.S. DOE, EPRI, IEEE, Institute of Nuclear Power Operations, North American Transmission Forum, North American Generator Forum, Interstate Natural Gas Association of America, Natural Gas Supply Association, Canadian Electricity Association, and International Council on Large Electric Systems.

In 2021, the RAPA groups will continue to focus on risk issues identified in the latest RISC report, and on assessments and technical reports under direction of the RSTC; including these high-risk issues: protection system misoperations; reduced situational awareness from loss of energy management systems; unacceptable inverter performance; increased amounts of distributed energy resources; reducing potential for the BES to initiate wildfires; energy adequacy; and cyber security in planning and operations.

The major activities of RAPA 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, 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 BPS major events, off-normal occurrences and near miss events?
- II.A: Is the activity necessary or appropriate for the identification and registration of users, owners, and operators of the BPS that are required to comply with Requirements of Reliability Standards applicable to the reliability functions for which they are registered?
- 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 BPS based on such measurements; and/or identifying approaches to mitigating or eliminating such risks? (2) Monitoring, event analysis and investigation of BPS major events, off-normal occurrences, and near miss events?
- 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 BPS?
- 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 BPS 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 BPS in connection with BPS major events and off-normal occurrences, but not real-time operational control of the BPS?
- III.D. Is the activity necessary or appropriate for awareness of circumstances on the BPS and to contribute to understanding risks to reliability?
- 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 BPS?
- III.G. Is the activity necessary or appropriate for data collection and analysis of information regarding BPS reliability matters mandated by the Commission? (FERC Order No. 830 directed the performance of research and collection of data on geomagnetic disturbance effects.)
- 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 RAPA program are §801-806 and §809-810.)
- 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. Situation Awareness 2021 Major Activities

The major activities of Situation Awareness are described at pages 40–42 of the 2021 Business Plan and Budget. The Situation Awareness group, along with the Regional Entities, monitors BPS conditions, significant occurrences and emerging risks, and threats across the 16 Reliability Coordinator regions in North America, to maintain an understanding of conditions and situations that could impact reliable operations. Situation Awareness 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 assists the NERC RSTC’s Operating Reliability Subcommittee in enhancing BPS reliability with efforts to provide operational guidance to industry by managing NERC-sponsored technology tools and services that support operational coordination, as well as by providing technical support and advice. Situation Awareness uses and supports reliability-related tools in support of Situation Awareness activities, including the Resource Adequacy (Area Control Error Frequency) Tool; Inadvertent Interchange; FNet; Intelligent Alarms Tool; PowerIQ and PowerRT tools; Situation Awareness for NERC, FERC, and the Regional Entities (SAFNR); Reliability Coordinator Information System (RCIS); NERC Alerts (secure alerting system); and the Process Information (PI) Historian System.

The ongoing and new major activities of the Situation Awareness department for 2021 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; 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; continuing to set the conditions to bring in limited streaming synchrophasor data for wide-area situational awareness and event triage applications; evaluating the importance of having visibility and understanding of the reliability or availability of natural gas and its interdependency with electrical generation; and continuing to focus on enhancements to SAFNR Version 3. During 2021, Situation Awareness will continue the implementation of the upgraded SAFNR system and development of any needed enhancements; implementing enhancements to RCIS; enhancing natural gas situational awareness; and working with the E-ISAC to increase situational awareness related to physical security.

The major activities of the Situation Awareness group satisfy the following criteria:

- 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 BPS major events, off-normal occurrences and near-miss events?
- 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 BPS disturbances?
- 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 BPS in connection with BPS major events and off-normal occurrences, but not real-time operational control of the BPS?
- III.D: Is the activity necessary or appropriate for awareness of circumstances on the BPS 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 BPS?
- 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 BPS?
- 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 these major activities is §1001.)
- 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. Event Analysis 2021 Major Activities

The major activities of Event Analysis are described at pages 44–45 of the 2021 Business Plan and Budget. The Event Analysis group 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, and provides lessons learned to the industry. Event Analysis analyzes all voluntarily 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, and also conducts calls facilitated by Regional Entities with registered entities to discuss in detail and finalize root and contributing causes for the events analyzed. Event Analysis identifies human error risks and precursor factors that allow human error to affect system reliability, and educates industry regarding such risks, precursors, and related mitigation methods. Event Analysis works in collaboration with and supports the activities of other groups involved in human performance analysis, including the ERO Enterprise human performance groups, the RSTC’s Event Analysis Subcommittee, and others.

The ongoing and new major activities for 2021 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 events (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, including events like the annual NERC Monitoring and Situational Awareness Conference and the annual ERO Enterprise and industry wide Electric Power Human Performance Symposium (including leading the planning and execution of the latter event). (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. The Event Analysis department will also support several top priority reliability risk projects being led by RAPA. Additionally, in 2021, Event Analysis will continue to update and upgrade data collection and shortage capabilities and capacity for the Event Analysis Management System (TEAMS) commensurate with resource availability; as well as working with the PA group to improve the linkage between performance and event analysis data to enhance the ability to conduct event analyses and to identify key areas for trend analyses across multiple databases.

The major activities of the Event Analysis group satisfy the following criteria:

- 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 BPS major events, off-normal occurrences and near-miss events?

- II.E.2: 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: (2) Monitoring, event analysis and investigation of BPS 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 BPS major events, off-normal occurrences and near miss events, and other BPS monitoring activities?
- 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 BPS 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 BPS in connection with BPS major events and off-normal occurrences, but not real-time operational control of the BPS?
- III.D. Is the activity necessary or appropriate for awareness of circumstances on the BPS 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 BPS?
- 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 BPS?
- 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 §807-808 and §810-811 and Appendix 8.)
- 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?

VII. Electricity Information Sharing and Analysis Center 2021 Major Activities

The major activities of the Electricity Information Sharing and Analysis Center (E-ISAC) are described at pages 48–51 of the 2021 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 a world-class trusted source of quality analysis and rapid sharing of security information for the electric industry. E-ISAC oversees the Cybersecurity Risk Information Sharing Program (CRISP). CRISP delivers real-time, relevant, and actionable cybersecurity risk information to E-ISAC member electricity asset owners and operators, including those from Canada and Mexico. Current and recent accomplishments include establishing a 24X5 watch operation and hiring experienced staff to facilitate movement to a 24X7 watch by third quarter 2020; launching a critical broadcast program to quickly disseminate information regarding imminent threats and other important notifications; increasing inbound and outbound information sharing with members and government partners; supporting numerous DOE initiatives; implementing a CRM system; increasing and diversifying membership; establishing an Industry Engagement Program and increasing and diversifying participation in security exercises and training; developing a two-year action plan to expand physical security risk identification, risk mitigation, and preparedness; entering into collaboration agreements with the Independent Electric System Operator (IESO), the Downstream Natural Gas ISAC (DNG-ISAC), and the Multi-State ISAC (MS-ISAC); and building analytical capabilities, including both cyber and physical security expertise.

The E-ISAC’s major activities for 2021 will continue to focus on three areas: (1) Engagement with industry participants – expanding and diversifying membership by leveraging industry data and the CRM platform to identify and target prospects and proactively engage with underrepresented segments of the industry, including the public power segment; and developing more robust mechanisms to obtain and act upon stakeholder feedback and improve service for members. (2) Information sharing – increasing the span, quality, and volume of information shares from members; improving and expanding automated information sharing to increase the timeliness and volume of information sharing; working with government partners to increase E-ISAC and industry access to classified information through threat briefings and collaboration; and maturing security operations processes to provide members with more timely and relevant information, including through 24X7 staffing. (3) Analysis – improving the frequency, timeliness, and quality of in-depth analysis and reports; operationalizing the objectives in the agreements with DOE, IESO, DNG-ISAC and MS-ISAC; facilitating collaboration between U.S. and Canadian government agencies in support of mutual priorities and programs; and expanding CRISP participation including through data enrichment and analysis.

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 BPS based on such measurements; and/or identifying approaches to mitigating or eliminating such risks? (2) Monitoring, event analysis and

investigation of BPS major events, off-normal occurrences and near-miss events?

- III.D: Is the activity necessary or appropriate for awareness of circumstances on the BPS 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 BPS.
- 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 BPS?
- 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.)

VIII. Personnel Certification and Continuing Education 2021 Major Activities

NERC has placed the System Operator Certification Program and Credential Maintenance Program into a separate group overseen by the NERC Personnel Certification Governance Committee (PCGC), a NERC standing committee. These programs are funded entirely through examination fees, and do not receive funding from FPA §215 statutory assessments. For completeness, however, a summary of the major activities of the Personnel Certification group is provided in this Exhibit.

The major activities of the Personnel Certification group are described at pages 56–58 of the 2021 Business Plan and Budget. The System Operator Certification Program promotes the reliability of the North American BPS by ensuring that employers have a workforce of system operators that meet minimum qualifications and maintain their required credentials to work in system control centers. NERC’s System Operator Certification exam tests specific knowledge of job skills and Reliability Standards, and prepares operators to handle the BPS during normal and emergency operations. Certification is maintained by completing NERC approved Credential Maintenance Program courses and activities. The Credential Maintenance Program is developed and maintained by the Credential Maintenance Working Group under the guidelines set by the PCGC. The Exam Working Group, consisting of subject matter experts from all regions of North America, is responsible for conducting extensive job analysis surveys of certified operators across the industry, which provides the basis for certification exams.

Major ongoing and new activities of the Personnel Certification group include analysis of System Operator Certification program survey results; updates to the System Operator Certification Exam Item Bank to ensure relevance to current Reliability Standards; enhancements to the exam “skills assessment” process to better assess the skills and knowledge of system operators; development of an implementation plan for One Credential transition; evaluating credential review and rationalization to maintain credentials; reinstatement of Provider Renewal Audits; revising the Credential Maintenance Program Manual; and continued improvements to the System Operator Certification Continuing Education Database (SOCCED) to enhance user experiences.

The major activities of the Personnel Certification group 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.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.
- 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 Personnel Certification Program is §900.)
- 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?

IX. Training and Education 2021 Major Activities

The major activities of Training and Education are described at pages 60–61 of the 2021 Business Plan and Budget. The Training and Education group oversees and coordinates the delivery of training programs to ERO Enterprise staff and BPS industry participants. Training and Education uses both one-way mass communication media (e-mails, newsletters, flyers and videos) and two-way communication methods (face-to-face meetings and webinars) to convey learning materials and information. The ongoing and new major activities of the Training and Education group include assisting in facilitation of the ERO Enterprise CMEP staff workshop; developing learning products for industry-facing workshops and conferences; developing CMEP e-learning modules for ERO Enterprise auditors; developing and updating systems training products for data systems, including GADS, GADS Wind, TADS, and DADS to reflect enhancements to the data systems ; designing and developing the ERO Enterprise training website; developing a new Learning Management System as well as a content management system for the ERO Enterprise; developing promotional and training videos, e-learning modules and instructor-led training in support of releases of Align and ERO-SEL; design, development, and implementation of a management development program and other employee training; and design and development of cause analysis training.

The major activities of Training and Education 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.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 BPS major events, off-normal occurrences and near miss events, and other BPS monitoring activities. (4) Registered Entity internal processes for compliance with Reliability Standards, such as development, implementation and maintenance of internal reliability compliance programs?

- 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 BPS?
- 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 major activities of the Training and Education are in §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 the applicable provisions of Commission orders.

X. Administrative Services 2021 Major Activities

NERC’s Administrative Services Departments are General and Administrative, Legal and Regulatory, Information Technology (IT), Human Resources and Administration, and Finance and Accounting. The major activities of these departments are described at pages 63–70 of the 2021 Business Plan and Budget.

General and Administrative is responsible for the administration and general management of the organization and includes the Chief Executive Officer, Chief Engineer, and Chief Administrative Officer and support staff; External Affairs staff (legislative and regulatory, communications, and North American affairs activities); and Board of Trustees costs.

Legal and Regulatory provides legal support to the organization, including management and the NERC program areas. Legal support is provided in areas including antitrust, corporate, commercial, insurance, contracts, employment, real estate, copyright, tax, and legislation. Legal and regulatory support is also provided in connection with matters relating to the delegation agreements with Regional Entities. Legal and Regulatory also includes the Internal Audit and Corporate Risk Management functions.

IT supports the technology needs necessary to the existence and function of the organization in executing statutory responsibilities, and supports, configures, and secures corporate and enterprise applications and infrastructure leveraged by the ERO Enterprise and registered entities. IT’s Project Management Office provides project management skills and leadership for major ERO Enterprise and NERC IT projects. IT’s major activities are focused on four areas: (1) developing ERO Enterprise new functionality, including Align, ERO-SEL, and CORES; Situation Awareness tools, including minor enhancements to the RCIS; and enhancements to data management systems (GADS, GADS Wind, TADS, DADS, the Reliability Assessment Data System (RADS), Misoperations Information Data System (MIDAS) and TEAMS); (2) ERO Enterprise application and infrastructure support, the underlying infrastructure and resources required to support existing and future ERO Enterprise applications; (3) E-ISAC; and (4) NERC infrastructure support, including productivity tools, audio-visual systems, laptops, and business continuity and security technologies.

Human Resources and Administration’s activities include hiring, benefits administration, employee relations, performance and compensation management, training and development for leadership, management, and professional and administrative staff, facilities management of NERC’s two office locations, and meeting planning and coordination. A key current focus of HR and Administration is diversity and inclusion training. Under the direction of the NERC Board Corporate Governance and Human Resources Committee, Human Resources and Administration develops compensation strategy and performs or obtains (through consultants) market 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 BPS 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 BPS in connection with BPS major events and off-normal occurrences, but not real-time operational control of the BPS?
- 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 ERO Enterprise audits conducted by the Internal Audit group in Legal and Regulatory are §406, §506, and Appendix 4A, and for 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 System (BPS)¹⁸ based on such measurements; and/or identifying approaches to mitigating or eliminating such risks?
 2. Monitoring, event analysis and investigation of BPS 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?

¹⁸ 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.

- 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 BPS 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 RCs, TOPS, and BAs 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?¹⁹
 - 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 BPS based on such measurements; and/or identifying approaches to mitigating or eliminating such risks?
 - 2. Monitoring, event analysis and investigation of BPS 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:
 - 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.

¹⁹ 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.

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 BPS major events, off-normal occurrences and near miss events, and other BPS 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 BPS disturbances?
- III. Is the activity necessary or appropriate for conducting and disseminating periodic assessments of the reliability of the BPS or monitoring the reliability of the BPS?
 - 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 BPS?
 - 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 BPS 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 BPS in connection with BPS major events and off-normal occurrences, but not real-time operational control of the BPS?
 - D. Is the activity necessary or appropriate for awareness of circumstances on the BPS 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 BPS?
 - 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 BPS?
 - G. Is the activity necessary or appropriate for data collection and analysis of information regarding BPS 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 BPS 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 BPS.
- C. Activities pertaining to facilities used in the local distribution of electricity.

Exhibit B – Consultants and Contracts Costs

Consultants & Contracts	2020 Budget	2021 Budget	Increase(Decrease)
Reliability Standards			
SBS Maintenance and Support	\$ 40,320	\$ 39,552	\$ (768)
Engineering and Standards Support	-	75,000	75,000
Total	\$ 40,320	\$ 114,552	\$ 74,232
Compliance Assurance and Organization Registration and Certification			
Compliance Assurance Program Support	\$ 50,000	\$ -	\$ (50,000)
BESnet Maintenance and Support	40,320	39,552	(768)
ERO SEL Annual Certification	-	50,000	50,000
Total	\$ 90,320	\$ 89,552	\$ (768)
Compliance Enforcement			
ERO SEL Annual Certification	\$ -	\$ 50,000	\$ 50,000
Workshop Facilitation	-	19,000	19,000
Total	\$ -	\$ 69,000	\$ 69,000
Reliability Assessment and Performance Analysis			
RADS Maintenance and Support	\$ 40,320	\$ 39,552	\$ (768)
GADS/TADS/DADS Maintenance and Support	149,250	92,955	(56,295)
MIDAS Maintenance and Support	-	85,696	85,696
Power System Analysis Support	63,000	-	(63,000)
Probabilistic and Emerging Risk and Technology Analysis	500,000	65,000	(435,000)
Research Projects	-	100,000	100,000
Workshop Facilitation	-	20,000	20,000
Total	\$ 752,570	\$ 403,203	\$ (349,367)
Event Analysis			
Event Analysis Review Support	\$ 10,000	\$ 30,000	\$ 20,000
TEAMS Maintenance and Support	-	85,590	85,590
Total	\$ 10,000	\$ 115,590	\$ 105,590
Situation Awareness			
Situation Awareness Software Support	\$ -	\$ 15,000	\$ 15,000
Total	\$ -	\$ 15,000	\$ 15,000
E-ISAC			
Security Consulting	\$ 35,000	\$ 75,000	\$ 40,000
Events and Outreach	325,000	551,500	226,500
Projects and Systems	1,052,500	878,983	(173,517)
Operations	-	494,435	494,435
Partnerships	-	400,000	400,000
CRISP	6,677,500	6,325,723	(351,777)
Total	\$ 8,090,000	\$ 8,725,641	\$ 635,641
Personnel Certification			
System Operator Testing Expenses and Examination Development	\$ 112,000	\$ 113,650	\$ 1,650
Job Task Analysis	-	50,000	50,000
Continuing Education Audit and Review Services	95,000	100,000	5,000
SOCED Database Improvements & Support	75,000	125,000	50,000
Total	\$ 282,000	\$ 388,650	\$ 106,650
Training and Education			
ERO Enterprise and Industry Learning and Development Support	\$ 110,000	\$ 170,000	\$ 60,000
Total	\$ 110,000	\$ 170,000	\$ 60,000
General and Administrative			
Communications Support	\$ 20,000	\$ 20,000	\$ -
Total	\$ 20,000	\$ 20,000	\$ -
Information Technology			
Applications Enhancements, Support, and Ongoing Operations	\$ 1,805,692	\$ 1,635,625	\$ (170,067)
Total	\$ 1,805,692	\$ 1,635,625	\$ (170,067)
Human Resources			
Training and Development	\$ 500,000	\$ 450,000	\$ (50,000)
Compensation Consulting	125,000	100,000	(25,000)
Employee, Industry, and Board Surveys	100,000	-	(100,000)
Software Support and Other Services	35,000	60,000	25,000
Total	\$ 760,000	\$ 610,000	\$ (150,000)
Finance and Accounting			
Finance and Accounting Support	\$ 175,000	\$ 125,000	\$ (50,000)
Total	\$ 175,000	\$ 125,000	\$ (50,000)
Legal & Regulatory			
Internal Audit Support	\$ 300,000	\$ 200,000	\$ (100,000)
Workshop Facilitation	-	10,000	10,000
Total	\$ 300,000	\$ 210,000	\$ (90,000)
Total Consultants & Contracts	\$ 12,435,902	\$ 12,691,813	\$ 255,911

Exhibit C – Capital Financing

The company is securing a capital financing program in July 2020 for \$8.0 million as a funding source for major software application development projects and hardware equipment that primarily benefits the ERO Enterprise. The \$8.0 million non-revolving credit facility will be available to finance certain capital expenditures made from July 2020 to December 2021. Authorized annual borrowings under the facility are limited to the amount approved by the Board and FERC in each year's BP&B. NERC plans to finance \$2.0 million of the ERO SEL project costs late in 2020. The interest rate for the credit facility is floating, and NERC projects the average interest rate during 2021 for the ERO SEL project borrowing will be 3.0%. Borrowings under the credit facility for the ERO SEL will be amortized over a five-year period, and can be prepaid without penalty.

As discussed in the *Introduction and Executive Summary* and shown in the table below, NERC has a proposed 2021 capital (fixed asset) budget of approximately \$2.8M, and is assuming no loan borrowing through the capital financing program in 2021.

NERC Capital Budget	2020 Budget	2021 Budget	Increase(Decrease)	
ERO Application Development	\$ 2,007,000	\$ 1,850,000	\$ (157,000)	-7.8%
Hardware (storage, servers)	685,000	660,000	(25,000)	-3.6%
Other Equipment	250,000	50,000	(200,000)	-80.0%
NERC & E-ISAC Capital Software	1,264,349	191,500	(1,072,849)	-84.9%
Leasehold Improvements	500,000	-	(500,000)	-100.0%
Total	\$ 4,706,349	\$ 2,751,500	\$ (1,954,849)	-41.5%

	Year-End Outstanding Debt Balance				
	Prior Years Actual	2020 Projected	2021 Budget	2022 Projected	2023 Projected
Prior Years (2017 - 2019 Borrowings)	\$ -	\$ -	\$ -	\$ -	\$ -
2020 Projection	-	2,000,000	1,625,000	1,243,000	850,000
2021 Budgeted	-	-	-	-	-
2022 Projected	-	-	-	-	-
2023 Projected	-	-	-	-	-
Total Outstanding Balance	\$ -	\$ 2,000,000	\$ 1,625,000	\$ 1,243,000	\$ 850,000

	Future Annual Payments for Debt Service			
	2020 Projected	2021 Budget	2022 Projected	2023 Projected
Prior Years - Principal	\$ -	\$ -	\$ -	\$ -
2020 Projection	-	375,000	382,000	393,000
2021 Budgeted	-	-	-	-
2022 Projected	-	-	-	-
2023 Projected	-	-	-	-
Interest Expense	-	55,000	48,000	37,000
Total Principal and Interest Costs	\$ -	\$ 430,000	\$ 430,000	\$ 430,000

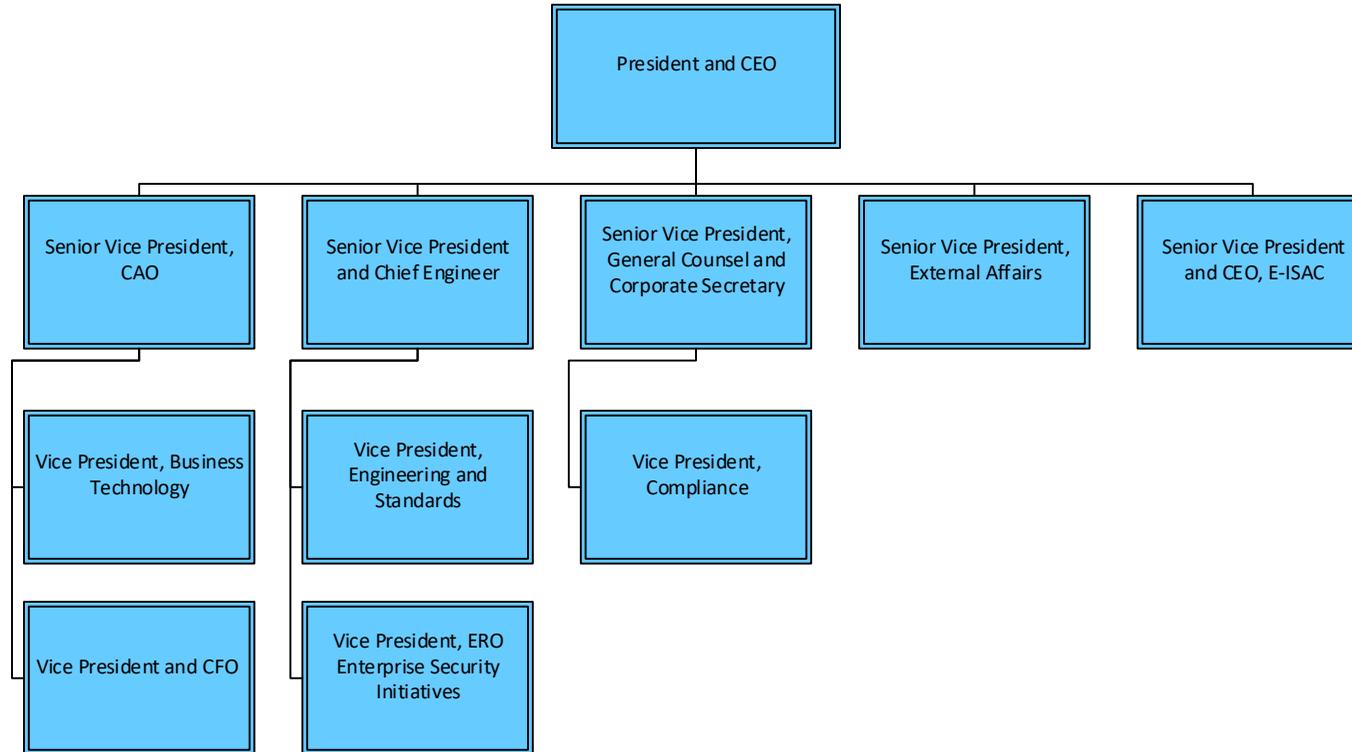
Exhibit D – Reserve Amounts

Reserves

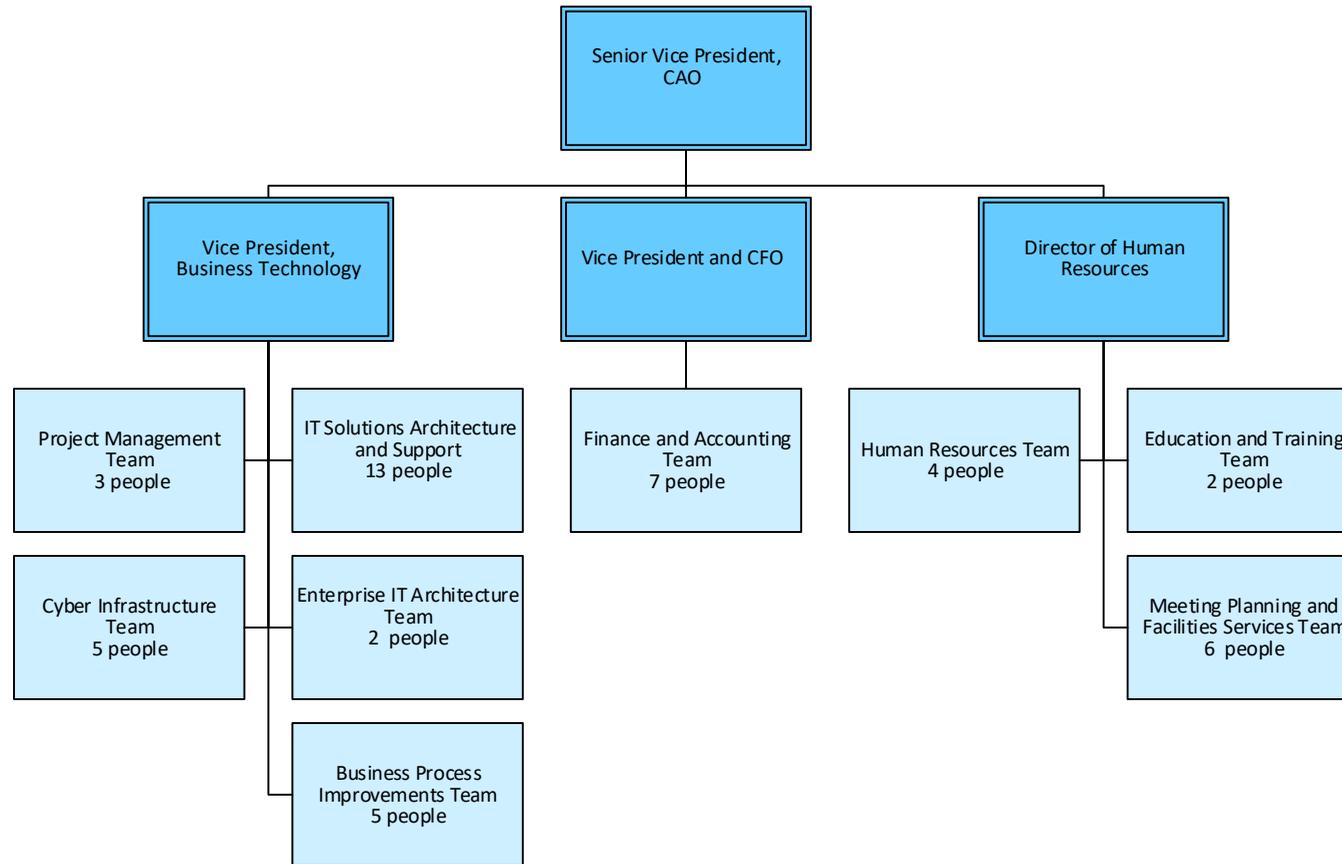
NERC is proposing an overall reserve budget of \$10.8M across all categories of reserves. This represents an increase of \$2.0M (22.8%) from the total reserve amounts included in NERC's 2020 budget. The reserve categories are as follows:

- **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 budgeted to be \$1.1M at December 31, 2021.
- **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 2021 System Operator Certification Reserve is budgeted at \$921k at December 31, 2021, and is 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 are segregated from other reserves pursuant to the terms of the CRISP agreements. The CRISP reserves are projected to be \$500k in the 2021 budget.
- **Operating Contingency Reserve** – Includes both general working capital funds resulting from day-to-day operations, and additional funds for contingencies that were not anticipated. NERC's current policy on Operating Contingency Reserves requires a reserve target of 3.5–7.0% of the company's total expense and fixed asset budget, except as otherwise approved by the Board after review and recommendation by the 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. NERC is proposing to use \$1.8M of the Operating Contingency Reserve for funding for the 2021 budget, resulting in a projected Operating Contingency Reserve of approximately \$5.8M at December 31, 2021, which is 8.0% of total budgeted operating and fixed asset (capital) costs. The projected reserve is higher than target to provide additional reserves during uncertain economic conditions, allowing funding for the deferred projects resulting from cost savings efforts in 2020 and 2021 discussed above if needed.
- **Assessment Stabilization Reserve** – To date, this reserve has been funded entirely by previously received penalties and is projected to have a balance of \$2.5M as of January 1, 2021. This includes \$1.0M in penalty money received for the 12 months ended June 30, 2020. For purposes of the company's 2021 BP&B, NERC is not currently proposing any release of Assessment Stabilization Reserve funds to offset U.S. assessments. The Assessment Stabilization Reserve will be used to stabilize and reduce U.S. assessments in one or more future periods in the applicable year's BP&B, subject to review and approval by the Board and FERC.

