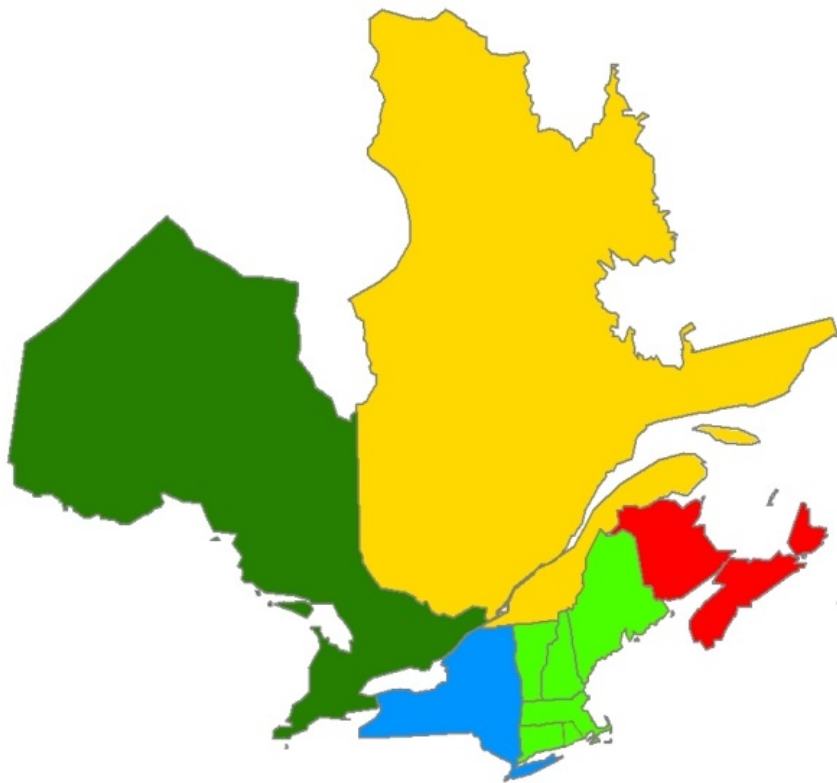




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Northeast Power Coordinating Council, Inc. (NPCC)

2018 Business Plan and Budget



Draft 1
Submitted to NERC May 5, 2017

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Introduction

Total NPCC Resources				
(in whole dollars)				
	2018 Budget	U.S.	Canada	Mexico
Regional Entity Division FTEs	36.86			
Criteria Services Division FTEs	2.14			
Total FTEs	39.0			
Regional Entity Division Expenses	\$15,260,967			
Criteria Services Division Expenses	\$1,082,983			
Total Expenses	\$16,343,950			
Regional Entity Division Inc(Dec) in Fixed Assets	(\$154,000)			
Criteria Services Division Inc(Dec) in Fixed Assets	(\$16,000)			
Total Inc(Dec) in Fixed Assets	(\$170,000)			
Regional Entity Division Working Capital Requirement**	(\$626,180)			
Criteria Services Division Working Capital Requirement***	(\$47,843)			
Total Working Capital Requirement	(\$674,023)			
Total Regional Entity Division Funding Requirement	\$14,480,787			
Total Criteria Services Division Funding Requirement	\$1,019,141			
Total Funding Requirement	\$15,499,927			
Regional Entity Division Assessments	\$14,341,787	\$XXX,XXX	\$XXX,XXX	
Regional Entity Division Assessments Percentage	100.0%	XX.X%	XX.X%	
Criteria Services Division Membership Fees	\$1,019,141	\$XXX,XXX	\$XXX,XXX	
Total NPCC Assessments & Membership Fees	\$15,360,927	\$XXX,XXX	\$XXX,XXX	
NEL	XX	XX	XX	
NEL %	100%	XX.XX%	XX.XX%	

** Refer to Table B-1 on page 66 in Section B.

*** Refer to the Reserve Analysis on page 83 in Section C.

2018 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 no change to its total budget and assessments. On a division level, NPCC proposes a Regional Entity total budget decrease of 0.3% and a Criteria Services division total budget increase of 3.8%. The proposed 2018 funding requirements will be satisfied by a Regional Entity division assessment of \$14,341,787 and Criteria Services division fees of \$1,019,141, for a total of \$15,360,927. The total NPCC assessments and fees of \$15,360,927 represents no change from 2017. NPCC believes that the Region remains an effective provider of Regional Entity and Criteria Services division functions. NPCC's corporate culture centers on consistent delivery of excellent results at a cost that is considerate of the longstanding tradition in the Northeast of affordable and reliable electricity.

Organizational Overview

Northeast Power Coordinating Council, Inc. (NPCC) is a 501(c)(6) not-for-profit corporation in the state of New York responsible for promoting and improving the reliability of the international, interconnected bulk power systems in Northeastern North America through (i) the development of Regional Reliability Standards and compliance assessment and enforcement of continent-wide and Regional Reliability Standards, coordination of system planning, design and

operations, and assessment of reliability (collectively, Regional Entity activities), and (ii) the establishment of Regionally-specific criteria, and monitoring and enforcement of compliance with such criteria (collectively, criteria services activities). NPCC provides the functions and services for Northeastern North America of a cross-border Regional Entity through a Regional Entity division, as well as Regionally-specific criteria services for Northeastern North America through a criteria services division. NPCC's website is www.npcc.org.

The NPCC Region covers nearly 1.2 million square miles and is populated by more than 56 million people. NPCC U.S. includes the six New England states and the state of New York. NPCC Canada includes the provinces of Ontario, Québec and the Maritime provinces of New Brunswick and Nova Scotia. In total, from a net energy for load perspective, NPCC is approximately 45% U.S. and 55% Canadian. With regard to Canada, approximately 70% of Canadian net energy for load is within the NPCC Region.

Effective January 1, 2016, NPCC executed an Amended and Restated Regional Delegation Agreement with the North American Electric Reliability Corporation (NERC) that delegates to NPCC certain responsibilities and authorities of a cross-border Regional Entity as defined by *Section 215* of the Federal Power Act in the U.S. In addition, NPCC has executed Memoranda of Understanding or Agreements with Canadian provincial regulatory and/or governmental authorities in Ontario, Québec, New Brunswick and Nova Scotia.

It is imperative that NPCC maintain its ability to carry out delegated authorities and responsibilities. NPCC has a flat 2018 targeted staffing level of 39 power industry professionals and support personnel. Details of the 2018 business plans and budget for each program area are included in Section A for the Regional Entity division. The 2018 Regional Entity division schedules are shown in Section B. Section C details the 2018 criteria services division business plan and budget.

Membership and Governance

NPCC monitors approximately 205 registered entities and some 427 functions in the Region for compliance with mandatory Reliability Standards. NPCC currently has approximately 80 members. There are two categories of membership, General and Full. The two categories distinguish between Regional Entity delegated services that are provided in support of the U.S. FERC and Canadian provincial MOUs or Agreements with regulatory and/or governmental authorities, and Criteria Services which FERC references as U.S. non-delegated activities.

General Membership is voluntary and is open to any person or entity, including any entity participating in the Registered Ballot Body of the Electric Reliability Organization (ERO) that has an interest in the reliable operation of the Northeastern North American bulk power system. General Members which are also registered entities within the NPCC Region are subject to compliance with Reliability Standards, consistent with their registration, and also receive additional services from the Regional Entity division of NPCC.

Full Membership is available to Members which are already General Members and participate in electricity markets in the Northeast. Independent system operators (ISOs), Regional transmission organizations (RTOs), Transcos and other organizations or entities that perform the Balancing Authority function operating in Northeastern North America are expected to be Full Members of NPCC. The New York State Reliability Council and any other sub-regional reliability councils which may be formed are also expected to be Full Members. Full Members

are subject to compliance with Regionally-specific more stringent reliability criteria for their generation and transmission facilities on which faults or disturbances can have a significant adverse impact outside of the local area and which are identified utilizing a reliability impact-based methodology, in addition to Reliability Standards, and receive additional services from the Criteria Services division of NPCC, which is not funded through the ERO.

Since January 1, 2012 NPCC is governed by a Board of Directors consisting of seven stakeholder voting sectors consisting of a maximum of two directors per sector, an independent sector consisting of two independent directors, an independent Board Chair with voting rights to preclude board deadlocks, and the President and CEO. Within NPCC, no two sectors can control and no one sector can block action. The voting sectors on the NPCC Board of Directors include:

- Sector 1) Transmission Owners
- Sector 2) Reliability Coordinators
- Sector 3) Transmission Dependent Utilities, Distribution Companies, Load Serving Entities
- Sector 4) Generator Owners
- Sector 5) Marketers, Brokers and Aggregators
- Sector 6) Regulators
- Sector 7) Sub-Regional Reliability Councils, Customers, other Regional Entities and Interested Entities
- Sector 8) Independent

A Finance and Audit Committee (FAC), a Pension Committee (PC), a Corporate Governance and Nominating Committee (CGNC), and a Management Development and Compensation Committee (MDCC) advise the Board on finance, governance, compensation and human resource matters consistent with their approved charters. The Board endorses a non-employee, Certified Public Accountant for election by the NPCC Members as Treasurer of the corporation. The Treasurer chairs the FAC and works with the Chief Operating Officer who provides oversight of the finances of the corporation. The Treasurer reports to the Board on the corporation's financial position, on FAC activities, on tax code requirements, and on independent annual audit results and accounting practices.

The Regional Standards Committee (RSC), the Compliance Committee (CC), the Reliability Coordinating Committee (RCC), and the Public Information Committee, consistent with their approved scopes, are responsible for various reliability issues. The RSC, CC and RCC also provide technical policy recommendations to the Board. All General and Full Members are eligible for representation on the technical committees.

Industry technical experts from within the membership provide valuable input to the Board through various working groups and task forces as well as the committees. The *Amended and Restated Bylaws* establish NPCC's independence from users, owners and operators of the bulk power system through the enhanced governance structure while providing fair stakeholder representation in the election of the Board of Directors and officers. The members, from each of the seven stakeholder voting sectors, vote to elect directors in their respective sector. The *Amended and Restated Bylaws* establish criteria for board service for both stakeholder and independent directors. Independent Directors are drawn from diverse backgrounds and possess a broad range of industry expertise, perspectives, experiences, skill sets and knowledge to contribute to the effective functioning of a hybrid board structure.

Compliance and enforcement activities are carried out by the NPCC compliance staff and are independent of all users, owners and operators of the international bulk electric system. Compliance activities are governed in the United States by the *Amended and Restated Regional Delegation Agreement* between NERC and NPCC, delegating portions of NERC's authority as the ERO to NPCC. NPCC compliance activities in Canada are governed by individual provincial Memorandum of Understanding (MOU) or Agreements with each province providing the unique parameters for compliance and enforcement activities for each of the provinces. An MOU between the Independent Electricity System Operator in Ontario (IESO), NERC and NPCC establishes roles and responsibilities with regard to that province. NPCC, NERC and the New Brunswick Energy and Utilities Board are parties to a MOU that sets forth reliability activities for New Brunswick. The Régie de l'énergie, NERC and NPCC executed an Agreement regarding the implementation of the Québec reliability standards compliance monitoring and enforcement program. NPCC, NERC and Nova Scotia executed a MOU that sets forth the mutual understanding of the parties in relation to the approval and implementation of NERC Reliability Standards and NPCC Regional reliability criteria for the province of Nova Scotia.

International Foundation

The Regional Entity functions and services differ according to particular regulatory backstop:

a) U.S. Foundation

The Federal Energy Regulatory Commission (FERC) certified NERC as the Electric Reliability Organization (ERO) on July 20, 2006. The ERO is responsible for developing and enforcing reliability standards within the United States. In executing part of its responsibilities, NERC delegates authority to the Regional Entities to perform certain functions through delegation agreements. Ensuring the reliability of the bulk power system in the State of New York and the six New England States was delegated from NERC to NPCC through the Amended and Restated Regional Delegation Agreement.

b) Ontario

On February 5, 2010, NERC, NPCC and the IESO amended and restated their earlier MOU, dated November 29, 2006, setting forth their mutual understanding as regards NERC's and NPCC's status in Ontario with respect to standard and criteria development, compliance enforcement, and other related matters. The IESO, whose statutory responsibilities include making and enforcing reliability standards, and making and enforcing Ontario market rules that govern the IESO-controlled grid and the wholesale electricity market, was established April 1, 1999 as the Independent Electricity Market Operator in Ontario under the *Electricity Act, 1998* (Ontario). The IESO is subject to the regulatory oversight of the Ontario Energy Board (OEB).

Among other things, the MOU recognizes that NERC and NPCC are standards authorities under the *Electricity Act, 1998* (Ontario). Additionally, under the authority of that same legislation, and as memorialized in the MOU, the NERC reliability standards and NPCC reliability criteria have effect in Ontario. However, a 2008 amendment to the *Electricity Act, 1998* (Ontario) allows the OEB to review these standards and criteria and issue orders preventing their implementation and remanding them back to NERC and NPCC.

The IESO is subject to compliance monitoring and enforcement by NPCC. The IESO is also subject to compliance monitoring and enforcement of the Ontario market rules by the IESO's Market Assessment and Compliance Division (MACD) that operates at arm's length from the IESO's business units. The MOU notes that where MACD, NERC, and NPCC engage in investigations pursuant to their respective mandates regarding compliance, MACD can request to

take the lead. Moreover, of the three, MACD is the only entity that can assess financial penalties for any Ontario market participant's or the IESO's non-compliance with Ontario market rules, which includes non-compliance with NERC standards and NPCC criteria.

The MOU provides for a peer review process to promote the common compliance and enforcement objectives of NERC/NPCC and MACD. From the perspective of NPCC and NERC, this process, in part, is meant to assure registered entities outside of Ontario that the MACD program is rigorous, thorough and reliable.

The IESO is subject to NPCC assessments of compliance, including audits, as well as NPCC remedial action directives to correct non-compliance. In the event that the IESO disagrees with NPCC's finding of a violation or associated assessment of sanctions in connection with standards and criteria, the IESO has a right to a compliance hearing with NPCC.

c) Québec

The Régie de l'énergie, NERC and NPCC are parties to the May 8, 2009 *Agreement on the Development of Electric Power Transmission Reliability Standards and of Procedures and a Program for the Monitoring of the Application of These Standards for Québec* (the 2009 Agreement). Under the terms of the 2009 Agreement, the Régie de l'énergie, which is charged with ensuring the reliability of the electric transmission in Québec, retained NPCC and NERC as experts to develop reliability standards and monitoring program procedures for the Province.

The Régie de l'énergie, NERC and NPCC are parties to the September 24, 2014, *Agreement on the Implementation of the Québec Reliability Standards Compliance Monitoring and Enforcement Program* (the 2014 Agreement). Through the 2014 Agreement, the Régie de l'énergie retains the services of NPCC to monitor and assess the compliance of registered entities in Québec with the reliability standards adopted by the Régie with respect to electric power transmission in Québec.

On April 1, 2015, the Québec Reliability Standards Compliance Monitoring and Enforcement Program ("QCMEP"), which was developed jointly by the Régie de l'énergie, NPCC and NERC, came into effect. Together, the 2014 Agreement and the QCMEP detail the procedures and program for monitoring and enforcing mandatory electric power transmission reliability standards in Québec.

The Régie de l'énergie is a public body established by the *Act respecting the Régie de l'énergie* (the Act). Pursuant to its authority under the Act, the Régie de l'énergie, through a series of decisions in 2007, designated Hydro-Québec Contrôle des mouvements d'énergie (HQCMÉ), a division of Hydro-Québec TransÉnergie, as the Reliability Coordinator for Québec. In accordance with its mandate and as recognized in the 2009 Agreement, it is this entity that is responsible for the filing with the Régie de l'énergie for approval of reliability standards in Québec. HQCMÉ has filed for the approval of certain reliability standards and the Régie de l'énergie has made certain reliability standards mandatory in Québec and is continuing proceedings to make additional reliability standards mandatory in Québec.

NPCC also conducts reliability assurance activities within Québec, including but not limited to events analysis, Reliability Assessment and Performance Analysis and compliance investigations, consistent with the *NPCC Amended and Restated Bylaws*.

d) New Brunswick

On October 1, 2013, the Electricity Act (NB) and implementing regulations (together, “NB Electricity Act”) amended how Reliability Standards are approved, monitored, and enforced in the province of New Brunswick. The NB Electricity Act designates NPCC as a compliance body and NERC as a standards body within the meaning of the NB Electricity Act. The New Brunswick Energy and Utilities Board (NBEUB) is an independent, quasi-judicial board that is responsible for regulating New Brunswick’s electricity sector under the NB Electricity Act. The NBEUB has the responsibility to adopt and enforce reliability standards in New Brunswick.

As contemplated in the NB Electricity Act, NPCC and the NBEUB entered into a Service Contract dated August 10, 2016, whereby NPCC provides CMEP and other services for the NBEUB. Additionally, the NBEUB, NPCC, and NERC entered into a Memorandum of Understanding on August 10, 2016, which describes the roles and responsibilities of the three entities and facilitates data sharing. These two documents, along with the NB Electricity Act are the governing documents with respect to conducting CMEP and other reliability related activities in New Brunswick.

With respect to the approval of reliability standards, the NB Electricity Act provides that all of the NERC Reliability Standards that were effective in New Brunswick prior to October 1, 2013 continue to be effective in New Brunswick after October 1, 2013. Additionally, the New Brunswick Power Corporation (“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 Federal Energy Regulatory Commission (“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.

Regional Entity Division Functional Scope

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

- Active participation in the development of North American Reliability Standards for the bulk electric system, and as needed development of Reliability Standards applicable within the NPCC cross-border Regional Entity
- Monitoring and enforcement of approved Reliability Standards, including the registration of responsible entities, and as needed certification of such entities
- Assessment of the present and future reliability of the bulk power system
- Operational coordination and situation awareness support
- Event analysis and identifying lessons learned to improve reliability
- Effective training and education of reliability personnel
- Promoting the protection of critical electric infrastructure

In recognition of the delegated compliance role of Regional Entities as an important means to enhancing reliability, NPCC has designated a significant percentage of its staff resources to compliance monitoring and enforcement. NPCC has also developed and deployed a robust set of online tools for gathering data, analysis, and tracking of compliance information to support its ability to carry out its responsibilities in a cost effective manner.

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

2018 Key Assumptions and 2018 Goals and Key Deliverables

NERC and the eight Regional Entities collaborated in the development of a common operating model with complementary roles and responsibilities, an ERO Enterprise Strategic Plan, and a set of business planning assumptions, goals, metrics and key deliverables for the 2017 through 2019 period. The results from that collaboration, which incorporated risks identified by the Reliability Issues Steering Committee, are included as a set of Shared Business Plan and Budget Assumptions that will be contained in Exhibit A to the NERC 2018 Business Plan and Budget

and may be referenced by the users of this document. NPCC activities that support ERO Enterprise Goals are detailed in each of the following program area sections.

2018 Overview of Regional Entity Division Cost Impacts

The proposed Regional Entity division assessment of \$14,341,787 to support the budget is an increase of 0.6% compared to the 2017 assessment of \$14,255,061.

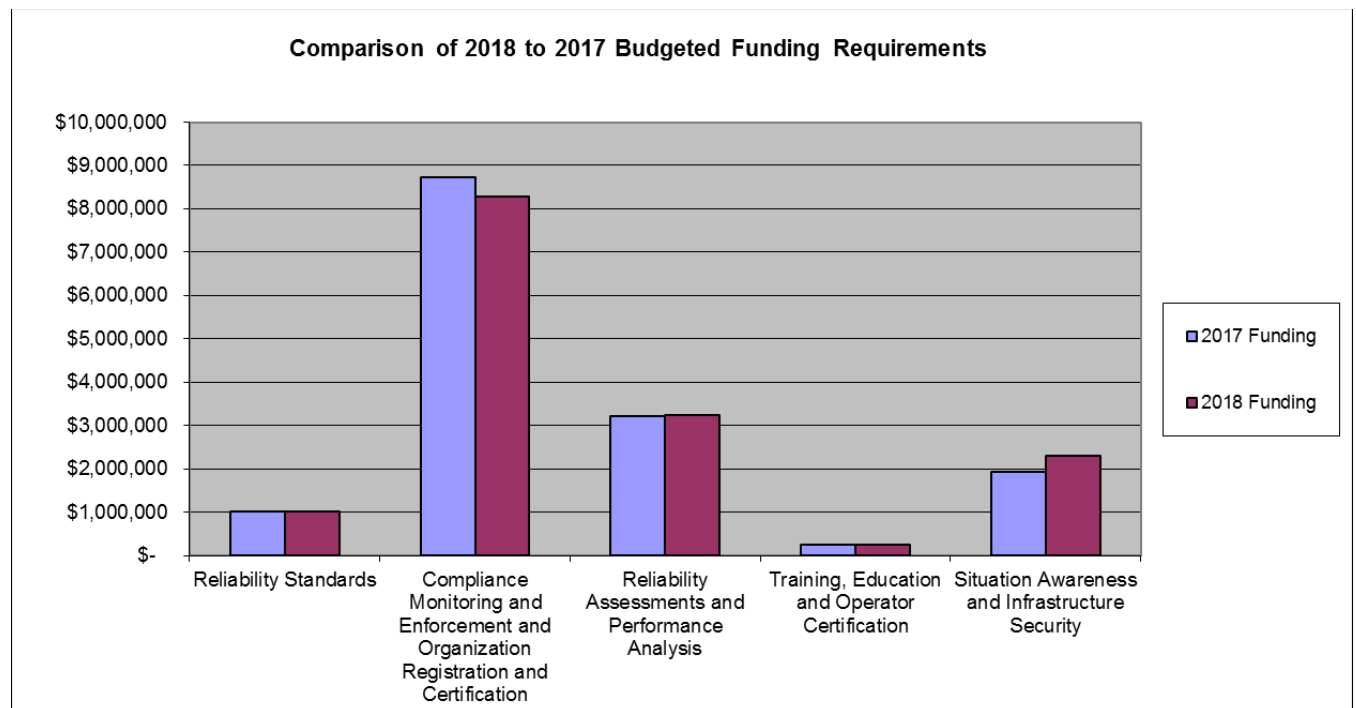
2017 Projections

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. 2017 Projections reflect expectations based on the first quarter variance report. It is anticipated that projections could change throughout 2017 and would be reflected in each subsequent quarter's variance report.