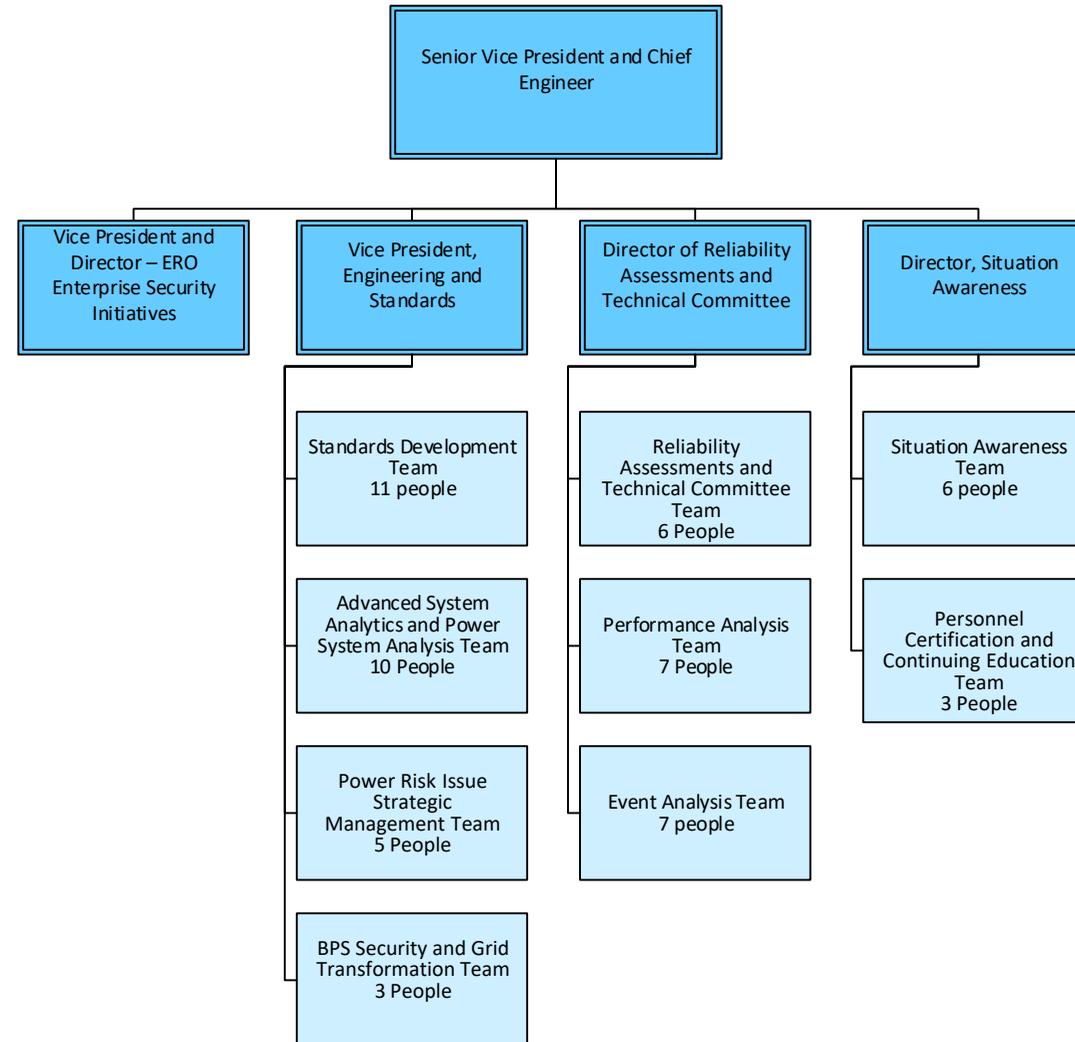
NERC Staff Organization Chart – Budget 2021



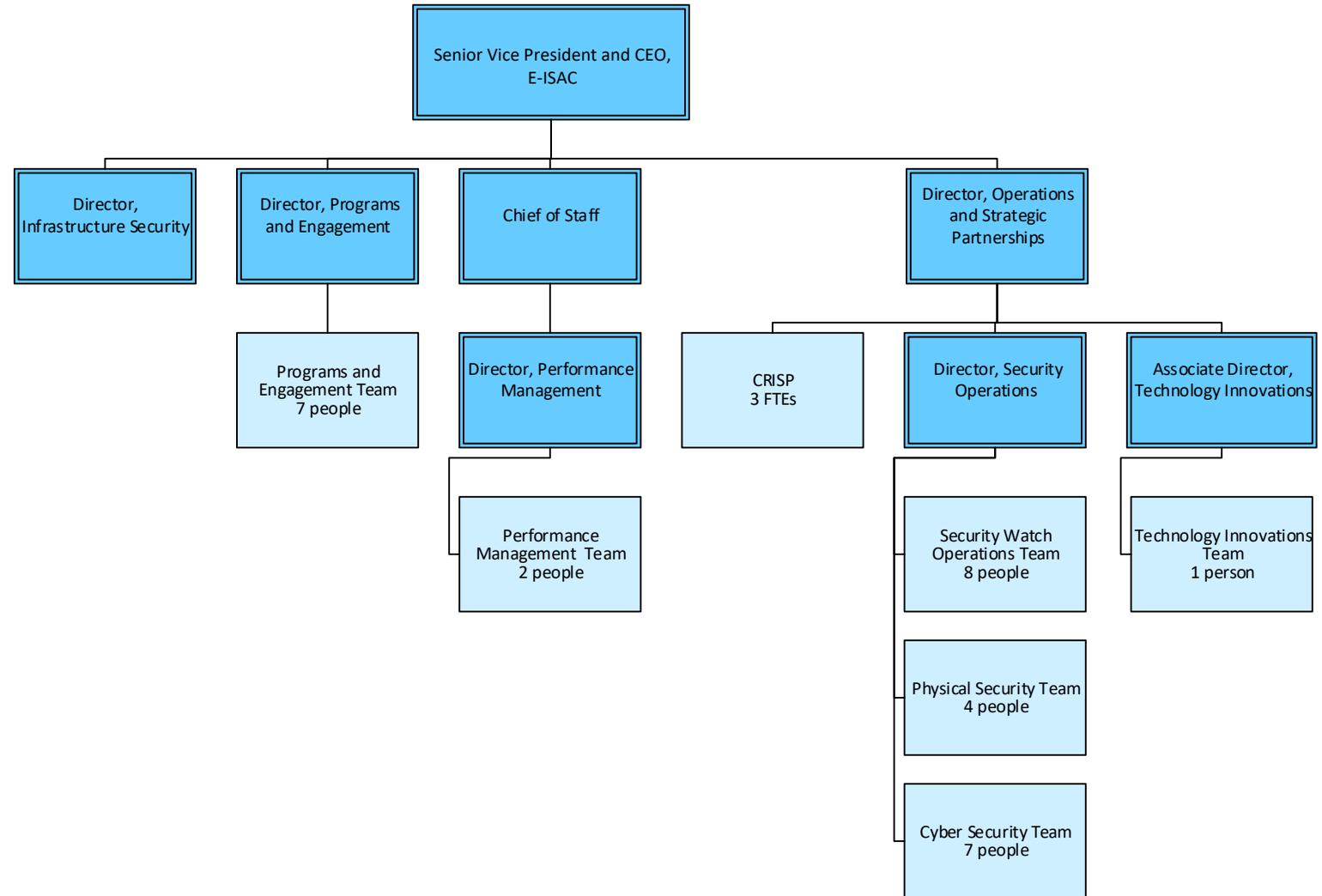
IT, Finance, HR and Admin Support



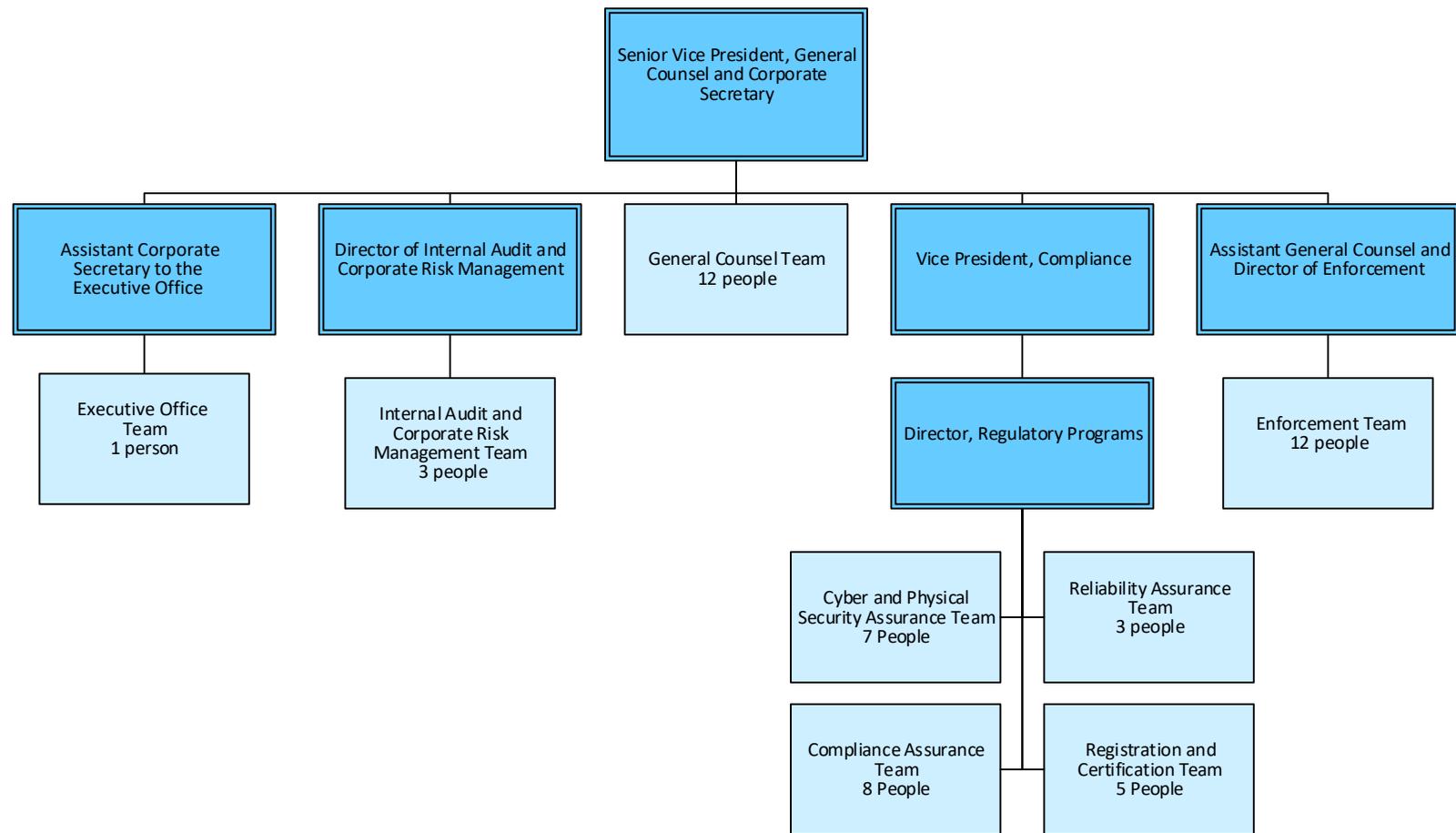
Engineering & Standards and Reliability Assessments & Performance Analysis



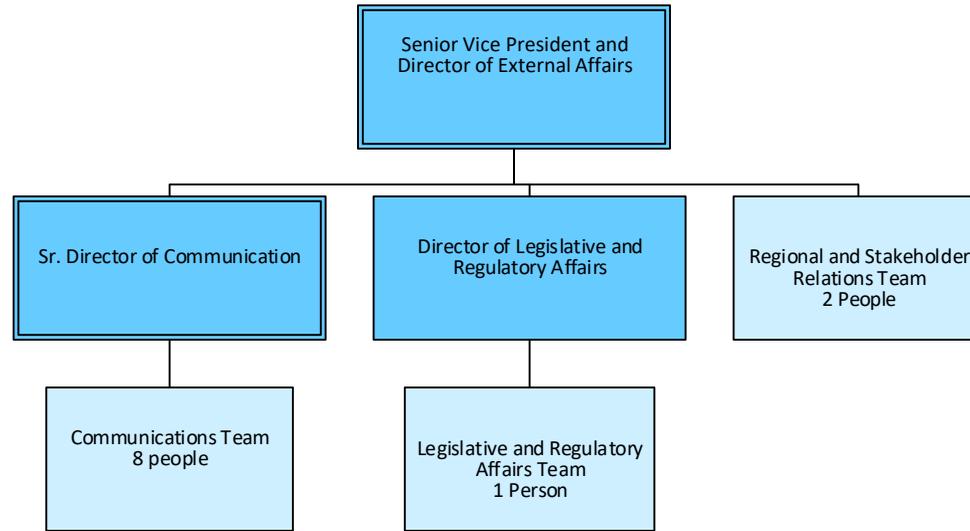
Electricity Information Sharing and Analysis Center



Executive, Legal and Regulatory, Internal Audit and Corporate Risk Management, and Compliance Enforcement



External Affairs



Attachment 3

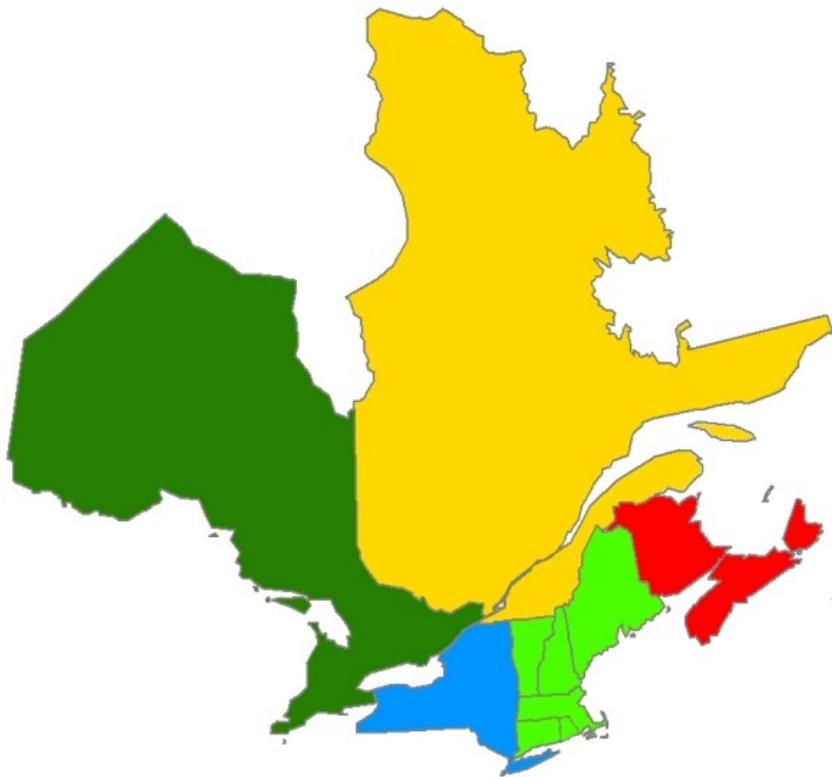
Northeast Power Coordinating Council, Inc. Proposed 2021 Business Plan and Budget



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Northeast Power Coordinating Council, Inc. (NPCC)

2021 Business Plan and Budget



**Approved by the
NPCC Board of Directors
at its June 24, 2020 Meeting and
Submitted to NERC June 24, 2020**

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Introduction

Total NPCC Resources				
(in whole dollars)				
	2021 Budget	U.S.	Canada	Mexico
Regional Entity Division FTEs	42.11			
Criteria Services Division FTEs	2.14			
Total FTEs	44.25			
Regional Entity Division Expenses	\$16,346,648			
Criteria Services Division Expenses	\$993,713			
Total Expenses	\$17,340,361			
Regional Entity Division Inc(Dec) in Fixed Assets	\$94,000			
Criteria Services Division Inc(Dec) in Fixed Assets	\$6,000			
Total Inc(Dec) in Fixed Assets	\$100,000			
Regional Entity Division Working Capital Requirement**	(\$961,169)			
Criteria Services Division Working Capital Requirement***	(\$324,222)			
Total Working Capital Requirement	(\$1,285,391)			
Total Regional Entity Division Funding Requirement	\$15,479,480			
Total Criteria Services Division Funding Requirement	\$675,491			
Total Funding Requirement	\$16,154,970			
Regional Entity Division Assessments	\$15,154,584	\$9,145,744	\$6,008,839	
Regional Entity Division Assessments Percentage	100%	60%	40%	
Criteria Services Division Membership Fees	\$671,755	\$297,711	\$374,044	
Total NPCC Assessments & Membership Fees	\$15,826,338	\$9,443,455	\$6,382,883	
NEL	620,663,000	275,068,000	345,595,000	
NEL %	100%	44%	56%	

** Refer to Table B-1 on page 63 in Section B.

*** Refer to the Reserve Analysis on page 80 in Section C.

2021 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 an operating budget change of -2.0% and assessments change of -3.5%. All 2021 succession implementation costs will be funded through existing Business Continuity Reserves, having no impact on assessments, and are excluded from the operating budget change calculation. On a divisional level, NPCC proposes a Regional Entity budget and assessment change of -1.2% and a Criteria Services division budget change of -13.1% and assessment change of -36.9%. Criteria Services assessments are decreasing by a percentage greater than decrease in budget in order to reduce operating reserves in accordance with the established policy range. Additional detail regarding reserve balances for the Regional Entity and Criteria Services divisions can be found on pages 63 and 80, respectively. The proposed 2021 funding requirements will be satisfied by a Regional Entity division assessment of \$15,154,584 and Criteria Services division membership fees of \$671,755, for a total of \$15,826,338. The total NPCC assessments and fees represent a change of -3.5% compared to the 2020 total assessments and fees of \$16,403,939. 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 Northeastern North America 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 44% U.S. and 56% 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 or Electric Reliability Organization "ERO" 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 (MOU) or Agreements with Canadian provincial regulatory and/or governmental authorities in Ontario, Québec, New Brunswick and Nova Scotia.

An Amended and Restated Delegation Agreement effective as of January 1, 2021, between the North American Electric Reliability Corporation ("NERC") and NPCC is expected to be executed later in 2020 indicating that NPCC meets all requirements of Section 215 of the Federal Power Act, the ERO Regulations, and the NERC Rules of Procedure as approved by the Federal Energy Regulatory Commission necessary to qualify for delegation for the coming five year period. This amended and restated Agreement will incorporate the benefits of the NPCC and NERC mutual experience and lessons learned while operating under the predecessor agreement with regard to NPCC U.S. and thereby provide for the more efficient and effective execution of respective responsibilities in a transparent manner that is pursuant to Section 215 and ERO Regulations. It is imperative that NPCC maintain its ability to carry out delegated authorities and responsibilities. NPCC has a 2021 targeted staffing level of 44.25 power industry professionals and support personnel. Details of the 2021 business plans and budget for each program area are included in Section A for the Regional Entity division. The 2021 Regional Entity division supplemental financial schedules are shown in Section B. Section C details the 2021 Criteria Services division business plan and budget.

Membership and Governance

NPCC monitors approximately 243 registered entities and some 496 functions in the Region for compliance with mandatory Reliability Standards. NPCC currently has approximately 95 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, pension, 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. An independent director chairs the FAC and works with the Chief Operating Officer who provides oversight of the finances of the corporation. The FAC Chair along with the CPA Treasurer and Chief Operating Officer report 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 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 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. 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 (HQCME), 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. HQCME 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, 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.

ERO Enterprise Model and Transformation

The collective network of leadership, experience, skills, and technologies shared among NERC and the Regional Entities is referred to as the ERO Enterprise. The ERO Enterprise is a collaborative organization with distinct roles between NERC and the Regional Entities. The ERO Enterprise strives for consistency where necessary, but recognizes that each Regional Entity addresses reliability in unique ways based on its own challenges and stakeholder needs; the model enables innovative and distinctive approaches to address these unique reliability risks and challenges locally. As the ERO Enterprise continues to mature, the organization is working on a transformation initiative to further leverage resources, enhance communication and collaboration, and ensure grid reliability. A set of declarations was established in 2019, committing the ERO Enterprise to:

- Work together as one team and honor each of its roles;
- Actively support ERO Enterprise activities while eliminating unnecessary duplication of work;
- Collaborate to develop clear and consistent guidance across the ERO Enterprise;
- Share information, knowledge, and resources across the ERO Enterprise;
- Develop and share harmonized messages across ERO Enterprise communications; and
- Support innovation, initiatives, and the sharing of best-practices across the ERO Enterprise.



NERC has unique responsibilities to oversee program areas, set qualifications and expectations for the performance of delegated activities, and assess, train, and give feedback to corresponding Regional Entity programs. NERC and the Regional Entities also coordinate activities to identify, prioritize, and address risks to reliability. The Regional Entities have a mirrored set of responsibilities within the ERO Enterprise model, providing input into the overall development of each ERO program area, providing training and development to meet ERO qualifications, and ensuring delegated responsibilities are completed. Regional Entities also have an obligation to meet professional standards of independence and objectivity and provide the best available expertise for addressing regional risks.

ERO Enterprise Long-Term Strategy

NERC and the Regional Entities are continually refining their individual and collective operating and governance practices in support of strategic and operational goals and objectives that are designed to ensure the ERO fulfills its statutory obligations. This collaboration is done while acknowledging the unique differences across the Regions, and the different corporate and governance responsibilities of each entity.

In 2019, ERO Enterprise leadership came together to revise the *ERO Enterprise Long-Term Strategy* as part of an effort to streamline its strategic and operational documents and ensure alignment with the NERC Reliability Issues Steering Committee's (RISC's) currently identified bulk power system (BPS) risks. This strategy, which was approved by the NERC Board of Trustees on December 12, 2019, can be found within the NERC Business Plan and Budget, and includes the following strategic focus areas:

1. Expand risk-based focus in all standards, compliance monitoring, and enforcement programs;
2. Assess and catalyze steps to mitigate known and emerging risks to reliability and security, leveraging the RISC's biennial *ERO Reliability Risk Priorities Report*;
3. Build a strong, Electricity Information Sharing and Analysis Center (E-ISAC)-based security capability;
4. Strengthen engagement across the reliability and security ecosystem in North America; and
5. Capture effectiveness, efficiency, and continuous improvement opportunities.

As part of the business planning and budgeting process, NERC and the Regional Entities identify and discuss departmental goals and activities to ensure alignment with the long-term strategy and harmonization across the ERO Enterprise where appropriate. Program area narratives in each

organization's business plan and budget may reference how activities support each of the strategic focus areas.

2021 Key Goals and Key Deliverables

NPCC activities that support ERO Enterprise Long-Term Goals are detailed in each of the following program area sections. For example, key goals and deliverables within the Reliability Standards program area include supporting the development of risk-responsive Reliability Standards as well as facilitating a Distributed Energy Resources (DER) Forum. Within the Compliance Monitoring and Enforcement and Organization Registration and Certification program, in addition to conducting objective, risk-informed compliance monitoring, enforcement and entity registration activities, this area will be addressing increased reliability enhancement activities and implementing the ERO Enterprise CMEP data application (Align). The Reliability Assessment and Performance Analysis program will be focusing on reduction of known risks to reliability and the identification and assessment of emerging reliability risks, such as changing resource composition. In the Situation Awareness and Infrastructure Security area there is an increasing focus on the identification and reduction of cyber and physical security risks through expanded outreach. In order to achieve these goals and expanded efforts, while minimizing increases in budget, significant reprioritization within the business plan and reallocation of resources were required.

Regional Entity Division Functional Scope

NPCC's Regional Entity division functions in support of the ERO include:

- Active participation in the development and revision of North American Reliability Standards for the bulk electric system, and as needed development of Reliability Standards and Variances 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 bulk electric infrastructure.
- Participating in reliability and security activities that enhance resilience of the bulk power system.

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, in conjunction with NERC and the other Regional Entities, has developed and deployed an ERO Enterprise-wide CMEP data application (Align) for gathering data, analysis, and tracking of compliance information to carry out these responsibilities in a consistent and cost-effective manner.

NPCC has organized the remaining staff into program areas consistent with EAct 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.

2021 Overview of Regional Entity Division Cost Impacts

The proposed Regional Entity division assessment of \$15,154,584, to support the Regional Entity division operating budget of \$15,963,128, is a change of -1.2% compared to the 2020 assessment of \$15,338,737.

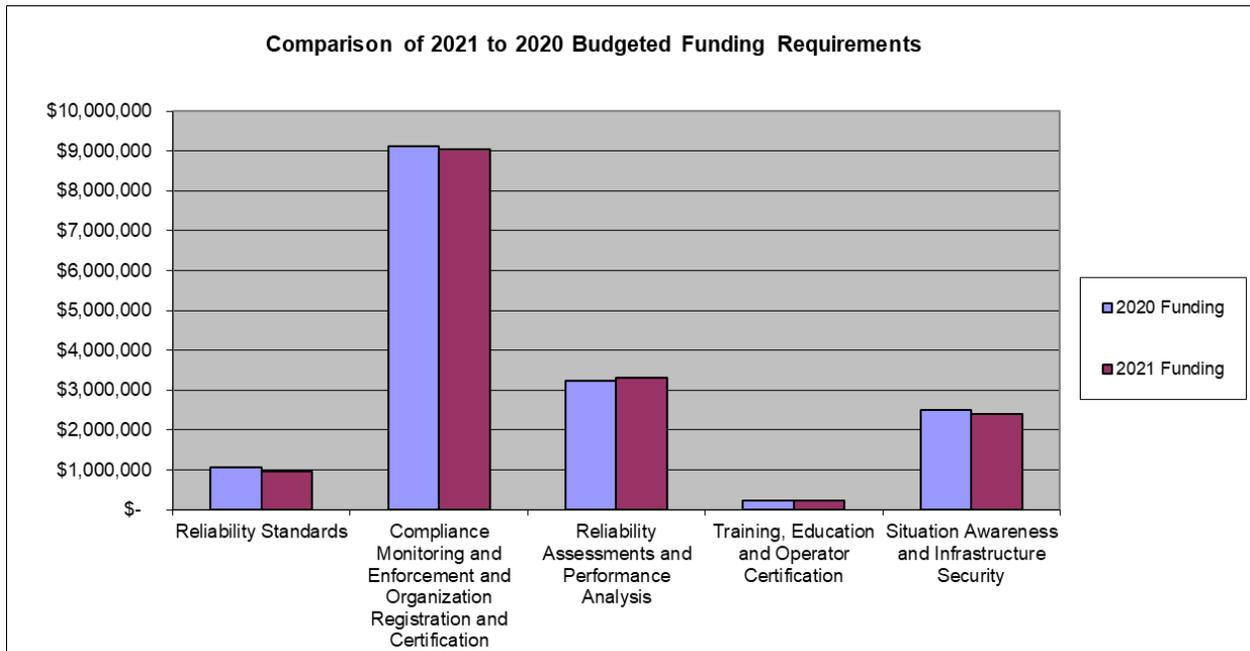
2020 Projections

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. 2020 Projections reflect expectations based on the first quarter variance report. It is anticipated that projections could change throughout 2020 and would be reflected in each subsequent quarter's variance report. The full health and subsequent financial impacts of the COVID-19 pandemic to the NPCC Region are currently unknown.

Summary by Program

Program	Budget 2020	Projection 2020	Budget 2021	Variance	
				2021 Budget v 2020 Budget	Variance %
Reliability Standards	\$ 1,071,015	\$ 1,071,015	\$ 968,675	\$ (102,339)	-9.6%
Compliance Monitoring and Enforcement and Organization Registration and Certification	\$ 9,109,633	\$ 8,922,633	\$ 9,030,944	\$ (78,689)	-0.9%
Reliability Assessments and Performance Analysis	\$ 3,231,169	\$ 3,231,169	\$ 3,314,770	\$ 83,601	2.6%
Training, Education and Operator Certification	\$ 239,412	\$ 239,412	\$ 242,257	\$ 2,845	1.2%
Situation Awareness and Infrastructure Security	\$ 2,505,877	\$ 2,443,877	\$ 2,406,482	\$ (99,396)	-4.0%
Total	\$ 16,157,107	\$ 15,908,107	\$ 15,963,128	\$ (193,979)	-1.2%

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

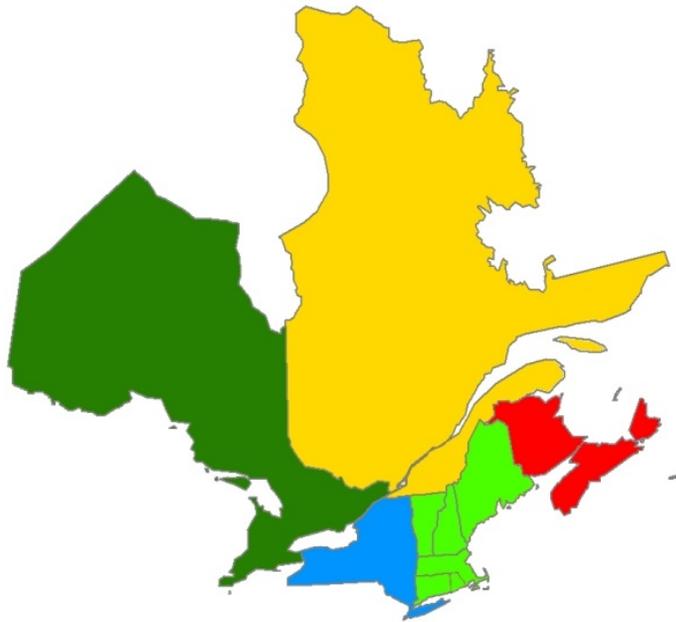
Total FTEs by Program Area	Budget 2020	Projection 2020	Direct FTEs 2021 Budget	Shared FTEs ¹ 2021 Budget	Total FTEs 2021 Budget	Change from 2020 Budget
REGIONAL ENTITY DIVISION						
Operational Programs						
Reliability Standards	1.93	1.93	1.00	0.84	1.84	-0.09
Compliance Monitoring and Enforcement and Organization Registration and Certification	18.00	17.45	19.45	0.00	19.45	1.45
Training, Education, and Operator Certification	0.10	0.10	0.10	0.00	0.10	0.00
Reliability Assessment and Performance Analysis	5.43	5.43	4.50	0.94	5.44	0.01
Situation Awareness and Infrastructure Security	5.40	5.40	5.40	0.00	5.40	0.00
Total FTEs Operational Programs	30.86	30.31	30.45	1.78	32.23	1.37
Administrative Programs						
Technical Committees and Member Forums	0.50	0.50	0.00	0.10	0.10	-0.40
General and Administrative	2.73	3.23	2.50	0.23	2.73	0.00
Information Technology	2.00	2.55	2.55	0.00	2.55	0.55
Legal and Regulatory	2.00	2.00	2.00	0.00	2.00	0.00
Human Resources	1.00	0.50	0.50	0.00	0.50	-0.50
Accounting and Finance	2.00	2.00	2.00	0.00	2.00	0.00
Total FTEs Administrative Programs	10.23	10.78	9.55	0.33	9.88	-0.35
Total FTEs	41.09	41.09	40.00	2.11	42.11	1.02

¹A shared FTE is defined as an employee who performs both Regional Entity and Criteria Services division functions.