Summary by Program

Program	Budget 2017	Projection 2017	Budget 2018	Variance	
				2018 Budget v 2017 Budget	Variance %
Reliability Standards	\$ 1,022,328	\$ 1,022,328	\$ 1,010,246	\$ (12,083)	-1.2%
Compliance Monitoring and Enforcement and Organization Registration and Certification	\$ 8,726,049	\$ 8,726,049	\$ 8,293,748	\$ (432,301)	-5.0%
Reliability Assessments and Performance Analysis	\$ 3,206,966	\$ 3,206,966	\$ 3,240,721	\$ 33,755	1.1%
Training, Education and Operator Certification	\$ 248,658	\$ 248,658	\$ 249,051	\$ 393	0.2%
Situation Awareness and Infrastructure Security	\$ 1,943,053	\$ 1,943,053	\$ 2,313,202	\$ 370,148	19.0%
Total	\$ 15,147,054	\$ 15,147,054	\$ 15,106,967	\$ (40,087)	-0.3%

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

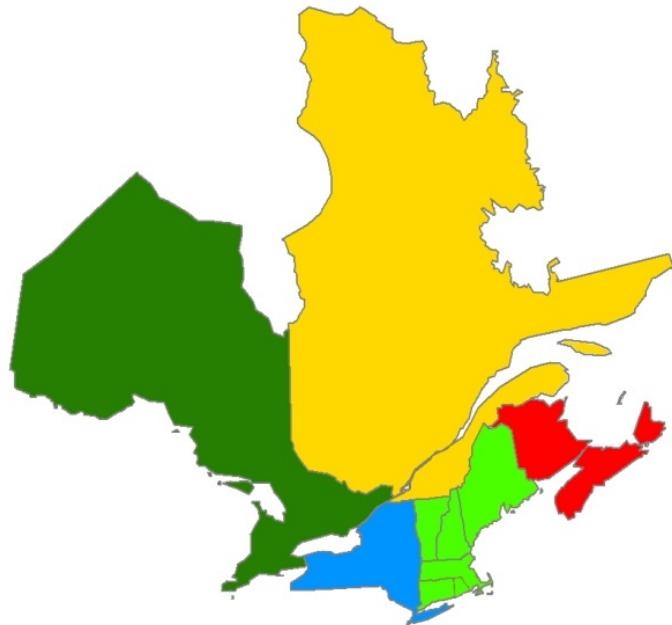
Total FTEs by Program Area	Budget 2017	Projection 2017	Direct FTEs 2018 Budget	Shared FTEs ¹ 2018 Budget	Total FTEs 2018 Budget	Change from 2017 Budget
REGIONAL ENTITY DIVISION						
Operational Programs						
Reliability Standards	1.93	1.93	1.00	0.93	1.93	0.00
Compliance Monitoring and Enforcement and Organization Registration and Certification	17.00	16.00	16.00	0.00	16.00	-1.00
Training, Education, and Operator Certification	0.10	0.10	0.10	0.00	0.10	0.00
Reliability Assessment and Performance Analysis	5.83	5.83	4.90	0.93	5.83	0.00
Situation Awareness and Infrastructure Security	4.00	5.00	5.00	0.00	5.00	1.00
Total FTEs Operational Programs	28.86	28.86	27.00	1.86	28.86	0.00
Administrative Programs						
Technical Committees and Member Forums	0.50	0.50	0.50	0.00	0.50	0.00
General and Administrative	2.50	2.50	2.50	0.00	2.50	0.00
Information Technology	2.00	2.00	2.00	0.00	2.00	0.00
Legal and Regulatory	1.00	1.00	1.00	0.00	1.00	0.00
Human Resources	1.00	1.00	1.00	0.00	1.00	0.00
Accounting and Finance	1.00	1.00	1.00	0.00	1.00	0.00
Total FTEs Administrative Programs	8.00	8.00	8.00	0.00	8.00	0.00
Total FTEs	36.86	36.86	35.00	1.86	36.86	0.00

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

2017 Budget and Projection and 2018 Budget Comparisons

Statement of Activities and Capital Expenditures						
2017 Budget & Projection, and 2018 Budget						
REGIONAL ENTITY DIVISION						
				Variance ⁽²⁾		Variance
	2017	2017	2017 Projection	v 2017 Budget	2018	2018 Budget
	Budget	Projection		Over(Under)	Budget	v 2017 Budget
						Over(Under)
Funding						
ERO Funding						
ERO Assessments	\$ 14,255,061	\$ 14,255,061		\$ -	\$ 14,341,787	\$ 86,726
Penalty Sanctions ⁽¹⁾	-	-		-	75,000	75,000
Total ERO Funding	\$ 14,255,061	\$ 14,255,061		\$ -	\$ 14,416,787	\$ 161,726
Membership Dues	-	-		-	-	-
Testing Fees	-	-		-	-	-
Services & Software	-	-		-	-	-
Workshops	64,000	64,000		-	64,000	-
Interest	-	-		-	-	-
Miscellaneous	-	-		-	-	-
Total Funding (A)	\$ 14,319,061	\$ 14,319,061		\$ -	\$ 14,480,787	\$ 161,726
Expenses						
Personnel Expenses						
Salaries	\$ 6,758,926	\$ 6,758,926		\$ -	\$ 7,107,599	\$ 348,673
Payroll Taxes	404,319	404,319		-	411,440	7,121
Benefits	1,415,603	1,415,603		-	1,476,378	60,774
Retirement Costs	847,223	847,223		-	825,353	(21,869)
Total Personnel Expenses	\$ 9,426,071	\$ 9,426,071		\$ -	\$ 9,820,770	\$ 394,699
Meeting Expenses						
Meetings	\$ 377,100	\$ 377,100		\$ -	\$ 353,050	\$ (24,050)
Travel	855,232	855,232		-	834,500	(20,732)
Conference Calls	37,000	37,000		-	37,000	-
Total Meeting Expenses	\$ 1,269,332	\$ 1,269,332		\$ -	\$ 1,224,550	\$ (44,782)
Operating Expenses						
Consultants & Contracts	\$ 2,009,000	\$ 2,009,000		\$ -	\$ 1,877,640	\$ (131,360)
Office Rent	809,700	809,700		-	810,700	1,000
Office Costs	679,100	679,100		-	664,760	(14,340)
Professional Services	1,041,000	1,041,000		-	960,000	(81,000)
Computer & Equipment Leases	-	-		-	-	-
Miscellaneous	50,000	50,000		-	50,000	-
Depreciation	250,000	250,000		-	269,000	19,000
Total Operating Expenses	\$ 4,838,800	\$ 4,838,800		\$ -	\$ 4,632,100	\$ (206,700)
Total Direct Expenses	\$ 15,534,203	\$ 15,534,203		\$ -	\$ 15,677,420	\$ 143,217
Indirect Expenses	\$ (413,149)	\$ (413,149)		\$ -	\$ (416,453)	\$ (3,304)
Other Non-Operating Expenses	\$ -	\$ -		\$ -	\$ -	\$ -
Total Expenses (B)	\$ 15,121,054	\$ 15,121,054		\$ -	\$ 15,260,967	\$ 139,913
Change in Assets	\$ (801,994)	\$ (801,994)		\$ -	\$ (780,180)	\$ 21,813
Fixed Assets						
Depreciation	\$ (250,000)	\$ (250,000)		\$ -	\$ (269,000)	\$ (19,000)
Computer & Software CapEx	276,000	276,000		-	115,000	(161,000)
Furniture & Fixtures CapEx	-	-		-	-	-
Equipment CapEx	-	-		-	-	-
Leasehold Improvements	-	-		-	-	-
Allocation of Fixed Assets	0	0		-	0	-
Inc(Dec) in Fixed Assets (C)	26,000	26,000		-	(154,000)	(180,000)
TOTAL BUDGET (=B+C)	\$ 15,147,054	\$ 15,147,054		\$ -	\$ 15,106,967	\$ (40,087)
TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)	\$ (827,994)	\$ (827,994)		\$ -	\$ (626,180)	\$ 201,813
⁽¹⁾ \$75,000 of penalty sanctions collected to date and prior to June 30, 2017.						
⁽²⁾ 2017 Projections reflect expectations based on the 1st quarter statement of activities. It is anticipated that projections could change throughout 2017 and would be reflected in each subsequent quarter's statement of activities.						

Section A – Regional Entity Division 2018 Business Plan and Budget



Section A — 2018 Regional Entity Division Business Plan and Budget

Reliability Standards Program

Reliability Standards Program Resources			
(in whole dollars)			
	2017 Budget	2018 Budget	Increase (Decrease)
Total FTEs	1.93	1.93	0.00
Direct Expenses	\$658,082	\$647,633	(\$10,448)
Indirect Expenses	\$372,606	\$375,586	\$2,980
Other Non-Operating Expenses	\$0	\$0	\$0
Inc(Dec) in Fixed Assets	(\$8,359)	(\$12,974)	(\$4,614)
Total Funding Requirement	\$1,022,328	\$1,010,246	(\$12,083)

Program Scope and Functional Description

The NPCC Reliability Standards Program Area operates in accordance with NPCC’s filed and approved Delegation Agreement and NERC Rules of Procedure Section 300. The program supports the ERO standards program area roles and responsibilities, the 2018 ERO Enterprise Strategic Plan and 2018 Shared Business Plan and Budget Assumptions. NPCC’s Reliability Standards Program Area provides an efficient and effective mechanism for stakeholders and the ERO to develop reliability standards which are clear, responsive to reliability and security risks, practical to implement, “results based”, and are cost effective. The primary objectives of NPCC’s Reliability Standards Program Area is to support the development of ERO standards which establishes “results-based” requirements for addressing reliability risks 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 responsive to FERC Directives and industry risk. ERO and Regional Reliability Standards must ensure the bulk electric system is planned, operated, and maintained in a manner that minimizes risks of cascading failures, avoids damage to major equipment, is responsive to risks, or limits interruptions of bulk power supply.

At the Regional level, the standards program area develops, and maintains NPCC Regional Reliability Standards, ERO Standards Variances for the northeast as required. In addition, the NPCC Reliability Standards Program Area provides oversight to ensure that NPCC’s Regional Reliability Criteria contained in the form of Directories, are developed and maintained as necessary to implement, to augment, or to comply with NERC Reliability Standards, but which are not Reliability Standards. Regional Reliability Criteria may also address issues not within the scope of Reliability Standards, such as resource adequacy and conform to requirements in Section 313 of the NERC Rules of Procedure.

The NPCC Reliability Standards Program Area supports and participates in the development, revision, and maintenance of NERC ERO Reliability Standards, initiates new continent-wide reliability standards through the NERC Standards Authorization Request (SAR) process when necessary, and provides a forum for the comprehensive review and improvement of existing and developing reliability standards. NPCC also provides coordination and represents the other seven NERC Regional Entities for the NERC Enhanced Periodic Review process and participates on the Enhanced Periodic Review Standing Team EPRST. The EPRST reviews

existing NERC standards and grades them for quality and content in an effort to prioritize and improve the reliability benefit of the ERO Reliability Standards.

The NPCC Reliability Standards Program Area also facilitates and assists stakeholders with initiating SARs and Requests for Interpretation of ERO standards for those entities within the NPCC footprint. In 2017 NPCC instituted a feedback mechanism from the Compliance, Event Analysis, RAPA and Criteria Services program area which provides a process to identify and improve standards. The standards program area will receive input from these other program areas and take appropriate action to support the revision, retirement, or development of new standards to improve the ERO set of reliability standards and improve reliability of the Bulk Electric System. The NPCC Reliability Standards Program Area conducts its oversight and participation in the ERO standards development process by utilizing the NPCC Regional Standards Committee (RSC) to ensure transparency and facilitate stakeholder input.

The NPCC Reliability Standards Program Area supports the reliability of the bulk electric system by:

- Facilitating active participation of NPCC Regional industry stakeholders in all NERC Reliability Standards activities to promote the development of results-based, cost effective, clear and concise quality standards in a timely and efficient manner.
- Providing selective support for standard development activities as outlined in the NERC 2018-2020 Reliability Standards Development Plan (RSDP)
- Participating in and representing the other Regional Entities on the EPRST which evaluates need to revise existing standards, prioritizes the standards development projects for the future year's RSDP, and allows the Regions to identify opportunities to replace Regional Standards with Variances in the continent wide standards.
- Support ERO outreach during standard development by providing a forum for all NPCC representatives on the NERC drafting teams to raise issues, socialize concepts with stakeholders, and receive feedback on the standards during the development process to enhance efficiency and timeliness of standards development
- Assisting NERC with the evaluation of the standards from a “cost effectiveness” perspective by supporting ongoing pilots and participating in the development of a formal process.
- Promoting awareness by holding Regional workshops to provide outreach and conducting Regional Standards Committee meetings to inform and educate stakeholders on standards being developed, modified or maintained.
- Utilizing input received from the NPCC Regional feedback mechanisms, identify and initiate improvements to NERC standards.
- Actively participate and review the work of the NERC Reliability Issues Steering Committee (RISC) which identifies emerging risks to the BES.
- Coordinating and sharing activities and useful information such as presentations, implementation documents and training materials as necessary with Standards Program Areas from other Regions to enhance efficiencies and promote consistency amongst the Regions.
- Developing and maintaining Regional Standards as necessary to address Regional reliability related issues or risks and ensure those standards set more stringent reliability requirements than the associated NERC Reliability Standard or cover matters not covered by an existing NERC Reliability Standard all in accordance with Section 312 of the NERC Rules of Procedure.

- Pursuing retirement of Regional Standards through promoting the reliability objectives of those Regional Standards into the NERC Continent-wide standards and developing Variances to the NERC standards where possible to capture the reliability objectives of the Regional Standards.
- Maintaining and abiding by the NPCC Regional Standard Processes Manual assuring compliance with all FERC filed documents with respect to standards development.

2018 Key Assumptions

- The number of continent-wide Reliability Standards development projects is expected to remain relatively stable, except as required to address any new FERC directives to create or modify Reliability Standards, or industry submittals of standard authorization requests.
- Continent-wide Reliability Standards projects will consist primarily of conducting periodic reviews on existing Reliability Standards to improve their content and quality, respond to identified risks to reliability (including those that may be identified through the implementation of risk-based Compliance Monitoring and Enforcement), and address FERC directives that may arise. This activity will require the allocation of technical resources from several internal NERC departments (e.g., Reliability Assessment and Performance Analysis (RAPA), Reliability Risk Management, Compliance Analysis and Certification, and Compliance Assurance) and support from across the ERO Enterprise.
- During the periodic review of Reliability Standards, any associated Regional Reliability Standards will be reviewed for potential incorporation as variances or as improvements to the continent-wide requirements. Regional and NERC Reliability Standards development processes may require modification to efficiently accomplish this task. NPCC will work with NERC and other Regional Entities as necessary on projects where there is a Regional Reliability Standard/variance.
- NPCC's Regional Reliability Standards development activity is expected to remain low, driven by requests that the Regional Entity may receive or reliability issues that are identified.
- In coordination with NERC's Standard Drafting Teams and consistent with current approaches, NPCC will support outreach during standard development and participate in the standard development activities as may be required to address reliability and stakeholder issues that may arise.
- Following FERC approval, NPCC will assist with the transition of Reliability Standards to compliance monitoring and enforcement by supporting industry and auditor training or providing information regarding the intent of the Reliability Standard.
- The number of NERC and Regional standards interpretations is expected to remain low. However, implementation guidance requests may increase. The NPCC Reliability Standards program area will assist and facilitate support of these activities.
- Consistent with the NERC Rules of Procedure Sections 312 and 313, as continent wide standards continue to evolve, NPCC Regional Standards and Criteria will need to be continually reviewed to ensure they augment but do not add duplicity to the ERO standards.

2018 Goals and Key Deliverables

The Reliability Standards program goals and objectives for 2018 are grouped into six categories:

1) Participate in the ERO Results-Based Standards Development

- Participate in the annual development and revision of the NERC three year Reliability Standards Development Plan (RSDP) through review, commenting, and other RSC activities
- Participate in the NERC Standards Committee, as a representative of the NERC Regional Entities and NPCC Regional stakeholders to advance strategic initiatives, to measure the effectiveness and quality of standards, participate in standards EPR activities, ensure any outstanding FERC Directives are addressed, and coordinate and prioritize standards development projects
- Support further development of cost effectiveness principles using the “Cost of Risk Reduction Analysis” (CRRA) process and pilots. Continue to provide insights to NERC, based on NPCC experiences, regarding strategy for developing cost effectiveness analysis for standards and identify opportunities to identify cost of risk mitigation for the draft standards
- Participate in the development of ERO Reliability Standards within NERC’s three-year standards work 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 being developed or revised and coordinate comments for Northeastern North America driving consensus to the extent possible through the Enhance Periodic Review Standing team and processes. Ensure all developing standards receive a review for adequate level of reliability, cost effectiveness and are technologically neutral and focused on achieving a reliability objective
- Assist NERC’s review of all industry “Requests for Interpretations” of standards
- NPCC staff, along with NPCC solicited regional drafting team volunteers, will participate in the drafting of ERO standards affecting or potentially affecting reliability in the Eastern Interconnection and provide support for review and development of comments and propose improvements
- NPCC and its members will review and coordinate members’ 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
- Coordinate and evaluate proposed standards utilizing NPCC’s technical task forces, working groups and committees
- 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
- Provide a forum for NPCC review of proposed and posted standards related documents from the NERC Critical Infrastructure Protection Committee (CIPC) and NPCC Task

Force on Infrastructure Security and Technology (TFIST) such as but not limited to whitepapers and technical guidelines

- Participate in the NERC RISC and provide a Regional point of contact for all potential reliability related risks and gaps within the Northeast or as noted by NPCC’s stakeholders
- Participate in and provide support to critical standards projects, such as CIP Supply Chain, Facility Ratings (IROL and SOL development), GMD, etc.
- Identify and initiate Regional Variances to the NERC Reliability Standards as soon as possible, allowing incorporation into the continent wide standard
- Provide support and assistance to the ERO, as needed, for conducting Quality Review activities on NERC continent-wide standards
- Continue to develop new and innovative processes to better utilize the limited internal and external resources in the Region to enable sufficient technical review of posted standards and related materials
- Support the ERO and the relationships with FERC and applicable provincial governmental authorities for standards development activities as necessary to accomplish the ERO’s strategic goals and objectives
- Participate in the improvement of NERC standards through lessons learned and various ERO and Regional feedback mechanisms using input from Compliance, RAPA, Event Analysis, and stakeholders
- Provide support to the Compliance Guidance Policy activities as required.
- Provide support to ERO staff for FERC related matters in the area of standards development such as pre-filing meetings, preparation of filings, and technical conference participation

2) Regional Standards Development

- NPCC does not plan on developing further Regional Standards but reserves the right to do so if a reliability issue exists that is not appropriate for continent-wide development and also will perform clarifications as needed to existing approved Regional Standards in accordance with all NERC Rules of Procedures and NERC and Regional Standards processes
- Conduct reviews for opportunities to include Regional Standards as Variances into the associated NERC continent wide standards as they individually undergo Enhanced Periodic Reviews
- Conduct periodic 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.

3) Standards Improvement

- Achieve NPCC Northeastern North American reliability goals and objectives by initiating, participating in, and efficiently completing standards related activities and promote these reliability objectives in continent-wide standard development projects
- Leverage internet and web based tools functionality to ensure inter-Regional consistency and quality of Regional Reliability Standards
- Support long-term strategy for standards improvement, help develop and initiate implementation of more efficient processes

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- Identify any reliability related need for additional Regional Standards opportunities if continent-wide standards are not an appropriate or possible solution
 - Ensure the topics addressed by the Reliability Standards parallel changing industry needs
 - Participate in reliability metrics 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 Team activities
 - Identify opportunities and processes for cost-effectiveness CRRRA analysis activities to determine the need to revise a standard during the EPR process
 - Identify any emerging interconnection-wide reliability issues which may need standards solutions and forward to the NERC Reliability Issues Steering Committee.
 - Identify opportunities to increase reliability through the revision of standards and their associated requirements

4) Business Practices Interface

- Coordinate the review of standards through NPCC RSC, staff, and other members participating in activities of the North American Electric Standards Review Board (NAESB)
- Identify potential market related issues for Regional Standards through NPCC RSC coordination and reviews

Based on the portion of professional/technical staff time and other resources devoted to Reliability Standards development, NPCC estimates that it will expend approximately 7% of its resources on this activity.

Resource Requirements

Personnel

- NPCC anticipates no need to hire additional personnel in this program area in 2018.

Reliability Standards Program

Funding sources and related expenses for the Reliability Standards section of the 2018 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 2017 Budget & Projection, and 2018 Budget						
Reliability Standards						
	2017 Budget	2017 Projection	Variance 2017 Projection v 2017 Budget Over(Under)	2018 Budget	Variance 2018 Budget v 2017 Budget Over(Under)	
Funding						
ERO Funding						
ERO Assessments	\$ 1,022,328	\$ 1,022,328	\$ -	\$ 1,005,230	\$ (17,098)	
Penalty Sanctions	-	-	-	5,016	5,016	
Total ERO Funding	\$ 1,022,328	\$ 1,022,328	\$ -	\$ 1,010,246	\$ (12,083)	
Membership Dues	-	-	-	-	-	
Testing Fees	-	-	-	-	-	
Services & Software	-	-	-	-	-	
Workshops	-	-	-	-	-	
Interest	-	-	-	-	-	
Miscellaneous	-	-	-	-	-	
Total Funding (A)	\$ 1,022,328	\$ 1,022,328	\$ -	\$ 1,010,246	\$ (12,083)	
Expenses						
Personnel Expenses						
Salaries	\$ 370,220	\$ 370,220	\$ -	\$ 377,093	\$ 6,873	
Payroll Taxes	21,273	21,273	-	21,390	116	
Benefits	97,411	97,411	-	98,851	1,441	
Retirement Costs	43,020	43,020	-	40,299	(2,721)	
Total Personnel Expenses	\$ 531,925	\$ 531,925	\$ -	\$ 537,633	\$ 5,709	
Meeting Expenses						
Meetings	\$ 13,000	\$ 13,000	\$ -	\$ 7,000	\$ (6,000)	
Travel	103,157	103,157	-	93,000	(10,157)	
Conference Calls	-	-	-	-	-	
Total Meeting Expenses	\$ 116,157	\$ 116,157	\$ -	\$ 100,000	\$ (16,157)	
Operating Expenses						
Consultants & Contracts	\$ 10,000	\$ 10,000	\$ -	\$ 10,000	\$ -	
Office Rent	-	-	-	-	-	
Office Costs	-	-	-	-	-	
Professional Services	-	-	-	-	-	
Computer & Equipment Leases	-	-	-	-	-	
Miscellaneous	-	-	-	-	-	
Depreciation	-	-	-	-	-	
Total Operating Expenses	\$ 10,000	\$ 10,000	\$ -	\$ 10,000	\$ -	
Total Direct Expenses	\$ 658,082	\$ 658,082	\$ -	\$ 647,633	\$ (10,448)	
Indirect Expenses	\$ 372,606	\$ 372,606	\$ -	\$ 375,586	\$ 2,980	
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -	
Total Expenses (B)	\$ 1,030,688	\$ 1,030,688	\$ -	\$ 1,023,220	\$ (7,468)	
Change in Assets	\$ (8,359)	\$ (8,359)	\$ -	\$ (12,974)	\$ (4,614)	
Fixed Assets						
Depreciation	\$ -	-	\$ -	-	\$ -	
Computer & Software CapEx	-	-	-	-	-	
Furniture & Fixtures CapEx	-	-	-	-	-	
Equipment CapEx	-	-	-	-	-	
Leasehold Improvements	-	-	-	-	-	
Allocation of Fixed Assets	(8,359)	(8,359)	-	(12,974)	(4,614)	
Inc(Dec) in Fixed Assets (C)	(8,359)	(8,359)	-	(12,974)	(4,614)	
TOTAL BUDGET (=B+C)	\$ 1,022,328	\$ 1,022,328	\$ -	\$ 1,010,246	\$ (12,083)	

Compliance Monitoring and Enforcement and Organization Registration and Certification Program

Compliance Monitoring and Enforcement and Organization Registration and Certification Program Resources			
(in whole dollars)			
	2017 Budget	2018 Budget	Increase (Decrease)
Total FTEs	17.00	16.00	-1.00
Direct Expenses	\$5,366,656	\$5,247,634	(\$119,022)
Indirect Expenses	\$3,282,024	\$3,113,668	(\$168,356)
Other Non-Operating Expenses	\$0	\$0	\$0
Inc(Dec) in Fixed Assets	\$77,369	(\$67,554)	(\$144,922)
Total Funding Requirement	\$8,726,049	\$8,293,748	(\$432,301)

Program Scope and Functional Description

The Compliance Monitoring and Enforcement and Organization Registration and Certification Program (CORC) Program scope covers: 1) the identification, registration and certification of those entities responsible for meeting the NERC Reliability Standards and any approved Regional Standards; 2) the implementation of the risk-based NERC Compliance Monitoring and Enforcement Program (CMEP) in the United States, including the compliance monitoring, assessment and enforcement of NERC Reliability Standards and Regional Reliability Standards. and 3) the implementation of compliance monitoring, assessment and enforcement recommendations in accordance with individual executed MOUs or Agreements in the Canadian Provinces of Ontario, Québec, New Brunswick and Nova Scotia.

The NPCC Compliance Committee (CC) is charged with providing objective stakeholder policy input to NPCC's implementation of the CMEP in the U.S. and compliance related activities under the above mentioned MOUs in the NPCC portion of Canada. With regard to NERC Reliability Standards and Regional Reliability Standards, the CC provides an oversight role of the independent NPCC compliance staff's implementation of the CMEP. In this oversight role the CC will review and endorse the processes used by the NPCC compliance staff in the conduct of the CMEP.

The NPCC compliance staff makes the initial and final determination of alleged violations and determines appropriate penalties and sanctions in accordance with the NERC *Sanction Guidelines*. To accomplish this objective, NPCC's compliance staff is further divided into four sub- program areas: Compliance Implementation and Registration; Compliance Entity Risk Assessment, Compliance Monitoring; and Compliance Enforcement.

Compliance Implementation, Registration and Certification

The Compliance Implementation and Registration sub-program is responsible for:

- a) Continue to use the risk-based registration model to maintain an accurate registry and correctly identify all entities that are required to meet the NERC and Regional Reliability Standards.
- b) Performing the annual review of the recently created enhanced registration database, assuring that all entity data, such as latest entity risk assessment data, BES asset listing, etc. is correct and up to date.
- c) Representing NPCC on the NERC –led Review Panel whose role is to make decisions related to resolving identified registration issues, such as registered entities requests for a materiality assessment, an identification of an applicable subset of NERC Standard requirements, etc;
- d) Engaging with those registered entities who are requesting a materiality assessment or an identification of an applicable subset of requirements in advance of these issues being presented to the NERC-led Review Panel;
- e) Working within the ERO Enterprise on monitoring the progress of the development and implementation of new Registration and CMEP software reporting systems and tools.
- f) Developing and maintaining all NPCC and NERC CMEP Compliance Procedures, Compliance Instructions and all other CMEP related documentation;
- g) Developing and maintaining Performance Metrics that are used to measure the quality and effectiveness of CMEP Implementation and its impact on the reliability of the Bulk Electric System;
- h) Coordinating the implementation of NPCC Compliance Staff responsibilities as they pertain to the executed MOU with each of the Canadian Provinces in the NPCC Region.
- i) Day-to-day implementation of the CMEP;
- j) Developing NPCC’s annual CMEP Implementation Plan;
- k) Monitoring and assessment of guided self-certification, self-report, exception reporting, periodic data and complaint submittals;
- l) Updating and maintaining the CMEP Data Administration Application (CDAA);
- m) Implementing required changes and maintaining the Registration and Compliance portions of the NPCC website.
- n) Participating on various NERC and NPCC working groups to influence changes to Compliance processes, and support commonality of registration, monitoring, auditing, and enforcement approaches.

Compliance Monitoring Program

The Compliance Monitoring Program is charged with conducting both on-site and off-site compliance audits, spot checks, and guided self-certifications of NERC Reliability Standards in accordance with the NERC Rules of Procedure and associated NPCC procedures developed under the NPCC Compliance Implementation Program. NPCC’s Compliance Monitoring area provides supporting activities by implementation of the risk-based Compliance Monitoring and Enforcement Program (CMEP); and by use of consistent compliance monitoring practices focused on higher reliability risks. NPCC uses risk profiles from the IRAs (inherent risk assessments) as a baseline evaluation of reliability risks of an entity. NPCC also uses IRA summaries to guide its efforts to identifying key focus areas and evolving reliability risks. Internal Control Evaluations (ICE) are performed for registered entities that agree to identify key focus areas for a CMEP engagement. The result is a list of reliability requirements that merit a continued level of focus.

NPCC also supports the ERO Enterprise learning effort, as well as NERC oversight of program implementation. In collaboration with NERC, NPCC supports outreach programs in new CIP versions and in implementation of CIP-014 with anticipated expansion in the number and type of registered entities that require guidance. Compliance engagements are performed on the basis of risk to the BES and take into account the ERO reliability risk priorities. The Reliability Assessment (RA) group performs an IRA of all registered entities and forwards results to the manager of compliance to develop a schedule. Previous performed IRAs are amended and updated based on identified triggers. The yearly schedule is produced consistent with Risk Assessment of registered entities and the desired frequency of CMEP engagements. The schedule is posted annually on NERC and NPCC public websites.

Flexibility may be used in the CMEP engagement frequency based on the risk assessment and performance based assessment of each entity scheduled for an audit, and changes requiring certification. NPCC compliance monitoring is focused on the most significant risks to the BES. CMEP engagement may be in the form of an audit, spot check or guided self-certification and are led by qualified senior NPCC Staff. Compliance Oversight Plans are developed for registered entities to address the relevant risks. NPCC also conducts outreach, training, and education as necessary to support the implementation of new Reliability Standards.

Findings include the identification of any possible violations. Contents and processing of audit and spot check reports are in accordance with NERC directives for reporting. Specific lessons learned are factored into the program to promote continuous improvement and are presented at workshops. An annual comprehensive guided self-certification program is established based on the NERC and NPCC Risk Elements. Spot checks are based on NPCC's assessment of follow-ups on entities that have previously violated a Reliability Standard, follow-up on entities that have been involved in a significant system event, and other requirements which at the discretion of NPCC could pose a higher risk to reliability if not followed properly.

Resources from the Compliance Audit Program are also used to implement the Certification process for entities intending to register as new TOPs, BAs or RCs, as well as certification reviews of changes made by existing TOPs, BAs and RCs that meet the threshold requiring same. These actions are performed in support of the Compliance Registration Program which encompasses the Certification process. Resources for this activity, which is independent of the audit process, depend on the scope, function, and location of the entity being certified.

Compliance Entity Risk Assessment

The Entity Risk Assessment group conducts activity that informs the risk-based approach for CMEP engagement scoping. They conduct an entity's IRA prior to scoping the compliance engagement to determine which CMEP tool will be used.

Entity risk also includes an assessment of an entity's Internal Controls which is used for further refinement of requirements to be included in the engagement. While separate ICE engagements are voluntary and must be agreed to by the entity, internal controls may also be reviewed as needed during an audit.

Compliance Investigation

A Compliance Investigation (CI) may be initiated at any time by NPCC in response to a system disturbance, complaint, or possible violation of a Reliability Standard identified by any other means. The CI process requires the establishment of an investigation team that coordinates with NERC and FERC as necessary; and also coordinates with the Situation Awareness Program Area.

Compliance Enforcement

In processing identified violations NPCC Compliance Enforcement strives to promote both timeliness and transparency of compliance results utilizing a risk-based compliance enforcement approach, including those efforts associated with meeting the enforcement metrics described below. In addition NPCC promotes the use of self-identification of non-compliance and implementation of discretion, including increased utilization of streamlined tracks such as FFT and discretion as shown below.

Compliance Enforcement responsibilities:

- a) Issuing all applicable notices including the Notice of Preliminary Screen; Notice of Compliance Exception; Notice of Possible Violation (NOPV), Notice of Find, Fix and Track (FFT) Treatment; Notice of Alleged Violation (NOAV), and the Notice of Confirmed Violation (NOCV);
 - b) Conducting comprehensive enforcement investigations based on the facts and circumstances related to all possible violations of Reliability Standards, whether identified in an audit, a self-report, complaint, or other source, and determining whether further action is warranted;
 - c) Reviewing, approving, submitting to NERC and tracking the progress of all mitigation plans /mitigating activities associated with confirmed violations or noncompliances;
 - d) Coordinating settlement activities once they have been initiated and submitting settlement agreements to NERC for approval;
 - d) Identifying and processing applicable moderate violations for the FFT Process;
 - e) Administer both the compliance exception process and the self-logging process for identified minimal noncompliances;
 - f) Coordinating the identification of possible NERC Reliability Standards revisions and submit issue for proper implementation. Revisions will be based on experiences observed from compliance monitoring activities, enforcement investigations, and event analysis. Work closely with NPCC Reliability Standards Program Area
 - g) Following up on verifying that proposed Reliability Standards have been implemented and are effective in improving the standards.
 - h) Participating in the Hearing Process by representing NPCC before the Hearing Body. Compliance Hearings would be conducted at NPCC under the supervision of a qualified, independent hearing officer contracted by NPCC;
 - i) Issuing Remedial Action Directives when appropriate; and
 - j) Implementing the risk-based compliance enforcement model including :
 - a. Notifying the registered entity, within 60 days on average, whether a non-compliance will proceed through enforcement, be treated as a compliance exception or additional information is needed (“Triage”);
 - k) Developing and monitoring a set of enforcement metrics that support NERC’s Strategic Plan and Oversight Program
- l) Processing violations based on the individual executed MOUs or Agreements in the Canadian Provinces of Ontario, Québec, New Brunswick and Nova Scotia.**

2018 Key Assumptions and Cost Impacts

2017	Projected 2018
8 On-Site Audits	4 On-Site O&P Audits
12 On-Site CIP Audits	10 On-Site CIP Audits
32 Off-Site Audits	30 Off-Site O&P Audits
11 Off-Site CIP Audits	15 Off-Site CIP Audits
15 Spot Checks	15 Spot Checks
25 Guided self-certifications	25 Guided self-certifications
50 Inherent Risk Assessments	50 Inherent Risk Assessments
10 On-site Internal Control Evaluations	4 On-site O&P Internal Control Evaluations
	5 On-Site CIP Internal Control Evaluations
100 Violations (Estimated)	120 Violations (Estimated)
Settlements Covering 50 Violations	Settlements Covering 50 Violations
2 Hearings (Unbudgeted)	2 Hearings (Unbudgeted)
1 CI (Estimated)	1 CI (Estimated)
2 Entity Certifications	4 Entity Certifications

- Regarding the Compliance Audit Program, Technical Feasibility Exception (TFE) reviews are conducted both on-site at the entity's facility and at the NPCC offices when possible. TFE's continue to be requested as entities replace and install new equipment/devices/components that meet the criteria set forth in Rules of Procedure Appendix 4D. Compliance estimates four on-site reviews will be performed in 2018.
- Decrease in audit costs reflects Risk Assessment activity that is the basis for entity engagement scoping. The Risk Assessment includes an assessment of an entity's Internal Controls which is used for future reduction in engagement scoping and frequency of engagements.
- Potential increases due to the newly identified role related to implementing the QCMEP in Québec and the continuing role of implementing the NB CMEP in New Brunswick.
- The 2018 Business Plan projects no significant increases in Enforcement Processing activities over the 2017 Budget.
- The 2018 Business Plan projects the need for one Compliance Investigation. These Compliance Investigations are manpower intensive for NPCC staff (requiring allocation of more resources and potentially higher than normal costs).

2018 Goals and Key Deliverables

- Conduct 2018 CMEP consistent with a risk-based compliance monitoring and enforcement model, assessing IRA; conducting voluntary ICE; and expanding the use of compliance exceptions and the self-logging program for disposition of minimal violations.
 - Continue to process identified violations as effectively as possible, including the timely identification of a violation and its disposition method (e.g. compliance exceptions; FFT; etc.), and the timely issuance of appropriate notification to the registered entity and NERC;
 - Continue to implement settlement process when applicable and send proper notifications to NERC and FERC and continue to enhance the settlement process

- by modifying existing practices and adopting new practices to reduce the duration of settlement negotiations without sacrificing the rigor and quality of the negotiated settlements;
- Develop and analyze appropriate performance metrics that track settlement process duration and utilize results of analysis to further enhance process.
- Conduct necessary Hearings related to resolution of outstanding disputes regarding violations and/or sanctions. Send results of hearings to NERC and FERC.
- Identify potential issues related to NERC Reliability Standards as a result of compliance monitoring, enforcement and event analysis activities.
- Implement proposed changes to NERC Reliability Standards utilizing existing mechanisms.
- Verify effectiveness of proposed changes to reliability standards.
- Provide detailed response to NERC Annual FFT/Compliance Exception Survey;
- Implement compliance responsibilities identified in the approved Canadian MOUs;
- Annual report to NERC and Régie on NPCC implementation of QCMEP
- Annual report to NERC and New Brunswick Electric Utility Board (NBEUB) on NPCC implementation of NB CMEP.
- Provide NPCC Regional Entity input, through participation in appropriate NERC compliance committees, on policy and implementation issues related to compliance and enforcement including the development of compliance elements for all new or revised NERC Reliability Standards;
- Provide required information to NERC on a timely basis including reporting of alleged violations and confirmed violations
- Track the progress of report status and approve mitigation plans and mitigating activities;
- Conduct 2018 Compliance Engagement Schedule based on risk to the BES and number of registered entities and promote the ERO Risk-Based Approach initiatives by:
 - Utilizing the Audit Checklist and Auditor’s Handbook for all on-site and off-site audits
 - Preparing an Inherent Risk Assessment for all scheduled engagements and Internal Control Assessment for all entities that volunteer for one;
- Assure that NPCC Staff is trained to conduct Entity Risk Assessment and CMEP engagements including CIP Compliance Audit training;
- Assure that NPCC staff is trained to conduct Certification of entities intending to Register as BA, RC or TOP for the first time, or Certification Reviews of changes by existing BAs, RCs or TOPs that meet the criteria requiring a Certification Review;
- Continue to implement compliance reform consistent with a risk-based approach by being an integral participant in committees and workgroups that are involved in the development of polices related to the implementation of a risk-based compliance and enforcement model;
- Continue to expand the utilization of compliance exception and self-logging, as it relates to the processing of minimal noncompliances;
- Continue collaboration with ERO Enterprise on consistent compliance monitoring and enforcement practices specifically those with higher reliability risks.
- NPCC will collaborate with NERC to promote better coordination, planning, delivery and management of training efforts across the enterprise through a unified learning

management system (LMS), without adversely impacting region-specific training requirements;

- Continue to implement physical security outreach and cyber security outreach by visiting registered entity sites to perform an assessment of their physical security, evaluate their cyber security and supply recommendations for improvements;
- Provide outreach to the registered entities, related to the latest status of the development and implementation of the ERO Enterprise Registration and CMEP software reporting systems and tools;
- Work with ERO Enterprise, through NPCC participation on the NERC-led Review Panel, to propose a list of possible ROP enhancements related to the NERC-led Review Panel processes and procedures.
- Conduct 2018 Compliance Workshops and interim information sessions for registered entities as necessary as a part of the Training and Education program area.
- Continue to promote practices to enhance the benefits of the self-reporting of violations by the registered entity. This could include the emphasis on the benefits of a registered entity improving its internal processes used for identifying and submitting self-reports, improvement in the way Regional Entities process self-reports, and the streamlining and standardizing of the amount and type of data needed to evaluate a self-report.

Based on the portion of professional/technical staff time and other resources devoted to Compliance monitoring and enforcement and organizational registration and certification, NPCC estimates that it will expend 54% of its resources on this activity.

Resource Requirements

Personnel

- There is a decrease of one FTE in 2018 from the 2017 budget. This is the result of reprioritization during 2017.

Consultants and contracts

- In 2018, contractor costs will continue to decrease due to the implementation of the risk-based approach. With a risk and performance based assessment of each registered entity, compliance engagements will transition to a periodicity more reflective of the risk profile of the entity such that some will result in audits which are more in-depth while others may have a reduced scope which will result in spot checks or guided self-certifications.

Fixed Assets

- Continuing development of Compliance Issues Tracking System and CMEP Data Administration Application.

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 2018 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						
2017 Budget & Projection, and 2018 Budget						
Compliance Monitoring and Enforcement and Organization Registration and Certification						
	2017	2017	Variance	2018	Variance	
	Budget	Projection	2017 Projection	Budget	2018 Budget	
			v 2017 Budget		v 2017 Budget	
			Over(Under)		Over(Under)	
Funding						
ERO Funding						
ERO Assessments	\$ 8,084,046	\$ 8,084,046	\$ -	\$ 7,610,165	\$ (473,881)	
Penalty Sanctions	-	-	-	41,580	41,580	
Total ERO Funding	\$ 8,084,046	\$ 8,084,046	\$ -	\$ 7,651,745	\$ (432,301)	
Membership Dues	-	-	-	-	-	
Testing Fees	-	-	-	-	-	
Services & Software	-	-	-	-	-	
Workshops	-	-	-	-	-	
Interest	-	-	-	-	-	
Miscellaneous	-	-	-	-	-	
Total Funding (A)	\$ 8,084,046	\$ 8,084,046	\$ -	\$ 7,651,745	\$ (432,301)	
Expenses						
Personnel Expenses						
Salaries	\$ 2,749,908	\$ 2,667,408	\$ (82,500)	\$ 2,716,635	\$ (33,273)	
Payroll Taxes	179,504	172,004	(7,500)	171,841	(7,663)	
Benefits	519,457	506,707	(12,750)	524,801	5,344	
Retirement Costs	290,486	279,236	(11,250)	282,356	(8,130)	
Total Personnel Expenses	\$ 3,739,356	\$ 3,625,356	\$ (114,000)	\$ 3,695,634	\$ (43,722)	
Meeting Expenses						
Meetings	\$ 23,800	\$ 23,800	\$ -	\$ 9,000	\$ (14,800)	
Travel	329,500	322,750	(6,750)	289,000	(40,500)	
Conference Calls	-	-	-	-	-	
Total Meeting Expenses	\$ 353,300	\$ 346,550	\$ (6,750)	\$ 298,000	\$ (55,300)	
Operating Expenses						
Consultants & Contracts	\$ 1,274,000	\$ 1,274,000	\$ -	\$ 1,254,000	\$ (20,000)	
Office Rent	-	-	-	-	-	
Office Costs	-	-	-	-	-	
Professional Services	-	-	-	-	-	
Computer & Equipment Leases	-	-	-	-	-	
Miscellaneous	-	-	-	-	-	
Depreciation	-	-	-	-	-	
Total Operating Expenses	\$ 1,274,000	\$ 1,274,000	\$ -	\$ 1,254,000	\$ (20,000)	
Total Direct Expenses	\$ 5,366,656	\$ 5,245,906	\$ (120,750)	\$ 5,247,634	\$ (119,022)	
Indirect Expenses	\$ 3,282,024	\$ 3,282,024	\$ -	\$ 3,113,668	\$ (168,356)	
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -	
Total Expenses (B)	\$ 8,648,680	\$ 8,527,930	\$ (120,750)	\$ 8,361,302	\$ (287,379)	
Change in Assets	\$ (564,634)	\$ (443,884)	\$ 120,750	\$ (709,557)	\$ (144,922)	
Fixed Assets						
Depreciation	\$ -	\$ -	\$ -	\$ -	\$ -	
Computer & Software CapEx	151,000	151,000	-	40,000	(111,000)	
Furniture & Fixtures CapEx	-	-	-	-	-	
Equipment CapEx	-	-	-	-	-	
Leasehold Improvements	-	-	-	-	-	
Allocation of Fixed Assets	(73,631)	(73,631)	-	(107,554)	(33,922)	
Inc(Dec) in Fixed Assets (C)	77,369	77,369	-	(67,554)	(144,922)	
TOTAL BUDGET (=B+C)	\$ 8,726,049	\$ 8,605,299	\$ (120,750)	\$ 8,293,748	\$ (432,301)	
TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)	\$ (642,003)	\$ (521,253)	\$ 120,750	\$ (642,003)	\$ 0	

Reliability Assessment and Performance Analysis Program

Reliability Assessment and Performance Analysis Program Resources			
(in whole dollars)			
	2017 Budget	2018 Budget	Increase (Decrease)
Total FTEs	5.83	5.83	0.00
Direct Expenses	\$2,106,675	\$2,145,368	\$38,692
Indirect Expenses	\$1,125,541	\$1,134,543	\$9,002
Other Non-Operating Expenses	\$0	\$0	\$0
Inc(Dec) in Fixed Assets	(\$25,251)	(\$39,190)	(\$13,939)
Total Funding Requirement	\$3,206,966	\$3,240,721	\$33,755

Program Scope and Functional Description

NPCC, through its top technical committee, the Reliability Coordinating Committee (RCC), integrates the deliverables of its Task Force's and Working Group's Reliability Assessment and Performance Analysis related activities. Consistent with the applicable NERC Reliability Standards, these efforts include:

- Reviewing the adequacy of the NPCC systems to supply load considering forecast demand, installed and planned supply and demand resources and required reserves; and,
- Assessing the impact of planned transmission and resource additions or modifications on NPCC system reliability.

Seasonal assessments of the overall NPCC resource adequacy assessments are performed and possible actions to mitigate any potential problems are identified. NPCC reviews operations and disturbances both internal and external to the Region in order to identify any lessons to be learned and recommends any necessary follow-up actions.

If appropriate, enhancements to Regional Standards or NPCC's more stringent, Regionally-specific reliability requirements are also recommended. NPCC promotes and conducts both inter-Area and inter-Regional studies to enhance reliability and operational effectiveness, and provides a forum for the discussion and coordination of operating issues within the NPCC Region and with other Regions.

2018 Key Focus Areas

In collaboration with NERC, Key Focus area activities for 2018 include:

- ✓ Integration of RAPA information systems for assessments and associated data requirements, including expanded and enhanced enterprise-wide data collection and analysis systems and capabilities for performance analyses, with a focus on independent and technically sound reliability assessments supporting delivery of high quality reports (e.g., Long-Term Reliability Assessment, short-term special assessments, probabilistic scenario assessments, and the State of Reliability Report).
- ✓ Development of assessment and performance analysis techniques as well as resource capabilities and tools, including probabilistic and scenario evaluations, which address the impacts of new technologies, changing resource or demand resource composition, and environmental related regulations or legislation; support for ERO activities to identify key

reliability risks and appropriate risk control projects designed to enhance reliability or mitigate risks.

- Developing and tracking of metrics associated with Essential Reliability Services;
 - Developing of appropriately tailored analysis and overall assessment, including guidance for registered entities, of high impact, low frequency BES risks, including physical security and geomagnetic disturbance (GMD) vulnerability;
 - Providing technical resources to support up to four short-term special reliability assessments (6-18 month horizon replacing the current summer and winter assessments), which focus on specific reliability issue risk areas and geographic areas with specific reliability concerns, while also allowing for regional assessments;
 - Supporting the common approach developed for NERC reliability assessments to ensure consistent treatment of resource and reliability evaluations;
 - Advancing analytical capabilities for identifying and determining reliability risks and conducting various reliability assessments by:
 - Integrating the analysis and measures of the identified essential reliability services into the NERC 2018 Long-Term Reliability Assessment;
 - Requiring advanced powerflow and stability analysis tools and objective expert input for transmission/deliverability assessments and studies;
 - Maturing and developing interconnection-wide analysis groups to support the assessment of interconnection-wide risks, such as frequency response;
 - Providing technical resources and reliability leadership for the advancement of probabilistic analyses supporting the Long-Term Reliability Assessment;
 - Enhancing the capability for post event analysis, including ensuring the timely and accurate compilation and creation of steady state and dynamic simulation model cases for use in the investigation and analysis of major power system disturbance events.
- ✓ NPCC supports, through the Eastern Interconnection base case designee agreement, the development of long-term sustainable interconnection-wide powerflow and dynamics model cases under Reliability Standards MOD-032 and MOD-033 that exhibit the accuracy and fidelity reflecting actual BES reliability performance and dynamic conditions.
- ✓ Provision of technical resources to support the effective and continuous improvement of the models that incorporate recognition of reliability behavior of loads and generation associated with the changing resource mix.