2020 Budget and Projection and 2021 Budget Comparisons

Statement of Activities and Capital Expenditures 2020 Budget & Projection, and 2021 Budget						
REGIONAL ENTITY DIVISION						
	2020 Budget	2020 Projection	Variance⁽²⁾ 2020 Projection v 2020 Budget Over(Under)	2021 Budget⁽³⁾	Variance 2021 Budget v 2020 Budget Over(Under)	
Funding						
ERO Funding						
ERO Assessments	\$ 15,338,737	\$ 15,338,737	\$ -	\$ 15,154,584	\$ (184,153)	
Penalties Released ⁽¹⁾	120,000	120,000	-	201,132	81,132	
Total ERO Funding	\$ 15,458,737	\$ 15,458,737	\$ -	\$ 15,355,716	\$ (103,021)	
Membership Dues	-	-	-	-	-	
Testing Fees	-	-	-	-	-	
Services & Software	-	-	-	-	-	
Workshops & Misc Revenue	67,500	33,750	(33,750)	67,500	-	
Interest & Investment Income	55,800	55,800	-	56,264	464	
Total Funding (A)	\$ 15,582,037	\$ 15,548,287	\$ (33,750)	\$ 15,479,480	\$ (102,557)	
Expenses						
Personnel Expenses						
Salaries	\$ 7,704,262	\$ 7,544,262	\$ (160,000)	\$ 7,982,119	\$ 277,857	
Payroll Taxes	479,019	462,019	(17,000)	485,768	6,748	
Benefits	1,943,385	1,895,385	(48,000)	2,021,243	77,859	
Retirement Costs	882,950	858,950	(24,000)	909,832	26,882	
Total Personnel Expenses	\$ 11,009,617	\$ 10,760,617	\$ (249,000)	\$ 11,398,962	\$ 389,346	
Meeting Expenses						
Meetings & Conference Calls	\$ 397,750	\$ 332,750	\$ (65,000)	\$ 334,400	\$ (63,350)	
Travel	845,900	845,900	-	727,920	(117,980)	
Total Meeting Expenses	\$ 1,243,650	\$ 1,178,650	\$ (65,000)	\$ 1,062,320	\$ (181,330)	
Operating Expenses, excluding Depreciation						
Consultants & Contracts	\$ 2,071,150	\$ 2,071,150	\$ -	\$ 1,509,800	\$ (561,350)	
Office Rent	832,700	832,700	-	870,141	37,441	
Office Costs	685,981	685,981	-	837,420	151,439	
Professional Services	947,000	947,000	-	1,005,000	58,000	
Computer & Equipment Leases	-	-	-	-	-	
Miscellaneous	51,000	51,000	-	51,000	-	
Total Operating Expenses, excluding Depreciation	\$ 4,587,831	\$ 4,587,831	\$ -	\$ 4,273,361	\$ (314,470)	
Total Direct Expenses	\$ 16,841,098	\$ 16,527,098	\$ (314,000)	\$ 16,734,643	\$ (106,454)	
Indirect Expenses	\$ (409,450)	\$ (409,450)	\$ -	\$ (387,995)	\$ 21,456	
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -	
Total Expenses (B)	\$ 16,431,647	\$ 16,117,647	\$ (314,000)	\$ 16,346,648	\$ (84,999)	
Change in Net Assets (=A-B)	\$ (849,611)	\$ (569,361)	\$ 280,250	\$ (867,169)	\$ (17,558)	
Fixed Asset Additions, excluding Right of Use Assets (C)	\$ 170,000	\$ 170,000	\$ -	\$ 94,000	\$ (76,000)	
TOTAL BUDGET (=B+C)	\$ 16,601,647	\$ 16,287,647	\$ (314,000)	\$ 16,440,648	\$ (160,999)	
TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)	\$ (1,019,611)	\$ (739,361)	\$ 280,250	\$ (961,169)	\$ 58,442	
<p>(1) \$201,132 of penalties released from the Assessment Stabilization Reserve (ASR) to offset U.S. assessments as approved by the NPCC Board of Directors, NERC and FERC. Actual penalties invoiced in the current reporting year are shown as an increase in the ASR on the reserve summary table and will be reported as income on the audited financial statements in accordance with Generally Accepted Accounting Principles (GAAP).</p> <p>(2) 2020 Projections reflect expectations based on the first quarter statement of activities. It is anticipated that projections could change throughout 2020 and would be reflected in each subsequent quarter's statement of activities.</p> <p>(3) 2021 Budget includes non-recurring succession planning costs in the amount of \$477,520 to be funded from existing Business Continuity Reserves, having no impact on assessments. The 2021 total operating budget exclusive of non-recurring succession planning costs is \$15,963,128.</p>						

Section A – Regional Entity Division 2021 Business Plan and Budget



Section A — 2021 Regional Entity Division Business Plan and Budget

Reliability Standards Program

Reliability Standards Program Resources			
(in whole dollars)			
	2020 Budget	2021 Budget	Increase (Decrease)
Total FTEs	1.93	1.84	-0.09
Direct Expenses	\$693,683	\$629,706	(\$63,977)
Indirect Expenses	\$366,700	\$333,603	(\$33,097)
Other Non-Operating Expenses	\$0	\$0	\$0
Fixed Asset Additions	\$10,632	\$5,366	(\$5,265)
Total Funding Requirement	\$1,071,015	\$968,675	(\$102,339)

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 Long-Term Strategy and aligns with NPCC’s Strategic Plan and Board of Director goals. 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. NPCC works with the ERO and its stakeholders to expand the risk-based focus in all standards. The primary objectives of NPCC’s Reliability Standards Program Area are to support the development of ERO standards and Regional variances which establish “results-based” requirements and continue to deliver a high level of BPS reliability and security, with no identified gaps, and with due consideration given to cost effectiveness. NPCC supports the ERO efforts to develop reliability standards in a timely and efficient manner and which are also responsive to FERC Directives and industry risk.

At the Regional level, the standards program area develops, and maintains NPCC Regional Reliability Standards, and ERO Standards Variances for the northeast as required. The NPCC Reliability Standards Program Area also provides oversight to ensure that NPCC’s Regional Reliability Criteria contained in the form of Directories, are developed, approved, and maintained as necessary to implement, 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 the NPCC *Amended and Restated Bylaws* and various ISO tariffs, and individual interconnection agreements, as well as 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.

In addition, the NPCC Reliability Standards Program Area has been conducting Distributed Energy Resources (DER) Forums. Conventional fossil fuel units and nuclear retirements are increasingly being replaced by Variable Energy Resources on the transmission system and DER on the distribution system. DER is commonly referred to as “grid edge resources” and has introduced the concept of decentralized generation. It is projected that the future reliable operation of the BES, as defined in the US Federal Power Act, will be increasingly dependent on these

resources. The control systems of DER introduce new capabilities that could enhance reliability and understanding interoperability issues between transmission and distribution systems will become increasingly important. NPCC is engaged in a number of areas to promote their reliable integration into the BES and opportunities to provide industry guidance for interconnecting DER.

2021 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. Also, there will be continued development activity on Cyber standards and it is expected some new standards will be developed related to cold weather preparedness and resilience (hardening for Electromagnetic Pulse – EMP, and other high impact low frequency events).
- Continent-wide Reliability Standards projects will consist primarily of acting on recommendations of the various phases of the Standards Efficiency Review project, Standards Grading activities, 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.
- 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 and not under consideration by NERC. Creation of Variances to NERC Reliability Standards to address reliability concerns or to recognize the unique topology and reliability considerations of the Northeast (i.e. Québec’s recognition as an asynchronous interconnection within NPCC’s footprint) will be performed as necessary.
- The number of NERC and Regional standards interpretations is expected to remain low. Compliance Implementation Guidance documents, which provide approaches to being compliant with NERC Reliability Standards may be developed using NPCC’s open process and other industry vetting practices. These guidance documents are currently being developed by industry and the Standard Drafting Teams, and the number of 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.

2021 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 for 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 processes 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 to retire standard requirements that are duplicative, administrative and add no additional benefit to the reliable operation of the bulk electric system.
 - 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 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 NERC Reliability Standards.
 - NPCC staff and Regional drafting team volunteers will participate in the drafting of all ERO standards and provide support for development of improvements to standards. Those chosen to participate in drafting of standards will provide a point of contact for the NPCC Regional input to the standard being developed.
 - 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 Reliability Issues Steering Committee (RISC) activities as they identify emerging risks and develop recommended actions to mitigate such risks. 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, High Altitude Electromagnetic Pulse (HEMP), changes to standards driven by inverter based DERs, 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 potential reliability benefits and impacts to the BES as a result of DER penetration.
 - Conduct ongoing DER Forum activities to solicit and identify both opportunities and challenges to enhancing reliability through education, promotion of awareness and developing guidance, particularly for interconnection of utility scale DER on the Distribution System.
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- Update, maintain and revise the NPCC DER guidance document as necessary and promote consistency across the NPCC footprint where possible.
- In conjunction with the Reliability Coordinating Committee, review any DER impacts identified by stakeholders and develop an approach to promote awareness and resolution of any issues.
- Identify opportunities to improve resilience of the BES and develop potential approaches either with the ERO or within the Region.
- Monitor state and provincial proceedings as they relate to the deployment of DER to meet emissions targets (e.g. New York Dept. of Public Service Interconnection Technical Working Group, Massachusetts Technical Standards Group, etc.)
- Identify and coordinate reliability related issues with applicable governmental authorities.
- 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 analysis activities to determine the need to revise a standard during the Periodic Review or Standards Grading efforts.
- 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 that reliability standards or DER may cause during the NPCC RSC coordination and review process.
- Participate in NPCC Compliance and Standards Workshops and any NERC workshops and webinars to promote industry awareness.

Based on the portion of professional/technical staff time and other resources devoted to Reliability Standards development, NPCC estimates that it will expend approximately 6% of its resources on this activity.

Resource Requirements

Personnel

- Partial reallocation of one FTE to Member Forums program area.

Meetings

- Reduction in meetings and travel expenses based on changes in meeting formats related to COVID-19 pandemic. It is expected that some meetings will continue to be remotely attended via teleconference and webinar in 2021.

Reliability Standards Program

Funding sources and related expenses for the Reliability Standards section of the 2021 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 2020 Budget & Projection, and 2021 Budget						
Reliability Standards						
	2020 Budget	2020 Projection	Variance 2020 Projection v 2020 Budget Over(Under)	2021 Budget	Variance 2021 Budget v 2020 Budget Over(Under)	
Funding						
ERO Funding						
ERO Assessments	\$ 1,063,510	\$ 1,063,510	\$ -	\$ 957,193	\$ (106,317)	
Penalty Sanctions	7,505	7,505	-	11,483	3,978	
Total ERO Funding	\$ 1,071,015	\$ 1,071,015	\$ -	\$ 968,675	\$ (102,339)	
Membership Dues	-	-	-	-	-	
Testing Fees	-	-	-	-	-	
Services & Software	-	-	-	-	-	
Workshops & Misc Revenue	-	-	-	-	-	
Interest & Investment Income	-	-	-	-	-	
Total Funding (A)	\$ 1,071,015	\$ 1,071,015	\$ -	\$ 968,675	\$ (102,339)	
Expenses						
Personnel Expenses						
Salaries	\$ 400,744	\$ 400,744	\$ -	\$ 359,491	\$ (41,253)	
Payroll Taxes	23,034	23,034	-	21,383	(1,650)	
Benefits	110,172	110,172	-	111,331	1,159	
Retirement Costs	43,833	43,833	-	38,780	(5,053)	
Total Personnel Expenses	\$ 577,783	\$ 577,783	\$ -	\$ 530,986	\$ (46,797)	
Meeting Expenses						
Meetings & Conference Calls	\$ 5,000	\$ 5,000	\$ -	\$ 4,000	\$ (1,000)	
Travel	90,900	90,900	-	72,720	(18,180)	
Total Meeting Expenses	\$ 95,900	\$ 95,900	\$ -	\$ 76,720	\$ (19,180)	
Operating Expenses, excluding Depreciation						
Consultants & Contracts	\$ 20,000	\$ 20,000	\$ -	\$ 20,000	\$ -	
Office Rent	-	-	-	-	-	
Office Costs	-	-	-	2,000	2,000	
Professional Services	-	-	-	-	-	
Computer & Equipment Leases	-	-	-	-	-	
Miscellaneous	-	-	-	-	-	
Total Operating Expenses, excluding Depreciation	\$ 20,000	\$ 20,000	\$ -	\$ 22,000	\$ 2,000	
Total Direct Expenses	\$ 693,683	\$ 693,683	\$ -	\$ 629,706	\$ (63,977)	
Indirect Expenses	\$ 366,700	\$ 366,700	\$ -	\$ 333,603	\$ (33,097)	
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -	
Total Expenses (B)	\$ 1,060,383	\$ 1,060,383	\$ -	\$ 963,309	\$ (97,074)	
Change in Net Assets (=A-B)	\$ 10,632	\$ 10,632	\$ -	\$ 5,366	\$ (5,265)	
Fixed Asset Additions, excluding Right of Use Assets (C)	10,632	10,632	-	5,366	(5,265)	
TOTAL BUDGET (=B+C)	\$ 1,071,015	\$ 1,071,015	\$ -	\$ 968,675	\$ (102,339)	
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)			
	2020 Budget	2021 Budget	Increase (Decrease)
Total FTEs	18.00	19.45	1.45
Direct Expenses	\$5,590,473	\$5,447,816	(\$142,657)
Indirect Expenses	\$3,420,003	\$3,526,402	\$106,399
Other Non-Operating Expenses	\$0	\$0	\$0
Fixed Asset Additions	\$99,157	\$56,727	(\$42,431)
Total Funding Requirement	\$9,109,633	\$9,030,944	(\$78,689)

Program Scope and Functional Description

The NPCC Compliance Monitoring and Enforcement and Organization Registration and Certification Program (CORC) Program Area operates in accordance with NPCC's filed and approved Regional Delegation Agreement, the NERC Rules of Procedure, and individual Canadian Provincial MOUs and/or Agreements. The program supports Compliance Enforcement (Section 400) and Organization Registration and Certification (Section 500), the ERO Enterprise Long-Term Strategy, and aligns with NPCC Board of Director goals and strategies.

The CORC Program Area 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) data application (Align) in the United States, including the compliance monitoring, mitigation 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 Area, NPCC strives to be a strong enforcement authority that is independent, objective, fair, and promotes a culture of reliability excellence through risk-informed compliance monitoring, mitigation, enforcement, and registration. To accomplish this goal, CORC is divided into three sub-program areas: Compliance Fundamentals; Compliance Audits and Investigations; and Compliance Mitigation and Enforcement.

Compliance Fundamentals

The Compliance Fundamentals sub-program area is responsible for registration and certification activities and for general compliance activities that span across the other two sub-program areas. The Compliance Fundamentals sub-program area:

- Collaborate across the ERO through participation in the Risk Performance and Monitoring Group (RPMG), Enforcement Group (EG), Organization Registration and Certification Group (ORCG), and the development of the annual ERO CMEP staff workshop.
- 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, Quebec, New Brunswick),
- Implements the ERO Enterprise registration tool (CORES -Centralized Organization Registration ERO System) and the ERO Enterprise CMEP data application (Align),
- Responds to any complaints submitted to NPCC,
- Maintains any NPCC specific compliance tools or programs needed,
- Conducts two stakeholder compliance workshops on an annual basis,
- Assesses compliance trends and conducts additional outreach, training, and education to support the implementation of Reliability Standards,
- Conducts Inherent Risk Assessments (IRA) on registered entities,
- Conducts formal Evaluations of Internal Controls (EIC) on volunteering registered entities,
- Develops Compliance Oversight Plans (COP) for registered entities,
- Assists with the development of the annual CMEP implementation plans,
- Provides the basis for each registered entity's Compliance Oversight Plan.

Compliance Audits and Investigations

The Compliance Audits and Investigations sub-program area is responsible for conducting all compliance monitoring activities. The Compliance Audits and Investigations sub-program area is focused on the most significant risks to the BPS. The Compliance Audits and Investigations sub-program area:

- Conducts NPCC compliance monitoring activities, including audits, spot checks, and guided self-certifications,
- Incorporates the results of the IRA and EIC into its compliance monitoring process,
- Assesses the maturity of the entity's internal controls during audits,
- Engages the entity on the maturity of the Internal Compliance Program
- Issues reports, including audit reports, spot check reports, guided self-certification reports,
- Implements and maintains the Critical Infrastructure Protection (CIP) Standards Technical Feasibility Exceptions process.

Compliance Mitigation and Enforcement

The Compliance Mitigation and 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 Compliance Mitigation and Enforcement sub-program area:

- Determines the relevant facts and circumstances necessary to understand each noncompliance,

- Evaluates and assigns a risk level to each noncompliance,
- Advises on the level of mitigation required to prevent recurrence of the issue,
- Evaluates and approves the mitigation activities or Mitigation Plan(s) for each noncompliance,
- Assesses the relevant compliance history for each noncompliance,
- Determines the disposition method for each noncompliance,
- Conducts settlement negotiations,
- Calculates penalty sanctions in consistent fashion, and
- Evaluates registered entities for the self-logging program.

2021 Key Assumptions and Cost Impacts

2020	Projected 2021
8 On-Site O&P Audits	8 On-Site O&P Audits
10 On-Site CIP Audits	8 On-Site CIP Audits
40 Off-Site Audits	30 Off-Site O&P Audits
25 Off-Site CIP Audits	10 Off-Site CIP Audits
10 Spot Checks	13 Spot Checks
40 Self-certifications	60 Self-certifications
50 Inherent Risk Assessments	46 Inherent Risk Assessments
7 On-site O&P Internal Control Evaluations	8 Evaluations of Internal Controls
10 On-site CIP Internal Control Evaluations	50 Internal Compliance Program Reviews
225 Violations (Estimated)	225 Violations (Estimated)
Settlements Covering 80 Violations	Settlements Covering 80 Violations
	48 Compliance Oversight Plans (Full Implementation in 2021)
1 Hearings (Unbudgeted)	1 Hearings (Unbudgeted)
1 CI (Estimated)	1 CI (Estimated)
2 Entity Certifications	2 Entity Certifications

- Compliance Monitoring activities will be cost effectively addressed with the addition of two employee auditors (net increase of 1.45 compliance FTEs after the partial re-allocation of a compliance position to IT in 2020), offset by a decrease in independent contractor audit costs.
- The 2021 Business Plan projects the same level of enforcement processing activities as the 2020 Budget. It is expected that the increase in violation processing will also continue in 2021. This is partly due to the increase in the number of cyber systems that are in scope for compliance in most jurisdictions.
- One Compliance Investigation is projected for 2021. Compliance Investigations are manpower intensive for NPCC staff (requiring allocation of more resources and potentially higher than normal costs).

2021 Goals and Key Deliverables

- Conduct scheduled compliance monitoring and enforcement activities pursuant to the 2021 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.
- Continue to implement compliance responsibilities in Canada based on the unique regulatory structure specific to each provincial and/or governmental jurisdiction.
- Evaluate monitoring, violation processing, risk-assessment, registration and certification program for sufficiency and effectiveness. Modify as needed.
- Collaborate within the ERO Enterprise to develop and implement a common and consistent CMEP data application (Align) for compliance 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 tool (CORES – Centralized Organization Registration ERO System) and the Align CMEP data application.
- Conduct two in-person Compliance Workshops.
- Develop annual reports for QCMEP/CMEP activity in Québec and New Brunswick.
- Develop and/or provide input on 2021 CMEP Implementation Plans (ERO Enterprise, 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 formal EIC outreach for registered entities that volunteer for such an assessment.
- Continue to assess internal controls during monitoring engagements
- Conduct 2021 Compliance Engagement Schedule based on budget, risk to the BPS, and number of registered entities
- Utilize the ERO Risk-Based 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, performing a formal Evaluation of Internal Controls for all entities that volunteer, and developing Compliance Oversight Plans (COP) for audited entities.
- Continue to perform comprehensive enforcement investigations to determine the relevant facts and circumstances necessary to understand each noncompliance, assess the risk, and evaluate the mitigation activities or Mitigation Plan for each noncompliance. 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 noncompliance, 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 Internal Compliance Programs to determine entry into the self-logging program.

- Analyze noncompliance trends and associated risks in order to develop guidance to registered entities in support of a culture of reliability.
- Perform outreach (webinars, workshops) to educate entities on noncompliance root causes and on techniques for noncompliance assessment and communication associated with self-reporting to NPCC; including the provision of guidance on the development of mitigation activities that will prevent recurrence.
- Assess evolving cyber security risks for opportunities to develop internal control flow diagrams in order to provide entity guidance.

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 56% of its resources on this activity.

Resource Requirements

Personnel

- Two additional employee auditors (net increase of 1.45 FTEs after the partial re-allocation of a compliance position to IT in 2020), to increase in-house expertise rather than utilizing independent contractor labor. The increase in personnel expenses will be offset by a decrease in Consultants and Contracts.

Meetings

- Reduction in meetings and travel expenses based on changes in meeting formats related to COVID-19 pandemic. It is expected that some meetings will continue to be remotely attended via teleconference and webinar in 2021.

Fixed Assets

- No new functionality is planned for the Compliance Issues Tracking System (CITS) and CMEP Data Administration Application (CDAA) at this time based on the planned implementation of the ERO Enterprise CMEP data application (Align).

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 2021 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						
2020 Budget & Projection, and 2021 Budget						
Compliance Monitoring and Enforcement and Organization Registration and Certification						
				Variance		Variance
	2020	2020	2020 Projection	2020 Projection	2021	2021 Budget
	Budget	Projection	Over(Under)	v 2020 Budget	Budget	v 2020 Budget
				Over(Under)		Over(Under)
Funding						
ERO Funding						
ERO Assessments	\$ 9,034,625	\$ 9,034,625	\$ -	\$ 8,444,793	\$ (589,831)	
Penalty Sanctions	69,994	69,994	-	121,378	51,385	
Total ERO Funding	\$ 9,104,618	\$ 9,104,618	\$ -	\$ 8,566,171	\$ (538,447)	
Membership Dues	-	-	-	-	-	
Testing Fees	-	-	-	-	-	
Services & Software	-	-	-	-	-	
Workshops & Misc Revenue	-	-	-	-	-	
Interest & Investment Income	-	-	-	-	-	
Total Funding (A)	\$ 9,104,618	\$ 9,104,618	\$ -	\$ 8,566,171	\$ (538,447)	
Expenses						
Personnel Expenses						
Salaries	\$ 2,928,438	\$ 2,808,438	\$ (120,000)	\$ 3,058,980	\$ 130,541	
Payroll Taxes	202,717	189,717	(13,000)	214,978	12,261	
Benefits	732,104	696,104	(36,000)	834,388	102,284	
Retirement Costs	314,664	296,664	(18,000)	333,201	18,537	
Total Personnel Expenses	\$ 4,177,923	\$ 3,990,923	\$ (187,000)	\$ 4,441,546	\$ 263,623	
Meeting Expenses						
Meetings & Conference Calls	\$ 15,000	\$ 15,000	\$ -	\$ 12,000	\$ (3,000)	
Travel	300,400	300,400	-	269,120	(31,280)	
Total Meeting Expenses	\$ 315,400	\$ 315,400	\$ -	\$ 281,120	\$ (34,280)	
Operating Expenses, excluding Depreciation						
Consultants & Contracts	\$ 1,097,150	\$ 1,097,150	\$ -	\$ 707,150	\$ (390,000)	
Office Rent	-	-	-	-	-	
Office Costs	-	-	-	18,000	18,000	
Professional Services	-	-	-	-	-	
Computer & Equipment Leases	-	-	-	-	-	
Miscellaneous	-	-	-	-	-	
Total Operating Expenses, excluding Depreciation	\$ 1,097,150	\$ 1,097,150	\$ -	\$ 725,150	\$ (372,000)	
Total Direct Expenses	\$ 5,590,473	\$ 5,403,473	\$ (187,000)	\$ 5,447,816	\$ (142,657)	
Indirect Expenses	\$ 3,420,003	\$ 3,420,003	\$ -	\$ 3,526,402	\$ 106,399	
Other Non-Operating Expenses	\$ -					
Total Expenses (B)	\$ 9,010,476	\$ 8,823,476	\$ (187,000)	\$ 8,974,218	\$ (36,258)	
Change in Net Assets (=A-B)	\$ 94,142	\$ 281,142	\$ 187,000	\$ (408,046)	\$ (502,189)	
Fixed Asset Additions, excluding Right of Use Assets (C)	\$ 99,157	\$ 99,157	\$ -	\$ 56,727	\$ (42,431)	
TOTAL BUDGET (=B+C)	\$ 9,109,633	\$ 8,922,633	\$ (187,000)	\$ 9,030,944	\$ (78,689)	
TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)	\$ (5,015)	\$ 181,985	\$ 187,000	\$ (464,773)	\$ (459,758)	

Reliability Assessment and Performance Analysis Program

Reliability Assessment and Performance Analysis Program Resources			
(in whole dollars)			
	2020 Budget	2021 Budget	Increase (Decrease)
Total FTEs	5.43	5.44	0.01
Direct Expenses	\$2,169,556	\$2,312,599	\$143,043
Indirect Expenses	\$1,031,701	\$986,305	(\$45,396)
Other Non-Operating Expenses	\$0	\$0	\$0
Fixed Asset Additions	\$29,913	\$15,866	(\$14,047)
Total Funding Requirement	\$3,231,169	\$3,314,770	\$83,601

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 criteria 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.

2021 Key Focus Areas

In collaboration with NERC, Key Focus Area activities for 2021 include:

- Undertake special assessments and studies, including case-specific examples of real and potential impacts, to understand emerging risks from new technologies, and launch appropriate task forces to develop mitigation options. Some of these efforts may be in collaboration with state regulators, policymakers, and stakeholders, such as the National Association of Regulatory Utility Commissioners (NARUC), focusing on distributed energy resources and other risks emanating from events or conditions on the increasingly integrated distribution system that may cause cascading outages of the BPS.
- Integrate NERC and Regional Entity assessments to ensure that identified risks are being properly addressed, and continue to monitor those risks to understand region-specific expressions of industry-wide issues and impacts.
- Develop measures of BPS and cyber resilience, including the ability to prepare for, withstand, and recover from extreme contingencies, such as high-impact, low frequency events, and identify processes and approaches to enhance resilience through NERC's reliability and security toolkit as well as industry action. Work in collaboration with the forums and Department of Energy (DOE).

- Use data analytics, research, and relationships with other critical infrastructures to identify leading indicators of emerging risks and the potential harm of currently unknown risks, and prioritize and communicate these to industry for awareness and mitigation.
- Collaborate effectively with other non-profit organizations that share elements of the ERO Enterprise’s reliability and security mission, and seek out and work with representatives of academia, other critical infrastructures, and international experts to broaden the ERO Enterprise’s collective knowledge and awareness of current and unknown risks and strategies to address them.
- Leveraging the Regional Entity’s specialized and localized point of view, strengthen and expand outreach, coordination, and collaboration with state energy regulators and related offices to address risks to reliability stemming from the relocation of resources and interdependency between the operations of distribution and the BPS.
- Strengthen proactive outreach and communications with key provincial, federal, and state regulatory, legislative, and policy bodies and associations across North America.

Eastern Interconnection Reliability Assessment Group (ERAG)

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.

NPCC RAPA staff participates with the ERAG Committee as one of the four Eastern Interconnection Regional Entities, and acts as the liaison between the ERAG Multiregional Modeling Working Group (MMWG), NPCC Reliability Coordinating Committee (RCC), NPCC Task Force on System Studies (TFSS) and the NPCC SS-37 Working Group on Base Case Development.

ERAG Committee Activities 2021 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. Determine the targeted ERAG assessment topic for 2021. Determine the method of assessment: analytical study, research effort, peer review.
- 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.

Multi-Regional Modeling Working Group 2021 Goals and Deliverables

- Facilitate the completion of the steady state and dynamic simulation base case data compilation and development for the 2021 series of cases.
- Check and confirm that the dynamic model data passes all applicable checks and acceptance criteria and emphasize the accurate modeling of distributed energy resources.
- Incorporate dispatch information into the future and seasonal 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 2021 Goals and Deliverables

- Determine an appropriate topic of focus for the 2021 ERAG Assessment. In recent years, ERAG has conducted peer reviews on select topics in lieu of conducting assessments. Conduct the 2021 ERAG Assessment and prepare any 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. No NPCC Exclusion Exception Requests are due for recertification in 2021. Analysis of an Exception Request from a New Brunswick entity may extend into 2021.

2021 NERC Activities

NPCC will provide the Regional perspective with appropriate NPCC RAPA staff participation on selected NERC Technical Committees and key related NERC Subcommittees, Task Forces and Working Groups, including:

- Inverter-Based Resource Performance Task Force (IRPTF)
- Performance Analysis Subcommittee (PAS)
 - Demand Response Availability Data System Working Group (DADSWG)
 - Generating Availability Data System Working Group (GADSWG)
 - Misoperation Information Data Analysis System Working Group (MIDASWG)
 - Transmission Availability Data System Working Group (TADSWG)
- Reliability Assessment Subcommittee (RAS)
 - Probabilistic Assessment Working Group (PAWG)
- System Analysis and Modeling Subcommittee (SAMS)
 - Load Modeling Task Force (LMTF)
 - Power Plant Model Verification Task Force (PPMVTF)
 - Node Breaker Modeling Group (NBMG)
- System Protection and Control Subcommittee (SPCS)
- Synchronized Measurement Subcommittee (SMS)
- System Planning Impacts from Distributed Energy Resources Working Group (SPIDERWG)
- ERO RAPA Steering Group (ERO RAPA-SG)
 - Reliability Assessment Ad Hoc Team
 - Performance Analysis Ad Hoc Team
 - Event Analysis Ad Hoc Team
 - Situational Awareness Ad Hoc Team
 - System Analysis Ad Hoc Team

ERO – Operations Leadership Team (OLT) 2021 Activities

- Provide analytic support for the ERO Executive Committee;
- Bulk Electric System Exception Process and BES Definition sub-team, under Organization Registration and Certification Group (ORCG);

- ERO-RAPA Group; and,
- Other activities as directed by the ERO Executive Committee.

2021 Goals and Key Deliverables

Task Force on Coordination of Planning

The primary mission of the NPCC Task Force on Coordination of Planning (TFCP) is to promote the reliable and efficient planning of the international interconnected bulk power systems in Northeastern North America through the coordination of NPCC Balancing Authority or Control Area (Area) and NERC planning processes and activities.

TFCP Reliability Assessment and Performance Analysis 2021 Goals and Deliverables

- Coordinate the NPCC Area reviews in accordance with the requirements of NPCC Directory No. 1, “Design and Operation of the Bulk Power System.”
- Oversee the NPCC Directory No. 1 Implementation Plan (Dated: September 30, 2015).
- Coordinate the review of proposed new, modified and retired remedial action schemes (RAS) in accordance with the NPCC Directory No. 7, “Procedure for Review of System Special Protection Systems.”
- 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 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.
- Conduct, through the CP-8 Working Group, the 2021 NPCC Tie Benefit Study.
- Coordinate the NPCC transition from SPS to RAS.
- Lead the NPCC Task Forces in conducting the review of the reliability and cost benefit of Directory No. 1, Design and Operation of the BPS.
- 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.
- Assess use of emerging technologies for consistency with current best reliability practices.
- Review Events Analysis Lessons Learned using the Events Analysis discussion/review template.
- Review the load shape assumption through the CP-8 Working Group used in NPCC Multi-Area probabilistic reliability Assessments.
- Monitor the reliability issues associated with fuel supply, demand resources, energy efficiency, and conservation methods including all intermittent renewable resources and distributed energy resources.

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 international interconnected bulk power systems in Northeastern North America and for the review of related NPCC documents.

TFSS Reliability Assessment and Performance Analysis 2021 Goals and Deliverables

- Review and recommend approval of Area Transmission Reviews.
- Review and classify new and modified 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.
- Annually develop a library of power flow base cases and associated dynamic cases.
- Enable the annual review of the NPCC event replication procedure and ensure the preparedness of the NPCC Planning Coordinators to develop base cases for a required investigation of a major system event in or affecting NPCC and 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 international 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 2021 Goals and Deliverables

- Assess proposed protection systems and 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.
- Manage the misoperations review and analysis of transmission and generation protection systems.
- Monitor the NPCC metric on protection system Misoperation Risk Index Score calculations.

-
- 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 Electric 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 2021 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.”
- On a biennial basis, perform a voluntary Critical Operating Tool Analysis Survey accompanied with the previous survey's recommendation to disseminate and assess the implementation of best practices and recommendations.
- 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.
- Support and take part in a biennial, continent-wide Grid Security Exercise (GridEx), including a review of the associated reports and Lessons Learned.
- Monitor and discuss the trends and impacts of the changing resource mix (including intermittent, DER, batteries, etc.) 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.
- Review and analyze the performance of Simultaneous Activation of Reserve (SAR) implementation following an event to enhance the process.
- Conduct seasonal NPCC Reliability Assessment and incorporate the multi-area probabilistic simulation results in each assessment. Coordinate the NPCC input for the annual short-term NERC Reliability Assessment Subcommittee assessment.
- Develop respective scopes for and conduct reviews of applicable NPCC Directories, Criteria, Guides and Procedures in accordance with their applicable review dates.
- Assess the current capabilities of system operations communication systems.
- Evaluate practices, procedures and capabilities of system operators in detection and operational response to potential cyber security incidents, as well as notification and coordination practices and capabilities among NPCC and neighboring system operators in response to cyber intrusion into operations systems.

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. A related contributing activity is to strengthen proactive outreach and communication with key provincial, federal, state regulatory, legislative, and policy bodies and associations across North America.

NPCC Regulatory/Governmental Affairs Advisory Group 2021 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, Distributed Energy Resource integration).
- 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 21% of its resources on these activities.

Resource Requirements

Personnel

- No significant changes.

Meetings

- Reduction in meetings and travel expenses based on changes in meeting formats related to COVID-19 pandemic. It is expected that some meetings will continue to be remotely attended via teleconference and webinar in 2021.

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 2021 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						
2020 Budget & Projection, and 2021 Budget						
Reliability Assessment and Performance Analysis						
	2020 Budget	2020 Projection	Variance 2020 Projection v 2020 Budget Over(Under)	2021 Budget	Variance 2021 Budget v 2020 Budget Over(Under)	
Funding						
ERO Funding						
ERO Assessments	\$ 3,210,055	\$ 3,210,055	\$ -	\$ 3,280,822	\$ 70,767	
Penalty Sanctions	21,115	21,115	-	33,948	12,834	
Total ERO Funding	\$ 3,231,169	\$ 3,231,169	\$ -	\$ 3,314,770	\$ 83,601	
Membership Dues	-	-	-	-	-	
Testing Fees	-	-	-	-	-	
Services & Software	-	-	-	-	-	
Workshops & Misc Revenue	-	-	-	-	-	
Interest & Investment Income	-	-	-	-	-	
Total Funding (A)	\$ 3,231,169	\$ 3,231,169	\$ -	\$ 3,314,770	\$ 83,601	
Expenses						
Personnel Expenses						
Salaries	\$ 1,006,128	\$ 1,006,128	\$ -	\$ 1,017,371	\$ 11,243	
Payroll Taxes	64,023	64,023	-	64,068	46	
Benefits	218,787	218,787	-	280,566	61,779	
Retirement Costs	109,418	109,418	-	110,034	616	
Total Personnel Expenses	\$ 1,398,356	\$ 1,398,356	\$ -	\$ 1,472,039	\$ 73,683	
Meeting Expenses						
Meetings & Conference Calls	\$ 22,000	\$ 22,000	\$ -	\$ 17,600	\$ (4,400)	
Travel	216,200	216,200	-	172,960	(43,240)	
Total Meeting Expenses	\$ 238,200	\$ 238,200	\$ -	\$ 190,560	\$ (47,640)	
Operating Expenses, excluding Depreciation						
Consultants & Contracts	\$ 533,000	\$ 533,000	\$ -	\$ 647,000	\$ 114,000	
Office Rent	-	-	-	-	-	
Office Costs	-	-	-	3,000	3,000	
Professional Services	-	-	-	-	-	
Computer & Equipment Leases	-	-	-	-	-	
Miscellaneous	-	-	-	-	-	
Total Operating Expenses, excluding Depreciation	\$ 533,000	\$ 533,000	\$ -	\$ 650,000	\$ 117,000	
Total Direct Expenses	\$ 2,169,556	\$ 2,169,556	\$ -	\$ 2,312,599	\$ 143,043	
Indirect Expenses	\$ 1,031,701	\$ 1,031,701	\$ -	\$ 986,305	\$ (45,396)	
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -	
Total Expenses (B)	\$ 3,201,257	\$ 3,201,257	\$ -	\$ 3,298,904	\$ 97,647	
Change in Net Assets (=A-B)	\$ 29,913	\$ 29,913	\$ -	\$ 15,866	\$ (14,047)	
Fixed Asset Additions, excluding Right of Use Assets (C)	\$ 29,913	\$ 29,913	\$ -	\$ 15,866	\$ (14,047)	
TOTAL BUDGET (=B+C)	\$ 3,231,169	\$ 3,231,169	\$ -	\$ 3,314,770	\$ 83,601	
TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)	\$ 0	\$ 0	\$ -	\$ 0	\$ (0)	

Training, Education, and Operator Certification Program

Training, Education, and Operator Certification Program Resources			
(in whole dollars)			
	2020 Budget	2021 Budget	Increase (Decrease)
Total FTEs	0.10	0.10	0.00
Direct Expenses	\$219,862	\$223,835	\$3,973
Indirect Expenses	\$19,000	\$18,131	(\$869)
Other Non-Operating Expenses	\$0	\$0	\$0
Inc(Dec) in Fixed Assets	\$551	\$292	(\$259)
Total Funding Requirement	\$239,412	\$242,257	\$2,845

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, as well as Newfoundland and Labrador Hydro (NLH) Energy Control Center operations. PJM RC has significant interaction with the NPCC RCs and system operators from PJM have been regular participants at past seminars. With the completion of the DC links connecting Newfoundland and Labrador Hydro to the Quebec and Eastern Interconnections, NLH has been increasing their engagement with NPCC, including active participation in the system operator seminars. Examples of specific topics addressed at recent seminars 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;
- verification and sharing of training methods;
- evaluation of 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.

2021 Key Long-Term Focus Areas

ERO Enterprise Long-Term Strategy Focus Area activities for 2021 include:

- Build appropriate outreach, training, and education to registered entities through NERC and the Regional Entities to reduce the incidence of known risks to reliability;
- Nurture relationships with key industry trade associations, as well as those associations representing technology, affiliated sectors, and end users to understand context and leverage their experience and reach;
- Collaborate effectively with other non-profit organizations that share elements of the ERO Enterprise’s reliability and security mission, and seek out and work with representatives of academia, other critical infrastructures, and international experts to broaden the ERO Enterprise’s collective knowledge and awareness of current and unknown risks and strategies to address them;

2021 NERC Activities

NPCC will provide the Regional perspective and support with appropriate NPCC Training and Education staff participation on selective NERC Committees, including:

- ERO Enterprise and NATF Electric Power Human Performance Improvement Symposium (EPHPIS) Organizing Committee
- Reliability Training Working Group (RTWG)

Activities below further support the NPCC 2020-23 Strategic Plan through targeted discussion of operational impacts and considerations in the specific Focus Areas, including:

- Critical infrastructure interdependencies
- DERs
- Identifying and collaboratively advancing better practices to mitigation of security threats

Funding Drivers and Reliability Benefits

- System operators participating in the Seminars: 1) share various 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 PJM 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 and participate in 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; 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 system operator awareness and knowledge of the standards, criteria and procedures that are applied in real time operation;
- Provide more sharing of 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;
- NPCC will conduct two Standards and Compliance workshops in 2020, 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).

2021 Key Assumptions

In addition to the Spring and Fall Standards and Compliance workshops, NPCC regularly conducts System Operators seminars, specifically designed with table top exercises, targeted breakout classroom sessions and presentations on current industry related activities, to provide for the most efficient exchange of information between the NPCC and Areas' training staff, 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 and Areas' training staff members. To supplement these seminars and workshops, NPCC may develop webinars that will focus on specific topics pertinent to developments related to system operations, compliance program implementation, standards development or technical issues.

The System Operator seminars involve system operators' participants from the NPCC RC/BA Areas and PJM, as well as Newfoundland and Labrador Hydro, and are held in early May and early November.

Additionally, NPCC staff participates on the ERO Enterprise and NATF Electric Power Human Performance Improvement Symposium (EPHPIS) Organizing Committee, members of which include the Regions and NERC, along with the NATF and is charged with executing the administrative framework for organizing, planning and implementing the event is collaborative in nature. EPHPIS is a continent-wide collaboration between the ERO Enterprise and the North American Transmission Forum (NATF) focused on human performance improvement for the bulk power system (BPS).

Training, Education and Operator Certification 2021 Goals and Deliverables

- Prepare and conduct the 2021 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

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- 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 Standards PER-003-1 “*Operating Personnel Credentials*” and PER-005-2 “*Operations Personnel Training*.”
 - Develop on-line operational training webinars that focus on specific topics pertinent to compliance program implementation, standards development or technical issues.
 - Conduct Spring and Fall 2021 Standards and Compliance workshops addressing the development of NERC and Regional Reliability Standards and the implementation of the Compliance Monitoring and Enforcement Program (CMEP).
 - Support EPHPIS Organization Committee activities and execution of the HP symposium.
 - Participate on the Reliability Training WG and collaborate with the NPCC CO-2 Operations Training WG and other NPCC Members’ training personnel on the activities related to the reliable operation of the BES.

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

Meetings

- Reduction in meetings and travel expenses based on changes in meeting formats related to COVID-19 pandemic. It is expected that some meetings will continue to be remotely attended via teleconference and webinar in 2021.

Training, Education, and Operator Certification Program

Funding sources and related expenses for the training, education, and operator certification section of the 2021 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						
2020 Budget & Projection, and 2021 Budget						
Training, Education, and Operator Certification						
	2020	2020	Variance	2021	Variance	
	Budget	Projection	2020 Projection v 2020 Budget Over(Under)	Budget	2021 Budget v 2020 Budget Over(Under)	
Funding						
ERO Funding						
ERO Assessments	\$ 171,524	\$ 171,524	\$ -	\$ 174,133	\$ 2,609	
Penalty Sanctions	389	389	-	624	235	
Total ERO Funding	\$ 171,912	\$ 171,912	\$ -	\$ 174,757	\$ 2,845	
Membership Dues	-	-	-	-	-	
Testing Fees	-	-	-	-	-	
Services & Software	-	-	-	-	-	
Workshops & Misc Revenue	67,500	33,750	(33,750)	67,500	-	
Interest & Investment Income	-	-	-	-	-	
Total Funding (A)	\$ 239,412	\$ 205,662	\$ (33,750)	\$ 242,257	\$ 2,845	
Expenses						
Personnel Expenses						
Salaries	\$ 11,793	\$ 11,793	\$ -	\$ 18,352	\$ 6,559	
Payroll Taxes	939	939	-	1,068	129	
Benefits	5,652	5,652	-	6,091	440	
Retirement Costs	1,478	1,478	-	2,324	846	
Total Personnel Expenses	\$ 19,862	\$ 19,862	\$ -	\$ 27,835	\$ 7,973	
Meeting Expenses						
Meetings & Conference Calls	\$ 185,000	\$ 120,000	\$ (65,000)	\$ 184,000	\$ (1,000)	
Travel	15,000	15,000	-	12,000	(3,000)	
Total Meeting Expenses	\$ 200,000	\$ 135,000	\$ (65,000)	\$ 196,000	\$ (4,000)	
Operating Expenses, excluding Depreciation						
Consultants & Contracts	\$ -	\$ -	\$ -	\$ -	\$ -	
Office Rent	-	-	-	-	-	
Office Costs	-	-	-	-	-	
Professional Services	-	-	-	-	-	
Computer & Equipment Leases	-	-	-	-	-	
Miscellaneous	-	-	-	-	-	
Total Operating Expenses, excluding Depreciation	\$ -	\$ -	\$ -	\$ -	\$ -	
Total Direct Expenses	\$ 219,862	\$ 219,862	\$ (65,000)	\$ 223,835	\$ 3,973	
Indirect Expenses	\$ 19,000	\$ 19,000	\$ -	\$ 18,131	\$ (869)	
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -	
Total Expenses (B)	\$ 238,862	\$ 238,862	\$ (65,000)	\$ 241,965	\$ 3,104	
Change in Net Assets (=A-B)	\$ 551	\$ (33,199)	\$ 31,250	\$ 292	\$ (259)	
Fixed Asset Additions, excluding Right of Use Assets (C)	\$ 551	\$ 551	\$ -	\$ 292	\$ (259)	
TOTAL BUDGET (=B+C)	\$ 239,412	\$ 239,412	\$ (65,000)	\$ 242,257	\$ 2,845	
TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)	\$ 0	\$ (33,750)	\$ 31,250	\$ (0)	\$ (0)	

Situation Awareness and Infrastructure Security Program

Situation Awareness and Infrastructure Security Program Resources			
(in whole dollars)			
	2020 Budget	2021 Budget	Increase (Decrease)
Total FTEs	5.40	5.40	0.00
Direct Expenses	\$1,450,129	\$1,411,680	(\$38,450)
Indirect Expenses	\$1,026,001	\$979,052	(\$46,948)
Other Non-Operating Expenses	\$0	\$0	\$0
Fixed Asset Additions	\$29,747	\$15,749	(\$13,998)
Total Funding Requirement	\$2,505,877	\$2,406,482	(\$99,396)

Program Scope and Functional Description

The Situation Awareness and Infrastructure Security (SAIS) 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.

NPCC's Event Analysis Program resides within the SAIS program area and supports the overall goal of promoting the reliability of the bulk power system in Northeastern North America and the entire North American grid. NERC, Regions and the industry analyze events, identify the lessons to be learned, and conduct 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, "Event Reporting," can have varying levels of significance to the electric system. By implementing a "bottom-up" approach to an event review within the framework of the NERC Event Analysis Program consistency, comparability, flexibility, quality and timeliness in the event analysis process will be promoted by NPCC, the registered entities and NERC in a collaborative initiative, resulting in industry lessons learned and trends identify and prioritizing possible reliability concerns.

2021 Key Focus Areas

NPCC SAIS activities will be in support of the ERO Enterprise Long-Term Strategy Focus Areas for 2021, including:

- Use the full suite of tools, activities and resources for risk mitigation to provide guidance to industry as to how to mitigate emerging risks, evaluating the effectiveness of such approaches;

- Build/enhance appropriate outreach, training, and education to registered entities to reduce the incidence of known risks to reliability;
- Develop measures of BPS and cyber resilience, and identify processes and approaches to enhance resilience through NERC’s reliability and security toolkit as well as industry action. Work in collaboration with the forums and Department of Energy (DOE);
- Strengthen the analysis of cyber impacts on the BPS and mitigate impacts of cyberattacks. Enhance industry’s ability to develop approaches to pre-position the system when under attack and explore recovery strategies;
- Leverage information and cross-sector collaboration with other critical infrastructures to identify leading indicators of emerging risks and the potential harm of currently unknown risks, and prioritize and communicate these to industry for awareness and mitigation;
- Build appropriate outreach, training, and education to registered entities through NERC and the Regional Entities to reduce the incidence of known risks to reliability;
- Ensure the E-ISAC Long-Term Strategic Plan is executed such that the E-ISAC is viewed by industry as meeting its needs as one of its key trusted sources of security information
- Collaborate with other sectors’ security infrastructure where appropriate (e.g., the Financial Systemic Analysis and Resilience Center and the Downstream Natural Gas Information Sharing and Analysis Center) to facilitate cross-sector information sharing and threat analysis;
- Strengthen proactive outreach, communications, relationships and intelligence sharing with key regulatory, legislative, and policy bodies as well as government agencies across North America (US and Canada).
- Nurture relationships with key industry trade associations, as well as those associations representing technology, affiliated sectors, and end users to understand context and leverage their experience and reach;
- Collaborate effectively with other non-profit organizations, other critical infrastructure experts that share elements of the ERO Enterprise’s reliability and security mission, and to broaden the ERO Enterprise’s collective knowledge and awareness of current and unknown risks and strategies to address them; and
- Leveraging the Regional Entities’ specialized and localized point of view, strengthen and expand outreach, coordination, and collaboration with state energy regulators and related offices to address risks to reliability stemming from the relocation of resources and interdependency between the operations of distribution and the BPS;

2021 NERC Activities

NPCC will provide the Regional perspective and support with appropriate NPCC SAIS and EA staff participation on selective NERC Committees, including:

- Event Analysis Subcommittee (EAS)
- Event Analysis Ad Hoc Team
- Situational Awareness Ad Hoc Team
- NERC Physical Security Advisory Group (PSAG)
- Grid Exercise Working Group (GridEx WG)

Activities below further support the NPCC 2020-23 Strategic Plan through targeted discussion of operational impacts and considerations in the specific Focus Areas, including targeted activities, such as:

- Enhancing System Resilience and Assuring Energy Sufficiency

- Gathering and trending analytical data related to system resilience and identifying better practice elements for BPS reliability
- Developing resilience metrics to better quantify the reliability enhancements of prevent operations in a more secure state, reductions in the system degradation profile, and increasing the speed of recovery
- Assessing gas-electric interdependencies, as well as other common mode failure and single points of disruption scenarios involving communications, water, and other interdependent critical infrastructure sectors
- Addressing Cyber and Physical Threats
 - Developing Regional concurrence on appropriate levels of cyber resilience, the adequacy of security controls, and methodologies to simulate cyber impacts on BPS reliability
 - Expanding Regional support for and interaction with the E-ISAC and enhancing actionable information sharing within Northeastern North America
 - Identifying and collaboratively advancing better practice approaches to mitigating cyber and physical security threats

2021 Key Assumptions

- The monitoring of Lessons Learned will continue to be a major focus of NERC and NPCC in 2021, including:
 - continued reporting, for applicable qualifying events in the voluntary Event Analysis Program, of more detailed information on station equipment failure, per recommendation of the AC Substation Equipment Task Force, to solicit and collect this data, 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,
 - Introduction of a new EAP category, implemented to capture the effect of “non-consequential” loss of inverter type resources and similarly DC ties between two separate asynchronous systems,
 - continued utilization 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 ensure continuation of analysis of such events to improve information collection related to such events and associated analysis, taking into account the modifications to the mandatory EOP-004-4 reporting requirements thresholds.
- TFIST support of the following activities:
 - Supply Chain – new version of the Standard, more guidelines by RSTC’s Supply Chain WG and industry (like NATF)
 - Virtualization – updates to several CIP Standards
 - IEC 61850 – addressing a gap in cyber security because it is excluded from CIP
 - CIP-012 implementation
 - CIP-008 – new version which requires notifying E-ISAC and United States National Cybersecurity and Communications Integration Center (NCCIC)
 - IST-4 WG – patch management of relays
 - Grid Ex VI (2021)

- BES Cyber Systems Information (BCSI) - CIP updates approval and entities' implementation
- Resource allocation to this program area supports expanded Events Analysis activities; coordination with NERC's evolving E-ISAC capabilities; and physical and cyber security outreach efforts, including support of NERC's Security Initiative and cross-sector collaboration activities.
- Support DOE-led effort on the development of the North American Energy Resilience Model (NAERM) in collaboration with the National Labs, the industry and the ERO Enterprise
- Further activities in the cross-sector interdependencies, including natural gas and communications

Situation Awareness 2021 Goals and Deliverables

- NPCC will provide the Regional perspective through NPCC staff support of the NERC Reliability and Security Technical Committee and participation on the key related NERC Subcommittees, Task Forces and Working Groups, including the Event Analysis Subcommittee, the ERO – Event Analysis and Situational Awareness Group.
 - 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.
 - Situation Awareness:
 - 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.
 - 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.
 - Prepare daily reports and conduct daily and weekly conference calls to serve as a complement to the NPCC Emergency Preparedness Conference Call. The participants of the calls are the Reliability Coordinators within NPCC and its neighboring RCs, the Midcontinent ISO and PJM.
 - Monthly test of the satellite telephone network, to ensure the capability for continued voice communications among NPCC and its Reliability Coordinators.
 - Monthly test of the NPCC Emergency Preparedness Communications Procedure, as required
 - Coordination and communication with the NERC Bulk Power System Awareness group in preparation for and during ongoing significant events in the NPCC's footprint;
 - Participation in the ERO Enterprise-wide Situation Awareness activities, including NERC SA Oversight Plan specified goals and deliverables in support of the activities to identify, prioritize, and assure effective and efficient mitigation of risk to the reliability and security of the North American Bulk Power System (BPS).
 - Monitor the status of the bulk power system through the NERC Situational Awareness-FERC, NERC, Regions version 3 (SAFNRv3) tool

- Coordinating inter-Regional pre-emergency actions in the event of a threat to the security of the Northeastern North American bulk power supply system.
- Assisting in the development and performance of real-time operating tools ensuring cyber security concerns are addressed.
- Take part in planning activities and distributed play portion of the GridEx VI wide-area exercise, including incorporating and building on Lessons Learned from the GridEx V event and develop new lessons learned.
- Events Analysis:
 - Continue to promote, implement and manage voluntary ERO Event Analysis Process (EAP) and Cause Coding process as part of the ERO Event Analysis Program, including review and analysis of applicable, qualifying events, development of lessons learned and cause coding of events.
 - Promote NPCC’s Event Analysis group’s process for sharing and dissemination of the detailed Event Analysis Report information among industry participants (registered entities).
 - Participation in the ERO Enterprise-wide Events Analysis activities, including NERC EA Oversight Plan specified goals and deliverables in support of the activities to identify, prioritize, and assure effective and efficient mitigation of risk to the reliability and security of the North American Bulk Power System (BPS).
 - 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 and development of Regional Insights, as applicable.
 - Support ERO Enterprise lessons learned development through participation on the NPCC events lessons learned review teams, as well as lessons learned from other Regions and NERC.

Infrastructure Security Objectives

NPCC’s critical infrastructure security 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 physical and cyber security outreach efforts, will supplement infrastructure security focus areas and support the ERO Enterprise contributing activity of “Strengthen relationships and intelligence sharing with key government agencies, such as the DOE as the U.S. electricity sector-specific agency, the Department of Homeland Security (DHS), as well as Natural Resources Canada (NRCan), Canada’s Communications Security Establishment” and “Build appropriate outreach, training, and education to registered entities through NERC and the Regional Entities to reduce the incidence of known risks to reliability” as it pertains to the operational security (both cyber and physical).

NPCC’s Physical Security Working Group – an NPCC group of physical security experts formed to discuss, in a secure environment, emerging threats, trends and new security technologies and

strategies utilized by NPCC registered entities for the protection of their facilities in the physical arena. The Working Group is tasked with developing approaches to physical security that will enhance the reliability and resiliency of the BPS and further address any physical security issues that could challenge efficient operation of the BPS, including pertinent items identified in the biennial RISC report, under Physical and Cyber Security Vulnerabilities. The Group will function as a clearinghouse for intelligence information received from Federal, State and Local partners and will disseminate such information received to NPCC registered entities. In addition, the Working Group shall develop, review, and provide regional input on various industry physical security initiatives, working groups, and task forces, as appropriate.

Infrastructure Security 2021 Goals and Deliverables

- Monitor the reliable implementation of the Cyber Security Standards.
- Monitor the Homeland Security Information Network (HSIN), E- ISAC, NERC Alerts and Canadian Information Sharing and share information with the NPCC CO-8 Working Group, NPCC PSWG and NPCC members' cyber security experts.
- 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.
- Provide support and technical input for TFIST and PSWG related to the Bulk Power System risks as identified by the NERC Reliability Issues Steering Committee; support, discuss and coordinate activities and approaches identified in the recommendations for mitigating security risks.
- Support the NERC Grid Exercise Working Group in GridEx VI planning, simulation and after-action report development portions of the exercise.
- 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.
- Provide physical and cyber security outreach services to registered entities.
- Support ERO Enterprise Security Initiative and grow coordination and collaboration with the ERO, E-ISAC, other NERC Regions and US and Canadian federal, state and local Authorities.
- Facilitate and provide coordination and technical support and guidance to the NPCC Physical Security Work Group; share and collaborate with other Regions and NERC on good industry practices to enhance security posture.
- Conduct an annual review of cross border emergency telecommunications to verify each Area can communicate with each other.

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- Provide a forum for members of NPCC, NPCC Task Forces and Working Group to identify and discuss cyber security issues and practices related to the bulk power system.

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 15% of its resources on this activity.

Resource Requirements

Meetings

- Reduction in meetings and travel expenses based on changes in meeting formats related to COVID-19 pandemic. It is expected that some meetings will continue to be remotely attended via teleconference and webinar in 2021.