Eastern Interconnection Reliability Assessment Group

The primary function of the Eastern Interconnection Reliability Assessment Group (ERAG) is to support reliability of the bulk-power system in the Eastern Interconnection through periodic reviews of generation and transmission expansion. These assessments are conducted by the ERAG Steering Committees. The assessment-related activities indicated for the ERAG Management and Steering Committees below, are done in support of ERO Goal 3: “*Identification and Mitigation of Significant Risks to Reliability.*”

In addition, ERAG has the responsibility to facilitate the development of the annual set of seasonal and future steady state and dynamic simulation base cases for use by the Regional Entities and other industry groups in the Eastern Interconnection. This is done through the ERAG Multi-Regional Modeling Working Group (MMWG). The base case compilation and development-related activities indicated for the ERAG Management and MMWG below are done in support of ERO Goal 3 related contributing activity to: “Develop guidelines and industry practices to maintain accurate system models that include the resources (synchronous and inverter based), load, and controllable devices providing essential reliability services.” NPCC participates in the ERAG activities as one of the six Eastern Interconnection Regional Entities.

NPCC supports maintenance of the BESnet application and the processing of the Regional BES Exception Requests (ERs), including technical validation of the definition and exception requests periodic reviews of network changes affecting BES determinations, as well as requests for registration and certification reviews. Processing of BES Exception requests and recertification of previously approved BES Exception Requests are not expected to significantly impact resources requirements in this program area for 2018.

NPCC RAPA staff participates with the ERAG Management Committee, ERAG Steering Committee and ERAG Working Group and acts as the liaison between the ERAG MMWG and the NPCC SS-37 Working Group; activities include:

ERAG Management Committee Activities 2018 Goals and Deliverables

- ✓ Oversee the steady state and dynamic simulation base case data compilation and development;
- ✓ Oversee ERAG Multi-Regional Modeling Working Group (MMWG) changes to the dynamics base cases;
- ✓ Oversee MMWG effort to make necessary changes to the modeling of governor-turbine control systems to achieve frequency response that more closely reflects actual response during system frequency deviation events;
- ✓ Oversee the ERAG assessments of anticipated inter-Regional, inter-Balancing Authority transfer limit conditions and sensitivities. ERAG is considering different assessment approaches to enhance the way assessments are conducted to provide more industry value from the assessment results. Coordinate the effort with NERC Assessment Program staff;
- ✓ Develop ERAG Strategic Direction (i.e. anticipated new developments in MMWG process and system assessments); Resolve any issues with application of the ERAG MMWG non-disclosure agreement process so that base cases and assessments have sufficient protections in place for use and transmittal of confidential data and information; and,
- ✓ Develop and approve the ERAG activity budgets.

Multi-Regional Modeling Working Group 2018 Goals and Deliverables

- ✓ Facilitate the completion of the steady state and dynamic simulation base case data compilation and development for the 2018 series of cases. This will include 12 steady state base cases and 8 dynamic simulation base cases;
- ✓ Check and confirm that the dynamic model data passes all applicable checks and acceptance criteria. Include 60 second steady state simulation of each case to detect numerical errors;
- ✓ Apply changes to the MMWG dynamics case so they are available for interconnection dynamics studies;
- ✓ Incorporate dispatch information into the future and seasonal ERAG MMWG base cases so that the dispatches are more closely aligned with economic dispatch practices;
- ✓ Apply the web-based System Dynamics Data Base program during the development of the 2018 series of dynamics base cases;
- ✓ Continue to improve the representations of the governor-turbine plant control models at most generators. Recommend the necessary changes in the models for specific generators;
- ✓ 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; and,
- ✓ Verify that procedures in the MMWG manual are followed.

ERAG System Assessments 2018 Goals and Deliverables

- ✓ Conduct the 2018 ERAG Assessments and prepare the ERAG Assessment Reports, including, the assessments of anticipated inter-Regional, inter-Balancing Authority transfer limit conditions and sensitivities;
- ✓ Consider different assessment approaches to enhance the way assessments are conducted; and,
- ✓ 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.

2018 NERC Activities

NPCC will provide the Regional perspective with judicious NPCC RAPA staff participation on selective NERC Planning and Operating Committees and key related NERC Subcommittees, Task Forces and Working Groups which include:

- ✓ Essential Reliability Services Working Group (ERSWG);
- ✓ Load Modeling Task Force (LMTF);
- ✓ Protection System Mis-operations Task Force (PSMTF);
- ✓ Demand Response Availability Data System Working Group (DADSWG);
- ✓ Generating Availability Data System Working Group (GADSWG);
- ✓ Transmission Availability Data System Working Group (TADSWG);
- ✓ Power Plant Model Verification Task Force (PPMVTF);
- ✓ Reliability Assessment Subcommittee (RAS);
- ✓ Probabilistic Assessment Working Group (PAWG);
- ✓ System Analysis and Modeling Subcommittee (SAMS);
- ✓ Performance Analysis Subcommittee (PAS);
- ✓ Misoperation Information Data Analysis System (MIDAS); and,
- ✓ Incorporating any probabilistic reliability metrics required for the 2018 NERC Long-Term Reliability Assessment through the NPCC 2018 Long Range Adequacy Overview.

ERO – Executive Management Group (EMG) 2018 Activities

Provide analytic support for the ERO-EMG:

- ✓ Bulk Electric System Exception Process Working Group (BEPWG);
- ✓ ERO-RAPA Group; and,
- ✓ Other activities as directed by the ERO-Executive Management Group.

2018 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 reliability through the coordination of NPCC Area and NERC planning processes and activities. In addition, the TFCP provides technical support regarding operating expertise to the NPCC Regional Standards Committee and the NPCC Compliance Committee as requested, and provides support and technical input for related BES risks identified by the NERC Reliability Issues Steering Committee (RISC) and the NERC Essential Reliability Services Working Group.

The Task Force on Coordination of Planning activities indicated below are done in support of ERO Goal No. 3 “*Identification and Assessment of Significant Risks to Reliability*” and ERO Goal No. 4 “*Identification and Assessment of Emerging Risks to Reliability*.” A related contributing activity to ERO Goal No. 3 is to “Develop advanced and probabilistic methods to evaluate resource adequacy.” Related contributing activities associated with ERO Goal No. 4

include “Enhance reliability assessments to reflect changing resource mix behavior, including distributed energy resources and essential reliability services, using probabilistic approaches that consider the variable and energy-limited nature of the evolving resource mix,” and “Assess risks associated with cross sector dependencies and single points of disruptions.”

TFCP Reliability Assessment and Performance Analysis 2018 Goals and Deliverables

- Coordinate NPCC responses to NERC Essential Reliability Services Working Group recommendations with the Task Force on Coordination of Operation and the Task Force on System Studies to ensure that developments in the NERC Planning Committee and its Subcommittees are addressed;
- Coordinate the development of additional Criteria as necessary, and track any new and developing standards through the Regional Standards Committee;
- Monitor the development of Bulk Power System (BPS) Regional Standard;
- Oversee NPCC Directory No. 1 Implementation Plan (Dated: September 30, 2015);
- Through the CP-8 Working Group:
 - conduct the annual NPCC Long Range Adequacy Overview and associated NERC RAS requested scenarios and/or special probabilistic studies/assessments;
 - Conduct a review of NPCC Interconnection Assistance Reliability Benefits;
- Evaluate and approve NPCC Area Transmission Reviews;
- Evaluate and approve NPCC Area reviews of Resource Adequacy;
- Coordinate, monitor, review, and make recommendations on the retirement of existing in-service Special Protection Systems (SPS) Remedial Action Schemes (RAS); and the implementation of proposed new or modified SPS/RAS;
- Monitor industry practices and make recommendations to NPCC on transmission adequacy standards related to intermittent generation such as wind or solar-photovoltaic and demand-side resources; and,
- Lead the NPCC Task Forces in the completion of the review and revision the *A10 Criteria–NPCC Classification of Bulk Power System Elements*.

TFCP Reliability Assessment and Performance Analysis 2018 Goals and Deliverables

- Support related reliability activities, including consideration of any requests for sub-regional assessments or NPCC’s identification of the necessity for such assessments consistent with NERC Rules of Procedure section 805, associated with implementation of the State related resource/environmental initiatives;
- Monitor the actions of applicable NERC Subcommittees in the areas of resource adequacy, system protection and system control;
- Through the CP-8 working Group, review the load shape assumption used in NPCCC Multi-Area Probabilistic Reliability Assessments;
- Review and comment on the development of NERC Standards through the RSC;
- Monitor the developments in fuel supply, demand resources, energy efficiency, and conservation methods including all intermittent renewable resources, including embedded distributed resources;
- Support the NPCC Regional Standards Committee (RSC) as required; and,
- Keep informed on studies and developments with neighboring systems which might impact NPCC.

TFCP Reliability Assessment and Performance Analysis 2018 Goals and Deliverables

- Monitor the process for the annual review and updating of the NPCC Electric System Regional Map and the NPCC Load, Capacity, Energy, Fuel and Transmission Report (LCEF&T);
- Keep informed of the NERC Planning Committee and other subcommittee activities to determine their impact on the NPCC and any potential adjustments to NPCC Criteria;
- Coordinate with NERC regarding the development of standards for dynamic system controls; and,
- Review Events Analysis Lessons Learned using the Events Analysis discussion/review template.

Task Force on System Studies

The primary mission of the NPCC Task Force on System Studies (TFSS) is to provide active overall coordination of system studies of the reliability of the interconnected bulk power systems and for the review of certain NPCC documents. In addition, the TFSS provides technical support regarding operating expertise to the NPCC Regional Standards Committee and the NPCC Compliance Committee, and provides support and technical input for related BES risks identified by the NERC Reliability Issues Steering Committee (RISC) and the NERC Essential Reliability Services Working Group.

The Task Force on System Studies activities indicated below are done in support of ERO Goal No. 3 “*Identification and Assessment of Significant Risks to Reliability*” and ERO Goal No. 4 “*Identification and Assessment of Emerging Risks to Reliability.*” A related contributing activity to ERO Goal No. 3 is to “Develop guidelines and industry practices to maintain accurate system models that include the resources (synchronous and inverter based), load, and controllable devices providing essential reliability services.” A related contributing activity to ERO Goal No. 4 is to “Develop sufficiency/adequacy guidelines for essential reliability services, including considerations of reliability attributes under a more diverse resource mix and changing load behaviors, such as ramping, reserve services and voltage support.”

TFSS Reliability Assessment and Performance Analysis 2018 Goals and Deliverables

- ✓ Review and recommend approval of Area Transmission Reviews, in accordance with the “Guidelines and Procedures for NPCC Area Transmission Reviews” (Appendix B of Directory No. 1), based on material presented by the Areas. These reviews assess the impact of planned transmission and resource additions or modifications on system reliability, and determine the Area’s conformance with the Basic Criteria. Through the Area Transmission Reviews, re-evaluate the performance and classification of existing SPSs and Dynamic Control Systems;
- ✓ Review and classify new and modified Special Protection Systems and/or Remedial Action Schemes, in accordance with the Appendix B, Procedure for the Review of a Special Protection Systems, of NPCC Directory No. 7, “*Special Protection Systems*”;
- ✓ Review and Implement the NPCC A-10 Criteria:
 - Coordinate with TFCP to complete the review and revision of the A-10 document;
 - Review and recommend approval of changes to the NPCC list of bulk power system elements, in accordance with the “*Classification of Bulk Power System Elements*” (Document A-10); and,
 - Update the NPCC BPS List;

- ✓ Review and process Multiple Circuit Tower exclusions in accordance with NPCC Directory No. 1, Appendix E;
- ✓ Update the Multiple Circuit Tower Exclusion List;
- ✓ Perform annual review and update of the Major Project List;
- ✓ Through the SS-37 Working Group:
 - Annually develop a library of power flow base cases and associated dynamic cases. The NPCC cases will also be used to support the development of the library of power flow and dynamic cases for the Eastern Interconnection; in addition: update SS-37 Procedure Manual and other SS-37 documents including the Master Tie Line Data and Interchange Schedule;
 - Provide mid-term updates to the ten-year-out cases in the NPCC Library; and,
 - Perform event replication by benchmarking simulations against actual system performance.
- ✓ Perform the NPCC Under Frequency Load Shedding Assessment;
- ✓ Through the SS-38 Working Group:
 - consider the development of a uniform approach, as requested by TFSP, for identifying BES Elements that meet one or more of the Criteria in R1 of PRC-026-1;
 - Continue to instigate the use of dynamic load models for transient stability studies; and,
 - Work with the NERC Load Modeling Task Force to ensure consistency in load modeling and to share best practices.

TFSS Reliability Assessment and Performance Analysis 2018 Goals and Deliverables

- ✓ 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 BES risks as identified by the NERC Reliability Issues Steering Committee (RISC);
- ✓ Review existing Regional Criteria and procedures for validation of data used in power flow and dynamic simulations and if the existing criteria or procedures are found to be deficient, propose changes to provide for adequate data validation.
- ✓ Through the SS-38 Working Group:
 - Coordinate management of governor models used in NPCC studies;
 - support the performance of event replication by benchmarking against actual system performance;
 - review and develop comment on draft NERC standards; and,
 - Work with software vendors and NERC's systems Analysis and Modeling subcommittee (SAMS) to enhance the capability for dynamic simulations.

Task Force on System Protection

The purpose of the NPCC Task Force on System Protection (TFSP) is to promote the reliable and efficient operation of the interconnected bulk power systems in Northeastern North America through the establishment of directories, criteria, guidelines, and procedures and coordination of design, relative to the protection associated with the bulk power systems. In addition, the TFSP provides technical support regarding operating expertise to the NPCC Regional Standards Committee and the NPCC Compliance Committee, and provides support and technical input for related BES risks identified by the NERC Reliability Issues Steering Committee (RISC) and the NERC Essential Reliability Services Working Group.

The Task Force on System Protection activities indicated below are done in support of ERO Goal No. 3 “*Identification and Assessment of Significant Risks to Reliability*” and ERO Goal No. 4 “*Identification and Assessment of Emerging Risks to Reliability*.” A related contributing activity to ERO Goal No. 3 is to “Engage industry, forums, and technical committees in identifying and mitigating risks, including reducing misoperations, AC equipment failures, vegetation-related outages, and improving cold weather preparedness and human performance.” A related contributing activity to ERO Goal No. 4 is to “Evaluate the reliability impacts of distributed energy resources on planning, operations and restoration and recovery, including the identification of data and information sharing needs.”

TFSP Reliability Assessment and Performance Analysis 2018 Goals and Deliverables

- ✓ Assess proposed protection systems and special protection systems for compliance with Directory No. 4 and Directory No. 7;
- ✓ Participate 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, as needed;
- ✓ Through the SP-7 Working Group, review misoperations of protection systems and Remedial Action Schemes/Special Protection Systems as they occur in the NPCC Region and participate in providing the NPCC input for the NERC Section 1600 Data Request.
- ✓ Review mitigations and/or progress reports for BPS Risk Reduction Implementation at each meeting and annually report to the RCC on the status of this implementation; and,
- ✓ Provide support and technical input for Task Force related BES risks as identified by the NERC Reliability Issues Steering Committee (RISC). Conduct a thorough review, provide comments as necessary and act on posted materials as directed. Task Force assessments and recommendations will be forwarded to the RCC for approval and submittal to NERC via NPCC Staff and the NERC Risk Control Process.

TFSP Reliability Assessment and Performance Analysis 2018 Goals and Deliverables

- ✓ Conduct review/development of the following Documents:
 - Directory No. 7 – “*NPCC Special Protection Systems*.” Serve as the lead Task Force working in conjunction with the TFCP and the TFSS on revisions to ensure consistency with the development of the PRC-01202 NERC standard on Remedial Action Schemes.
 - Through the SP-9 Working Group on Telecommunication Circuits Used For Teleprotection and Remedial Action Schemes, develop a new guideline for teleprotection communication reliability.
- ✓ Participate in the ongoing development and submission of NPCC inputs/comments into the development of bulk electric system protection related NERC Reliability Standards;
- ✓ Through the SP-7 Working Group, maintain ongoing log of protection relay failures. Coordinate improved data gathering of relay failures among equipment owners, manufacturers, and vendors;
- ✓ Review and analyze the performance of protection systems of power system disturbances, lessons learned, and events inside as well as outside NPCC as brought to the attention of TFSP by the SP-7 Working Group, NERC Event Analysis Coordinating Group or as requested by the RCC. Issue recommendations for changes to NPCC Documents and lessons learned, as appropriate; and,

- ✓ Support NERC's effort through the ERO-RAPA group to continue relay misoperations performance analysis to reduce protection system misoperations and inform the RCC on relay misoperations trends, and share good practices.

TFSP Reliability Assessment and Performance Analysis 2018 Goals and Deliverables

- ✓ Consistent with the TFSP's scope, conduct joint meeting with other Regions to share best practices and experiences.

Task Force on Coordination of Operation

The NPCC Task Force on Coordination of Operation (TFCO) facilitates the coordination of operations among the NPCC Reliability Coordinator areas and adjacent NERC Regions to enhance the reliability of the bulk power system. In addition, the TFCO provides technical support regarding operating expertise to the NPCC Regional Standards Committee and the NPCC Compliance Committee, and provides support and technical input for related BES risks identified by the NERC Reliability Issues Steering Committee (RISC) and the NERC Essential Reliability Services Working Group.

The Task Force on Coordination of Operation activities indicated below are done in support of ERO Goal No. 3 "Identification and Assessment of Significant Risks to Reliability" and ERO Goal No. 4 "Identification and Assessment of Emerging Risks to Reliability." Related contributing activities related to ERO Goal No.3 include "Conduct assessments of system resiliency and develop guidance for operations in a more secure state;" and ERO Goal No.4 "Evaluate the reliability impacts of distributed energy resources on planning, operations and restoration and recovery, including the identification of data and information sharing needs."

TFCO Reliability Assessment and Performance Analysis 2018 Goals and Deliverables

- ✓ Prepare and conduct the spring and autumn NPCC System Operator Seminars. Provide recommendations to enhance the programs;
- ✓ Develop and securely disseminate the annual compilation of "Facilities for Notification";
- ✓ Support and take part in a biennial, continent-wide Grid Security Exercise (GridEx), including a review of the associated reports and Lessons Learned;
- ✓ Support an annual enhanced, wide area restoration drill among the Reliability Coordinator areas of NPCC and their neighboring Reliability Coordinators incorporating the annual review of the NPCC regional restoration plan;
- ✓ Conduct pre-seasonal NPCC Reliability Assessments incorporating multi-area probabilistic reliability simulation results in each assessment. Coordinate the NPCC input for the annual data for seasonal short-term NERC Reliability Assessments;
- ✓ Conduct reviews of applicable NPCC Directories, Criteria, Guides and Procedures in accordance with their applicable review dates;
- ✓ Coordinate system awareness among NPCC RCs through periodic conference calls. This includes the existing emergency preparedness, NPCC weekly and daily system operator conference calls; and,
- ✓ Monitor the trends and impacts of the changing resource mix and the effects of the proliferation of the new resources on real-time operations, particularly the measures identified in the Essential Reliability Services Framework Report, as well as behavior during and impacts on recovery and restoration plans including consideration of distributed resources, considering the variable and energy-limited nature of the resource shifts.

TFCO Reliability Assessment and Performance Analysis 2018 Goals and Deliverables

- ✓ Review a biennial summary of operating tool failures and lessons learned for the preceding study period;
- ✓ Provide assistance to the NERC Event Analysis process (EAP). Evaluate the operational applicability of Lessons Learned from the NERC EAP; and,
- ✓ Keep informed of the NERC Operating Committee and other subcommittee activities to determine their impact on the NPCC and any potential adjustments to Criteria, as well as provide feedback and input to the respective committees.

TFCO Reliability Assessment and Performance Analysis 2018 Goals and Deliverables

- ✓ Review and analyze the performance of Simultaneous Activation of Reserve (SAR) implementation following an event to enhance the SAR process; and,
- ✓ Share lessons learned among training staff from the NPCC RCs and utilize to make training program enhancements.

NPCC Regulatory/Governmental Affairs Advisory Group

The purpose of the NPCC Regulatory/Governmental Affairs Advisory Group is to promote NPCC interaction and coordination with Federal/State/Provincial governmental and/or regulatory agencies on a coordinated Regional basis, and identify and develop policy input for NPCC and Northeast Regional governmental and/or regulatory bodies.

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 energy and reliability matters.

The Regulatory/Governmental Affairs Advisory Group activities indicated below are done in support of ERO Goal No. 4 “Identification and Assessment of Emerging Risks to Reliability.” A related contributing activity to this Goal is to “Educate policy makers, regulators, and the industry of reliability effects and interconnection requirements for the changing resource mix.”

NPCC Regulatory/Governmental Affairs Advisory Group 2018 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). This includes focus on initiatives concerning regional planning, distributed energy resource requirements, the timing of new generation resources and transmission infrastructure projects.

Based on the portion of professional/technical staff time and other resources devoted to Reliability Assessment and Performance Analysis, NPCC estimates that it will expend 22% of its resources on these activities.

Resource Requirements

Personnel

- NPCC anticipates no need to hire additional personnel in this program area in 2018.

Consultants and contracts

- Increase in consultants and contracts expense is associated with an anticipated increase in inherent risk and emerging risk reliability studies.