Situation Awareness and Infrastructure Security Program

Funding sources and related expenses for the situation awareness and infrastructure security section of the 2021 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						
2020 Budget & Projection, and 2021 Budget						
Situation Awareness and Infrastructure Security						
	2020 Budget	2020 Projection	Variance 2020 Projection v 2020 Budget Over(Under)	2021 Budget	Variance 2021 Budget v 2020 Budget Over(Under)	
Funding						
ERO Funding						
ERO Assessments	\$ 2,484,879	\$ 2,484,879	\$ -	\$ 2,372,783	\$ (112,097)	
Penalty Sanctions	20,998	20,998	-	33,699	12,701	
Total ERO Funding	\$ 2,505,877	\$ 2,505,877	\$ -	\$ 2,406,482	\$ (99,396)	
Membership Dues	-	-	-	-	-	
Testing Fees	-	-	-	-	-	
Services & Software	-	-	-	-	-	
Workshops & Misc Revenue	-	-	-	-	-	
Interest & Investment Income	-	-	-	-	-	
Total Funding (A)	\$ 2,505,877	\$ 2,505,877	\$ -	\$ 2,406,482	\$ (99,396)	
Expenses						
Personnel Expenses						
Salaries	\$ 924,110	\$ 884,110	\$ (40,000)	\$ 885,454	\$ (38,656)	
Payroll Taxes	61,713	57,713	(4,000)	60,595	(1,117)	
Benefits	202,020	190,020	(12,000)	233,918	31,898	
Retirement Costs	99,986	93,986	(6,000)	96,873	(3,113)	
Total Personnel Expenses	\$ 1,287,829	\$ 1,225,829	\$ (62,000)	\$ 1,276,840	\$ (10,990)	
Meeting Expenses						
Meetings & Conference Calls	\$ 8,000	\$ 8,000	\$ -	\$ 6,400	\$ (1,600)	
Travel	94,300	94,300	-	75,440	(18,860)	
Total Meeting Expenses	\$ 102,300	\$ 102,300	\$ -	\$ 81,840	\$ (20,460)	
Operating Expenses, excluding Depreciation						
Consultants & Contracts	\$ 60,000	\$ 60,000	\$ -	\$ 50,000	\$ (10,000)	
Office Rent	-	-	-	-	-	
Office Costs	-	-	-	3,000	3,000	
Professional Services	-	-	-	-	-	
Computer & Equipment Leases	-	-	-	-	-	
Miscellaneous	-	-	-	-	-	
Total Operating Expenses, excluding Depreciation	\$ 60,000	\$ 60,000	\$ -	\$ 53,000	\$ (7,000)	
Total Direct Expenses	\$ 1,450,129	\$ 1,388,129	\$ (62,000)	\$ 1,411,680	\$ (38,450)	
Indirect Expenses	\$ 1,026,001	\$ 1,026,001	\$ -	\$ 979,052	\$ (46,948)	
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -	
Total Expenses (B)	\$ 2,476,130	\$ 2,414,130	\$ (62,000)	\$ 2,390,732	\$ (85,398)	
Change in Net Assets (=A-B)	\$ 29,747	\$ 91,747	\$ 62,000	\$ 15,749	\$ (13,998)	
Total Funding (A) Requirement	\$ 2,446,383	\$ 2,446,383	\$ (62,000)	\$ 2,374,983	\$ (71,400)	
Fixed Asset Additions, excluding Right of Use Assets (C)	29,747	29,747	-	15,749	(13,998)	
TOTAL BUDGET (=B+C)	2,505,877	2,443,877	(62,000)	2,406,482	(99,396)	
TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)	\$ 0	\$ 62,000	\$ 62,000	\$ (0)	\$ 0	

Administrative Services

Administrative Services Program Resources						
(in whole dollars)						
	Direct Expenses			FTEs		
	2020 Budget	2021 Budget	Increase (Decrease)	2020 Budget	2021 Budget	Increase (Decrease)
Technical Committees and Members Forum	\$75,793	\$35,729	(\$40,064)	0.50	0.10	-0.40
General and Administrative ²	\$3,874,453	\$3,874,497	\$44	2.73	2.73	0.00
Legal and Regulatory	\$761,007	\$748,924	(\$12,084)	2.00	2.00	0.00
Information Technology	\$1,144,119	\$1,341,144	\$197,024	2.00	2.55	0.55
Human Resources	\$158,731	\$67,066	(\$91,666)	1.00	0.50	-0.50
Finance and Accounting	\$703,291	\$735,648	\$32,357	2.00	2.00	0.00
Total Administrative Services¹	\$6,717,395	\$6,803,007	\$85,612	10.23	9.88	-0.35

NPCC's 2021 Administrative Services Direct Expenses and Fixed Assets total \$6,803,007 of which \$387,995 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 2021 statutory budget are \$6,415,012 which is an increase of \$107,067 from the 2020 budget of \$6,307,945.

Succession implementation costs of \$477,520 included in General and Administrative Direct Expenses will be funded from Board approved Business Continuity Reserves and will not impact assessments.

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 2021 business plan are shown in the table below. Explanations of variances by expense category are included within the Supplemental Tables found in Section B.

Statement of Activities and Capital Expenditures 2020 Budget & Projection, and 2021 Budget						
ADMINISTRATIVE SERVICES						
	2020 Budget	2020 Projection	Variance 2020 Projection v 2020 Budget Over(Under)	2021 Budget	Variance 2021 Budget v 2020 Budget Over(Under)	
Funding						
ERO Funding						
ERO Assessments	\$ (625,856)	\$ (625,856)	\$ -	\$ (75,140)	\$ 550,716	
Penalty Sanctions	-	-	-	-	-	
Total ERO Funding	\$ (625,856)	\$ (625,856)	\$ -	\$ (75,140)	\$ 550,716	
Membership Dues	-	-	-	-	-	
Testing Fees	-	-	-	-	-	
Services & Software	-	-	-	-	-	
Workshops & Misc Revenue	-	-	-	-	-	
Interest & Investment Income	55,800	55,800	-	56,264	464	
Total Funding (A)	\$ (570,056)	\$ (570,056)	\$ -	\$ (18,876)	\$ 551,180	
Expenses						
Personnel Expenses						
Salaries	\$ 2,433,049	\$ 2,433,049	\$ -	\$ 2,642,472	\$ 209,423	
Payroll Taxes	126,595	126,595	-	123,675	(2,920)	
Benefits	674,649	674,649	-	554,948	(119,700)	
Retirement Costs	313,571	313,571	-	328,620	15,049	
Total Personnel Expenses	\$ 3,547,864	\$ 3,547,864	\$ -	\$ 3,649,716	\$ 101,852	
Meeting Expenses						
Meetings & Conference Calls	\$ 162,750	\$ 162,750	\$ -	\$ 110,400	\$ (52,350)	
Travel	129,100	129,100	-	125,680	(3,420)	
Total Meeting Expenses	\$ 291,850	\$ 291,850	\$ -	\$ 236,080	\$ (55,770)	
Operating Expenses, excluding Depreciation						
Consultants & Contracts	\$ 361,000	\$ 361,000	\$ -	\$ 85,650	\$ (275,350)	
Office Rent	832,700	832,700	-	870,141	37,441	
Office Costs	685,981	685,981	-	811,420	125,439	
Professional Services	947,000	947,000	-	1,005,000	58,000	
Computer & Equipment Leases	-	-	-	-	-	
Miscellaneous	51,000	51,000	-	51,000	-	
Total Operating Expenses, excluding Depreciation	\$ 2,877,681	\$ 2,877,681	\$ -	\$ 2,823,211	\$ (54,470)	
Total Direct Expenses	\$ 6,717,395	\$ 6,717,395	\$ -	\$ 6,709,007	\$ (8,388)	
Indirect Expenses	\$ (6,272,855)	\$ (6,272,855)	\$ -	\$ (6,231,487)	\$ 41,368	
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -	
Total Expenses (B)	\$ 444,540	\$ 444,540	\$ -	\$ 477,520	\$ 32,980	
Change in Net Assets (=A-B)	\$ (1,014,596)	\$ (1,014,596)	\$ -	\$ (496,396)	\$ 518,200	
Fixed Asset Additions, excluding Right of Use Assets (C)	\$ -	\$ -	\$ -	\$ -	\$ -	
TOTAL BUDGET (=B+C)	\$ 444,540	\$ 444,540	\$ -	\$ 477,520	\$ 32,980	
TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)	\$ (1,014,596)	\$ (1,014,596)	\$ -	\$ (496,396)	\$ 518,200	

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.

2021 Key Assumptions

- NPCC's standing committee and subgroup structure for effective stakeholder involvement will continue in 2021.
- 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 2021.
- NPCC will continue to invest in technology and innovation to allow efficient collaboration on technical issues related to reliability.

Technical Committees and Member Forums 2021 Goals and Deliverables

- The 2021 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 2021 NPCC Reliability Assessment; and,
 - Participation in ERO Regional Communication Group 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

- The Meeting Coordinator position, which was partially allocated to this program area, was eliminated in 2020 based on changes in meeting formats from in-person to remote attendance due to the COVID-19 pandemic. One FTE has been partially reallocated to this program area.

Meetings

- Reduction in meetings and travel expenses based on changes in meeting formats related to COVID-19 pandemic. It is expected that some meetings will continue to be remotely attended via teleconference and webinar in 2021.

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

- During 2020 an executive search will be conducted in order to identify a successor CEO to transition into that role by vote of the Membership at its Annual Meeting in early December to become effective January 1, 2021. The incumbent President and CEO has identified a planned retirement at the end of first quarter of 2021. The expectation is that the identified successor will be retained effective January 1, 2021 coincident with the assumption of the Chief Executive Office. Costs related to the executive search recruiting efforts and succession plan implementation will be funded from the existing Business Continuity Reserve, identified by the NPCC Board of Directors in 2017 for release during 2020 and within 2021, as approved by the Board. Therefore, 2021 assessments will not be impacted by these President and CEO succession-related expenses.

Meetings

- Reduction in meetings and travel expenses based on changes in meeting formats related to COVID-19 pandemic. It is expected that some meetings will continue to be remotely attended via teleconference and webinar in 2021.

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 Secretary and staff on a wide range of legal, compliance and regulatory matters including legislation, corporate law, code of conduct, member services, privacy, confidentiality, governance, employment law, tax matters, contracts and other areas affecting NPCC. To ensure and maintain independence and objectivity consistent with ERO Enterprise value drivers, NPCC's in-house professional services evaluate internal controls and corporate, operational, strategic and reputational risk, and participate in risk identification, evaluation and mitigation activities. In-house professional legal services provide advice and advance significant corporate policy and strategic planning initiatives, assisting in the development of NPCC's strategic focus areas and their alignment with ERO Enterprise approaches. In addition, in-house professional legal services provide support to other program areas on matters arising in connection with the performance of NPCC's delegated functions to achieve organizational excellence consistent with NPCC's values. The Legal and Regulatory program area is also responsible for activities associated with the Corporate Secretary function such as preparing Board materials and minutes, facilitating and conducting Board training, and ensuring that meetings of the Board of Directors and Committees adhere to the Bylaws and other relevant governing documents. Outside counsel, as necessary, reviews complex matters for legal sufficiency and provides independent legal advice and guidance on certain employment and Human Resource related matters.

Resource Requirements

Meetings

- Reduction in meetings and travel expenses based on changes in meeting formats related to COVID-19 pandemic. It is expected that some meetings will continue to be remotely attended via teleconference and webinar in 2021.

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 Committee (ERO EC), 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 2021 Business Plan and Budget assumes agreed upon ERO Enterprise applications will be available and includes only NPCC costs for Region specific support needs.

2021 Key Assumptions

- Continue to maintain the compliance portal through collaboration with other Regional Entities and NERC (CUG), while transitioning to the ERO Enterprise CMEP data application (Align).
- 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.

2021 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:

- Implementation of a security control framework.
- Work with the ERO Enterprise to collaborate and implement a data loss prevention program.
- Continue to expand the utilization of the document management system throughout the company.

- Constantly review and evaluate security measures taken to reduce breach of security risks.
- Ensure all information systems are functional and secure, and that all applications running on those systems meet business requirements for performance, availability, and security.
- 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.
- Upgrade various hardware and equipment.

Resource Requirements

Meetings

- Reduction in meetings and travel expenses based on changes in meeting formats related to COVID-19 pandemic. It is expected that some meetings will continue to be remotely attended via teleconference and webinar in 2021.

Fixed Assets

- Capital expenditures planned for 2021 include the implementation of a security controls framework and data loss prevention strategy, as well as continuing enhancement of the document management system and equipment upgrades.

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; knowledge transfer, training and development; and employee time tracking.

Resource Requirements

Meetings

- Reduction in meetings and travel expenses based on changes in meeting formats related to COVID-19 pandemic. It is expected that some meetings will continue to be remotely attended via teleconference and webinar in 2021.

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 consistently identified this system as a best practice.

2021 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

Meetings

- Reduction in meetings and travel expenses based on changes in meeting formats related to COVID-19 pandemic. It is expected that some meetings will continue to be remotely attended via teleconference and webinar in 2021.

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 2019 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 2019 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 ISOs/BAAs within NPCC as the designees for the load serving entities (LSEs) 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 ISOs/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 net energy for load (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. Penalty monies received from NPCC registered entities within the U.S. 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 has been enhanced to better stabilize assessments. Beginning with the 2021 budget year, and for future budgets, NPCC will apply a rolling seven-year compliance cost average to total compliance program expenses for the current budget year. For each of the seven years, costs attributed to CORC Fundamentals (CF), are allocated between the BAAs in the United States and Canada on a NEL basis.

Audits and Investigations (AI) related costs 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.

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 BAAs 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.

The seven-year average allocation percentage of total combined compliance costs for each BAA is then applied to the total compliance program expenses for the current budget year in order to mitigate fluctuations in assessments from year to year.

Penalty monies received from NPCC registered entities within the U.S. 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 2021 Regional Entity (RE)
and Criteria Services (CS) Divisional Funding Information

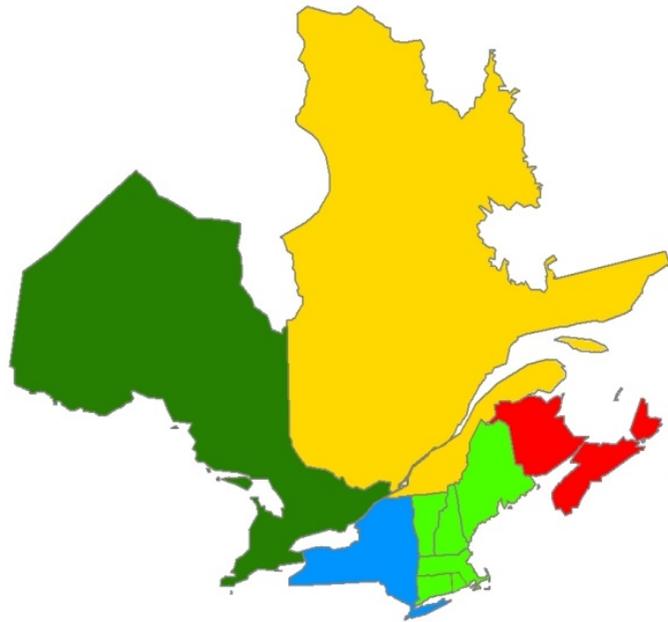
A-1	B-1	B-1a.	C-1	C-1a.	D-1	E-1	F-1	G-1	H-1	I-1	J-1	K-1	L-1	M-1
NPCC Balancing Authorities (LSE Designees)	2019 Net Energy (MWh)	2019 NPCC US NEL (MWh)	2019 NEL % of NPCC Total	2019 NEL % of NPCC U.S.	Associated Costs with U.S. Only Reliability Study ¹	2021 ² NPCC Expenses & Fixed Assets Minus CORC and U.S. Only	Adjustment to RE Division Cash Reserve Requirement Less CORC	2021 ² NPCC RE Division Funding Requirement Minus	Penalty Monies Applied to RE Division Minus	Budgeted Workshop Fees and Interest Income	2021 ² NPCC RE Division Assessment Minus CORC (G-1 plus H-1 plus I-1)	2021 NPCC CS Division Expenses Minus	2021 Adjustment to CS Division Cash Reserve Requirement	2021 NPCC CS Division Funding Requirement & Member Fees (K-1 plus L-1)
New England	119,237,000	119,237,000	19.211%	43.348%	TBD	1,423,495	-95,364	1,328,132	-34,572	-23,777	1,269,783	191,339	-62,287	129,052
New York	155,831,000	155,831,000	25.107%	56.652%	TBD	1,860,368	-124,631	1,735,737	-45,182	-31,074	1,659,481	250,062	-81,403	168,659
Ontario	135,101,000	135,101,000	21.767%			1,612,886	-108,051	1,504,834	0	-26,940	1,477,894	216,796	-70,574	146,222
Québec	185,152,000	185,152,000	29.831%			2,210,413	-148,081	2,062,331	0	-36,920	2,025,411	297,113	-96,720	200,393
New Brunswick	14,230,000	14,230,000	2.293%			169,883	-11,381	158,502	0	-2,838	155,665	22,835	-7,433	15,401
Nova Scotia	11,112,000	11,112,000	1.799%			132,659	-8,887	123,772	0	-2,216	121,556	17,831	-5,805	12,027
Total	620,663,000	275,068,000	100.000%	100.000%	\$0	\$7,409,704	-\$496,396	\$6,913,308	-\$79,754	-\$123,764	\$6,709,790	\$995,977	-\$524,222	\$671,755
A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	I-2	J-2					
NPCC Balancing Authorities (LSE Designees)	7 Year Average CORC Costs Allocation ³	2021 Total CORC Program Expenses & Fixed Assets	2019 Penalty Monies Applied to CORC Program	Assigned CORC Program 2019 Actual vs Budget Variance	2021 Total CORC Program Assessment (C-2 plus D-2 plus E-2)	2021 RE Division Total Funding Requirement (G-1 plus C-2 plus E-2)	2021 RE Division Assessment Total (J-1 plus F-2)	2021 NPCC Total Funding Requirement (M-1 plus G-2)	2021 NPCC Total Assessment & Member Fees (M-1 plus H-2)					
New England	32.40%	2,926,252	-52,615	-149,926	2,723,711	4,104,457	3,993,494	4,233,510	4,122,546					
New York	41.58%	3,755,181	-68,763	-193,648	3,492,769	5,297,269	5,152,251	5,465,928	5,320,909					
Ontario	8.38%	756,457	0	-38,427	718,030	2,222,864	2,195,924	2,369,086	2,342,146					
Québec	13.67%	1,234,306	0	-64,039	1,170,266	3,232,598	3,195,677	3,432,991	3,396,071					
New Brunswick	2.36%	212,933	0	-11,120	201,813	360,315	357,477	375,716	372,879					
Nova Scotia	1.61%	145,816	0	-7,611	138,205	261,977	259,761	274,003	271,787					
Total	100.000%	\$9,030,944	-\$121,378	-\$464,773	\$8,444,793	\$15,479,480	\$15,154,584	\$16,151,235	\$15,826,338					

1 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.

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 Total CORC Program Costs are allocated based on a seven-year average allocation percentage. CORC Program Fundamentals expenses are allocated each year using the Regional NEL based methodology. Audit and Investigation expenses attributable to Canadian NPCC BAAs are allocated annually utilizing an audit based methodology. The portion 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. Audit based allocation uses Compliance Registry Data registrants as of May 1, 2020. Mitigation and Enforcement expenses are allocated annually utilizing an enforcement activity based methodology for Canadian NPCC BAAs. The portion 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 average allocation of total compliance costs over the prior seven years is then applied to the total compliance program costs for the current budget year in order to mitigate fluctuations in assessments.

Section B — Supplemental Financial Information 2021 Business Plan and Budget



Section B – Supplemental Financial Information

Table B-1 Reserve Balance

Working Capital and Operating Reserve Analysis 2020-2021					
REGIONAL ENTITY DIVISION					
	Total Reserve	Operating Reserve	Working Capital	Business Continuity	Assessment Stabilization
Beginning Total Reserve, December 31, 2019	5,623,649	3,146,234	1,383,415	940,000	154,000 ⁵
Plus: 2020 ERO Funding (from LSEs or designees)	15,338,737	15,338,737			
Plus: 2020 Other funding sources	89,550	89,550			
Plus: Penalties collected	450,000				450,000
Less: 2020 Projected expenses & capital expenditures	(16,287,647)	(15,843,107)		(444,540)	
Projected Total Reserve, December 31, 2020	5,214,288	2,731,413	1,383,415	495,460	604,000
Desired Total Reserve, December 31, 2021	4,051,988	2,261,181¹	1,369,999²	17,940³	402,868
Less: Projected Total Reserve, December 31, 2020	(5,214,288)	(2,731,413)	(1,383,415)	(495,460)	(604,000)
Increase(decrease) in assessments to achieve desired Total Reserve	(1,162,301)	(470,233)	(13,416)	(477,520)	(201,132)
2021 Expenses and Capital Expenditures	16,440,648				
Less: Penalty Sanctions (Applied to U.S. Only) ⁴	(201,132)				
Less: Other Funding Sources	(123,764)				
Less: Release of Business Continuity Reserve Funds ³	(477,520)				
Adjustment to Working Capital to achieve desired Total Reserve balance ²	(13,416)				
Adjustment to Operating Reserve to achieve desired Total Reserve balance ¹	(470,233)				
2021 Assessment	15,154,584				

¹ Operating Reserve within a range from 8.33% to 25.00% of Budget. \$2,261,181 represents 13.75% of the 2021 budget of \$16,440,648

² Working Capital equal to 8.33% of Budget. \$1,369,999 represents 8.33% of the 2021 budget of \$16,440,648

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, 2019 to June 30, 2020 less amount retained for assessment stabilization purposes.

⁵ Penalty Sanctions totaling \$154,000 were collected July 1, 2019 through December 31, 2019.

Explanation of Changes in Reserve Policy from Prior Year

There was no change to the existing Working Capital and Operating Reserve Policy. NPCC implemented an Assessment Stabilization Reserve (ASR) separate from the Working Capital and Operating Reserve. The purpose of the ASR is to enable penalty monies to be released in multiple budget years in order to avoid large fluctuations in assessments. NERC Rules of Procedure (ROP) § 1107.2 specifies that penalty monies received by NPCC during the 12 months ended June 30th are to be used in the subsequent budget year to offset assessments. Pursuant to ROP § 1107.4, exceptions or alternatives to this provision are allowed if approved by NERC and FERC. Therefore, pursuant to ROP §1107.4, NERC and NPCC request that the Commission approve an exception to the requirement of ROP §1107.2 that all penalties collected during the 12 months ended the previous June 30 be used to reduce NPCC's assessments in the following year, in order to allow NPCC to (i) deposit the \$604,000 of penalties collected during the 12 months ended June 30, 2020 into the ASR, and (ii) use \$201,132 of these penalty funds to reduce its 2021 assessment. In future years, NPCC will specify the amount of penalty funds to be released and the amount of penalty funds to be retained to offset assessments in future years within its Business Plan and Budget to be approved annually by NPCC's Board of Directors, NERC and FERC. 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 drawn upon as subsequently brought before the Board of Directors for approval of release of funds in association with President & CEO succession related activities associated with the planned or a 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 14 of the 2021 Business Plan and Budget. All significant variances have been disclosed by program area in the preceding pages.

Penalty Sanctions

NPCC maintains an Assessment Stabilization Reserve (ASR). The purpose of the ASR is to enable penalty monies to be released in multiple budget years in order to avoid large fluctuations in assessments. NERC Rules of Procedure (ROP) § 1107.2 specifies that penalty monies received by NPCC during the 12 months ended June 30th are to be used in the subsequent budget year to offset assessments. Pursuant to ROP §1107.4, exceptions or alternatives to this provision are allowed if approved by NERC and FERC. Therefore, pursuant to ROP §1107.4, NERC and NPCC request that the Commission approve an exception to the requirement of ROP §1107.2 that all penalties collected during the 12 months ended the previous June 30 be used to reduce NPCC's assessments in the following year, in order to allow NPCC to (i) deposit the \$604,000 of penalties collected during the 12 months ended June 30, 2020 into the ASR, and (ii) use \$201,132 of these penalty funds to reduce its 2021 assessment. In future years, NPCC will specify the amount of penalty funds to be released and the amount of penalty funds to be retained to offset assessments in future years within Table B-1 Reserve Balance of its Business Plan and Budget, approved annually by NPCC's Board of Directors, NERC and FERC. Penalty sanctions collected during the 12 months ended June 30, 2020 are detailed below. Penalty monies released to offset assessments in 2021 and amounts retained to offset future assessments are detailed in the Assessment Stabilization column of Table B-1 Reserve Balance on the preceding page.

Allocation Method: U.S. penalty sanctions received are 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, 2020	Date Received	Amount Received
	9/16/2019	\$ 50,000.00
	9/10/2019	\$ 20,000.00
	12/24/2019	\$ 84,000.00
	1/17/2020	\$ 450,000.00
Total Penalties Received		\$ 604,000.00

Table B-3 Supplemental Funding

Outside Funding Breakdown By Program (excluding ERO Assessments & Penalty Sanctions)	Budget 2020	Projection 2020	Budget 2021	Variance 2021 Budget v 2020 Budget
Reliability Standards				
Total	\$ -	\$ -	\$ -	\$ -
Compliance Monitoring, Enforcement & Org. Registration				
	\$ -	\$ -	\$ -	\$ -
	-	-	-	-
Total	\$ -	\$ -	\$ -	\$ -
Reliability Assessment and Performance Analysis				
	\$ -	\$ -	\$ -	\$ -
	-	-	-	-
Total	\$ -	\$ -	\$ -	\$ -
Training and Education				
Workshops	\$ 67,500	\$ (33,750)	\$ 67,500	\$ -
Total	\$ 67,500	\$ (33,750)	\$ 67,500	\$ -
Situation Awareness and Infrastructure Security				
	\$ -	\$ -	\$ -	\$ -
Total	\$ -	\$ -	\$ -	\$ -
Technical Committees and Member Forums				
	\$ -	\$ -	\$ -	\$ -
Total	\$ -	\$ -	\$ -	\$ -
Administrative Services Programs				
Interest & Investment Income	\$ 55,800	\$ 55,800	\$ 56,264	\$ 464
Total	\$ 55,800	\$ 55,800	\$ 56,264	\$ 464
Total Outside Funding	\$ 123,300	\$ 22,050	\$ 123,764	\$ 464

Explanation of Significant Variances

- NPCC Spring Workshop was held via webinar due to the COVID-19 pandemic. NPCC plans to hold two in-person workshops in 2021.
- NPCC estimates interest & investment income of \$56,328 in 2021 from investment of reserves in a 100% U.S. Treasury Securities money market fund, which will offset 2021 assessments.

Table B-4 Personnel Expenses

Personnel Expenses	Budget 2020	Projection 2020	Budget 2021	Variance 2021 Budget v 2020 Budget	Variance %
Salaries					
Salary	\$ 7,664,262	\$ 7,664,262	\$ 7,794,119	\$ 129,857	1.7%
Employment Agency Fees	\$ 16,000	\$ 16,000	\$ 170,000	\$ 154,000	962.5%
Temporary Office Services	\$ 24,000	\$ 24,000	\$ 18,000	\$ (6,000)	-25.0%
Total Salaries	\$ 7,704,262	\$ 7,704,262	\$ 7,982,119	\$ 277,857	3.6%
Total Payroll Taxes	\$ 479,019	\$ 479,019	\$ 485,768	\$ 6,748	1.4%
Benefits					
Education Reimbursement	\$ 27,500	\$ 27,500	\$ 16,000	\$ (11,500)	-41.8%
Training and Seminars	\$ 83,580	\$ 83,580	\$ 80,614	\$ (2,966)	-3.5%
Medical Insurance	\$ 1,168,854	\$ 1,168,854	\$ 1,293,060	\$ 124,206	10.6%
Life-LTD-STD Insurance	\$ 110,889	\$ 110,889	\$ 109,106	\$ (1,783)	-1.6%
Worker's Compensation	\$ 32,000	\$ 32,000	\$ 27,400	\$ (4,600)	-14.4%
Vacation	\$ 504,062	\$ 504,062	\$ 495,063	\$ (8,998)	-1.8%
Relocation	\$ -	\$ -	\$ -	\$ -	-
Total Benefits	\$ 1,926,885	\$ 1,926,885	\$ 2,021,243	\$ 94,359	4.9%
Retirement					
Pension Contribution	\$ -	\$ -	\$ -	\$ -	-
Employee Savings Plan	\$ 770,950	\$ 770,950	\$ 797,832	\$ 26,882	3.5%
Savings Admin	\$ 36,000	\$ 36,000	\$ 36,000	\$ -	0.0%
Deferred Compensation	\$ 76,000	\$ 76,000	\$ 76,000	\$ -	0.0%
Total Retirement	\$ 882,950	\$ 882,950	\$ 909,832	\$ 26,882	3.0%
Total Personnel Costs	\$ 10,993,117	\$ 10,993,117	\$ 11,398,962	\$ 405,846	3.7%
FTEs	41.09	41.09	42.11	1.02	2.5%
Cost per FTE					
Salaries	\$ 187,497	\$ 187,497	\$ 189,554	\$ 2,057	1.1%
Payroll Taxes	\$ 11,658	\$ 11,658	\$ 11,536	\$ (122)	-1.0%
Benefits	\$ 46,894	\$ 46,894	\$ 47,999	\$ 1,105	2.4%
Retirement	\$ 21,488	\$ 21,488	\$ 21,606	\$ 118	0.5%
Total Cost per FTE	\$ 267,538	\$ 267,538	\$ 270,695	\$ 3,157	1.2%

Explanation of Significant Variances

- Increase of one FTE in 2021.
- Staff vacancy rate increased to 6% in 2021 from 0% in 2020.
- Increase in Employment Agency Fees represents recruiting fees to retain experienced engineers as a part of succession planning.
- Personnel expenses include succession planning related costs that will be funded through business continuity reserves and do not impact assessments.
- Medical insurance increase reflects a premium increase of 10%. Additionally, fewer employees are waiving NPCC coverage for that of a prior employer.

Table B-5 Meeting Expense

Meeting Expenses	Budget 2020	Projection 2020	Budget 2021	Variance 2021 Budget v 2020 Budget	Variance %
Meetings	\$ 361,750	\$ 361,750	\$ 325,400	\$ (36,350)	-10.0%
Travel	\$ 845,900	\$ 845,900	\$ 727,920	\$ (117,980)	-13.9%
Conference Calls	\$ 36,000	\$ 36,000	\$ 9,000	\$ (27,000)	-75.0%
Total Meeting Expenses	\$ 1,243,650	\$ 1,243,650	\$ 1,062,320	\$ (181,330)	-14.6%

Explanation of Significant Variances

- Reduction in meetings and travel expenses based on changes in meeting formats related to COVID-19 pandemic. It is expected that some meetings will continue to be remotely attended via teleconference and webinar in 2021.
- Decrease in conference calls expense is a result of ERO Enterprise contracted rate.