Reliability Assessment and Performance Analysis Program

Funding sources and related expenses for the Reliability Assessment and Performance Analysis section of the 2018 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						
2017 Budget & Projection, and 2018 Budget						
Reliability Assessment and Performance Analysis						
	2017	2017	Variance	2018	Variance	
	Budget	Projection	2017 Projection	Budget	2018 Budget	
			v 2017 Budget		v 2017 Budget	
			Over(Under)		Over(Under)	
Funding						
ERO Funding						
ERO Assessments	\$ 3,206,966	\$ 3,206,966	\$ -	\$ 3,225,570	\$ 18,604	
Penalty Sanctions	-	-	-	15,151	15,151	
Total ERO Funding	\$ 3,206,966	\$ 3,206,966	\$ -	\$ 3,240,721	\$ 33,755	
Membership Dues	-	-	-	-	-	
Testing Fees	-	-	-	-	-	
Services & Software	-	-	-	-	-	
Workshops	-	-	-	-	-	
Interest	-	-	-	-	-	
Miscellaneous	-	-	-	-	-	
Total Funding (A)	\$ 3,206,966	\$ 3,206,966	\$ -	\$ 3,240,721	\$ 33,755	
Expenses						
Personnel Expenses						
Salaries	\$ 1,084,994	\$ 1,084,994	\$ -	\$ 1,106,772	\$ 21,778	
Payroll Taxes	65,373	65,373	-	65,805	432	
Benefits	214,688	214,688	-	220,007	5,319	
Retirement Costs	121,271	121,271	-	117,144	(4,127)	
Total Personnel Expenses	\$ 1,486,325	\$ 1,486,325	\$ -	\$ 1,509,728	\$ 23,402	
Meeting Expenses						
Meetings	\$ 20,500	\$ 20,500	\$ -	\$ 22,000	\$ 1,500	
Travel	186,850	186,850	-	212,000	25,150	
Conference Calls	-	-	-	-	-	
Total Meeting Expenses	\$ 207,350	\$ 207,350	\$ -	\$ 234,000	\$ 26,650	
Operating Expenses						
Consultants & Contracts	\$ 413,000	\$ 413,000	\$ -	\$ 401,640	\$ (11,360)	
Office Rent	-	-	-	-	-	
Office Costs	-	-	-	-	-	
Professional Services	-	-	-	-	-	
Computer & Equipment Leases	-	-	-	-	-	
Miscellaneous	-	-	-	-	-	
Depreciation	-	-	-	-	-	
Total Operating Expenses	\$ 413,000	\$ 413,000	\$ -	\$ 401,640	\$ (11,360)	
Total Direct Expenses	\$ 2,106,675	\$ 2,106,675	\$ -	\$ 2,145,368	\$ 38,692	
Indirect Expenses	\$ 1,125,541	\$ 1,125,541	\$ -	\$ 1,134,543	\$ 9,002	
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -	
Total Expenses (B)	\$ 3,232,217	\$ 3,232,217	\$ -	\$ 3,279,911	\$ 47,694	
Change in Assets	\$ (25,251)	\$ (25,251)	\$ -	\$ (39,190)	\$ (13,939)	
Fixed Assets						
Depreciation	\$ -	\$ -	\$ -	\$ -	\$ -	
Computer & Software CapEx	-	-	-	-	-	
Furniture & Fixtures CapEx	-	-	-	-	-	
Equipment CapEx	-	-	-	-	-	
Leasehold Improvements	-	-	-	-	-	
Allocation of Fixed Assets	(25,251)	(25,251)	-	(39,190)	(13,939)	
Inc(Dec) in Fixed Assets (C)	(25,251)	(25,251)	-	(39,190)	(13,939)	
TOTAL BUDGET (=B+C)	3,206,966	3,206,966	-	3,240,721	33,755	
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)			
	2017 Budget	2018 Budget	Increase (Decrease)
Total FTEs	0.10	0.10	0.00
Direct Expenses	\$229,785	\$230,263	\$477
Indirect Expenses	\$19,306	\$19,460	\$154
Other Non-Operating Expenses	\$0	\$0	\$0
Inc(Dec) in Fixed Assets	(\$433)	(\$672)	(\$239)
Total Funding Requirement	\$248,658	\$249,051	\$393

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: 1) potential operational problems for the coming season are discussed, 2) application of NPCC Directory and NERC Standard requirements pertinent to operation are discussed, 3) major industry issues that are important for system operators are discussed, 4) significant disturbances are reviewed for lessons learned and 5) table-top drills and communication and coordination exercises are conducted. The seminars promote camaraderie and better communication among system operators from the NPCC Reliability Coordinator (RC) areas and the Nova Scotia Balancing Authority (BA) area.

This Program also provides for: 1) sharing of RC/BA existing training program and system simulator area content; 2) training techniques and methods; 3) evaluation of new techniques and training and simulator aids as they become available; 4) opportunities to consolidate training among the NPCC RCs and BAs, which includes opportunities to share training material and training sessions; and 5) exchange of information on internal methods of system operator training.

The training activities indicated below are done in support of ERO Goal No. 5 “Effective and Efficient ERO Enterprise Operations.” A related contributing activity to this goal is to “Acquire, engage, develop, and retain highly qualified talent with requisite technical expertise to execute the ERO Enterprise’s statutory functions.”

Funding Drivers and Reliability Benefits

- Provide two high-quality continuing education seminars for system operators;
 - System operators participating in the Seminars: 1) share their approaches to solving operational problems and learn about the characteristics of neighboring systems; 2) gain exposure to NPCC issues and current industry operational topics; 3) review recent NPCC and major external disturbances; 4) review key operational related content in NPCC Directories and NERC Standards; and 5) participate in hands-on “table top exercises” pertaining to system operational practices. PJM system operators and trainers are also invited to participate and normally attend these seminars;
 - Seminar attendees also receive Continuing Education Hours (CEHs) (normally 3.5 to 4 CEHs) and operator trainers from each RC / BA area can utilize the seminar content by including it in their internal training programs to provide CEHs to all system operators; and,
 - The seminars help to improve system operational coordination through better contact among system operators at other Reliability Coordinator areas.
- Continually review and revise the curriculum of the training seminars to better emphasize NERC Standard requirements related to system operation, NPCC wide-area operations and Regionally-specific criteria and procedures;
- Enhance the system operator’s awareness and knowledge of the standards, criteria and procedures they apply in real time operation;
- Provide more sharing of new training approaches, exchange of information on internal methods of system operator selection, training material and training sessions:
 - Enhance efficiency and cost savings in the training programs in the NPCC RC / BA areas;
- Provide a forum among NPCC RC/BA areas for sharing of approaches to meet the requirements of the NERC PER standards. The sharing of approaches used by some NPCC Areas to address any changes needed to existing system operator training programs due to PER-005-2 requirements is valuable to CO-2 Working Group members.
- Implement changes needed for the NPCC Reliability Coordinator / Balancing Authority Areas to meet proposed expanded training requirement for operations support staff in PER-005-2; and,
- NPCC will conduct two Standards and Compliance workshops in 2018, for NPCC Stakeholders, for the express purpose of providing the most current and applicable information related to the development of NERC and Regional Reliability Standards and the implementation of the Compliance Monitoring and Enforcement Program (CMEP).

2018 Key Assumptions

NPCC regularly conducts seminars as well as Spring and Fall Standards and Compliance workshops specifically designed, primarily through the conduct of targeted breakout class room sessions and presentations on current industry related activities, to provide for the most efficient exchange of information between the NPCC Compliance and Standards staff and the NPCC Stakeholders. Presentations in the past have been conducted by FERC, NERC and Stakeholder representatives in addition to NPCC staff members. To supplement these workshops, NPCC is considering developing on-line webinars that will focus on a specific topic pertinent to developments related to compliance program implementation, standards development or technical issues.

NPCC also regularly conducts Spring and Fall System Operator Seminars. These seminars involve system operators from the NPCC RC/BA Areas and PJM, and are held in early May and early November.

Training, Education and Operator Certification 2018 Goals and Deliverables

- Prepare and conduct the 2018 Spring and Fall NPCC System Operator Seminars;
- Implement the PER-005-2 expanded requirements within the NPCC RC/BA Area programs; and,
- Continue collaboration and sharing of the intended RC/BA approaches, experiences and materials to task identification and training development associated with NERC Standard PER-005-2.

Training, Education and Operator Certification 2018 Goals and Deliverables

- As needed, expand the NPCC repository of training resources and learning verification activities addressing fundamental power system topics, training methods and operation procedure training exercises, which may be shared as elements of operator training in compliance with NERC Standard PER-005, “*System Personnel Training*”; and,

Develop on-line operational training webinars that focus on specific topics pertinent to compliance program implementation, standards development or technical issues.

Based on the portion of professional/technical staff time and other resources devoted to training, education, and operator certification, NPCC estimates that it will expend 2% of its resources on this activity.

Resource Requirements

Personnel

- NPCC anticipates no need to hire additional personnel in this program area in 2018.

Training, Education, and Operator Certification Program

Funding sources and related expenses for the training, education, and operator certification section of the 2018 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						
2017 Budget & Projection, and 2018 Budget						
Training, Education, and Operator Certification						
				Variance 2017 Projection v 2017 Budget Over(Under)		Variance 2018 Budget v 2017 Budget Over(Under)
	2017 Budget	2017 Projection			2018 Budget	
Funding						
ERO Funding						
ERO Assessments	\$ 184,658	\$ 184,658	\$ -		\$ 184,791	\$ 133
Penalty Sanctions	-	-	-		260	260
Total ERO Funding	\$ 184,658	\$ 184,658	\$ -		\$ 185,051	\$ 393
Membership Dues	-	-	-		-	-
Testing Fees	-	-	-		-	-
Services & Software	-	-	-		-	-
Workshops	64,000	64,000	-		64,000	-
Interest	-	-	-		-	-
Miscellaneous	-	-	-		-	-
Total Funding (A)	\$ 248,658	\$ 248,658	\$ -		\$ 249,051	\$ 393
Expenses						
Personnel Expenses						
Salaries	\$ 21,012	\$ 21,012	\$ -		\$ 18,399	\$ (2,613)
Payroll Taxes	1,396	1,396	-		1,350	(46)
Benefits	4,801	4,801	-		4,893	92
Retirement Costs	2,641	2,641	-		2,320	(321)
Total Personnel Expenses	\$ 29,850	\$ 29,850	\$ -		\$ 26,963	\$ (2,888)
Meeting Expenses						
Meetings	\$ 186,300	\$ 186,300	\$ -		\$ 188,300	\$ 2,000
Travel	13,635	13,635	-		15,000	1,365
Conference Calls	-	-	-		-	-
Total Meeting Expenses	\$ 199,935	\$ 199,935	\$ -		\$ 203,300	\$ 3,365
Operating Expenses						
Consultants & Contracts	\$ -	\$ -	\$ -		\$ -	\$ -
Office Rent	-	-	-		-	-
Office Costs	-	-	-		-	-
Professional Services	-	-	-		-	-
Computer & Equipment Leases	-	-	-		-	-
Miscellaneous	-	-	-		-	-
Depreciation	-	-	-		-	-
Total Operating Expenses	\$ -	\$ -	\$ -		\$ -	\$ -
Total Direct Expenses	\$ 229,785	\$ 229,785	\$ -		\$ 230,263	\$ 477
Indirect Expenses	\$ 19,306	\$ 19,306	\$ -		\$ 19,460	\$ 154
Other Non-Operating Expenses	\$ -	\$ -	\$ -		\$ -	\$ -
Total Expenses (B)	\$ 249,091	\$ 249,091	\$ -		\$ 249,723	\$ 632
Change in Assets	\$ (433)	\$ (433)	\$ -		\$ (672)	\$ (239)
Fixed Assets						
Depreciation	\$ -	-	\$ -		\$ -	\$ -
Computer & Software CapEx	-	-	-		-	-
Furniture & Fixtures CapEx	-	-	-		-	-
Equipment CapEx	-	-	-		-	-
Leasehold Improvements	-	-	-		-	-
Allocation of Fixed Assets	(433)	(433)	-		(672)	(239)
Inc(Dec) in Fixed Assets (C)	(433)	(433)	-		(672)	(239)
TOTAL BUDGET (=B+C)	248,658	248,658	-		249,051	393
TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)	\$ (0)	\$ (0)	\$ -		\$ 0	\$ 0

Situation Awareness and Infrastructure Security Program

Situation Awareness and Infrastructure Security Program Resources			
(in whole dollars)			
	2017 Budget	2018 Budget	Increase (Decrease)
Total FTEs	4.00	5.00	1.00
Direct Expenses	\$1,188,137	\$1,373,791	\$185,654
Indirect Expenses	\$772,241	\$973,021	\$200,780
Other Non-Operating Expenses	\$0	\$0	\$0
Inc(Dec) in Fixed Assets	(\$17,325)	(\$33,611)	(\$16,286)
Total Funding Requirement	\$1,943,053	\$2,313,202	\$370,148

Program Scope and Functional Description

The Situation Awareness and Infrastructure Security Program is the combination of near real time awareness of conditions on the bulk power system with the programs necessary to increase the physical and cyber security of the electricity infrastructure, including the operation and maintenance of tools and other support services for the benefit of Reliability Coordinators and the system operators within the registered entities. Maintaining the real-time awareness of conditions on the interconnected bulk power systems by the NPCC Reliability Coordinator is critical to maintaining reliable operation within NPCC, including the communication of information concerning system conditions and abnormal events among the neighboring system operators responsible for the reliable operation of the bulk power systems. When a disturbance does occur, it is critical to use the event as a learning opportunity and provide a forum for the active coordination of reliability and operation among the NPCC Reliability Coordinator areas and neighboring NERC Regions to enhance the reliability of the interconnected bulk power system through the lessons to be learned which can be gleaned from such an event.

These Situation Awareness and Infrastructure Security activities indicated below are done in support of ERO Goal No. 3 “*Identification and Mitigation of Significant Risks to Reliability.*” A related contributing activity to this Goal is to “Analyze system performance, events, and relationships among data sources to identify risks and mitigation strategies, and provide recommendations and lessons learned.”

Event Analysis Program Description

NERC and the industry follow three avenues in the analysis of a disturbance: the identification of lessons to be learned, a formal cause code analysis and a review of applicable standards.

The Event Analysis Program recognizes that many events which occur on the bulk power system beyond those identified through NERC Reliability Standard EOP-004-2, “Event Reporting,” can have varying levels of significance to the electric system, providing otherwise unrealized lessons to be learned from these events and the trending of such events to identify possible reliability concerns. By integrating a “bottom-up” approach to a disturbance review within the framework of the NERC Event Analysis Program, consistency, comparability, flexibility and timeliness in the event analysis process will be promoted by NPCC, the registered entities and NERC in a collaborative initiative. Upon the identification of an event, the goal of the Event Analysis Program is to:

- identify what transpired;
- categorize the event within the NERC Event Analysis Program;
- establish the sequence of events;
- understand the essential root causes of the event;
- identify recommendations or corrective actions; and,
- develop and disseminate to the industry lessons to be learned so that the operational reliability of the bulk power system can be further enhanced.

In assessing any system event, it is recognized that, if the timely dissemination of lessons learned from an event or disturbance is to be realized, any potential compliance implications associated with an event must be addressed and dismissed. Throughout an event analysis effort, to make this process successful and complete, and to solidify the “bottom-up” approach, registered entities are encouraged to establish a liaison between the event analysis and compliance functions internal to the registered entity during the event analysis process. This serves to facilitate the development of a registered entity compliance self-assessment report which will perform a sufficiency review of the reliability standards deemed applicable to the event, assisting in the self-reporting of possible violations should any be discovered.

To complete this effort, the entity, the Region and NERC staff will collaborate to assess the NERC Event Analysis Report and perform a formal cause code analysis, identifying a root cause and publish any pertinent lessons learned gathered from the disturbance.

The adoption by NERC of the Event Analysis Program brings clarity and certainty about what system events are relevant to analyze and to what level of detail, targeting potential risks to the reliability of the bulk power system for detailed and in depth analysis; only concise and succinct reviews are desired for more minor events. It also delineates the expectations of roles and responsibilities of the registered entities, NPCC and NERC in a uniform review of system disturbances by the industry, and, ultimately, the program promotes the timely development and dissemination of valuable lessons learned to the industry. The identification and tracking of emerging common risks through the assessment of events will further distinguish trends which may be of concern to reliability. By rigorously pursuing the lesser events on the system and learning from these disturbances, larger events can be avoided or mitigated.

NPCC staff works step-by-step with the registered entity in the total event analysis process, permitting the entity to assume the primary role in the development of the initial analysis, lessons learned which may benefit the industry and the Standards sufficiency review and cause coding for trending and reporting. NPCC staff, throughout the process, guides, supports and stands as an advocate of the registered entity as they continue to develop an improved culture of reliability and compliance.

2018 Key Assumptions

- The monitoring of Lessons Learned will continue to be a major focus of NERC in 2018. This will include an added aspect of the voluntary Event Analysis Program, in response to a recommendation of the AC Substation Equipment Task Force (ACSETF), to solicit and collect detailed information on station equipment failures, for applicable, qualifying events to aid in future analysis of station equipment failures to identify trends that may be a threat to the reliability of the BES;
- Critical infrastructure protection will fully integrate the requirements of Version 5 of the Cyber Standards in 2018; and,

- NERC will post updates to the critical infrastructure protection (CIP) Standards to address the three FERC Directives and the four industry concerns that were not satisfactorily responded to by the version 5 Transition Advisory Group.

Situation Awareness 2018 Goals and Deliverables

NERC Activities

- NPCC will provide the Regional perspective and support through NPCC EA staff participation on selective NERC Planning and Operating Committees and key related NERC Subcommittees, Task Forces and Working Groups, including:
 - Event Analysis Subcommittee (EAS);
 - ERO – EA/SA Group; and,
 - The Event Analysis Management System (TEAMS).

NPCC Activities

- Work directly with applicable NPCC Task Forces to provide an in-depth assessment of Lessons Learned unique to the NPCC members and NPCC Criteria;
- Promote NPCC's Event Analysis group's established process for sharing and dissemination of the detailed Event Analysis Report information among industry participants (registered entities);
- Incorporating the Lessons Learned from participation in the GridEx IV wide-area exercise;
- Utilize the NPCC's "what if" methodology to examine an event's potential impact under a different set of system conditions, to evaluate the proximity of a particular event to being a significant BPS requiring appropriate level of analysis with due weight to risk and impact;
- Establish a process/procedure for data capture and transfer aspects for post-disturbance (major disturbance and/or blackout events) system analysis, including requirements for regularly scheduled (annual) testing of the procedure implementation;
- 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 (RCs) within NPCC. Notify the RCs of significant bulk power system events that have occurred in one Reliability Coordinator Area, and which have the potential to impact reliability in other NPCC Reliability Coordinator Areas or Regions external to NPCC. These events include contingencies on the bulk power system, potential shortfalls of operating reserve, operating problems, potential security threats and potential threats or disruptions to the cyber systems;
- Conduct a daily conference call to serve as a complement to the NPCC Emergency Preparedness Conference Call. The participants of the call are the Reliability Coordinators within NPCC and its neighboring RCs, the Midcontinent ISO and PJM. The conference call is implemented through a bridge, the initiation of the call quickly ringing all pre-selected telephones simultaneously. The goal of the call is to alert all Reliability Coordinators of emerging problems. If no system difficulties are anticipated for the day, no unnecessary information is to be discussed. Subjects for discussion are limited to credible events which could impact the ability of an entity to serve its load and meet its operating reserve obligations or would impose a burden to the interconnection, including the following: Projected Load; Adverse Weather; Operating Reserve; Generation; Transmission; and Sabotage. If conditions worsen in the course of the day, the NPCC Emergency Preparedness Conference Call will be implemented;
- Monthly test of the satellite telephone network, to ensure the capability for continued voice communications among NPCC and its Reliability Coordinators. This back-up communications system will function in the event of a collapse of the Public Switched

Telephone Network (PSTN), permitting continued cross-border voice communications among the Canadian Reliability Coordinators of NPCC, the Reliability Coordinators in the United States as well as NPCC Situation Awareness (SA) staff.

Situation Awareness 2018 Goals and Deliverables

Monitor the status of the bulk power system through the NERC Situational Awareness-FERC, NERC, Regions (SAFNR) initiative, a near real-time operating display for the United States portion of the Reliability Coordinators footprints of North America. Transmission voltage levels of 230 kV and above are displayed, and the tool provides the ability to “drill down” to detailed bus information, including generation outputs and bus voltages.

Critical Infrastructure Objectives

NPCC's critical infrastructure objectives are defined within the scope of the NPCC Task Force on Infrastructure Security & Technology, (TFIST) and include, but are not confined to:

- Providing a forum for NPCC review of proposed and posted documents from the NERC Critical Infrastructure Protection Committee (CIPC); 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 2018 critical infrastructure goals and objectives, supporting ERO Goal No. 3 - *Identification and Mitigation of Significant Risks to Reliability*. Related contributing activities to this Goal include "Expand the use, availability, and value of physical security and cybersecurity threat and vulnerability information sharing, including cross sector communications, and analytics" and "In collaboration with the Critical Infrastructure Protection Committee and industry stakeholders, develop a risk process to address the potential impact of cyber and physical security threats and vulnerabilities."

Critical Infrastructure 2018 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;
- Review and submit comments on NERC proposed Reliability Standards, modified Reliability Standards, proposed Guidelines and modified Guidelines related to Infrastructure Security and Technology;
- Keep current on all governmental agencies regarding applicable security recommendations and requirements, and other applicable security and reliability recommendations and keep the RCC and its committees appropriately informed, e.g. Sector Specific Plan;
- Conduct an annual test of cross border emergency telecommunications to verify each Area can communicate with each other;
- Provide support and technical input for Task Force related BES risks as identified by the NERC Reliability Issues Steering Committee. The Task Force will conduct a thorough review, provide comments as necessary and act on posted materials as directed; and,
- Support the NERC CIPC Grid Exercise Working Group (GEWG) with Cross Sector support in Grid Exercise (GridEx) IV planning and simulation. Participate in the development of lessons learned from GridEx IV.

Critical Infrastructure 2018 Goals and Deliverables

- 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.; and,
- Provide education, awareness, and support for Cross Sector coordination in Entity agreements and response plans with focus upon Telecommunications, Water and Natural Gas, including monitoring and sharing with the E-ISAC.

Related System Operations Security 2018 Goals and Deliverables

NPCC's system operations security objectives are defined within the scope of the NPCC Task Force on Coordination of Operation (TFCO) and include, but are not confined to:

- Coordinating inter-Regional pre-emergency actions in the event of a threat to the security of the Northeastern North American bulk power supply system; and,
- Assisting in the development of real time operating tools assuring cyber security concerns are addressed.

Based on the portion of professional/technical staff time and other resources devoted to situation awareness and infrastructure security, NPCC estimates that it will expend 16% of its resources on this activity.

Resource Requirements

Personnel

- Reallocation of staff during 2017 resulted in an increase of one full time employee in the Situation Awareness and Infrastructure Security program to support increased workload in this area.

Consultants and contracts

- Decrease in consulting and contracts expense is associated with increase in staff allocated to this program area.

Situation Awareness and Infrastructure Security Program

Funding sources and related expenses for the situation awareness and infrastructure security section of the 2018 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 2017 Budget & Projection, and 2018 Budget						
Situation Awareness and Infrastructure Security						
	2017 Budget	2017 Projection	Variance 2017 Projection v 2017 Budget Over(Under)	2018 Budget	Variance 2018 Budget v 2017 Budget Over(Under)	
Funding						
ERO Funding						
ERO Assessments	\$ 1,943,053	\$ 1,943,053	\$ -	\$ 2,300,208	\$ 357,155	
Penalty Sanctions	-	-	-	12,994	12,994	
Total ERO Funding	\$ 1,943,053	\$ 1,943,053	\$ -	\$ 2,313,202	\$ 370,148	
Membership Dues	-	-	-	-	-	
Testing Fees	-	-	-	-	-	
Services & Software	-	-	-	-	-	
Workshops	-	-	-	-	-	
Interest	-	-	-	-	-	
Miscellaneous	-	-	-	-	-	
Total Funding (A)	\$ 1,943,053	\$ 1,943,053	\$ -	\$ 2,313,202	\$ 370,148	
Expenses						
Personnel Expenses						
Salaries	\$ 660,213	\$ 742,713	\$ 82,500	\$ 825,560	\$ 165,347	
Payroll Taxes	42,778	50,278	7,500	53,677	10,899	
Benefits	160,814	173,564	12,750	189,417	28,603	
Retirement Costs	72,333	83,583	11,250	87,637	15,304	
Total Personnel Expenses	\$ 936,137	\$ 1,050,137	\$ 114,000	\$ 1,156,291	\$ 220,154	
Meeting Expenses						
Meetings	\$ 13,500	\$ 13,500	\$ -	\$ 10,000	\$ (3,500)	
Travel	78,500	85,250	6,750	87,500	9,000	
Conference Calls	-	-	-	-	-	
Total Meeting Expenses	\$ 92,000	\$ 98,750	\$ 6,750	\$ 97,500	\$ 5,500	
Operating Expenses						
Consultants & Contracts	\$ 160,000	\$ 160,000	\$ -	\$ 120,000	\$ (40,000)	
Office Rent	-	-	-	-	-	
Office Costs	-	-	-	-	-	
Professional Services	-	-	-	-	-	
Computer & Equipment Leases	-	-	-	-	-	
Miscellaneous	-	-	-	-	-	
Depreciation	-	-	-	-	-	
Total Operating Expenses	\$ 160,000	\$ 160,000	\$ -	\$ 120,000	\$ (40,000)	
Total Direct Expenses	\$ 1,188,137	\$ 1,188,137	\$ 120,750	\$ 1,373,791	\$ 185,654	
Indirect Expenses	\$ 772,241	\$ 772,241	\$ -	\$ 973,021	\$ 200,780	
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -	
Total Expenses (B)	\$ 1,960,378	\$ 1,960,378	\$ 120,750	\$ 2,346,812	\$ 386,434	
Change in Assets	\$ (17,325)	\$ (17,325)	\$ (120,750)	\$ (33,611)	\$ (16,286)	
Fixed Assets						
Depreciation	\$ -	-	\$ -	\$ -	\$ -	
Computer & Software CapEx	-	-	-	-	-	
Furniture & Fixtures CapEx	-	-	-	-	-	
Equipment CapEx	-	-	-	-	-	
Leasehold Improvements	-	-	-	-	-	
Allocation of Fixed Assets	(17,325)	(17,325)	-	(33,611)	(16,286)	
Inc(Dec) in Fixed Assets (C)	(17,325)	(17,325)	-	(33,611)	(16,286)	
TOTAL BUDGET (=B+C)	1,943,053	1,943,053	120,750	2,313,202	370,148	
TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)	\$ (0)	\$ (0)	\$ (120,750)	\$ 0	\$ 0	

Administrative Services

Administrative Services Program Resources						
(in whole dollars)						
	Direct Expenses and Fixed Assets			FTEs		
	2017 Budget	2018 Budget	Increase (Decrease)	2017 Budget	2018 Budget	Increase (Decrease)
Technical Committees and Members Forum	\$72,500	\$70,680	(\$1,820)	0.50	0.50	0.00
General and Administrative	\$3,245,691	\$3,338,132	\$92,441	2.50	2.50	0.00
Legal and Regulatory	\$648,680	\$592,049	(\$56,632)	1.00	1.00	0.00
Information Technology	\$1,185,675	\$1,119,490	(\$66,186)	2.00	2.00	0.00
Human Resources	\$182,059	\$181,145	(\$915)	1.00	1.00	0.00
Finance and Accounting	\$525,262	\$537,236	\$11,974	1.00	1.00	0.00
Total Administrative Services	\$5,859,868	\$5,838,732	(\$21,136)	8.00	8.00	0.00

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 2018 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 2017 Budget & Projection, and 2018 Budget						
ADMINISTRATIVE SERVICES						
	2017 Budget	2017 Projection	Variance 2017 Projection v 2017 Budget Over(Under)	2018 Budget	Variance 2018 Budget v 2017 Budget Over(Under)	
Funding						
ERO Funding						
ERO Assessments	\$ (185,991)	\$ (185,991)	\$ -	\$ 15,823	\$ 201,813	
Penalty Sanctions	-	-	-	-	-	
Total ERO Funding	\$ (185,991)	\$ (185,991)	\$ -	\$ 15,823	\$ 201,813	
Membership Dues	-	-	-	-	-	
Testing Fees	-	-	-	-	-	
Services & Software	-	-	-	-	-	
Workshops	-	-	-	-	-	
Interest	-	-	-	-	-	
Miscellaneous	-	-	-	-	-	
Total Funding (A)	\$ (185,991)	\$ (185,991)	\$ -	\$ 15,823	\$ 201,813	
Expenses						
Personnel Expenses						
Salaries	\$ 1,872,579	\$ 1,872,579	\$ -	\$ 2,063,139	\$ 190,561	
Payroll Taxes	93,995	93,995	-	97,378	3,383	
Benefits	418,433	418,433	-	438,408	19,975	
Retirement Costs	317,471	317,471	-	295,596	(21,874)	
Total Personnel Expenses	\$ 2,702,478	\$ 2,702,478	\$ -	\$ 2,894,522	\$ 192,044	
Meeting Expenses						
Meetings	\$ 120,000	\$ 120,000	\$ -	\$ 116,750	\$ (3,250)	
Travel	143,590	143,590	-	138,000	(5,590)	
Conference Calls	37,000	37,000	-	37,000	-	
Total Meeting Expenses	\$ 300,590	\$ 300,590	\$ -	\$ 291,750	\$ (8,840)	
Operating Expenses						
Consultants & Contracts	\$ 152,000	\$ 152,000	\$ -	\$ 92,000	\$ (60,000)	
Office Rent	809,700	809,700	-	810,700	1,000	
Office Costs	679,100	679,100	-	664,760	(14,340)	
Professional Services	1,041,000	1,041,000	-	960,000	(81,000)	
Computer & Equipment Leases	-	-	-	-	-	
Miscellaneous	50,000	50,000	-	50,000	-	
Depreciation	250,000	250,000	-	269,000	19,000	
Total Operating Expenses	\$ 2,981,800	\$ 2,981,800	\$ -	\$ 2,846,460	\$ (135,340)	
Total Direct Expenses	\$ 5,984,868	\$ 5,984,868	\$ -	\$ 6,032,732	\$ 47,864	
Indirect Expenses	\$ (5,984,868)	\$ (5,984,868)	\$ -	\$ (6,032,732)	\$ (47,864)	
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -	
Total Expenses (B)	\$ -	\$ -	\$ -	\$ 0	\$ 0	
Change in Assets	\$ (185,991)	\$ (185,991)	\$ -	\$ 15,823	\$ 201,813	
Fixed Assets						
Depreciation	(250,000)	(250,000)	\$ -	(269,000)	\$ (19,000)	
Computer & Software CapEx	125,000	125,000	-	75,000	(50,000)	
Furniture & Fixtures CapEx	-	-	-	-	-	
Equipment CapEx	-	-	-	-	-	
Leasehold Improvements	-	-	-	-	-	
Allocation of Fixed Assets	125,000	125,000	-	194,000	69,000	
Inc(Dec) in Fixed Assets (C)	-	-	-	-	-	
TOTAL BUDGET (=B+C)	-	-	-	0	0	
TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)	\$ (185,991)	\$ (185,991)	\$ -	\$ 15,823	\$ 201,813	

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.

2018 Key Assumptions

- NPCC’s standing committee and subgroup structure for effective stakeholder involvement will continue in 2018
- 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 2018
- NPCC will continue to invest in technology and innovation to allow efficient collaboration on technical issues related to reliability

The Technical Committees and Member Forums activities indicated below are done in support of ERO Goal No. 4 “*Identification and Assessment of Emerging Risks to Reliability.*” A related contributing activity to this Goal is to “Educate policy makers, regulators, and the industry of reliability effects and interconnection requirements for the changing resource mix.”

Technical Committees and Member Forums 2018 Goals and Deliverables

- ✓ The 2018 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 2018 NPCC Reliability Assessment; and,
 - Participation in NERC Regional communication initiatives:
 - Regional communications teleconferences as required
 - Coordination of Emergency or Blackout communications plans
 - Coordination with other NERC activities as required (i.e., situation awareness, event analysis, reliability assessments, etc.)

Resource Requirements

Personnel

- NPCC anticipates no need to hire additional personnel in this program area in 2018.

General and Administrative

Program Scope and Functional Description

The NPCC general and administrative function provides executive management of the corporation, management of NPCC office, and other administrative support programs.

NPCC total overhead expenses, such as office rent and office costs, will be charged to the Administrative Services Programs and then reallocated proportionately based on FTE to the programs through Indirect Expenses.

Resource Requirements

Personnel

- NPCC anticipates no need to hire additional personnel in this program area in 2018.

Consultants and Contracts

- Decrease is primarily the result of reduction in contract expenses associated with the Regional Entity Management Group.

Office Rent

- Projected increase in real estate taxes.

Legal and Regulatory

Program Scope and Functional Description

NPCC's professional legal services provide counsel to the President and CEO, Board of Directors, Senior Vice President and COO, Treasurer, General Counsel and staff on a wide range of legal and regulatory matters including legislation, corporate law, code of conduct, confidentiality, governance, employment law, tax matters, contract law and other areas affecting NPCC. In support of ERO Goal 5.c., NPCC's in-house counsel evaluates internal controls and corporate, operational, strategic and reputational risk, and participates in risk identification, evaluation and mitigation activities. In-house counsel provides legal advice to advance significant corporate policy and strategic planning initiatives and also provide legal support to other program areas on matters arising in connection with the performance of NPCC's delegated functions. In-house counsel draft agreements and pleadings and provide interpretations of relevant statutes, regulations, court opinions, and regulatory decisions of FERC, state agencies and provincial authorities. Outside counsel, as necessary, reviews items filed with the governmental agencies for legal sufficiency, maintains relationships with U.S. and Canadian jurisdictions and provides contract review.

Resource Requirements

Personnel

- NPCC anticipates no need to hire additional personnel in this program area in 2018.

Professional Services

- Legal fees are projected to be lower based on additional workload taken on by in-house legal team.

Information Technology

Program Scope and Functional Description

NPCC's Information Technology services ensure information assets and the environment in which they operate are secure and in conformance to NPCC IT Policies and Procedures and all applicable Critical Electric Infrastructure Information protection and Confidentiality requirements. NPCC maintains an offsite backup server for continuity of essential operations in the event that its primary location is unavailable.

NPCC supports the ERO efforts to implement, operate and maintain software tools supporting common enterprise wide operations and leveraging ERO solutions which have been approved by the ERO Executive Management Group (ERO EMG), which is comprised of the senior leadership of NERC and each of the Regional Entities. NPCC's budget assumes the availability of enterprise software tools as described in NERC's business plan and budget. If implementation of these software applications is delayed or otherwise not available as planned, NPCC could incur additional costs to implement ERO Enterprise-wide programs pending the availability of these applications.

NERC and the Regional Entities are committed to working collaboratively to minimize duplication of effort and investments, and improve operational efficiency. This collaboration continues to refine existing strategies, governance and procurement practices applicable to the development, operation and maintenance of enterprise architecture, software and data systems supporting complementary and combined NERC and Regional Entity operations.

The NERC information technology budget does not supplant NPCC's need for IT expenditures for specific regional projects and internal region specific IT support needs. NPCC's 2018 Business Plan and Budget assumes agreed-upon ERO Enterprise applications will be available and includes only NPCC costs for region specific support needs.

2018 Key Assumptions

- Continue to maintain the compliance portal through collaboration with other Regional Entities and NERC (CUG).
- Support the Event Analysis program through continued participation in the tools used for the tracking and analysis of system events and identification of better practice elements.
- Support the Bulk Electric System Exception Process (BEP) to enable and facilitate tracking and processing of exceptions submitted. Maintenance of the BESNET support services such as updates, patching, coordinating issues with NERC.
- Support Cyber Security Reviews done by Compliance to provide advisory role during those reviews.

2018 Goals and Key Deliverables

Responsibilities encompass a variety of complex technical, administrative, and supervisory work in the development, installation, and maintenance of information technology systems. IT goals include, but are not limited to:

- Expand the utilization of the document management system throughout the company.
- Create an information security program and environment aimed at reducing breach of security risks
- Determine longer-term software and systems needs and hardware acquisitions
- Develop and implement information security standards and procedures

- Ensure all information systems are functional and secure, and that all applications running on those systems meet business requirements for performance, availability, and security
- Plan and implement organization-wide information systems, services, and network facilities, including local area networks, wide-area networks, and peripheral systems
- Provide outreach and education to NPCC members in IT best practices
- Continually improve Disaster Recovery and Business Continuity policies and practices to ensure continuity and reliability of IT and business related services

Resource Requirements

Personnel

- NPCC anticipates no need to hire additional personnel in this program area in 2018.

Fixed Assets

- Capital expenditures planned for 2018 include the continuing implementation of an Enterprise Content Management system.

Human Resources

Program Scope and Functional Description

NPCC has assembled an exceptional team of highly qualified employees to carry out the activities of NPCC. The human resources function, in adherence with applicable federal and state laws, designs, plans, and implements human resources policies and procedures, including: staffing; compensation; benefits; employee relations; training and development; and employee time tracking.

Resource Requirements

Personnel

- Temporary office services increased to assist in administrative services in the area of human resources.

Accounting and Finance

Program Scope and Functional Description

The accounting and finance function directs the overall financial plans and accounting practices of the organization; oversees treasury, accounting, budget, tax, and audit activities; and oversees financial and accounting system controls and standards. NPCC uses a CPA firm to prepare its unaudited statements of activities and financial statements for quarterly reviews. Independent audits have identified this system as a best practice.

2018 Goals and Key Deliverables

The objectives are to provide or obtain the financial and accounting services for NPCC and coordinate with NERC requirements:

- Utilize the NERC System of Accounts for consistency
- Utilize an accrual method of accounting for consistency with NERC in methodology
- Alignment of changes in budget and changes in aggregate assessment
- Cash Management
- Budget Development using the NERC budget template formats
- Forecasts and Projections
- Alignment of NPCC Committees, Task Forces and Working Groups with the programs
- Payroll and expense administration
- Preparation of unaudited Quarterly Financial Variance Reports
- IRS Reporting
- Annual Independent Audit initiated by the Regional Entity

Resource Requirements

Personnel

- NPCC anticipates no need to hire additional personnel in this program area in 2018.

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 2016 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 2016 NEL within the Region. Non ISO/BAA Full Members will be assessed no membership fee.

NPCC Cost Allocation Methodology

The accompanying table provides information regarding cost allocation for both the Regional Entity division and the criteria services division of NPCC, including the details associated with the funding of the Compliance Program within the RE division. For purposes of determining assessments to support NPCC's resource requirements, costs are allocated among the BAAs within NPCC as the designees for the load-serving-entities in New York, New England, Ontario, Québec, New Brunswick and Nova Scotia.

In order to reflect and respect the international membership and nature of NPCC, any sub-regional reliability assessment costs in response to U.S. only regulatory initiatives will be considered for allocation to U.S. only BAAs consistent with NERC Rules of Procedure section 1102. Additionally, the compliance responsibilities and authorities within the U.S., and the specific compliance responsibilities within each of the Canadian provinces within NPCC, and the attendant costs of portions of the compliance program differ among the areas within the Regional Entity. Within the U.S. portion of NPCC all costs attributable to delegated (statutory) functions performed by NPCC, including all compliance functions, are assessed based on a NEL allocation. Within the Canadian portion of NPCC those costs attributable to compliance functions performed by NPCC on behalf of provincial governmental and/or regulatory authorities are allocated consistent with the unique Memoranda of Understanding or Agreements that have been entered into for those provinces. To address these different compliance regimes, NPCC developed a composite cost allocation methodology that allocates U.S. only reliability assessment and compliance costs on a fair and equitable basis within the Regional Entity.

As an initial step of that methodology, the NEL for each of the BAAs and their relative percentage to the NPCC total NEL is calculated for the most recent year for which data is available, the second previous year. In order to establish the RE division funding requirements for each Balancing Authority Area on a NEL basis for all programs except for Compliance, the proposed expenses and fixed assets of all other programs are calculated and the adjustment for the RE division cash reserve requirement is identified. Any penalty monies received from NPCC registered entities within the U.S. prior to June 30th of the year preceding the business plan and budget year are then allocated among the NPCC program areas based on their FTE ratio and between the U.S. BAAs based on their relative NELs. Consistent with each of the Canadian provincial MOUs and agreements, all penalty monies resulting from compliance actions within Canada, if any, would remain within the applicable province. The total budgeted fees for NPCC

workshop participation are indicated as a credit, with the resultant addition being the RE division assessment, without the compliance program costs, calculated on a NEL basis.

In accordance with the *NPCC Amended and Restated Bylaws* the CS division proposed expenses and fixed assets of all programs are calculated and the adjustment for the CS division cash reserve requirement is identified, with the resultant addition being the CS division funding requirement and assessment, calculated on a NEL basis

For costs associated with the RE division compliance program, NPCC's allocation methodology apportions XX% of the costs for the program, attributed to CORC Fundamentals (CF), between the BAAs in the United States and Canada on a NEL basis.

Audits and Investigations (AI) related costs, representing XX% of the costs of the compliance program, are allocated between U.S. and Canadian BAAs in NPCC, and among the Canadian provinces, using an audit-based methodology. The audit-based methodology incorporates relative costs based on categories of compliance audits which are reflective of their size and complexity, as well as the differing compliance program implementation models that are utilized in NPCC due to the international nature of the Regional Entity. The portion allocated to the U.S. BAAs in NPCC is calculated using the audit-based methodology, and this amount is then re-allocated between the New York and New England BAAs based on their relative NEL.

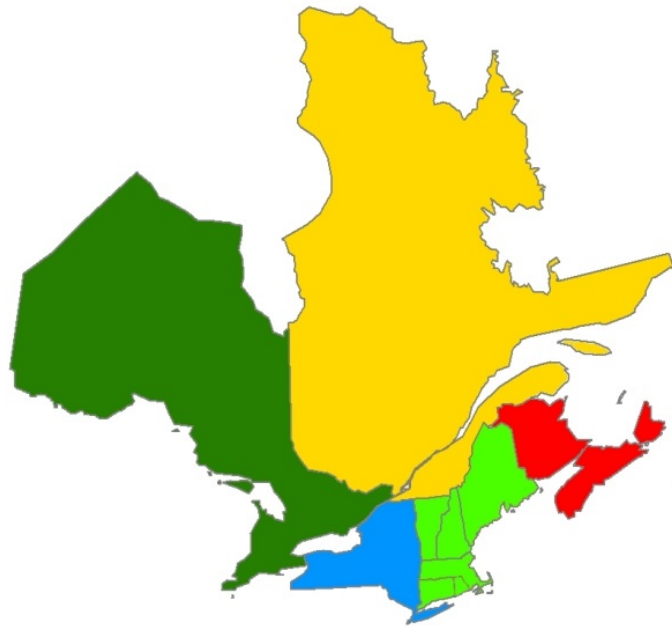
The remaining XX% of the costs of the compliance program represent Mitigation and Enforcement (ME) related costs and are allocated between U.S. and Canadian BAAs in NPCC, and among the Canadian provinces, using an enforcement activity based methodology. Based on historical data, NPCC reviewed each BAAs percentage of violations, mitigation plans and settlement agreements to determine each BAAs total average percentage of enforcement activities. The portion allocated to the U.S. BAAs in NPCC is calculated using the enforcement activity based methodology, and this amount is then re-allocated between the New York and New England BAAs based on their relative NEL.

Any penalty monies received from NPCC registered entities within the U.S. by June 30th of the year preceding the business plan and budget year are then allocated among the NPCC program areas based on their FTE ratio and between the U.S. BAAs based on their relative NELs, and then added to the total compliance program expenses and fixed assets to yield a total compliance program assessment.

The CORC actual vs budget variance from the most recent year for which audited financials are available is broken out from the rest of the Adjustment to Cash Reserve and assigned to the CORC program allocation of costs. Within Quebec 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.

Section B – Supplemental Financial Information 2018 Business Plan and Budget



Section B — Supplemental Financial Information

Reserve Balance

Table B-1 Reserve Balance

Working Capital and Operating Reserve Analysis 2017-2018				
REGIONAL ENTITY DIVISION				
	Total Reserve	Operating Reserve	Working Capital	Business Continuity
Beginning Working Capital and Operating Reserve, December 31, 2016	5,327,887	4,069,023	1,258,864	0
Plus: 2017 ERO Funding (from LSEs or designees)	14,255,061	14,255,061		
Plus: 2017 Other funding sources	64,000	64,000		
Less: 2017 Projected expenses & capital expenditures	(15,147,054)	(15,147,054)		
Projected Working Capital and Operating Reserve, December 31, 2017	4,499,893	3,241,030	1,258,864	0
Desired Working Capital and Operating Reserve, December 31, 2018 ¹	2,933,713	1,674,849 ²	1,258,864 ³	
19.42% of Total Regional Entity Budget of \$15,106,967				
Desired Business Continuity Reserve, December 31, 2018 ⁴	940,000			940,000
Less: Projected Working Capital and Operating Reserve, December 31, 2017	(4,499,893)	(3,241,030)	(1,258,864)	
Increase(decrease) in assessments to achieve desired Total Reserve	(626,180)	(1,566,180)	0	0
2018 Expenses and Capital Expenditures	15,106,967			
Less: Penalty Sanctions ⁵	(75,000)			
Less: Other Funding Sources	(64,000)			
Adjustment to achieve desired Total Reserve balance	(626,180)			
2018 Assessment	14,341,787			

¹ Total Reserve within a range of 16.67% - 33.33% of Budget.

² Operating Reserve within a range from 8.33% to 25.00% of Budget. \$1,674,849 represents 11.09% of the 2017 budget of \$15,106,967

³ Working Capital equal to 8.33% of Budget. \$1,258,864 represents 8.33% of the 2017 budget of \$15,106,967

⁴ Establish Business Continuity Reserve as approved by the NPCC Board of Directors upon recommendation by the MDCC.

⁵ Represents collections July 1, 2016 to June 30, 2017.

Explanation of Changes in Reserve Policy from Prior Year

There was no change to the existing Working Capital and Operating Reserve Policy, however, a separate Business Continuity Reserve (BCR) in the amount of \$1,000,000 (allocated between the Regional Entity and Criteria Services divisions) was established as approved by the NPCC Board of Directors, upon recommendation by the Management Development and Compensation Committee and endorsement by the Finance and Audit Committee, to be identified as restricted cash and drawn upon as subsequently brought before the Board of Directors in association with President & CEO succession related activities associated with a planned or sudden retirement, as well as other sudden changing workforce staffing requirements.

Breakdown by Statement of Activity Sections

The following detailed schedules are in support of the Regional Entity division Statement of Activities on page 13 of the 2018 Business Plan and Budget. All significant variances have been disclosed by program area in the preceding pages.

Penalty Sanctions

U.S. penalty monies received prior to June 30, 2017 are to be used to offset assessments in the 2018 Budget, as documented in the NERC Policy – Accounting, Financial Statement, and Budgetary Treatment of Penalties Imposed and Received for Violations of Reliability Standard. Penalty monies received from July 1, 2017 through June 30, 2018 will be used to offset U.S. load serving entity designee assessments in the 2019 Budget.

Allocation Method: U.S. penalty sanctions received have been allocated to the following Regional Entity division programs to reduce assessments: Reliability Standards; Compliance Monitoring & Enforcement and Organization Registration & Certification; Reliability Assessments and Performance Analysis; Training, Education and Operator Certification; and Situation Awareness and Infrastructure Security. U.S. penalty sanctions are allocated based upon the number of FTEs in the Program divided by the aggregate total FTEs in the Programs receiving the allocation.

Table B-2 Penalty Sanctions

Penalty Sanctions Received Prior to June 30, 2016	Date Received	Amount Received
Penalty Payment 1	12/16/2016	\$ 75,000.00
Total Penalties Received		\$ 75,000.00

Table B-3 Supplemental Funding

Outside Funding Breakdown By Program (excluding ERO Assessments & Penalty Sanctions)	Budget 2017	Projection 2017	Budget 2018	Variance 2018 Budget v 2017 Budget
Reliability Standards				
Total	\$ -	\$ -	\$ -	\$ -
Compliance Monitoring, Enforcement & Org. Registration				
	\$ -	\$ -	\$ -	\$ -
	-	-	-	-
Total	\$ -	\$ -	\$ -	\$ -
Reliability Assessment and Performance Analysis				
	\$ -	\$ -	\$ -	\$ -
	-	-	-	-
Total	\$ -	\$ -	\$ -	\$ -
Training and Education				
Workshops	\$ 64,000	\$ 64,000	\$ 64,000	\$ -
Total	\$ 64,000	\$ 64,000	\$ 64,000	\$ -
Situation Awareness and Infrastructure Security				
	\$ -	\$ -	\$ -	\$ -
Total	\$ -	\$ -	\$ -	\$ -
Technical Committees and Member Forums				
	\$ -	\$ -	\$ -	\$ -
Total	\$ -	\$ -	\$ -	\$ -
Administrative Services Programs				
	\$ -	\$ -	\$ -	\$ -
Total	\$ -	\$ -	\$ -	\$ -
Total Outside Funding	\$ 64,000	\$ 64,000	\$ 64,000	\$ -

Explanation of Significant Variances –2018 Budget versus 2017 Budget

- NPCC assumed no interest income because of continuing low market interest rates.