Table B-6 Consultants and Contracts

Consultants	Budget 2020	Projection 2020	Budget 2021	Variance 2021 Budget v 2020 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	\$ 279,000	\$ 279,000	\$ -	\$ (279,000)	-100.0%
Legal and Regulatory	\$ -	\$ -	\$ -	\$ -	-
Information Technology	\$ -	\$ -	\$ -	\$ -	-
Human Resources	\$ -	\$ -	\$ -	\$ -	-
Accounting and Finance	\$ -	\$ -	\$ -	\$ -	-
Consultants Total	\$ 279,000	\$ 279,000	\$ -	\$ (279,000)	-100.0%
Contracts	Budget 2020	Projection 2020	Budget 2021	Variance 2021 Budget v 2020 Budget	Variance %
Reliability Standards	\$ 20,000	\$ 20,000	\$ 20,000	\$ -	0.0%
Compliance Enforcement and Organization Registration and Certification	\$ 1,097,150	\$ 1,097,150	\$ 707,150	\$ (390,000)	-35.5%
Reliability Assessment and Performance Analysis	\$ 533,000	\$ 533,000	\$ 647,000	\$ 114,000	21.4%
Training and Education	\$ -	\$ -	\$ -	\$ -	-
Situation Awareness and Infrastructure Security	\$ 60,000	\$ 60,000	\$ 50,000	\$ (10,000)	-16.7%
Member Forums	\$ -	\$ -	\$ -	\$ -	-
General and Administrative	\$ 75,000	\$ 75,000	\$ 80,000	\$ 5,000	6.7%
Legal and Regulatory	\$ -	\$ -	\$ -	\$ -	-
Information Technology	\$ -	\$ -	\$ -	\$ -	-
Human Resources	\$ -	\$ -	\$ -	\$ -	-
Accounting and Finance	\$ 7,000	\$ 7,000	\$ 5,650	\$ (1,350)	-19.3%
Contracts Total	\$ 1,792,150	\$ 1,792,150	\$ 1,509,800	\$ (282,350)	-15.8%
Total Consultants and Contracts	\$ 2,071,150	\$ 2,071,150	\$ 1,509,800	\$ (561,350)	-27.1%

Explanation of Significant Variances

- General and Administrative consulting costs in 2020 are related to an executive search to identify a successor CEO. The search is expected to be completed during 2020.
- 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 2020	Projection 2020	Budget 2021	Variance 2021 Budget v 2020 Budget	Variance %
Office Rent	\$ 650,000	\$ 650,000	\$ 650,000	\$ -	0.0%
Utilities	\$ 47,000	\$ 47,000	\$ 47,000	\$ -	0.0%
Maintenance	\$ 37,000	\$ 37,000	\$ 45,000	\$ 8,000	21.6%
Security	\$ 2,700	\$ 2,700	\$ 3,141	\$ 441	16.3%
Real Estate Taxes	\$ 96,000	\$ 96,000	\$ 125,000	\$ 29,000	30.2%
Total Office Rent	\$ 832,700	\$ 832,700	\$ 870,141	\$ 37,441	4.5%

Explanation of Significant Variances

- Increases in Maintenance and Real Estate Taxes are based on historical actual expenses.

Table B-8 Office Costs

Office Costs	Budget 2020	Projection 2020	Budget 2021	Variance 2021 Budget v 2020 Budget	Variance %
Telephone	\$ 88,720	\$ 88,720	\$ 88,720	\$ -	0.0%
Internet Expense	\$ 74,340	\$ 74,340	\$ 70,500	\$ (3,840)	-5.2%
Office Supplies	\$ 33,000	\$ 33,000	\$ 28,000	\$ (5,000)	-15.2%
Computer Supplies and Maintenance	\$ 424,921	\$ 424,921	\$ 576,000	\$ 151,079	35.6%
Subscriptions & Publications	\$ 14,000	\$ 14,000	\$ 20,000	\$ 6,000	42.9%
Dues	\$ 3,400	\$ 3,400	\$ 9,000	\$ 5,600	164.7%
Postage	\$ 1,200	\$ 1,200	\$ 1,200	\$ -	0.0%
Express Shipping	\$ 6,000	\$ 6,000	\$ 6,000	\$ -	0.0%
Copying	\$ 26,400	\$ 26,400	\$ 24,000	\$ (2,400)	-9.1%
Reports	\$ 2,000	\$ 2,000	\$ 2,000	\$ -	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	\$ 685,981	\$ 685,981	\$ 837,420	\$ 151,439	22.1%

Explanation of Significant Variances

- Increase in Computer Supplies and Maintenance is related to various security and network infrastructure improvements. (See Information Technology program area section for additional details.)

Table B-9 Professional Services

Professional Services	Budget 2020	Projection 2020	Budget 2021	Variance 2021 Budget v 2020 Budget	Variance %
BOT Fee	\$ 332,000	\$ 332,000	\$ 300,000	\$ (32,000)	-9.6%
BOT Search Fee	\$ -	\$ -	\$ -	\$ -	-
Legal - Reorganization	\$ -	\$ -	\$ -	\$ -	-
Accounting & Auditing Fees	\$ 310,000	\$ 310,000	\$ 370,000	\$ 60,000	19.4%
Legal Fees - Other	\$ 235,000	\$ 235,000	\$ 260,000	\$ 25,000	10.6%
Insurance - Commercial	\$ 70,000	\$ 70,000	\$ 75,000	\$ 5,000	7.1%
Total Services	\$ 947,000	\$ 947,000	\$ 1,005,000	\$ 58,000	6.1%

Explanation of Significant Variances

- Consultant treasurer related fees were reclassified from BOT Fee to Accounting & Auditing Fees.

Table B-10 Miscellaneous

Miscellaneous Expense	Budget 2020	Projection 2020	Budget 2021	Variance 2021 Budget v 2020 Budget	Variance %
Miscellaneous Expense	\$ 51,000	\$ 51,000	\$ 51,000	\$ -	0.0%
Total Miscellaneous Expense	\$ 51,000	\$ 51,000	\$ 51,000	\$ -	0.0%

Table B-11 Other Non-Operating Expenses

Other Non-Operating Expenses	Budget 2020	Projection 2020	Budget 2021	Variance 2021 Budget v 2020 Budget	Variance %
Interest Expense	\$ -	\$ -	\$ -	\$ -	-
Office Relocation	\$ -	\$ -	\$ -	\$ -	-
Total Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	-

Table B-12 Fixed Assets

Fixed Asset Additions	Budget 2020	Projection 2020	Budget 2021	Variance 2021 Budget v 2020 Budget	Variance %
Equipment CapEx	\$ -	\$ -	\$ -	\$ -	-
Computer & Software CapEx	\$ 170,000	\$ 170,000	\$ 65,800	\$ (104,200)	-61.3%
Furniture & Fixtures CapEx	\$ -	\$ -	\$ 14,100	\$ 14,100	-
Leasehold Improvements	\$ -	\$ -	\$ 14,100	\$ 14,100	-
Allocation of Fixed Assets	\$ -	\$ -	\$ -	\$ -	-
Total Fixed Asset Additions	\$ 170,000	\$ 170,000	\$ 94,000	\$ (76,000)	-44.7%

Explanation of Significant Variances

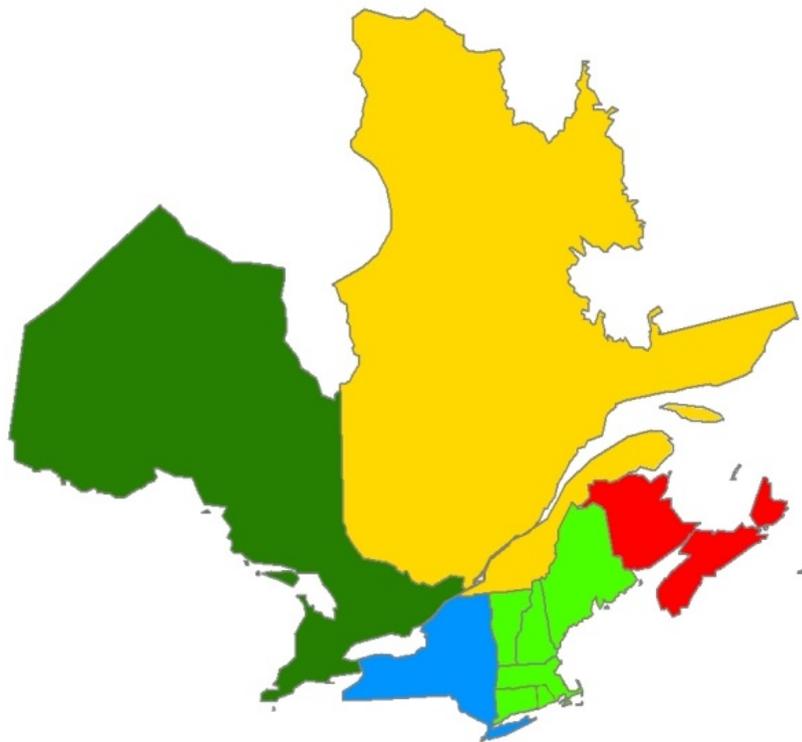
- Computer and software capital expenditures include the implementation of a security controls framework and data loss prevention strategy, as well as continuing enhancement of the document management system and equipment upgrades.
- Other planned capital expenditures include reconfigurations of office space related to succession planning.

Section B — Supplemental Financial Information

Table B-13

Statement of Activities and Capital Expenditures 2021 Budget & Projected 2022 and 2023 Budgets							
	2021 Budget	2022 Projection	\$ Change 21 v 22	% Change 21 v 22	2023 Projection	\$ Change 22 v 23	% Change 22 v 23
Funding							
ERO Funding							
ERO Assessments	\$ 15,154,584	\$ 15,393,553	\$ 238,970	1.6%	\$ 15,841,218	\$ 447,665	2.8%
Penalty Sanctions	201,132	-	(201,132)	-100.0%	-	-	-
Total ERO Funding	\$ 15,355,716	\$ 15,393,553	\$ 37,838	0.2%	\$ 15,841,218	\$ 447,665	2.8%
Membership Dues	-	-	-	-	-	-	-
Testing Fees	-	-	-	-	-	-	-
Services & Software	-	-	-	-	-	-	-
Workshops & Miscellaneous	67,500	67,500	-	0.0%	67,500	-	0.0%
Interest & Investment Income	56,264	59,077	2,813	5.0%	62,031	2,954	5.0%
Total Funding (A)	\$ 15,479,480	\$ 15,520,130	\$ 40,651	0.3%	\$ 15,970,750	\$ 450,619	2.9%
Expenses							
Personnel Expenses							
Salaries	\$ 7,982,119	\$ 8,221,582	\$ 239,464	3.0%	\$ 8,468,230	\$ 246,647	3.0%
Payroll Taxes	485,768	500,341	14,573	3.0%	515,351	15,010	3.0%
Benefits	2,021,243	2,182,943	161,699	8.0%	2,357,578	174,635	8.0%
Retirement Costs	909,832	937,127	27,295	3.0%	965,241	28,114	3.0%
Total Personnel Expenses	\$ 11,398,962	\$ 11,841,993	\$ 443,031	3.9%	\$ 12,306,400	\$ 464,407	3.9%
Meeting Expenses							
Meetings	\$ 325,400	\$ 260,320	\$ (65,080)	-20.0%	\$ 260,320	\$ -	0.0%
Travel	727,920	582,336	(145,584)	-20.0%	582,336	-	0.0%
Conference Calls	9,000	16,200	7,200	80.0%	16,200	-	0.0%
Total Meeting Expenses	\$ 1,062,320	\$ 858,856	\$ (203,464)	-19.2%	\$ 858,856	\$ -	0.0%
Operating Expenses							
Consultants & Contracts	\$ 1,509,800	\$ 1,509,800	-	0.0%	\$ 1,509,800	\$ -	0.0%
Office Rent	870,141	878,842	8,701	1.0%	887,631	8,788	1.0%
Office Costs	837,420	854,168	16,748	2.0%	871,252	17,083	2.0%
Professional Services	1,005,000	1,005,000	-	0.0%	1,005,000	-	0.0%
Miscellaneous	51,000	51,510	510	1.0%	52,025	515	1.0%
Total Operating Expenses	\$ 4,273,361	\$ 4,299,321	\$ 25,960	0.6%	\$ 4,325,708	\$ 26,387	0.6%
Total Direct Expenses	\$ 16,734,643	\$ 17,000,170	\$ 265,527	1.6%	\$ 17,490,964	\$ 490,794	2.9%
Indirect Expenses	\$ (387,995)	\$ (395,755)	\$ (7,760)	2.0%	\$ (403,670)	\$ (7,915)	2.0%
Other Non-Operating Expenses	\$ -	\$ -	\$ -	-	\$ -	\$ -	-
Total Expenses (B)	\$ 16,346,648	\$ 16,604,415	\$ 257,767	1.6%	\$ 17,087,294	\$ 482,879	2.9%
Change in Assets	\$ (867,169)	\$ (1,084,285)	\$ (217,116)	25.0%	\$ (1,116,545)	\$ (32,260)	3.0%
Fixed Assets Additions (C)	\$ 94,000	\$ 100,000	\$ 6,000	6.4%	\$ 100,000	\$ (50,000)	-50.0%
TOTAL BUDGET (=B+C)	\$ 16,440,648	\$ 16,704,415	\$ 263,767	1.6%	\$ 17,187,294	\$ 482,879	2.9%
TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)	\$ (961,169)	\$ (1,184,285)	\$ (223,116)	23.2%	\$ (1,216,545)	\$ (32,260)	0.0%
FTEs	42.11	42.11	0	0.0%	42.11	0	0.0%

Section C — Criteria Services Division Activities 2021 Business Plan and Budget



Section C – Criteria Services Division Activities

Criteria Services Division			
(in whole dollars)			
	2020 Budget	2021 Budget	Increase (Decrease)
Total FTEs	2.14	2.14	0.00
Total Direct Expenses	\$662,756	\$605,718	(\$57,038)
Total Indirect Expenses	\$415,818	\$387,995	(\$27,824)
Other Non-Operating Expenses	\$0	\$0	\$0
Working Capital and Operating Reserves Requirement	(\$49,707)	(\$324,222)	(\$274,515)
Fixed Asset Additions	\$30,000	\$6,000	(\$24,000)
Funding Requirement	\$1,058,866	\$675,491	(\$383,376)

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. NPCC’s Directories contain Regional Criteria which consists of requirements which provide an increased level of reliability to the NPCC defined bulk power system. The criteria impose more stringent requirements than those which appear in the NERC reliability standards. The 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.

On a periodic basis and also as NERC Reliability Standards are revised or new standards are developed, NPCC performs reviews of any associated Regional Criteria for possible impact (e.g. continued need or revision). During the criteria review process NPCC’s Task Forces review not only the incremental reliability benefit, but also the cost effectiveness of the criteria. In addition, as NERC standards are improved, revised, and ultimately approved by the FERC some requirements of the NPCC Regional Criteria may become unnecessary in the US portion of NPCC. In these situations it is important that the criteria remains in place until such time as the all NPCC’s Canadian Provincial regulators adopt the NERC standard to ensure no reliability gaps exist.

For 2021 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 guidance 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.

2021 Assumptions and Cost Impacts

The Criteria Services division activities are expected to remain stable or slightly increase throughout 2020 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.

2021 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.
 - Directory No. 12 “Automatic Underfrequency Load Shedding Requirements” will be retired in 2021 upon approval of PRC-006-NPCC-2 “Automatic Underfrequency Load Shedding” Regional Standard by all the Canadian Provincial Authorities
- 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.

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 2021, 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.

Additionally, as NERC Reliability Standards are developed, associated Directories will be reviewed for continued need. This review will identify the incremental reliability enhancement the Directory’s criteria will yield, determine if the enhancement is sufficient to warrant retention and if so, are there any potential cost effective alternatives that may exist to achieve that enhanced level of reliability.

NPCC Operations and Planning Directories

The following Directories are envisioned to remain active for 2021.

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 2019, 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 reviewed this Directory in 2019.

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 next 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 under revision in 2020.

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 reviewed and revised the document in 2020 to 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 will lead the review and revision of this Directory in 2021.

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 developed Directory#11 in order to facilitate the retirement of the NPCC Regional Standard PRC -002-NPCC-1.

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 on a subset of the regionally specific, more stringent NPCC Criteria that are unique to the NPCC BPS and are not duplicative of the NERC Reliability Standards. The physical characteristics and topology of the transmission system within the Region require that certain aspects of criteria be monitored for compliance.

The Criteria Services division and the NPCC Compliance Committee (CC) administer the CCEP. The CC is a stakeholder body consisting of NPCC Members and is structured by the seven sectors that appear in the NPCC Bylaws.

Noncompliance to NPCC Criteria is not subject to monetary sanctions and results in a notification of noncompliance to the Chief Executive Officer of the appropriate Full Member.

The CCEP program is described in document CCEP-1, *NPCC Criteria Compliance and Enforcement Program (CCEP) Process Document*. The CC reviews CCEP-1 annually and revisions to CCEP-1 are reviewed and approved by the CC.

The CCEP-1 document:

1. Provides a comprehensive CCEP Process Flow Diagram showing the process of evaluating and approving Criteria Certification submittals, and additional processes and responsibilities in the event that noncompliances, disputes, and sanctions arise;

2. Describes the roles and responsibilities of Reporting Members, the CC, the NPCC Reliability Coordinating Committee, and the Enforcement Panel in the compliance review and enforcement process
3. Describes non-monetary Sanctions, the Lateness Policy, and the Arbitration/Dispute Resolution process
4. Addresses the development of Mitigation Plans for any violations under the enforcement process

The CCEP Working Group (under the CC) develops a draft of the annual CCEP Implementation Plan and updates the blank certification templates for the upcoming Plan year. The Implementation Plan identifies the subset of Criteria that must be certified to and includes the certification form due dates. The draft CCEP Implementation Plan for the coming year and the draft certification templates are then submitted to the CC for review and approval.

The CC members review the completed certification forms that are returned by Full Members. NPCC staff develops an assessment report and scorecard that summarizes the certifications that were received for the CC to review and approve. The assessment report and any recommendations on non-compliances are then presented to the NPCC Reliability Coordinating Committee (RCC) for 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.

Resource Requirements

Meetings

- Reduction in meetings and travel expenses based on changes in meeting formats related to COVID-19 pandemic. It is expected that some meetings will continue to be remotely attended via teleconference and webinar in 2021.

2020 Budget and Projection and 2021 Budget Comparisons

Statement of Activities and Capital Expenditures					
2020 Budget & Projection, and 2021 Budget					
CRITERIA SERVICES DIVISION					
	2020 Budget	2020 Projection	Variance 2020 Projection v 2020 Budget Over(Under)	2021 Budget	Variance 2021 Budget v 2020 Budget Over(Under)
Funding					
ERO Funding					
ERO Assessments	\$ -	\$ -	\$ -	\$ -	\$ -
Penalty Sanctions	-	-	-	-	-
Total ERO Funding	\$ -	\$ -	\$ -	\$ -	\$ -
Membership Dues	1,065,202	1,065,202	-	671,755	(393,447)
Testing Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Workshops & Misc Revenue	-	-	-	-	-
Interest & Investment Income	4,200	4,200	-	3,736	(464)
Total Funding (A)	\$ 1,069,402	\$ 1,069,402	\$ -	\$ 675,491	\$ (393,911)
Expenses					
Personnel Expenses					
Salaries	\$ 367,979	\$ 367,979	\$ -	\$ 336,972	\$ (31,008)
Payroll Taxes	24,864	24,864	-	23,317	(1,546)
Benefits	123,261	123,261	-	86,435	(36,826)
Retirement Costs	41,954	41,954	-	36,654	(5,299)
Total Personnel Expenses	\$ 558,057	\$ 558,057	\$ -	\$ 483,378	\$ (74,679)
Meeting Expenses					
Meetings	\$ 14,000	\$ 14,000	\$ -	\$ 11,200	\$ (2,800)
Travel	56,800	56,800	-	45,440	(11,360)
Total Meeting Expenses	\$ 70,800	\$ 70,800	\$ -	\$ 56,640	\$ (14,160)
Operating Expenses, excluding Depreciation					
Consultants & Contracts	\$ 76,360	\$ 76,360	\$ -	\$ 57,700	\$ (18,660)
Office Rent	-	-	-	-	-
Office Costs	-	-	-	4,000	4,000
Professional Services	-	-	-	-	-
Computer & Equipment Leases	-	-	-	-	-
Miscellaneous	4,000	4,000	-	4,000	-
Total Operating Expenses, excluding Depreciation	\$ 80,360	\$ 80,360	\$ -	\$ 65,700	\$ (14,660)
Total Direct Expenses	\$ 709,217	\$ 709,217	\$ -	\$ 605,718	\$ (103,499)
Indirect Expenses	\$ 409,450	\$ 409,450	\$ -	\$ 387,995	\$ (21,456)
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses (B)	\$ 1,118,668	\$ 1,118,668	\$ -	\$ 993,713	\$ (124,955)
Change in Net Assets (=A-B)	\$ (49,265)	\$ (49,265)	\$ -	\$ (318,222)	\$ (268,957)
Fixed Asset Additions, excluding Right of Use Assets (C)	\$ 30,000	\$ 30,000	\$ -	\$ 6,000	\$ (24,000)
TOTAL BUDGET (=B+C)	\$ 1,148,668	\$ 1,148,668	\$ -	\$ 999,713	\$ (148,955)
TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)	\$ (79,265)	\$ (79,265)	\$ -	\$ (324,222)	\$ (244,957)

Personnel Analysis

Total FTEs by Program Area	Budget 2020	Projection 2020	Direct FTEs 2021 Budget	Shared FTEs ¹ 2021 Budget	Total FTEs 2021 Budget	Change from 2020 Budget
CRITERIA SERVICES DIVISION						
Operational Programs						
Reliability Standards	1.08	1.08	1.00	0.07	1.07	-0.01
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	1.08	1.08	1.00	0.07	1.07	-0.01
Situation Awareness and Infrastructure Security	0.00	0.00	0.00	0.00	0.00	0.00
Total FTEs Operational Programs	2.16	2.16	2.00	0.14	2.14	-0.02
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	2.16	2.16	2.00	0.14	2.14	-0.02

¹A shared FTE is defined as an employee who performs both Regional Entity and Criteria Services division functions.

Reserve Analysis

Working Capital and Operating Reserve Analysis 2020-2021				
CRITERIA SERVICES DIVISION				
	Total Reserve	Operating Reserve	Working Capital	Business Continuity
Beginning Total Reserve, December 31, 2019	743,902	595,147	88,755	60,000
2020 Non-Statutory Funding (from members)	1,065,202	1,065,202		
Plus: 2020 Other funding sources	0	0		
Less: 2020 Projected expenses & fixed asset additions	(1,148,668)	(1,122,128)		(26,540)
Projected Total Reserve, December 31, 2020	660,437	538,222	88,755	33,460
Desired Total Reserve, December 31, 2021	336,214	249,928 ¹	83,306 ²	2,980 ³
Less: Projected Total Reserve, December 31, 2020	(660,437)	(538,222)	(88,755)	(33,460)
Increase(decrease) in assessments to achieve desired Total Reserve	(324,222)	(288,293)	(5,449)	(30,480)
2021 Funding requirement for expenses and fixed asset additions	999,713			
Less: Other Funding Sources	(3,736)			
Less: Release of Business Continuity Reserve Funds ³	(30,480)			
Adjustment to Working Capital to achieve desired Total Reserve balance ²	(5,449)			
Adjustment to Operating Reserve to achieve desired Total Reserve balance ¹	(288,293)			
2021 Funding and reserve requirement	671,755			

¹ Operating Reserve must be within a range from 8.33% to 25.00% of Budget. \$249,928 represents 25.00% of the 2021 budget of \$999,713.

² Working Capital must equal 8.33% of Budget. \$83,306 represents 8.33% of the 2021 budget of \$999,713.

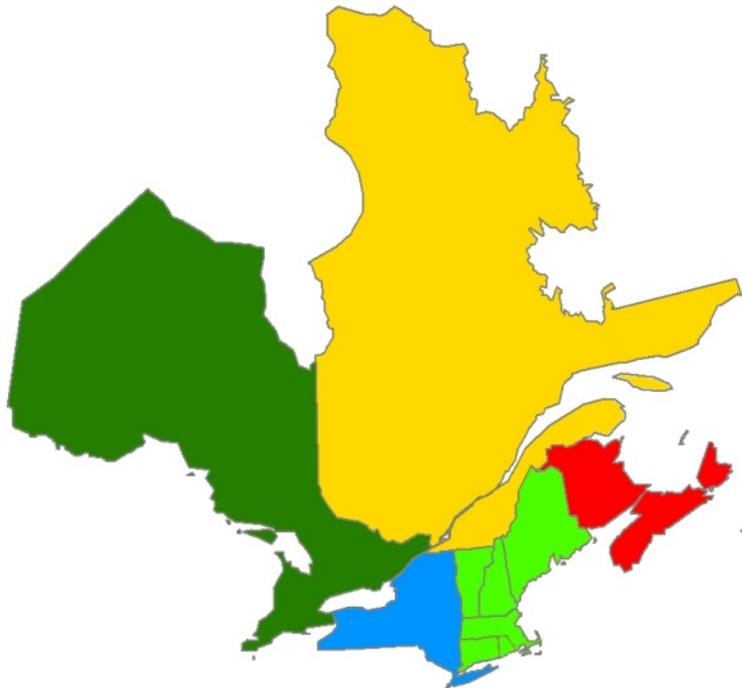
³ Business Continuity Reserve (BCR) established in 2017 as approved by the NPCC Board of Directors to fund Succession Planning related expenses.

Explanation of Changes in Reserve Policy from Prior Year

There was no change to the existing Working Capital and Operating Reserve Policy. For 2021, Criteria Services assessments are decreasing by a percentage greater than decrease in budget in order to reduce the operating reserve in accordance with the established range. The Operating reserve must be within a range from 8.33% to 25.00% of budget. The projected operating reserve balance at year end 2021 of \$249,928 represents 25.00% of the 2021 Criteria Services budget of \$999,713.

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 drawn upon as subsequently brought before the Board of Directors for approval of release of funds in association with President & CEO succession related activities associated with the planned or a 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
2021 Business Plan and Budget



Section D — Additional Financial Statements

Statement of Financial Position

Statement of Financial Position				
2019 Audited, 2020 Projection, and 2021 Budget				
Regional Entity and Criteria Services Division				
		(Per Audit)	Projected	Budget
		31-Dec-19	31-Dec-20	31-Dec-21
ASSETS				
Cash		\$ 4,623,803	\$ 2,100,000	\$ 2,100,000
Restricted cash		424,223	754,000	553,000
Temporary cash investments		4,723,922	5,361,000	3,875,000
Prepaid expenses		457,033	457,000	457,000
Other assets		332,834	333,000	369,000
Equipment and leasehold improvements, net		532,843	504,000	401,000
Total Assets		\$ 11,094,658	\$ 9,509,000	\$ 7,755,000
LIABILITIES AND NET ASSETS				
Liabilities				
Accrued expenses and other liabilities		\$ 2,875,131	\$ 2,913,000	\$ 2,951,000
Deferred revenue		724,702	-	-
Deferred rent		440,431	339,000	237,000
Total Liabilities		4,040,264	3,252,000	3,188,000
Net Assets - Without Donor Restrictions				
Available for operations		6,054,394	5,735,000	4,553,000
Board designated for future use		1,000,000	522,000	14,000
Total Net Assets Without Donor Restrictions		7,054,394	6,257,000	4,567,000
Total Liabilities and Net Assets		\$ 11,094,658	\$ 9,509,000	\$ 7,755,000

Section D — Additional Financial Statements

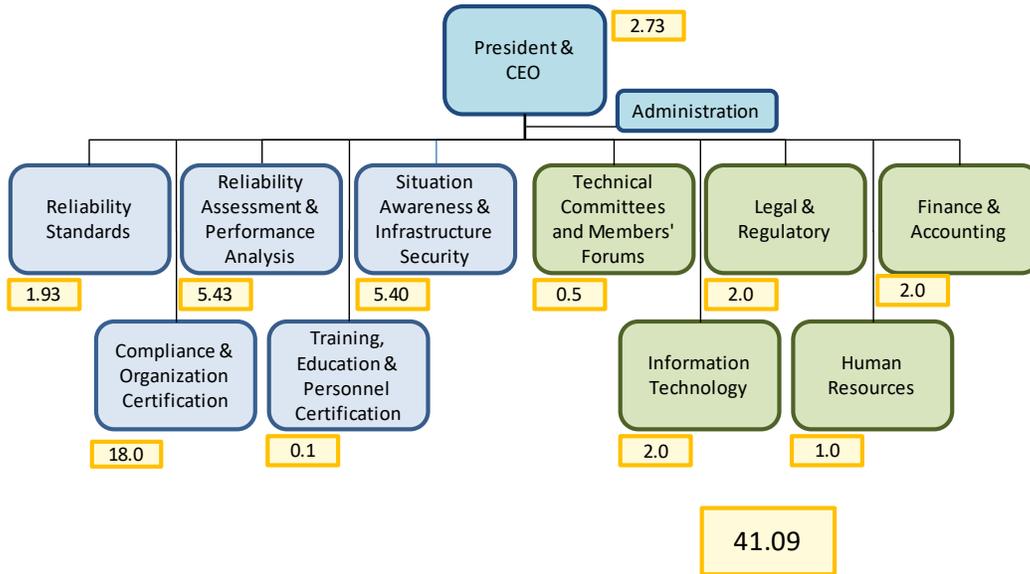
NPCC Statement of Activities 2021 Budget		RE Division Total	Reliability Standards (Section 300)	Compliance Monitoring and Enforcement Registration and Certification (Section 400 & 500)	Reliability Assessment and Performance Analysis (Section 800)	Training, Education, and Operator Certification (Section 900)	Situation Awareness and Infrastructure Security (Section 1000)	Administrative Services
Funding								
ERO Funding								
ERO Assessments		15,154,584	957,193	8,444,793	3,280,822	174,133	2,372,783	(75,140)
Penalty Sanctions		201,132	11,483	121,378	33,948	624	33,699	
Total ERO Funding		15,355,716	968,675	8,566,171	3,314,770	174,757	2,406,482	(75,140)
Membership Dues		-	-	-	-	-	-	-
Testing Fees		-	-	-	-	-	-	-
Services & Software		-	-	-	-	-	-	-
Workshops & Misc Revenue		67,500	-	-	-	67,500	-	-
Interest & Investment Income		56,264	-	-	-	-	-	56,264
Total Funding (A)		15,479,480	968,675	8,566,171	3,314,770	242,257	2,406,482	(18,876)
Expenses								
Personnel Expenses								
Salaries		7,982,119	359,491	3,058,980	1,017,371	18,352	885,454	2,642,472
Payroll Taxes		485,768	21,383	214,978	64,068	1,068	60,595	123,675
Benefits		2,021,243	111,331	834,388	280,566	6,091	233,918	554,948
Retirement Costs		909,832	38,780	333,201	110,034	2,324	96,873	328,620
Total Personnel Expenses		11,398,962	530,986	4,441,546	1,472,039	27,835	1,276,840	3,649,716
Meeting Expenses								
Meetings		325,400	4,000	12,000	17,600	184,000	6,400	101,400
Travel		727,920	72,720	269,120	172,960	12,000	75,440	125,680
Conference Calls		9,000	-	-	-	-	-	9,000
Total Meeting Expenses		1,062,320	76,720	281,120	190,560	196,000	81,840	236,080
Operating Expenses, excluding Depreciation								
Consultants & Contracts		1,509,800	20,000	707,150	647,000	-	50,000	85,650
Office Rent		870,141	-	-	-	-	-	870,141
Office Costs		837,420	2,000	18,000	3,000	-	3,000	811,420
Professional Services		1,005,000	-	-	-	-	-	1,005,000
Miscellaneous		51,000	-	-	-	-	-	51,000
Total Operating Expenses, excluding Depreciation		4,273,361	22,000	725,150	650,000	-	53,000	2,823,211
Total Direct Expenses		16,734,643	629,706	5,447,816	2,312,599	223,835	1,411,680	6,709,007
Indirect Expenses		(387,995)	333,603	3,526,402	986,305	18,131	979,052	(6,231,487)
Other Non-Operating Expenses		-	-	-	-	-	-	-
Total Expenses (B)		16,346,648	963,309	8,974,218	3,298,904	241,965	2,390,732	477,520
Change in Net Assets (=A-B)		(867,169)	5,366	(408,046)	15,866	292	15,749	(496,396)
Fixed Asset Additions								
Computer & Software CapEx		65,800	-	-	-	-	-	65,800
Furniture & Fixtures CapEx		14,100	-	-	-	-	-	14,100
Equipment CapEx		-	-	-	-	-	-	-
Leasehold Improvements		14,100	-	-	-	-	-	14,100
Allocation of Fixed Asset Additions		0	5,366	56,727	15,866	292	15,749	(94,000)
Fixed Asset Additions, excluding Right of Use Assets (C)		94,000	5,366	56,727	15,866	292	15,749	-
TOTAL BUDGET (=B + C)		16,440,648	968,675	9,030,944	3,314,770	242,257	2,406,482	477,520
TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)		(961,169)	0	(464,773)	0	(0)	(0)	(496,396)
FTEs		42.11	1.84	19.45	5.44	0.10	5.40	9.88