Table B-4 Personnel Expenses

Personnel Expenses	Budget 2017	Projection 2017	Budget 2018	Variance 2018 Budget v 2017 Budget	Variance %
Salaries					
Salary	\$ 6,718,926	\$ 6,718,926	\$ 7,057,483	\$ 338,557	5.0%
Employment Agency Fees	\$ 10,000	\$ 10,000	\$ 10,000	\$ -	0.0%
Temporary Office Services	\$ 30,000	\$ 30,000	\$ 40,116	\$ 10,116	33.7%
Total Salaries	\$ 6,758,926	\$ 6,758,926	\$ 7,107,599	\$ 348,673	5.2%
Total Payroll Taxes	\$ 404,319	\$ 404,319	\$ 411,440	\$ 7,121	1.8%
Benefits					
Education Reimbursement	\$ 22,500	\$ 22,500	\$ 30,000	\$ 7,500	33.3%
Training and Seminars	\$ 36,860	\$ 36,860	\$ 44,232	\$ 7,372	20.0%
Medical Insurance	\$ 790,034	\$ 790,034	\$ 811,369	\$ 21,335	2.7%
Life-LTD-STD Insurance	\$ 88,716	\$ 88,716	\$ 90,465	\$ 1,749	2.0%
Worker's Compensation	\$ 15,000	\$ 15,000	\$ 15,000	\$ -	0.0%
Vacation	\$ 462,494	\$ 462,494	\$ 485,312	\$ 22,818	4.9%
Relocation	\$ -	\$ -	\$ -	\$ -	-
Total Benefits	\$ 1,415,603	\$ 1,415,603	\$ 1,476,378	\$ 60,774	4.3%
Retirement					
Pension Contribution	\$ 37,000	\$ 37,000	\$ 38,000	\$ 1,000	2.7%
Employee Savings Plan	\$ 727,223	\$ 727,223	\$ 714,353	\$ (12,869)	-1.8%
Savings Admin	\$ 45,000	\$ 45,000	\$ 35,000	\$ (10,000)	-22.2%
Deferred Compensation	\$ 38,000	\$ 38,000	\$ 38,000	\$ -	0.0%
Total Retirement	\$ 847,223	\$ 847,223	\$ 825,353	\$ (21,869)	-2.6%
Total Personnel Costs	\$ 9,426,071	\$ 9,426,071	\$ 9,820,770	\$ 394,699	4.2%
FTEs	36.86	36.86	36.86	-	0.0%
Cost per FTE					
Salaries	\$ 183,367	\$ 183,367	\$ 192,827	\$ 9,459	5.2%
Payroll Taxes	\$ 10,969	\$ 10,969	\$ 11,162	\$ 193	1.8%
Benefits	\$ 38,405	\$ 38,405	\$ 40,054	\$ 1,649	4.3%
Retirement	\$ 22,985	\$ 22,985	\$ 22,392	\$ (593)	-2.6%
Total Cost per FTE	\$ 255,726	\$ 255,726	\$ 266,434	\$ 10,708	4.2%

Explanation of Significant Variances –2018 Budget versus 2017 Budget

- Temporary office services were increased to provide assistance in administrative services.
- Education reimbursement cost is based on additional employee that has expressed interest in pursuing an advanced degree.
- Savings administration decrease is due to the termination of the defined benefit plan.

Table B-5 Meeting Expense

Meeting Expenses	Budget 2017	Projection 2017	Budget 2018	Variance 2018 Budget v 2017 Budget	Variance %
Meetings	\$ 377,100	\$ 377,100	\$ 353,050	\$ (24,050)	-6.4%
Travel	\$ 855,232	\$ 855,232	\$ 834,500	\$ (20,732)	-2.4%
Conference Calls	\$ 37,000	\$ 37,000	\$ 37,000	\$ -	0.0%
Total Meeting Expenses	\$ 1,269,332	\$ 1,269,332	\$ 1,224,550	\$ (44,782)	-3.5%

Explanation of Significant Variances –2018 Budget versus 2017 Budget

- Continued efforts to limit the number of attendees to offsite meetings and hold more meetings on-site and via webinar.

Table B-6 Consultants and Contracts

Consultants	Budget 2017	Projection 2017	Budget 2018	Variance 2018 Budget v 2017 Budget	Variance %
Consultants					
Reliability Standards	\$ -	\$ -	\$ -	\$ -	-
Compliance Enforcement and Organization Registration and Certification	\$ -	\$ -	\$ -	\$ -	-
Reliability Assessment and Performance Analysis	\$ 35,000	\$ 35,000	\$ -	\$ (35,000)	-100.0%
Training and Education	\$ -	\$ -	\$ -	\$ -	-
Situation Awareness and Infrastructure Security	\$ -	\$ -	\$ -	\$ -	-
Member Forums	\$ -	\$ -	\$ -	\$ -	-
General and Administrative	\$ 30,000	\$ 30,000	\$ -	\$ (30,000)	-100.0%
Legal and Regulatory	\$ -	\$ -	\$ -	\$ -	-
Information Technology	\$ -	\$ -	\$ -	\$ -	-
Human Resources	\$ -	\$ -	\$ -	\$ -	-
Accounting and Finance	\$ -	\$ -	\$ -	\$ -	-
Consultants Total	\$ 65,000	\$ 65,000	\$ -	\$ (65,000)	-100.0%
Contracts	Budget 2017	Projection 2017	Budget 2018	Variance 2018 Budget v 2017 Budget	Variance %
Reliability Standards	\$ 10,000	\$ 10,000	\$ 10,000	\$ -	0.0%
Compliance Enforcement and Organization Registration and Certification	\$ 1,274,000	\$ 1,274,000	\$ 1,254,000	\$ (20,000)	-1.6%
Reliability Assessment and Performance Analysis	\$ 378,000	\$ 378,000	\$ 401,640	\$ 23,640	6.3%
Training and Education	\$ -	\$ -	\$ -	\$ -	-
Situation Awareness and Infrastructure Security	\$ 160,000	\$ 160,000	\$ 120,000	\$ (40,000)	-25.0%
Member Forums	\$ -	\$ -	\$ -	\$ -	-
General and Administrative	\$ 115,000	\$ 115,000	\$ 85,000	\$ (30,000)	-26.1%
Legal and Regulatory	\$ -	\$ -	\$ -	\$ -	-
Information Technology	\$ -	\$ -	\$ -	\$ -	-
Human Resources	\$ -	\$ -	\$ -	\$ -	-
Accounting and Finance	\$ 7,000	\$ 7,000	\$ 7,000	\$ -	0.0%
Contracts Total	\$ 1,944,000	\$ 1,944,000	\$ 1,877,640	\$ (66,360)	-3.4%
Total Consultants and Contracts	\$ 2,009,000	\$ 2,009,000	\$ 1,877,640	\$ (131,360)	-6.5%

Explanation of Significant Variances –2018 Budget versus 2017 Budget

- Ongoing effort to decrease the use of consultants and contractors when possible. (See program area sections for detail regarding a specific program area.)

Table B-7 Office Rent

Office Rent	Budget 2017	Projection 2017	Budget 2018	Variance 2018 Budget v 2017 Budget	Variance %
Office Rent	\$ 650,000	\$ 650,000	\$ 650,000	\$ -	0.0%
Utilities	\$ 43,000	\$ 43,000	\$ 43,000	\$ -	0.0%
Maintenance	\$ 40,000	\$ 40,000	\$ 35,000	\$ (5,000)	-12.5%
Security	\$ 2,700	\$ 2,700	\$ 2,700	\$ -	0.0%
Real Estate Taxes	\$ 74,000	\$ 74,000	\$ 80,000	\$ 6,000	8.1%
Total Office Rent	\$ 809,700	\$ 809,700	\$ 810,700	\$ 1,000	0.1%

Explanation of Significant Variances –2018 Budget versus 2017 Budget

- Projected increase in real estate taxes.

Table B-8 Office Costs

Office Costs	Budget 2017	Projection 2017	Budget 2018	Variance 2018 Budget v 2017 Budget	Variance %
Telephone	\$ 112,000	\$ 112,000	\$ 111,660	\$ (340)	-0.3%
Internet Expense	\$ 105,600	\$ 105,600	\$ 95,000	\$ (10,600)	-10.0%
Office Supplies	\$ 33,000	\$ 33,000	\$ 33,000	\$ -	0.0%
Computer Supplies and Maintenance	\$ 350,000	\$ 350,000	\$ 350,600	\$ 600	0.2%
Subscriptions & Publications	\$ 13,500	\$ 13,500	\$ 13,500	\$ -	0.0%
Dues	\$ 4,400	\$ 4,400	\$ 3,400	\$ (1,000)	-22.7%
Postage	\$ 1,200	\$ 1,200	\$ 1,200	\$ -	0.0%
Express Shipping	\$ 10,000	\$ 10,000	\$ 10,000	\$ -	0.0%
Copying	\$ 26,400	\$ 26,400	\$ 26,400	\$ -	0.0%
Reports	\$ 6,000	\$ 6,000	\$ 8,000	\$ 2,000	33.3%
Stationary and Office Forms	\$ 2,000	\$ 2,000	\$ 2,000	\$ -	0.0%
Equipment Repair/Service Contracts	\$ -	\$ -	\$ -	\$ -	-
Bank Charges	\$ 15,000	\$ 15,000	\$ 10,000	\$ (5,000)	-33.3%
Sales and Use Tax	\$ -	\$ -	\$ -	\$ -	-
Merchant Credit Card Fees	\$ -	\$ -	\$ -	\$ -	-
Presentation and Publicity	\$ -	\$ -	\$ -	\$ -	-
Total Office Costs	\$ 679,100	\$ 679,100	\$ 664,760	\$ (14,340)	-2.1%

Explanation of Significant Variances –2018 Budget versus 2017 Budget

Total Office costs are expected to remain relatively flat.

Table B-9 Professional Services

Professional Services	Budget 2017	Projection 2017	Budget 2018	Variance 2018 Budget v 2017 Budget	Variance %
BOT Fee	\$ 325,000	\$ 325,000	\$ 340,000	\$ 15,000	4.6%
BOT Search Fee	\$ 20,000	\$ 20,000	\$ -	\$ (20,000)	-100.0%
Legal - Reorganization	\$ -	\$ -	\$ -	\$ -	-
Accounting & Auditing Fees	\$ 310,000	\$ 310,000	\$ 300,000	\$ (10,000)	-3.2%
Legal Fees - Other	\$ 316,000	\$ 316,000	\$ 250,000	\$ (66,000)	-20.9%
Insurance - Commercial	\$ 70,000	\$ 70,000	\$ 70,000	\$ -	0.0%
Total Services	\$ 1,041,000	\$ 1,041,000	\$ 960,000	\$ (81,000)	-7.8%

Explanation of Significant Variances –2018 Budget versus 2017 Budget

- Legal fees are projected to be lower based on additional workload taken on by in-house legal team.

Table B-10 – Miscellaneous

Miscellaneous Expense	Budget 2017	Projection 2017	Budget 2018	Variance 2018 Budget v 2017 Budget	Variance %
Miscellaneous Expense	\$ 50,000	\$ 50,000	\$ 50,000	\$ -	0.0%
Total Miscellaneous Expense	\$ 50,000	\$ 50,000	\$ 50,000	\$ -	0.0%

Table B-11 Other Non-Operating Expenses

Other Non-Operating Expenses	Budget 2017	Projection 2017	Budget 2018	Variance 2018 Budget v 2017 Budget	Variance %
Interest Expense	\$ -	\$ -	\$ -	\$ -	-
Office Relocation	\$ -	\$ -	\$ -	\$ -	-
Total Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	-

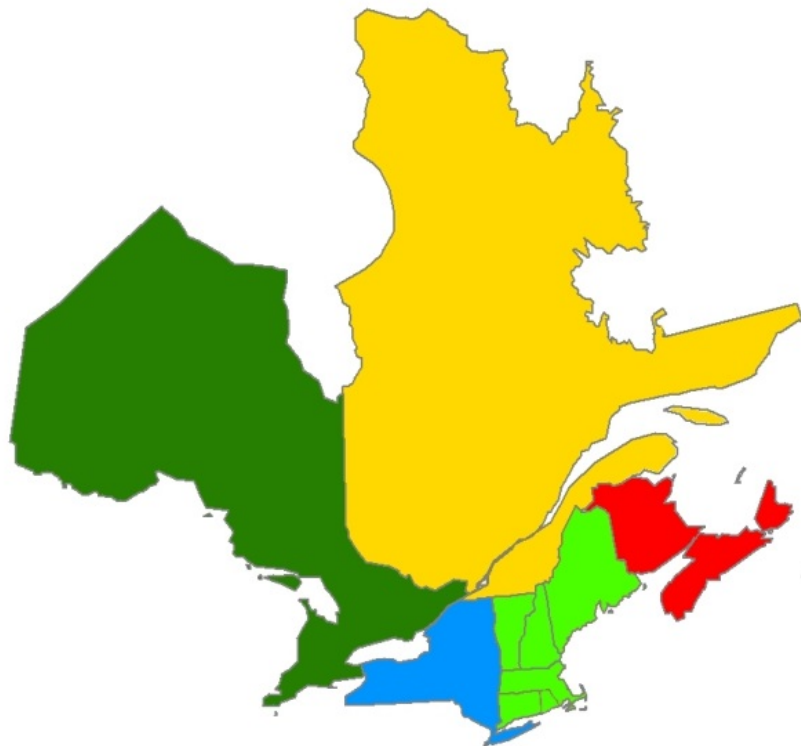
Table B-12 Fixed Assets

Fixed Assets	Budget 2017	Projection 2017	Budget 2018	Variance 2018 Budget v 2017 Budget	Variance %
Depreciation	\$ (250,000)	\$ (250,000)	\$ (269,000)	\$ (19,000)	7.6%
Equipment CapEx	\$ -	\$ -	\$ -	\$ -	-
Computer & Software CapEx	\$ 276,000	\$ 276,000	\$ 115,000	\$ (161,000)	-58.3%
Furniture & Fixtures CapEx	\$ -	\$ -	\$ -	\$ -	-
Leasehold Improvements	\$ -	\$ -	\$ -	\$ -	-
Allocation of Fixed Assets	\$ -	\$ -	\$ -	\$ -	-
Total Increase (Decrease) in Fixed Assets	\$ 26,000	\$ 26,000	\$ (154,000)	\$ (180,000)	-692.3%

Explanation of Significant Variances –2018 Budget versus 2017 Budget

- Capital expenditures planned for 2018 include the continuing implementation of an Enterprise Content Management system and continuing development of Compliance Issues Tracking System and CMEP Data Administration Application.

Section C – Criteria Services Division Activities 2018 Business Plan and Budget



Section C —2018 Criteria Services Division Business Plan and Budget

Criteria Services Division			
(in whole dollars)			
	2017 Budget	2018 Budget	Increase (Decrease)
Total FTEs	2.14	2.14	0.00
Total Direct Expenses	\$623,747	\$666,530	\$42,783
Total Indirect Expenses	\$413,149	\$416,453	\$3,304
Other Non-Operating Expenses	\$0	\$0	\$0
Working Capital and Operating Reserves Requirement	\$78,971	(\$47,843)	(\$126,813)
Inc(Dec) in Fixed Assets	(\$10,000)	(\$16,000)	(\$6,000)
Funding Requirement	\$1,105,867	\$1,019,141	(\$86,726)

NPCC Regionally-Specific Criteria Services Background

NPCC Criteria Services division activities are based on the development, maintenance (including retirement when no longer needed), and promulgation of Regionally-specific more stringent criteria, as well as criteria establishing resource adequacy requirements within the Region. These criteria contain requirements which are more stringent, more specific or augment the existing NERC Reliability Standards requirements. These criteria require continual evaluation to ensure they are “not inconsistent with” any NERC reliability standards as the standards are approved by FERC and the applicable provincial governmental authorities, as per the NERC Rules of Procedure.

Membership and Governance

Full members are subject to compliance with Regionally-specific criteria, in addition to continent-wide Reliability Standards, 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.

Criteria Services Division Functional Scope

Through its Criteria Services division, NPCC promotes the reliable and efficient operation of the international, interconnected bulk power systems in Northeastern North America through the establishment of Regionally-specific criteria, and monitoring and enforcement of compliance with such criteria.

NPCC provides Full Members with Regional reliability assurance services, and acts as the vehicle through which States and Provinces can fulfill their political mandates, with respect to resource adequacy, as well as overseeing the Northeastern North American electric infrastructure.

Major 2018 Assumptions and Cost Impacts

The Criteria Services division services are expected to remain stable throughout 2018

- 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.

2018 Primary Goals and Objectives

- Continue with the development and maintenance of a set of NPCC Directories which are “not inconsistent with” 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 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
 - Continually 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 are “not inconsistent” with, nor duplicative with, the approved and effective NERC Standards.
- The criteria services division and CCEP Working Group (reporting to the Compliance Committee) will work with the various Task Forces to develop Criteria Compliance Reporting Forms for any additional NPCC Directories to ensure that the more stringent or Regionally-specific criteria is being met.
- The criteria services division and CCEP working group will work with TFCO, TFCP, TFSS, and TFSP to review criteria and measures within each specific NPCC Directory to identify and develop them into specific reporting forms for approval.
- Continually review impact of Bulk Electric System definition on Directory and Criteria content and compliance reporting.
- Continually review potential impacts of Sector or NPCC organizational changes on the Directories and Criteria by performing a review of enforcement and arbitration processes as needed
- Assist Legal with preparation of revised Directories for Regulatory filings with the individual Provinces in accordance with their respective Memorandum of Understandings (MOUs) as well as the State of New York Public Service Commission
- Facilitate any requested clarifications for NPCC Criteria with the necessary subject matter experts and also identify any other potential opportunities for clarifications of the Criteria.
- Conduct review of the following Documents:

- Directory No. 7 – *Special Protection Systems* – the TFSP will serve as lead Task Force working in conjunction with TFCP and TFSS on revisions required to ensure consistency with the development of the NERC standard on Remedial Action Schemes.
- *A-10 - Classification of Bulk Power System Elements* - the TFCP will conclude its review of the A-10 methodology in 2018.
- Review and respond to Requests for Clarifications to existing NPCC Standards, Directories, and Criteria.

NPCC Reliability Directory Maintenance and Development

The NPCC Regional Reliability Directories were developed to demonstrate that the NPCC more stringent criteria are “not inconsistent with” the NERC Reliability Standards as mandated by the NERC Rules of Procedure. The conversion of NPCC’s 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 “requirement 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 2018, 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 be applied to the existing Directories to make them more consistent with the look of the standards. As NERC standards improve, the need for NPCC Directories and the amount of criteria contained therein will decrease over time, however in the interim, significant review is necessary to ensure the criteria remain “not inconsistent with” the NERC standards as outlined in the NERC Rules of Procedure. NPCC will conduct internal reviews of all draft standards against Regional criteria and utilize subject matter experts to identify reliability and compliance related concerns. NPCC will file the revised NPCC Directories and notifications of retirements of Directories with the Canadian governmental and/or provincial Regulatory authorities within the NPCC “footprint”, on an as needed basis, in accordance with established provincial procedures and agreements executed with NPCC.

NPCC Operations and Planning Directories

The following Directories are envisioned to remain active for 2018.

Directory #1, *Design and Operation of the Bulk Power System*.

This Directory documents NPCC’s Regionally-specific, more stringent criteria, and demonstrates coordination and consistency with all the existing NERC TPL, BAL, IRO, INT, MOD, TOP,

PRC and VAR standards. The NPCC TFCP and TFCO completed a review of the Directory#1 criteria in 2015, during which the criteria was translated into NERC style requirements and revisions were enacted to ensure consistency with recent changes to the TPL and TOP standards.

Directory #2, Emergency Operations

This Directory documents NPCC's Regionally-specific, more stringent criteria, and demonstrates coordination and consistency with all the existing NERC EOP and TOP standards. The NPCC Task Force on Coordination of Operation is reviewing this Directory in 2017.

Directory # 4, System Protection Criteria

This Directory documents NPCC's Regionally-specific, more stringent criteria, and demonstrates coordination and consistency with certain applicable NERC PRC standards. The NPCC Task Force on System Protection will lead this review and revision.

Directory # 5, Reserve

This Directory documents NPCC's Regionally-specific, more stringent criteria, and demonstrates coordination and consistency with all the existing applicable NERC BAL, INT, and IRO standards. The NPCC Task Force on Coordination of Operation will lead this review and revision and ensure consistency with the BAL standards.

Directory # 7, Special Protection Systems

This Directory documents NPCC's Regionally-specific, more stringent criteria for application and approval of SPS. The NPCC Task Force on System Protection will lead this review and revision and ensure consistency with the Remedial Action Scheme PRC-012 standard.

Directory # 8, System Restoration

This Directory documents NPCC's Regionally-specific, more stringent criteria with which each applicable entity must plan for and perform power system restoration following a major or a total blackout, and demonstrates coordination and consistency with applicable NERC EOP standards. The NPCC Task Force on Coordination of Operation will lead this review and revision.

Directory # 11, Disturbance Monitoring Equipment,

This directory documents NPCC's Regionally-specific, more stringent criteria, and demonstrates coordination and consistency with certain existing NERC PRC standards. The NPCC Task Force on System Protection anticipates the development and approval of Directory#11 in order to facilitate the retirement of PRC -002-NPCC-1 and will lead this review and revision.

Directory # 12, Automatic UFLS Program Requirements,

This Directory documents NPCC's Regionally-specific, more stringent criteria, and demonstrates coordination and consistency with certain existing NERC and NPCC PRC standard(s). The NPCC Task Force on System Studies will lead this review and revision until such time as the NPCC PRC-006-01 UFLS Regional Standard is approved by the NPCC membership, NERC BOT, the FERC and all the applicable governmental authorities in the Provinces of Canada within NPCC's footprint.

NPCC Criteria Compliance Background

The NPCC criteria services division assures the reliable operation of the bulk power system through implementation of a comprehensive compliance program. This program which includes

monitoring, assessing and enforcing compliance with the more stringent, Regionally specific NPCC Criteria requirements, is known as the NPCC Criteria Compliance and Enforcement Program (CCEP) described in process document CCEP-1. This program was developed by the criteria services division and the CCEP Working Group under the purview of the NPCC Compliance Committee. The results of this program support the various Task Forces in their assessments of the NPCC criteria in meeting their goals for the Reliability Coordinating Committee as stated in Section A of this Business Plan.

The more stringent, Regionally-specific NPCC Criteria requirements reflect the unique operational and planning aspects of the bulk power system within the NPCC Region and are included in the NPCC “A” documents and their successors, the NPCC Directories.

NPCC issues non-monetary sanctions to enforce compliance with NPCC Criteria.