Section D — Additional Financial Statements

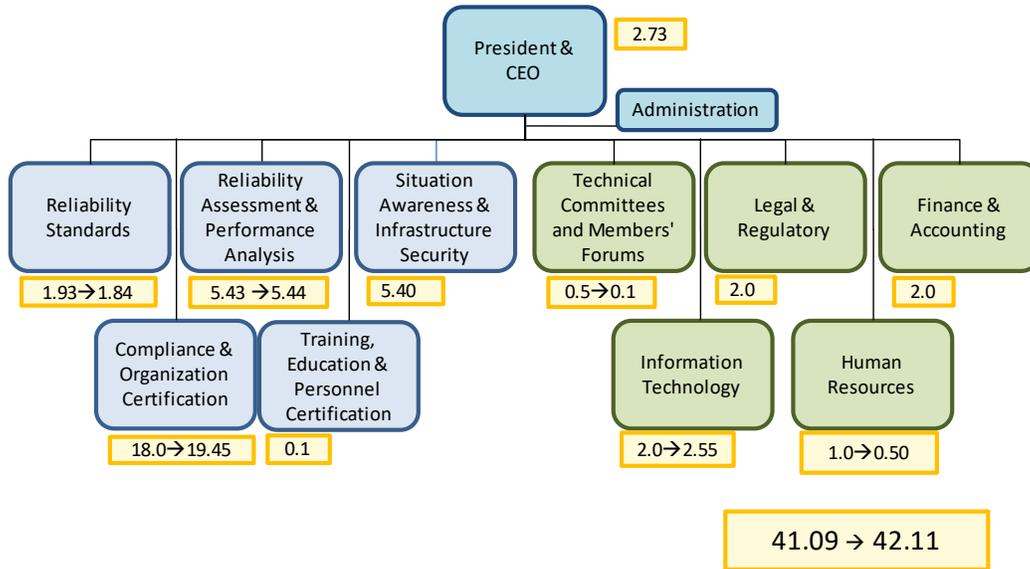
NPCC Statement of Activities 2021 Budget		Criteria Services Total	Criteria Development	Criteria Assessment	General and Administrative
Funding					
ERO Funding					
	ERO Assessments	-			
	Penalty Sanctions	-			
	Total ERO Funding	-	-	-	-
	Membership Dues	671,755	502,998	496,715	(327,958)
	Testing Fees	-	-	-	-
	Services & Software	-	-	-	-
	Workshops & Misc Revenue	-	-	-	-
	Interest & Investment Income	3,736	-	-	3,736
	Total Funding (A)	675,491	502,998	496,715	(324,222)
Expenses					
Personnel Expenses					
	Salaries	336,972	157,869	179,103	-
	Payroll Taxes	23,317	11,066	12,252	-
	Benefits	86,435	61,725	24,710	-
	Retirement Costs	36,654	17,382	19,273	-
	Total Personnel Expenses	483,378	248,041	235,337	-
Meeting Expenses					
	Meetings	11,200	1,200	10,000	-
	Travel	45,440	22,560	22,880	-
	Conference Calls	-	-	-	-
	Total Meeting Expenses	56,640	23,760	32,880	-
Operating Expenses, excluding Depreciation					
	Consultants & Contracts	57,700	30,200	27,500	-
	Office Rent	-	-	-	-
	Office Costs	4,000	2,000	2,000	-
	Professional Services	-	-	-	-
	Miscellaneous	4,000	2,000	2,000	-
	Total Operating Expenses, excluding Depreciation	65,700	34,200	31,500	-
	Total Direct Expenses	605,718	306,001	299,717	-
	Indirect Expenses	387,995	193,997.41	193,997.41	-
	Other Non-Operating Expenses	-	-	-	-
	Total Expenses (B)	993,713	499,998	493,715	-
	Change in Net Assets (=A-B)	(318,222)	3,000	3,000	(324,222)
Fixed Asset Additions					
	Computer & Software CapEx	4,200	2,100	2,100	-
	Furniture & Fixtures CapEx	900	450	450	-
	Equipment CapEx	-	-	-	-
	Leasehold Improvements	900	450	450	-
	Allocation of Fixed Asset Additions	-	-	-	-
	Fixed Asset Additions, excluding Right of Use Assets (C)	6,000	3,000	3,000	-
	TOTAL BUDGET (=B + C)	999,713	502,998	496,715	-
	TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)	(324,222)	-	-	(324,222)
	FTEs	2.14	1.07	1.07	0

Appendix A Staff Allocations

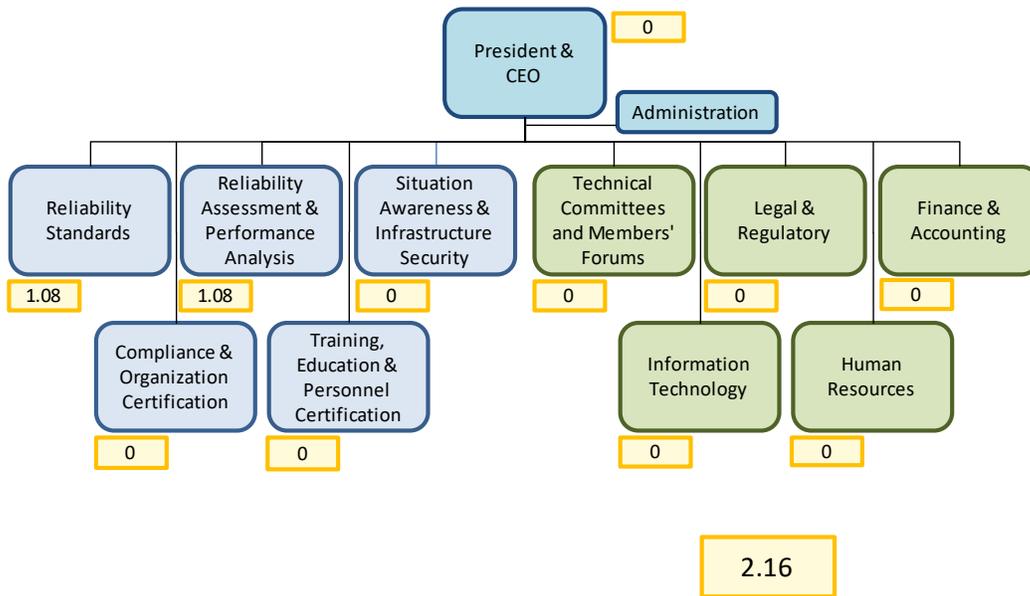
2020 Budget Staff Allocations - RE Division



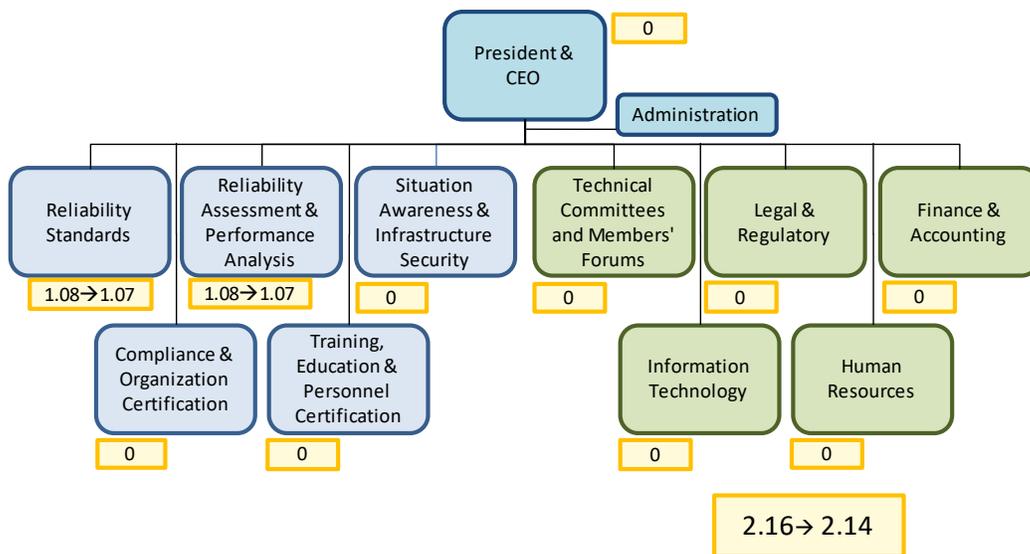
2021 Budget Staff Allocations - RE Division



2020 Budget Staff Allocations - CS Division



2021 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
BEP	BES Exception Process
BES	Bulk Electric System
BPS	Bulk Power System
CC	Compliance Committee
CCEP	Criteria Compliance and Enforcement Program
CDAA	CMEP Data Administration Application
CEH	Continuing Education Hour
CGNC	Corporate Governance and Nominating Committee
CMEP	Compliance Monitoring and Enforcement Program
COP	Compliance Oversight Plan
CORC	Compliance Monitoring and Enforcement and Organization Registration and Certification Program
CORES	Centralized Organization Registration ERO System
CUG	Consortium Users Group
DADSWG	Demand Response Availability Data System Working Group
DER	Distributed Energy Resources
DHS	Department of Homeland Security
DOE	Department of Energy
EAP	ERO Event Analysis Process
EIC	Evaluation of Internal Controls
E-ISAC	Electricity Information Sharing and Analysis Center
EPHPIS	Electric Power Human Performance Improvement Symposium
ERAG	Eastern Interconnection Reliability Assessment Group
ERO	Electric Reliability Organization
FAC	Finance and Audit Committee
FERC	Federal Energy Regulatory Commission
FFT	Find, Fix, Track and Report
GADSWG	Generating Availability Data System Working Group
GMD	Geomagnetic Disturbance
HQCMÉ	Hydro-Québec Contrôle des mouvements d'énergie
HSIN	Homeland Security Information Network
IESO	Independent Electricity System Operator
IRA	Inherent Risk Assessment
IRPTF	Inverter-Based Resource Performance Task Force
ISO	Independent System Operator
LMTF	Load Modeling Task Force
LSE	Load Serving Entity
MACD	Market Assessment and Compliance Division
MDCC	Management Development and Compensation Committee
ME	Mitigation and Enforcement
MIDASWG	Misoperation Information Data Analysis System Working Group
MMWG	Multi-Regional Modeling Working Group
MOU	Memorandum of Understanding
NAERM	North American Energy Resilience Model
NAESB	North American Energy Standards Board
NATF	North American Transmission Forum
NBEUB	New Brunswick Energy and Utilities Board
NBMG	Node Breaker Modeling Group

Appendix B

Acronym	Definition
NCCIC	National Cybersecurity and Communications Integration Center
NEL	Net Energy for Load
NERC	North American Electric Reliability Corporation
NLH	Newfoundland and Labrador Hydro
NOI	Notice of Inquiry
NOPR	Notice of Proposed Rulemaking
NPCC	Northeast Power Coordinating Council, Inc.
NSPI	Nova Scotia Power Incorporated
NSUARB	Nova Scotia Utility and Review Board
OEB	Ontario Energy Board
ORCG	Organization Registration and Certification Group
PAS	Performance Analysis Subcommittee
PAWG	Probabilistic Assessment Working Group
PC	Pension Committee
PJM	Pennsylvania-Jersey-Maryland Interconnection LLC., Regional Transmission Organization
PPM/TF	Power Plant Model Verification Task Force
PSWG	Physical Security Working Group
QCMEP	Québec Reliability Standards Compliance Monitoring and Enforcement Program
RAPA	Reliability Assessment and Performance Analysis
RAPA-SG	ERO RAPA Steering Group
RAS	Reliability Assessment Subcommittee
RAS	Remedial Action Scheme
RC	Reliability Coordinator
RCC	Reliability Coordinating Committee
RISC	Reliability Issues Steering Committee
RSC	Regional Standards Committee
RSTC	Reliability and Security Technical Committee
RTWG	Reliability Training Working Group
RTO	Regional Transmission Organization
SAFNR	Situational Awareness-FERC, NERC, Regions
SAIS	Situation Awareness and Infrastructure Security
SAMS	System Analysis and Modeling Subcommittee
SAR	Standards Authorization Request
SCPS	Standards Committee Process Subcommittee
SDT	Standards Drafting Team
SPCS	System Protection and Control Subcommittee
SMS	Synchronized Measurement Subcommittee
SPIDERWG	System Planning Impacts from Distributed Energy Resources Working Group
SPS	Special Protection Systems
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
UFLS	Underfrequency Load Shedding

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Attachment 4

NERC Management's Responses to Stakeholder Comments Submitted on Draft #1 and Draft #2 of
NERC's 2021 Business Plan and Budget

Re: Management Response to 2021 Business Plan and Budget (BP&B) Draft 1 Comments

Date: July 16, 2020

The deadline for comments on the first draft of NERC's 2021 BP&B ended on June 26, 2020. Comments were submitted by five entities. Overall the comments were supportive of the 2021 BP&B, especially the cost savings efforts that helped yield a minimal budget increase and flat assessment versus 2020. Below is a summary of the comments and NERC management's responses as applicable.

Canadian Electricity Association (CEA)

CEA was appreciative of NERC's minimal budget increase and flat assessment for 2021 as compared to 2020. CEA recommended that NERC continue to pursue budget stabilization to ensure alignment with the regulatory and fiscal realities faced by electric utilities, especially in the context of uncertain economic conditions resulting from the COVID-19 pandemic. CEA also noted that NERC is tracking below budget for 2020, which will result in a much higher operating reserve than normally targeted, and asked NERC to consider methods to provide relief to entities rather than recovering the same revenue even though 2020 costs seem to be under the expected budget. CEA also encouraged NERC to continue examining ways to ensure budget stabilization in future years, and to provide more cost certainty over a three-year horizon to align with electric sector realities, where rates are not typically modified on a yearly basis. Finally, CEA commended NERC and the E-ISAC for the work done to refresh the E-ISAC strategic plan and stabilize the E-ISAC budget, and to continue (1) engaging with stakeholders to ensure the full value of the E-ISAC is realized and (2) leveraging capabilities already available from other agencies and partners.

NERC Management Response

NERC appreciates CEA's comments and support for its 2021 BP&B. NERC's goal for the 2021 BP&B was to achieve a flat assessment in response to the current economic impacts on the electric utility industry resulting from the pandemic. This was achieved despite significant budget pressures, including 2021 Align development costs, the addition of software and support costs associated with the ERO Secure Evidence Locker (SEL), additional recommended IT cyber security resources, and rising medical insurance premiums. NERC was able to absorb these costs while maintaining a minimal budget increase and flat assessment through a combination of (1) a short-term reduction in meeting and travel expenses due to expected continued pandemic conditions, (2) prioritizing and deferring important but less urgent personnel additions and data management tool enhancements to future years, and (3) using reserves to reduce assessments (i.e., the Operating Contingency Reserves (OCR) draw to fund the 2021 Align development costs).

As a result of holding the 2021 budget and assessment to 2020 levels, especially with respect to the use of reserves to flatten the assessment, NERC is anticipating a measured return to pre-COVID-19 planning assumptions to fund deferred resources and system enhancements that are necessary for the ERO Enterprise to continue to fulfill its mission in the long-term. However, we are sensitive to the need to manage the pace at which those resources are added and projects are completed, and during the 2022 and 2023 budget development cycles NERC commits to

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focusing on addressing the highest risks to reliability and security. At the same time, we will consider prevailing economic conditions, potential facility and workplace model changes resulting from lessons learned during the pandemic, and judicious use of OCR and Assessment Stabilization Reserves (ASR) to manage assessment increases. Finally, we will continue to assess our program areas and prioritize initiatives.

In response to the anticipated 2020 budget overrun CEA references that will contribute to higher-than-targeted OCR funds at the end of 2020, NERC notes that this overrun is being driven by a combination of lower meeting and travel costs due to the pandemic as well as deliberate cost savings efforts, including deferred personnel hires and system enhancements. This allows for (1) use of OCR to fund \$1.8M of the \$3.8M total capital investment for the ERO SEL in 2020; (2) cash funding of 2020 Align development costs versus financing, therefore reducing debt service for 2021 and future years; (3) use of OCR to fund the \$1.8M in Align development costs in 2021; and (4) as mentioned above, reserve funding to potentially offset rebounding assessments in future years.

Finally, NERC acknowledges CEA's comment regarding providing more cost certainty over a three-year horizon, and will collaborate with the Regional Entities on how to improve the year two and three budget forecasts.

Edison Electric Institute (EEI)

EEI acknowledged the continued financial pressure on the energy sector resulting from the effects of COVID-19 and recognized NERC's efforts to maintain a flat budget while also maintaining effective and efficient operations to assure bulk power system reliability and security. EEI urged NERC to work with the Regional Entities to balance reliability and security while maintaining current 2020 budget levels in the Regional Entity budgets for 2021. Finally, EEI encouraged NERC to continue looking for opportunities to prioritize activities that focus on the highest risks to security and reliability while deferring certain lower risk projects to efficiently manage resources.

NERC Management Response

NERC appreciates EEI's comments and support for its 2021 BP&B. As noted above in the response to CEA, NERC commits to focusing on addressing the highest risks to reliability and security while considering prevailing economic conditions, potential facility and workplace model changes resulting from lessons learned during the pandemic, and judicious use of OCR and ASR to manage assessment increases. Additionally, we will continue to assess our program areas and prioritize initiatives.

With respect to the Regional Entity 2021 budgets, NERC notes that it has ongoing touchpoints with the Regional Entities during budget development, in which the organizations share information on budget pressures, cost savings efforts, best practices, and opportunities to leverage costs across the ERO Enterprise. Our review of their BP&Bs focuses on the sufficiency of resources for the Regional Entities to meet their delegated accountabilities and the appropriateness of expenditures to qualify for statutory funding. However, each Regional Entity's situation is unique and we do rely on the Regional Entity boards to determine the appropriate funding, and also note that all Regional Entities have robust stakeholder engagement processes surrounding their own budgets. Additionally, while the budget and assessment increases for 2021 vary across the ERO Enterprise entities, the weighted average assessment increase for NERC and the Regional Entities combined in 2021 is 0.6%. NERC will continue to explore enhanced collaboration opportunities with the Regional Entities for future budget cycles.

Independent Electricity System Operator (IESO)

The IESO expressed appreciation for NERC's minimal budget increase and flat assessment for 2021 as compared to 2020, particularly in the context of cost implications resulting from the current pandemic situation. The IESO also expressed support for the methodology for establishing assessments that acknowledges the capabilities and

expertise of each entity, including the IESO's role in cyber security in Ontario. The IESO encouraged NERC to seek budget stabilization as priority when developing preliminary projections for 2022 and 2023.

NERC Management Response

NERC appreciates IESO's comments and support for its 2021 BP&B. As noted above in the response to CEA, as a result of holding the 2021 budget and assessment to 2020 levels, especially with respect to the use of reserves to flatten the assessment, NERC is anticipating a measured return to pre-COVID-19 planning assumptions in future years to fund deferred resources and system enhancements that are necessary for the ERO to continue to fulfill its reliability and security mission in the long-term. During the 2022 and 2023 budget development cycles, NERC commits to focusing on addressing the highest risks to reliability and security while considering prevailing economic conditions, potential facility and workplace model changes resulting from lessons learned during the pandemic, and judicious use of OCR and ASR to manage assessment increases. Additionally, we will continue to assess our program areas and prioritize initiatives.

ISO RTO Council Standards Review Committee (SRC)

The ISO RTO Council SRC expressed support for NERC's efforts to minimize cost increases in the 2021 BP&B and keep its assessment flat in response to the uncertain economic conditions resulting from the COVID-19 pandemic. The ISO RTO Council SRC also requested the following: (1) a better understanding of NERC's plans for conducting in-person meetings in 2021; (2) clarification regarding the appearance of reduced funding in the Event Analysis program; and (3) that NERC expand all of the charts provided in the BP&B to include at least one additional year of historical data so that trends can more easily be identified.

NERC Management Response

NERC appreciates the ISO RTO Council SRC's comments and support for its 2021 BP&B and offers the following responses to the requested information:

1. NERC's 2021 BP&B assumes some continued pandemic conditions with respect to in-person meetings and travel, which is reflected as a \$1.1M (33.7%) decrease in the Draft 1 2021 budget versus the 2020 budget. While this does not represent a change with respect to NERC's model for meetings and overall stakeholder engagement, it does factor in the expectation that NERC will be leveraging technology to conduct virtual meetings to a greater extent due to assumed travel restrictions, at least for the first portion of 2021. Specific decisions on in-person meetings in 2021 will be evaluated as pandemic conditions are known closer to the scheduled meeting dates.
2. The \$785k (16.6%) decrease in the Event Analysis program in the Draft 1 2021 budget is primarily related to a shift in personnel charged to that department at the leadership and administrative levels to a different department (with a resulting decrease in corresponding indirect cost allocations); however, the core resources and program investments remain the same, reflecting NERC's continued commitment to the importance of this area. The Draft 2 budget will show a reallocation of budget funds back into the Event Analysis department as a result of evaluating the organization administrative structure and financial reporting, and to allow for a more consistent budget comparison to prior periods.
3. The format for the tables provided in the BP&B are mutually agreed upon by NERC, the Regional Entities, and FERC. NERC can explore the value of adding an additional year of historical information with the Regional Entities for future BP&B cycles. In the meantime, NERC would be happy to provide any specific historical information for programs or cost categories upon request.

National Rural Electric Cooperative Association (NRECA)

NRECA expressed appreciation for the attention to cost savings steps and use of reserve contingency funds and provided overall support for the draft 2021 BP&B.

We appreciate the comments received and stakeholders' continuing support of NERC's mission. NERC encourages stakeholders' continued participation in the BP&B process during its development of the 2021 budget.

Sincerely,



Andy Sharp
Vice President and Chief Financial Officer

Re: Management Response to 2021 Business Plan and Budget (BP&B) Draft 2 Comments

Date: August 13, 2020

The deadline for comments on the second draft of NERC's 2021 BP&B ended on July 30, 2020. Comments were submitted by the Canadian Electricity Association (CEA), the National Rural Electric Cooperative Association (NRECA), and Utility Services, Inc. NRECA's comments were supportive of NERC's continued attention to cost savings efforts for the 2021 budget. CEA also expressed appreciation for NERC's efforts to ensure a flat assessment in 2021 and that the projection for 2022 is lower than previously projected in the 2020 BP&B. CEA also reiterated the need for continued budget stabilization to align with the fiscal realities faced by electric utilities, especially with respect to the long-term financial effects of COVID-19.

Utility Services, Inc.'s comments primarily focused on the work and tools of the Power Risk Issue Strategic Management (PRISM) group, including potential duplication of efforts with stakeholder committees, the role the group plays in Reliability Standards training, and further insight on the purpose and cost of the data repository tool, wERock. The comments also requested clarification on the relationship between NERC's access to reliability-related data and future plans for Reliability Standards.

In response to these comments, NERC has adjusted the respective language in the final 2021 BP&B in the Reliability Standards and PRISM section to (1) explain that PRISM's work on Distributed Energy Resources, Interconnection Reliability Operating Limits and System Operating Limits, and Battery Storage will be in collaboration with the Reliability and Security Technical Committee (RSTC) and applicable task forces and working groups; (2) clarify that the PRISM group has extensive Reliability Standards development experience and, as such, has the expertise to provide training on standards for staff within the ERO Enterprise as needed; (3) provide additional information on the wERock tool, which is used to track Reliability Issues Steering Committee-identified issues and corresponding RSTC and other ERO Enterprise committee work plan items, and is being developed using in-house resources on existing internal platforms; and (4) clarify that NERC's access to increasing amounts of data for the purpose of identifying trends to reliability risks can inform the efficacy of standards with respect to these emerging risks.

We appreciate the comments received and stakeholders' continuing support of NERC's mission. NERC encourages stakeholders' continued participation during its development of the 2022 budget.

Sincerely,



Andy Sharp, Vice President and Chief Financial Officer

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Attachment 5

Calculation of Adjustments to the AESO 2021 NERC Assessment, the IESO 2021 NERC Assessment, the
New Brunswick 2021 NERC Assessment and the Québec 2021 NERC Assessment

2021 IESO Assessment Adjustment

Credit for NERC Compliance Costs

Includes adjustment for 2019 Actual v Budgeted Costs

	2021 NERC Budget		IESO NEL Share	2021 Compliance FTEs			IESO Credit	Costs Paid by	
	Final		(2019) 2.962%	Total	Credit	% Credit		IESO	
NERC Compliance Program Budget									
Compliance Assurance	\$	11,252,166	\$	333,313	18.80	15.64	83.2%	\$ 277,316	\$ 55,997
Registration and Certification		2,434,137		72,104	4.70	4.47	95.0%	68,499	3,605
Enforcement		7,327,875		217,067	12.22	12.22	100.0%	217,067	-
Total Compliance Costs, including Fixed Assets	\$	21,014,178	\$	622,484	35.72	32.33		\$ 562,882	\$ 59,602
True-up 2019 Actual							(24,649)		
Additional Non-Compliance Costs									
Event Analysis	\$	4,287,213	\$	126,996	7.52	-	0.0%	\$ -	\$ 126,996
SAFNR v3 support and maintenance		468,180		13,868	-	-	100.0%	13,868	-
2021 Total Compliance, Event Analysis and SAFNR	\$	25,769,570	\$	763,349	43.24	32.33		\$ 552,102	\$ 186,598
2020	\$	24,206,030	\$	724,672	43.24	31.70		\$ 554,577	\$ 180,414
Change from 2020	\$	1,563,541	\$	38,676	-	0.62		\$ (2,475)	\$ 6,184
2021 Assessment									
2021 NERC Assessment	\$	1,581,026							
2021 RE Assessment		2,195,924							
Total 2020 Assessment	\$	3,776,950							
2020 Assessment									
2020 NERC Assessment	\$	1,601,644							
2020 RE Assessment		2,160,683							
Total 2019 Assessment	\$	3,762,328							
Change in Total ERO Assessment	\$	14,622							
		0.4%							
Change in NERC Assessment	\$	(20,618)							
		-1.3%							

Attachment 6

Memorandum for NERC Board of Trustees Describing NERC's Participation in Preparation of and Review of Regional Entity 2021 Business Plans and Budgets

To: NERC Board of Trustees

From: Andy Sharp

Re: Review Process for Regional Entity 2021 Business Plans & Budgets (BP&Bs)

Date: June 12, 2020

NERC has reviewed the Regional Entity 2021 BP&Bs and believes each provides for adequate resources to meet its delegated functions. Additional details on the review process and outcomes are discussed below.

In accordance with 18 C.F.R. Section 39.4, Rules of Procedure Section 1104, and Exhibit E of the regional delegation agreements, NERC oversees that the Regional Entities are adequately funded to accomplish their delegated functions. For each annual BP&B cycle, the Regional Entities submit their BP&Bs to NERC according to a schedule established collaboratively by NERC and the Regional Entities, and NERC conducts reviews of each, focusing on the following:

- Adequacy of the resources and activities to perform delegated functions;
- Alignment of the Regional Entity's goals, objectives, and major activities to the *ERO Enterprise Long-Term Strategy* and the related focus areas;
- Efforts to improve efficiency and control costs;
- Quality and completeness of the financial information presented, including:
 - Conformance with FERC budget reporting requirements and common presentation format;
 - Separation of statutory and non-statutory activities;
 - Supporting detail, including explanations for significant changes from the previous budget;
 - Reporting of working capital and operating reserve budgets and explanation of policies; and
 - Compliance with any budget or audit-related orders from FERC, if applicable.

These reviews generally occur according to the following timeline and process for each BP&B cycle:

- End of April/early May – Regional Entities provide their Draft 1 BP&Bs to NERC
- May through early June – Managerial staff from each NERC statutory program area reviews its respective sections of each Regional Entity BP&B and completes a template/checklist to indicate alignment with the above noted areas of focus. NERC Finance staff reviews for conformance to reporting requirements and presentation format. NERC also coordinates reviews of the Regional Entity BP&Bs with the external counsel that prepares the annual BP&B filings to provide feedback regarding overall document integrity and adherence to FERC expectations and requirements.

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- In accordance with the timeline for each Regional Entity board meeting to approve its final BP&B, NERC provides any necessary feedback to the Regional Entity on suggested revisions.
- Regional Entities address feedback and NERC confirms implementation of revisions.
- Mid-May through June – Regional Entities provide their NERC-reviewed BP&Bs to their boards for approval.
- Mid-June – Regional Entities submit their Net Energy for Load (NEL) and Load-Serving Entity (LSE) data to NERC.
- Mid-June through July – NERC validates the data and calculates assessments for each LSE to be included with the submission of the final NERC and Regional Entity BP&Bs to the Board in August, followed by applicable regulatory filings.

The above process is in addition to regular touchpoints with the ERO Finance Group (comprised of NERC and Regional Entity financial representatives) to discuss and coordinate development of the BP&Bs, as well as ongoing discussions among the other ERO working groups and ERO Executive Committee.

In recent years, this review process has produced minimal feedback to the Regional Entities, as resources are generally found to be adequate with respect to Regional Entities fulfilling their delegated statutory functions. Any input has primarily been limited to suggestions on narrative language or, from the financial perspective, the implementation of recent Statement of Activity format changes. Any areas of improvement for the Regional Entities regarding activities, processes, and procedures are addressed through ongoing Regional Entity oversight and the collaborative work of the ERO Executive Committee and its working groups.

NERC recently completed reviews of the Regional Entity 2021 BP&Bs. The following is a summary of the review findings and outcomes:

- All Regional Entity budgets cover activities eligible for funding, consistent with the regional delegation agreements as well as section 215 criteria.
- All statutory areas for all Regional Entities have adequate resources, including both FTEs and contracting resources, to fulfill their delegated functions. Texas RE and RF were requested to clarify the drivers for their compliance-related FTE increases, which was adequately addressed by both Regional Entities.
- All Regional Entities generally conform to necessary budget reporting and format requirements. Feedback was provided to RF, NPCC, and WECC to add a recently implemented change to the Statement of Activities, which is the inclusion of a footnote that explains the penalty release line item with respect to the change in Generally Accepted Accounting Principles (GAAP) regarding revenue recognition. This was adequately addressed by the three Regional Entities.
- Other minor wording change suggestions.

Additionally, the ERO Finance Group has had ongoing discussions over the last several months regarding reserve balances and policies. The group is continuing to work toward better alignment of reserve category definitions and overall presentation to provide further clarity on reserve balances and penalty funds received, and use of these funds to offset future assessments.

Attachment 7

Metrics Comparing Regional Entity Operations Based on the 2021 Budgets

2021 Metrics for Budget Submissions

Budget Metrics	MRO	NPCC ⁶	ReliabilityFirst	SERC	Texas RE	WECC
1 Number of registered entities ¹	200	243	250	264	247	1,021
2 Number of registered functions	568	496	512	720	453	427
3 Total NEL (GWh)	491,563	620,663	894,231	-	384,060	860,534
4 NEL (GWh) per registered entity	2,458	2,554	3,577	1,310	1,555	843
5 Total ERO Funding ²	\$16,983,251	\$ 15,355,716	\$ 27,304,995	\$ 24,693,886	\$13,512,595	\$28,499,000
6 ERO Funding per registered entity	\$ 84,916	\$ 63,192	\$ 109,220	\$ 93,537	\$ 54,707	\$ 27,913
7 ERO Funding per registered function	\$ 29,900	\$ 30,959	\$ 53,330	\$ 34,297	\$ 29,829	\$ 66,742
8 Total Budget ³	\$18,412,202	\$ 16,440,648	\$ 24,785,492	\$ 25,829,079	\$14,211,538	\$28,605,029
9 Total Budget per registered entity	\$ 92,061	\$ 67,657	\$ 99,142	\$ 97,837	\$ 57,537	\$ 28,017
10 Total Budget per registered function	\$ 32,416	\$ 33,146	\$ 48,409	\$ 35,874	\$ 31,372	\$ 66,991
11 Total Statutory FTE ⁴	66.00	42.11	84.35	100.00	63.00	148.50
12 Registered entity per Statutory FTE	3.030	5.771	2.964	2.640	3.921	6.875
13 Registered function per Statutory FTE	8.606	11.779	6.070	7.200	7.190	2.875
14 Total Compliance Budget ⁵	\$13,056,084	\$ 9,030,944	\$ 18,377,880	\$ 19,064,908	\$10,938,214	\$16,427,492
15 Compliance budget per registered entity	\$ 65,280	\$ 37,164	\$ 73,512	\$ 72,216	\$ 44,284	\$ 16,090
16 Compliance budget per registered function	\$ 22,986	\$ 18,208	\$ 35,894	\$ 26,479	\$ 24,146	\$ 38,472
17 Total Compliance FTE	36.00	19.45	50.00	50.15	38.75	62.75
18 Registered entity per Compliance FTE	5.6	12.5	5.0	5.3	6.4	16.3
19 Registered function per Compliance FTE	15.8	25.5	10.2	14.4	11.7	6.8

¹ As of June 2020.

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.)

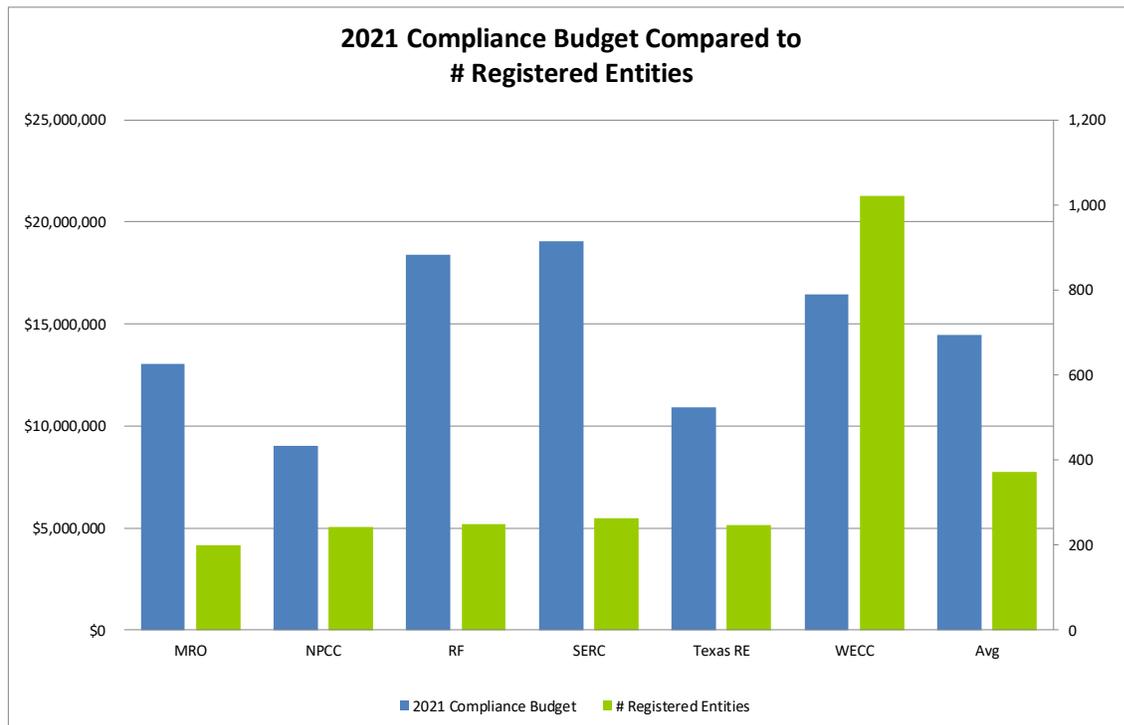
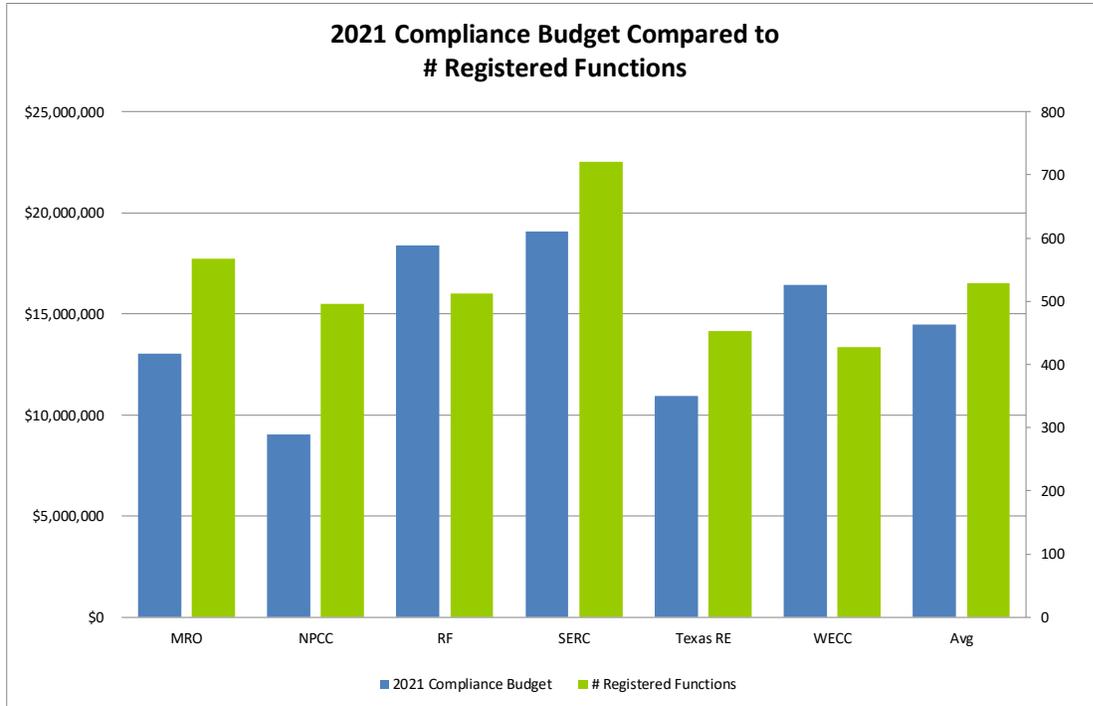
³ Total Budget is the sum of Total Expenses and the Increase/(Decrease) in Fixed Assets.

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.

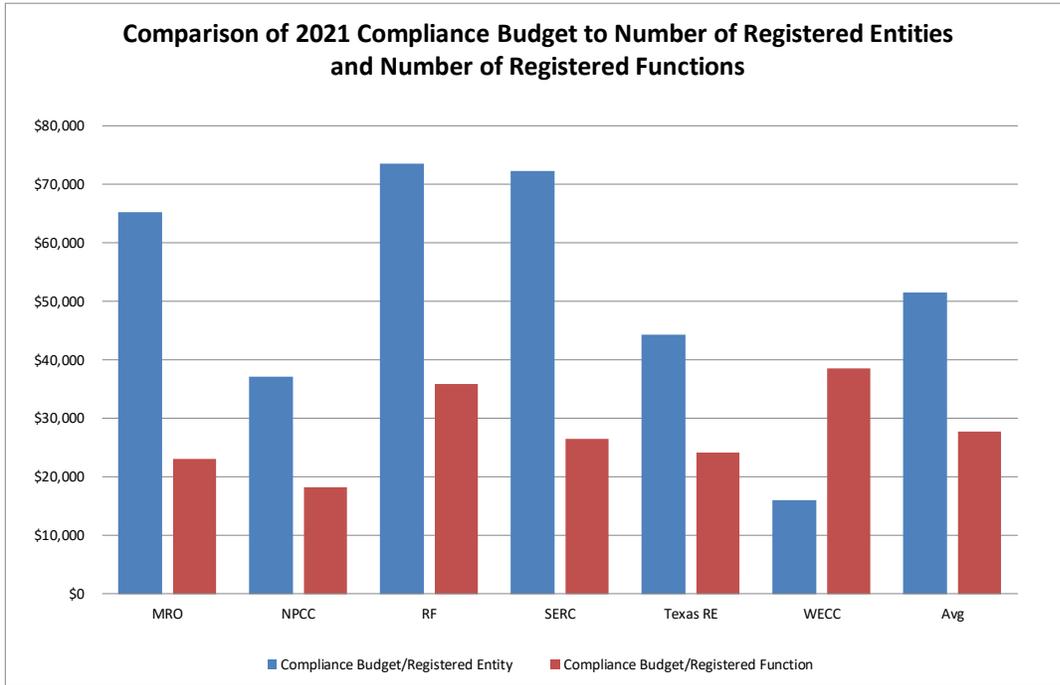
⁵ Total Compliance Budget is a sum of Direct Expenses, Indirect Expenses, and Capital Expenditures.

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.

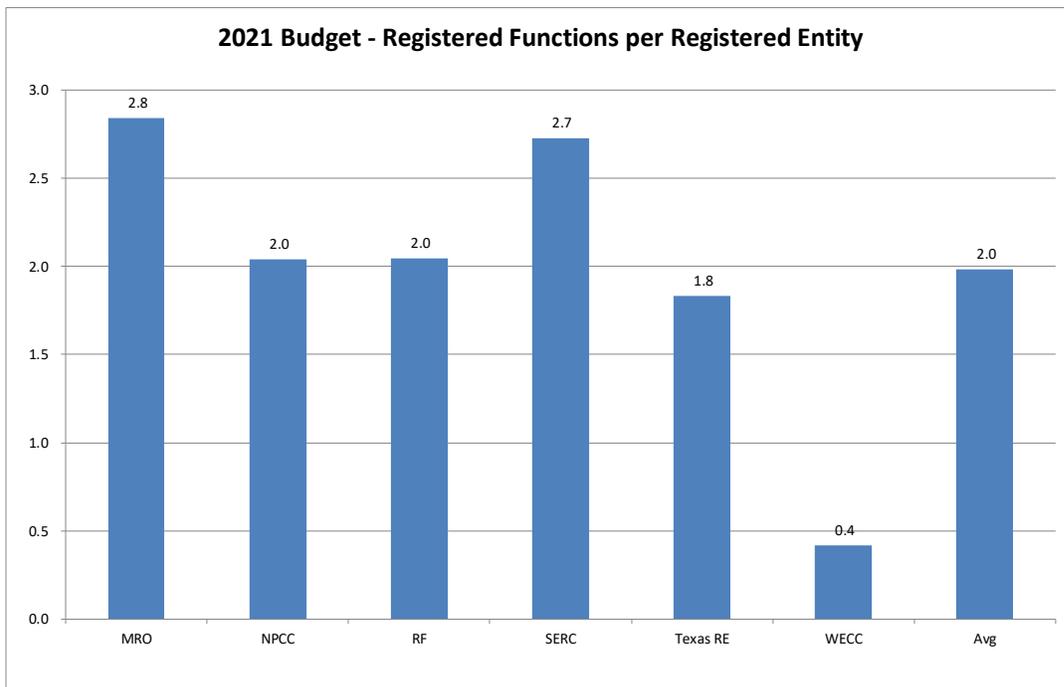
	MRO	NPCC	RF	SERC	Texas RE	WECC	Avg
2021 Compliance Budget	\$13,056,084	\$9,030,944	\$18,377,880	\$19,064,908	\$10,938,214	\$16,427,492	\$14,482,587
# Registered Entities	200	243	250	264	247	1,021	371
# Registered Functions	568	496	512	720	453	427	529



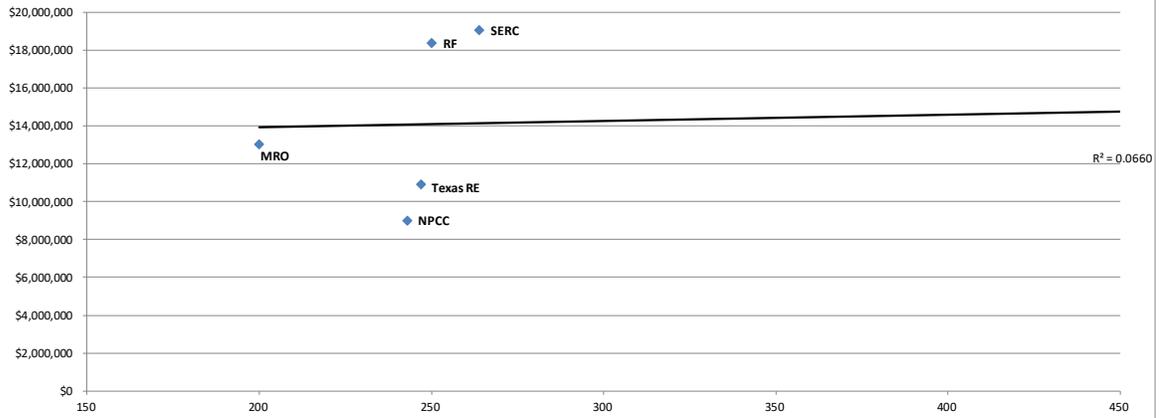
	MRO	NPCC	RF	SERC	Texas RE	WECC	Avg
Compliance Budget/Registered Entity	\$65,280	\$37,164	\$73,512	\$72,216	\$44,284	\$16,090	\$51,424
Compliance Budget/Registered Function	\$22,986	\$18,208	\$35,894	\$26,479	\$24,146	\$38,472	\$27,697



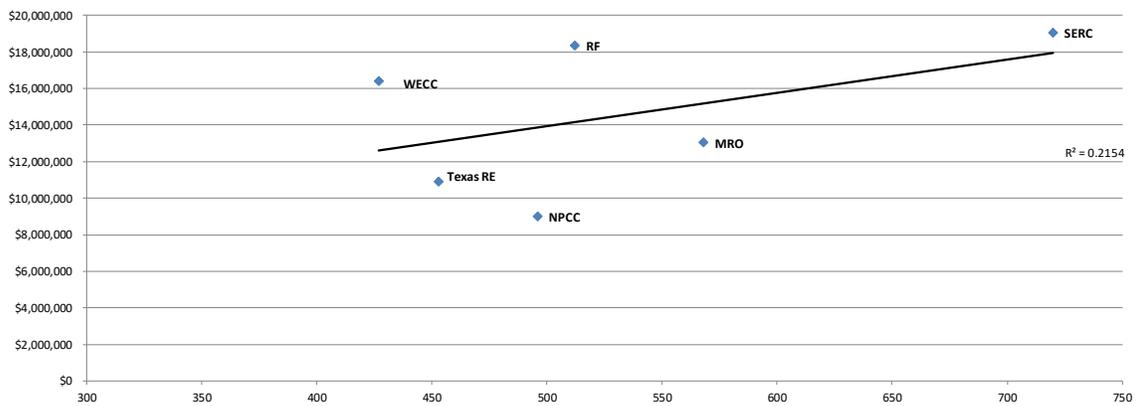
	MRO	NPCC	RF	SERC	Texas RE	WECC	Avg
Registered Functions per Registered Entity 2021 Budget	2.8	2.0	2.0	2.7	1.8	0.4	2.0



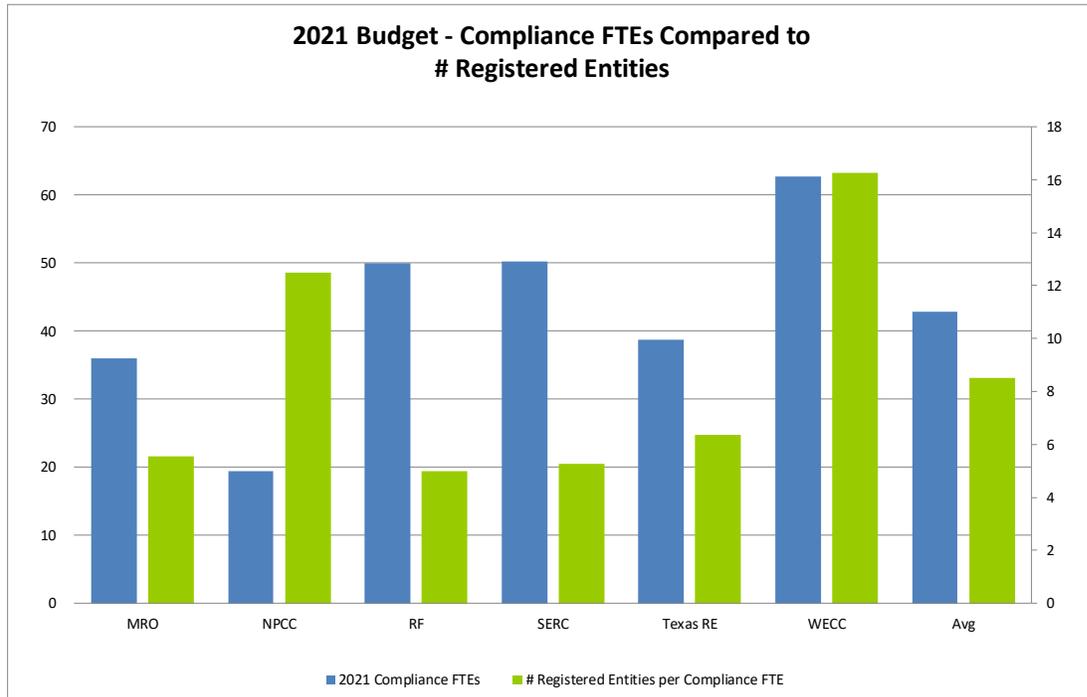
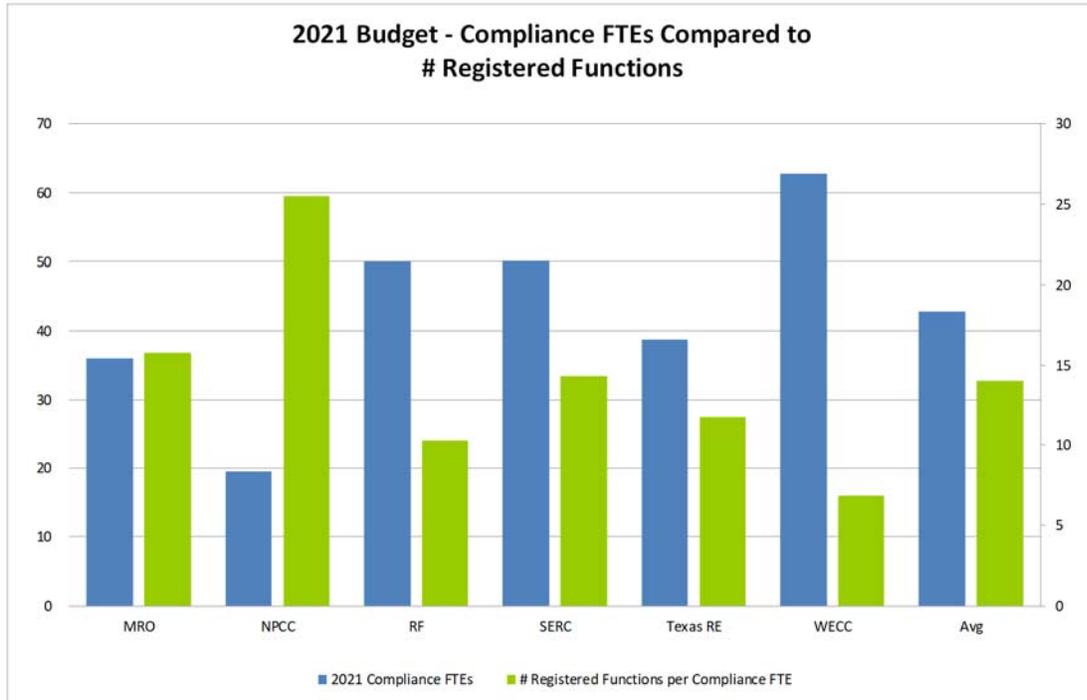
Regional Entity 2021 Compliance Program Budget as Function of Number of Registered Entities



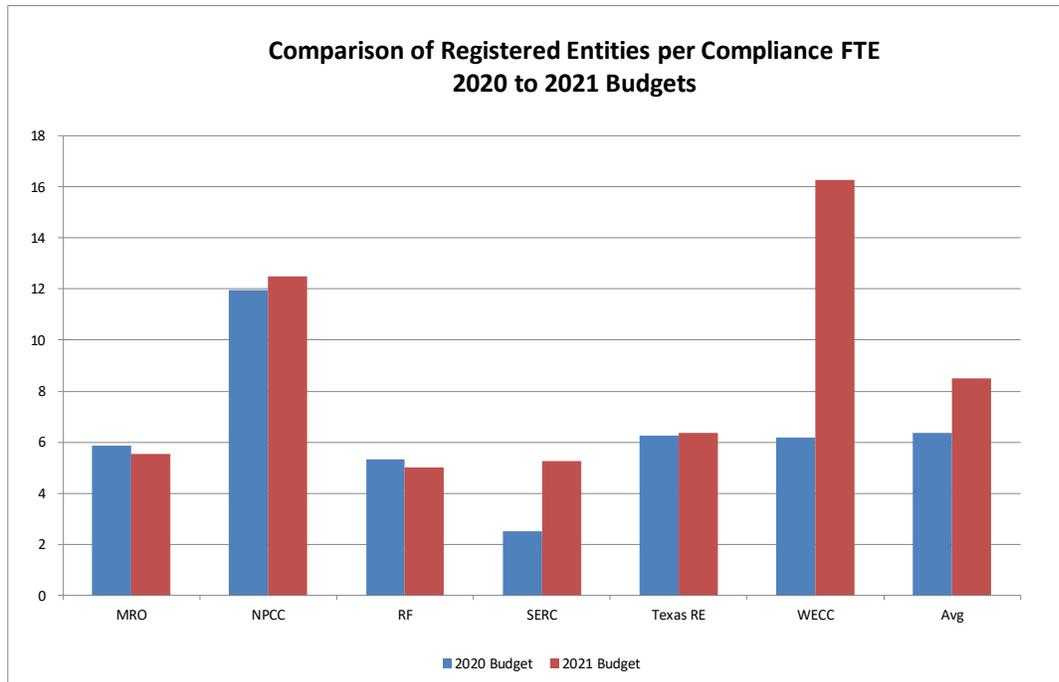
Regional Entity 2021 Compliance Program Budget as Function of Number of Registered Functions



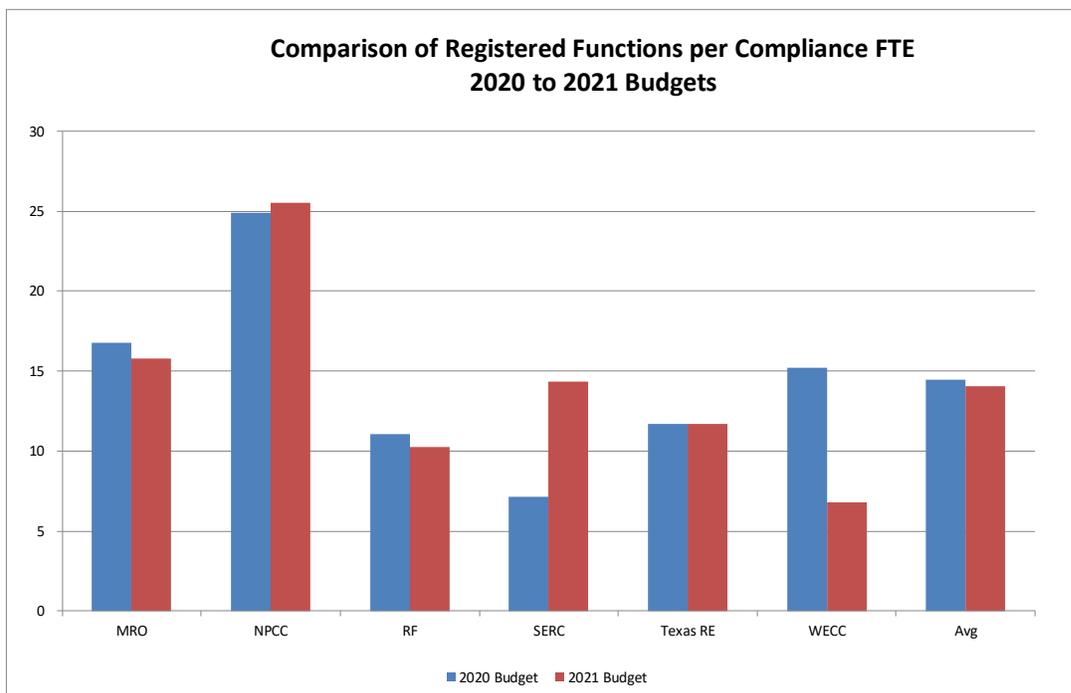
	MRO	NPCC	RF	SERC	Texas RE	WECC	Avg
2021 Compliance FTEs	36.00	19.45	50.00	50.15	38.75	62.75	42.85
# Registered Entities per Compliance FTE	5.6	12.5	5.0	5.3	6.4	16.3	8.5
# Registered Functions per Compliance FTE	15.8	25.5	10.2	14.4	11.7	6.8	14.1



	MRO	NPCC	RF	SERC	Texas RE	WECC	Avg
2020 Budget	5.9	11.9	5.3	2.5	6.3	6.2	6.4
2021 Budget	5.6	12.5	5.0	5.3	6.4	16.3	8.5



	MRO	NPCC	RF	SERC	Texas RE	WECC	Avg
2020 Budget	16.7	24.9	11.1	7.1	11.7	15.2	14.4
2021 Budget	15.8	25.5	10.2	14.4	11.7	6.8	14.1



Attachment 8

Metrics on NERC and Regional Entity Administrative (Indirect) Costs Based on the 2020 and 2021 Budgets