- The CCEP program is described in document CCEP-1, *NPCC Criteria Compliance and Enforcement Program (CCEP) Process Document*
- The implementation plan is described in document CCEP-2, *Implementation Plan for 2011 NPCC Criteria Compliance and Enforcement Program*
- On April 5, 2011, the above became effective upon Full Member approval of CCEP-1, and CCEP-2 and retired the following
 - NPCC Criteria A-8, Reliability Compliance and Enforcement Program (RCEP)
 - NPCC Guide B-22, Guidelines for Implementation of the NPCC Inc. Compliance Program
 - NPCC Procedure C-32, Review Process for NPCC Reliability Compliance Enforcement Program
 - Each of the above have been annotated as “retired effective 4/5/11 upon Full Member approval of CCEP-1... and CCEP-2...” on the NPCC public website
- The CCEP-1 document recognizes the applicability of NPCC’s Regionally-specific, more stringent reliability criteria to the Full Members of NPCC, consistent with the *Amended and Restated ByLaws*, and respects the provisions of the several Canadian Memoranda of Understanding in the execution of the processes described
- Provides a comprehensive CCEP Process Diagram showing the process of evaluating and approving Criteria Certification submittals, and additional processes and responsibilities in the event that non-compliances, disputes and sanctions arise
- Describes the roles and responsibilities of Reporting Members, the CC, the RCC and the Enforcement Panel in the compliance review and enforcement process
- Describes Levels of Non-Compliance, associated non-monetary Sanctions, Lateness Policy and the Arbitration/Dispute Resolution process
- Addresses Mitigation Plans for any violations under the enforcement process; and
- Lists the mandatory Certification Forms to be submitted for review by the Task Forces to ensure compliance with NPCC Directories are being met

The CCEP currently requires annual submittal of Certification Forms by the Reliability Coordinators and Balancing Authorities to confirm compliance with various NPCC Directories. Currently the required Certification forms are for Directory #1- *Area Transmission Review*, Directory #8 - *Key Facility List*, Directory #9 – *Generator Real Power Verification*, Directory

#10 - *Verification of Generator Gross and Net Reactive Power Capability*, and Directory #12 - *UFLS Program Requirements*. In 2017 NPCC will consider an expansion of the CCEP to include compliance assessment activities to other active Directories.

The CCEP identifies those specific NPCC Directories that are subject to monitoring, assessment and enforcement.

The NPCC Compliance Committee (CC) has final approval of compliance assessments related to CCEP. The CCEP describes the roles and responsibilities of committees and panels used to resolve contested compliance and/or sanction or penalty determinations related to NPCC Directories.

Explanation of Significant Variances – 2018 Budget versus 2017 Budget

Resource Requirements

Personnel

- NPCC anticipates no need to hire additional personnel in this program area in 2018.

2017 Budget and Projection and 2018 Budget Comparisons

Statement of Activities and Capital Expenditures						
2017 Budget & Projection, and 2018 Budget						
CRITERIA SERVICES DIVISION						
				Variance		Variance
	2017	2017	2017 Projection	2017 Projection	2018	2018 Budget
	Budget	Projection	v 2017 Budget	Over(Under)	Budget	v 2017 Budget
						Over(Under)
Funding						
ERO Funding						
ERO Assessments	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Penalty Sanctions	-	-	-	-	-	-
Total ERO Funding	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Membership Dues	1,105,867	1,105,867	-	-	1,019,141	(86,726)
Testing Fees	-	-	-	-	-	-
Services & Software	-	-	-	-	-	-
Workshops	-	-	-	-	-	-
Interest	-	-	-	-	-	-
Miscellaneous	-	-	-	-	-	-
Total Funding (A)	\$ 1,105,867	\$ 1,105,867	\$ -	\$ -	\$ 1,019,141	\$ (86,726)
Expenses						
Personnel Expenses						
Salaries	\$ 401,142	\$ 401,142	\$ -	\$ -	\$ 404,848	\$ 3,706
Payroll Taxes	23,301	23,301	-	-	23,413	112
Benefits	69,100	69,100	-	-	74,991	5,892
Retirement Costs	42,605	42,605	-	-	43,272	667
Total Personnel Expenses	\$ 536,147	\$ 536,147	\$ -	\$ -	\$ 546,523	\$ 10,376
Meeting Expenses						
Meetings	\$ 5,000	\$ 5,000	\$ -	\$ -	\$ 5,000	\$ -
Travel	51,600	51,600	-	-	55,647	4,047
Conference Calls	-	-	-	-	-	-
Total Meeting Expenses	\$ 56,600	\$ 56,600	\$ -	\$ -	\$ 60,647	\$ 4,047
Operating Expenses						
Consultants & Contracts	\$ 18,000	\$ 18,000	\$ -	\$ -	\$ 40,360	\$ 22,360
Office Rent	-	-	-	-	-	-
Office Costs	-	-	-	-	-	-
Professional Services	-	-	-	-	-	-
Computer & Equipment Leases	-	-	-	-	-	-
Miscellaneous	3,000	3,000	-	-	3,000	-
Depreciation	10,000	10,000	-	-	16,000	6,000
Total Operating Expenses	\$ 31,000	\$ 31,000	\$ -	\$ -	\$ 59,360	\$ 28,360
Total Direct Expenses	\$ 623,747	\$ 623,747	\$ -	\$ -	\$ 666,530	\$ 42,783
Indirect Expenses	\$ 413,149	\$ 413,149	\$ -	\$ -	\$ 416,453	\$ 3,304
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses (B)	\$ 1,036,896	\$ 1,036,896	\$ -	\$ -	\$ 1,082,983	\$ 46,087
Change in Assets	\$ 68,971	\$ 68,971	\$ -	\$ -	\$ (63,843)	\$ (132,813)
Fixed Assets						
Depreciation	\$ (10,000)	(10,000)	\$ -	\$ -	\$ (16,000)	\$ (6,000)
Computer & Software CapEx	-	-	-	-	-	-
Furniture & Fixtures CapEx	-	-	-	-	-	-
Equipment CapEx	-	-	-	-	-	-
Leasehold Improvements	-	-	-	-	-	-
Allocation of Fixed Assets	-	-	-	-	-	-
Inc(Dec) in Fixed Assets (C)	(10,000)	(10,000)	-	-	(16,000)	(6,000)
TOTAL BUDGET (=B+C)	1,026,896	1,026,896	-	-	1,066,983	40,087
TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)	\$ 78,971	\$ 78,971	\$ -	\$ -	\$ (47,843)	\$ (126,813)

Personnel Analysis

Total FTEs by Program Area	Budget 2017	Projection 2017	Direct FTEs 2018 Budget	Shared FTEs ¹ 2018 Budget	Total FTEs 2018 Budget	Change from 2017 Budget
CRITERIA SERVICES DIVISION						
Operational Programs						
Reliability Standards	1.07	1.07	1.00	0.07	1.07	0.00
Compliance Enforcement and Organization Registration and Certification	0.00	0.00	0.00	0.00	0.00	0.00
Training and Education	0.00	0.00	0.00	0.00	0.00	0.00
Reliability Assessment and Performance Analysis	1.07	1.07	1.00	0.07	1.07	0.00
Situation Awareness and Infrastructure Security	0.00	0.00	0.00	0.00	0.00	0.00
Total FTEs Operational Programs	2.14	2.14	2.00	0.14	2.14	0.00
Administrative Programs						
Member Forums	0.00	0.00	0.00	0.00	0.00	0.00
General and Administrative	0.00	0.00	0.00	0.00	0.00	0.00
Information Technology	0.00	0.00	0.00	0.00	0.00	0.00
Legal and Regulatory	0.00	0.00	0.00	0.00	0.00	0.00
Human Resources	0.00	0.00	0.00	0.00	0.00	0.00
Accounting and Finance	0.00	0.00	0.00	0.00	0.00	0.00
Total FTEs Administrative Programs	0.00	0.00	0.00	0.00	0.00	0.00
Total FTEs	2.14	2.14	2.00	0.14	2.14	0.00

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

Reserve Analysis 2017 - 2018

Working Capital and Operating Reserve Analysis 2017-2018				
CRITERIA SERVICES DIVISION				
	Total Reserve	Operating Reserve	Working Capital	Business Continuity
Beginning Total Reserve, December 31, 2016	384,529	295,774	88,755	
2017 Non-Statutory Funding (from members)	1,105,867	1,105,867	0	
2017 Other funding sources	0	0	0	
Less: 2017 Projected expenses & fixed asset additions	(1,026,896)	(1,026,896)	0	
Projected Working Capital and Operating Reserve, December 31, 2017	463,500	374,745	88,755	
Desired Working Capital and Operating Reserve, December 31, 2018 ¹	355,657	266,746 ²	88,912 ³	
Desired Business Continuity Reserve, December 31, 2018	60,000			60,000
Less: Projected Working Capital and Operating Reserve, December 31, 2017	(463,500)	(374,745)	(88,755)	
Increase(decrease) in assessments to achieve desired Total Reserve	(47,843)	(107,999)	157	
2018 Funding requirement for expenses and fixed asset additions	1,066,983			
Adjustment to achieve desired Working Capital and Operating Reserve balance	(47,843)			
2017 Funding and reserve requirement	1,019,141			

¹ Total Reserve within a range of 16.67% - 33.33% of Budget.

² Total NPCC Operating Reserve must be within a range from 8.33% to 25.00% of Budget. \$266,746 represents 25.00% of the 2017 CS budget of \$1,066,983.

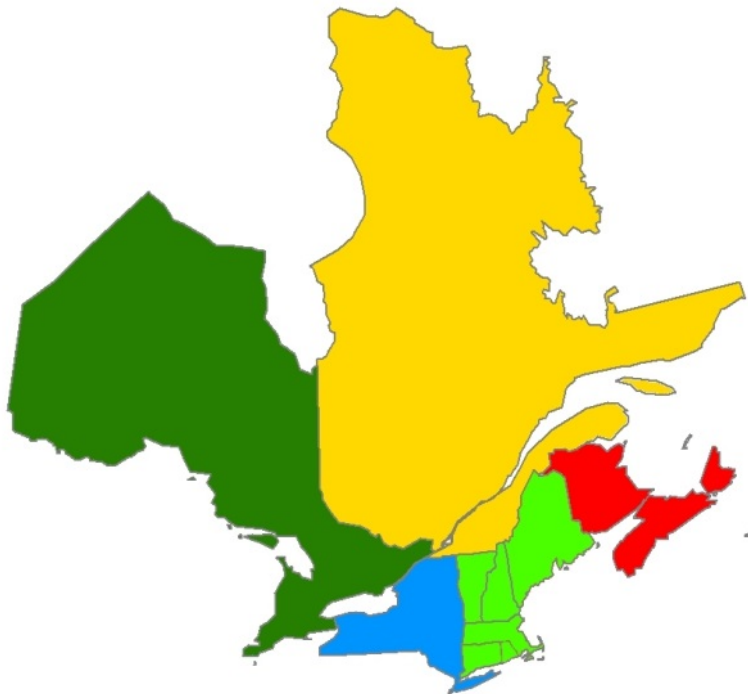
³ Total NPCC Working Capital must equal 8.33% of Budget. \$88,912 represents 8.33% of the 2017 CS budget of \$1,066,983.

⁴ Establish Business Continuity Reserve as approved by the NPCC Board of Directors upon recommendation by the MDCC.

Explanation of Changes in Reserve Policy from Prior Year

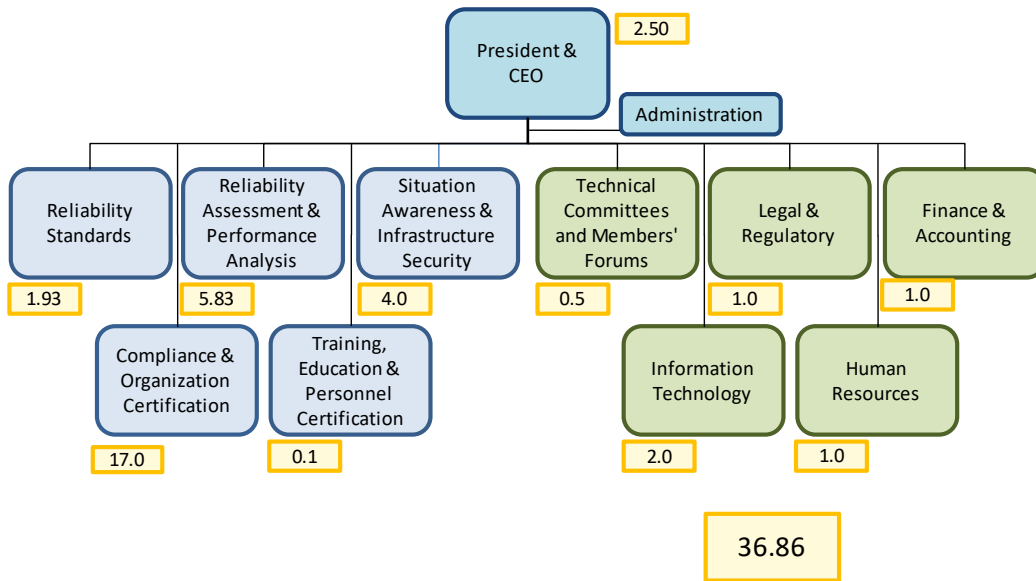
There was no change to the existing Working Capital and Operating Reserve Policy, however, a separate Business Continuity Reserve (BCR) in the amount of \$1,000,000 (allocated between the Regional Entity and Criteria Services divisions) was established as approved by the NPCC Board of Directors, upon recommendation by the Management Development and Compensation Committee and endorsement by the Finance and Audit Committee, to be identified as restricted cash and drawn upon as subsequently brought before the Board of Directors in association with President & CEO succession related activities associated with a planned or sudden retirement, as well as other sudden changing workforce staffing requirements.

Section D – Additional Consolidated Financial
Statements
2018 Business Plan and Budget

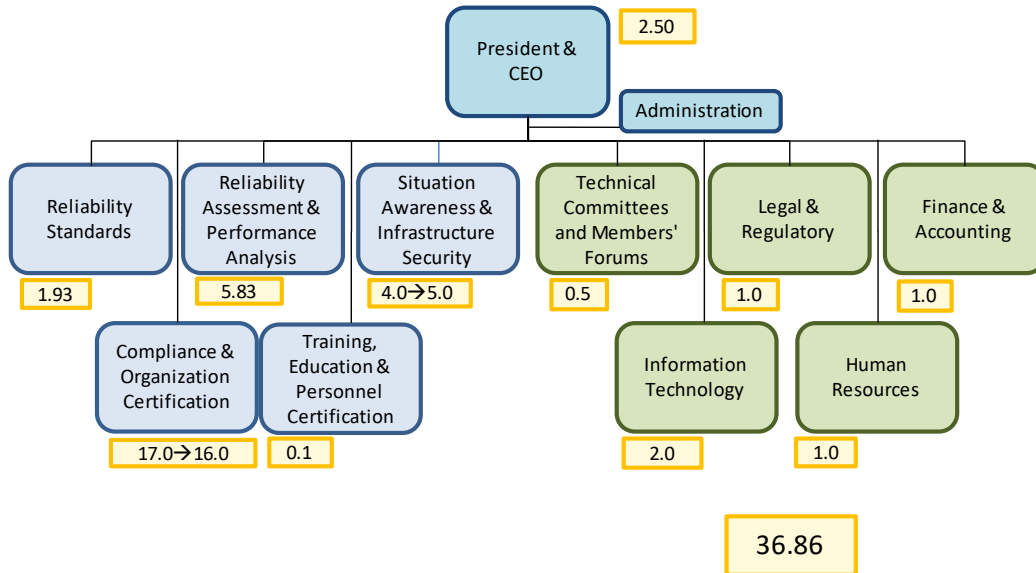


Appendix A Staff Allocations

2017 Budget Staff Allocations - RE Division

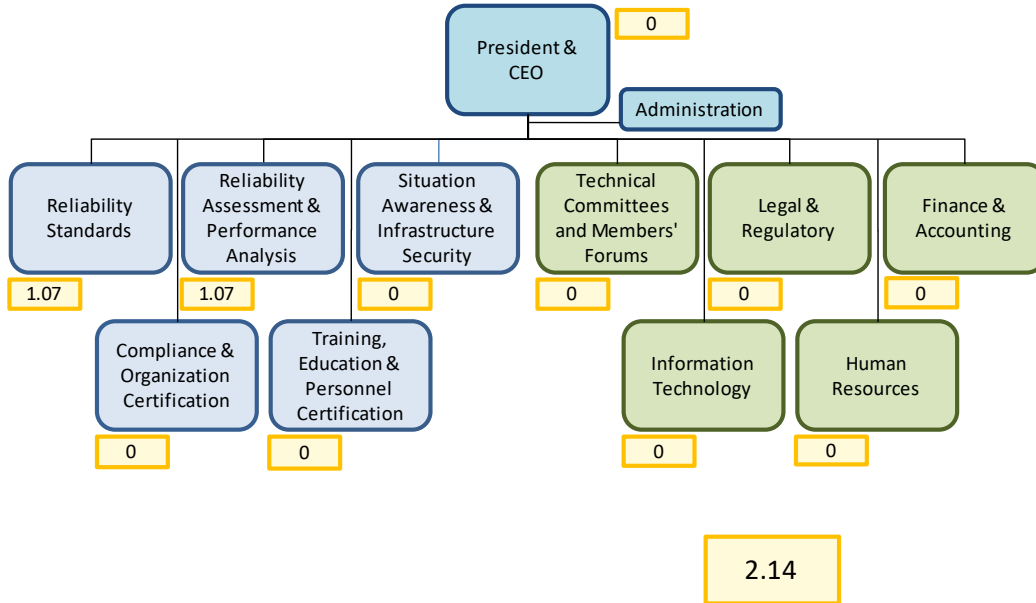


2018 Budget Staff Allocations - RE Division

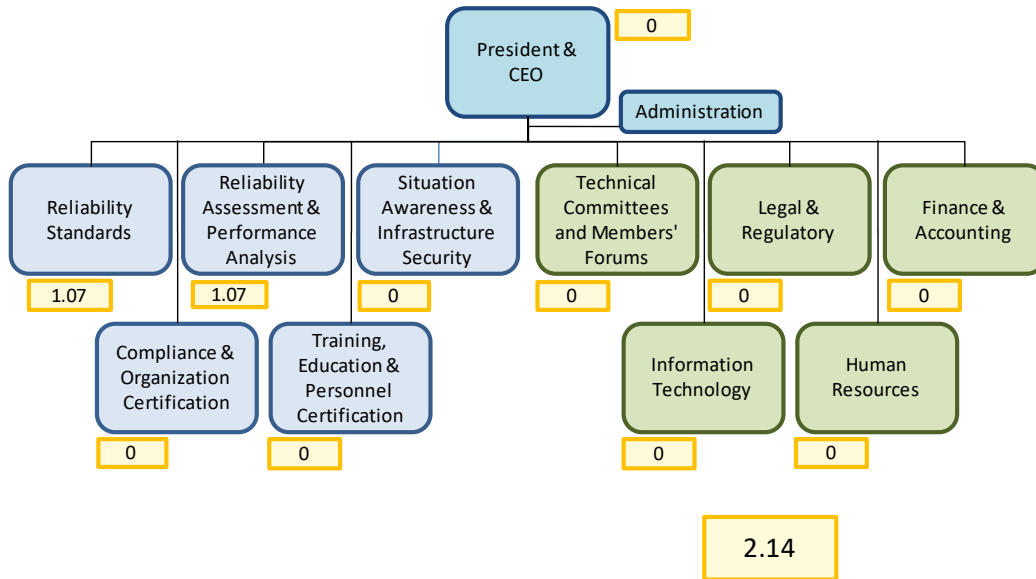


Section D — Additional Financial Statements

2017 Budget Staff Allocations - CS Division



2018 Budget Staff Allocations - CS Division



Appendix B Acronyms

This section lists acronyms used in this document.

Acronym	Definition
AI	Audits and Investigations
BAA	Balancing Authority Area
BEPWG	BES Exception Process Working Group
BES	Bulk Electric System
BOT	Board of Trustees
BPS	Bulk Power System
CC	Compliance Committee
CCEP	Criteria Compliance Enforcement Program
CDAA	CMEP Data Administration Application
CEAP	Cost Effective Analysis Process
CEH	Continuing Education Hour
CGNC	Corporate Governance and Nominating Committee
CIPC	Critical Infrastructure Protection Committee
CIPIS	Critical Information Protection Information Sharing
CMEP	Compliance Monitoring and Enforcement Program
CORC	Compliance Monitoring and Enforcement and Organization Registration and Certification Program
CPP	Clean Power Plan
CRRRA	Cost of Risk Reduction Analysis
CUG	Consortium Users Group
DADS	Demand Availability Data System
DADSWG	Demand Response Availability Data System Working Group
ERA	Entity Reliability Assessment
ERAG	Eastern Interconnection Reliability Assessment Group
ERO	Electric Reliability Organization
EUB	Electric Utility Board
EUB	Energy and Utilities Board
FAC	Finance and Audit Committee
FERC	Federal Energy Regulatory Commission
FFT	Find, Fix, Track
GADS	Generator Availability Data System
GADSWG	Generating Availability Data System Working Group
GMD	Geomagnetic Disturbance
HQCMÉ	Hydro-Québec Contrôle des mouvements d'énergie
HSIN	Homeland Security Information Network
ICE	Internal Controls Evaluation
IED	Intelligent Electronic Device
IERP	Independent Experts Review Panel Report
IESO	Independent Electricity System Operator
IRA	Inherent Risk Assessment
ISO	Independent System Operator
ITSG	IT Steering Group
LCEFT	Load, Capacity, Energy, Fuels, and Transmission
LMS	Learning Management System
LMWG	Load Modeling Working Group
LSE	Load Serving Entity
MACD	Market Assessment and Compliance Division of the IESO
MDCC	Management Development and Compensation Committee
ME	Mitigation and Enforcement
MMWG	Multi-Regional Modeling Working Group
MOU	Memorandum of Understanding
MPLS	Multiprotocol Label Switching
MVWG	Model Validation Working Group
NAESB	North American Electric Standards Review Board

Section D — Additional Financial Statements

Acronym	Definition
NEL	Net Energy for Load
NERC	North American Electric Reliability Corporation
NOAV	Notice of Alleged Violation
NOCV	Notice of Confirmed Violation
NOPR	Notice of Proposed Rulemaking
NOPV	Notice of Possible Violation
NPCC	Northeast Power Coordinating Council, Inc.
NRAP	NPCC Reliability Assessment program
NSPI	Nova Scotia Power Incorporated
NSUARB	Nova Scotia Utility and Review Board
OEB	Ontario Energy Board
PAS	Performance Analysis Subcommittee
PC	Pension Committee
PMOS	Project Management Oversight Subcommittee
PSMTF	Protection System Mis-operations Task Force
PSTN	Public Switched Telephone Network
QCMEP	Québec Reliability Standards Compliance Monitoring and Enforcement Program
RADS	Reliability Assessment Data System
RADWG	Reliability Assessment Data Working Group
RAS	Reliability Assessment Subcommittee
RC	Reliability Coordinator
RCC	Reliability Coordinating Committee
RISC	Reliability Issues Steering Committee
RSAW	Reliability Standards Audit Worksheet
RSC	Regional Standards Committee
RTO	Regional Transmission Organization
SAFNR	Situational Awareness-FERC, NERC, Regions
SAMS	System Analysis and Modeling Subcommittee
SAR	Standards Authorization Request
SAT	Systematic Approach to Training
SBS	Standards Balloting System
SCPS	Standards Committee Process Subcommittee
SDT	Standards Drafting Team
SEDS	Spare Equipment Database System
SEDTF	Spare Equipment Database Task Force
SPS	Special Protection Systems
TADS	Transmission Availability Data System
TADSWG	Transmission Availability Data System Working Group
TFCO	Task Force on Coordination of Operation
TFCP	Task Force on Coordination of Planning
TFE	Technical Feasibility Exception
TFIST	Task Force on Infrastructure Security and Technology
TFSP	Task Force on System Protection
TFSS	Task Force on System Studies
TLR	Transmission Loading Relief
TOP	Transmission Operator
UFLS	Underfrequency Load Shedding
UVLS	Under-Voltage Load Shedding
VRF	Violation Risk Factor
VSL	Violation Security Level

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