NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Attachment 2

NERC Proposed 2022 Business Plan and Budget

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

2022 Business Plan and Budget

Final

August 5, 2021

RELIABILITY | RESILIENCE | SECURITY




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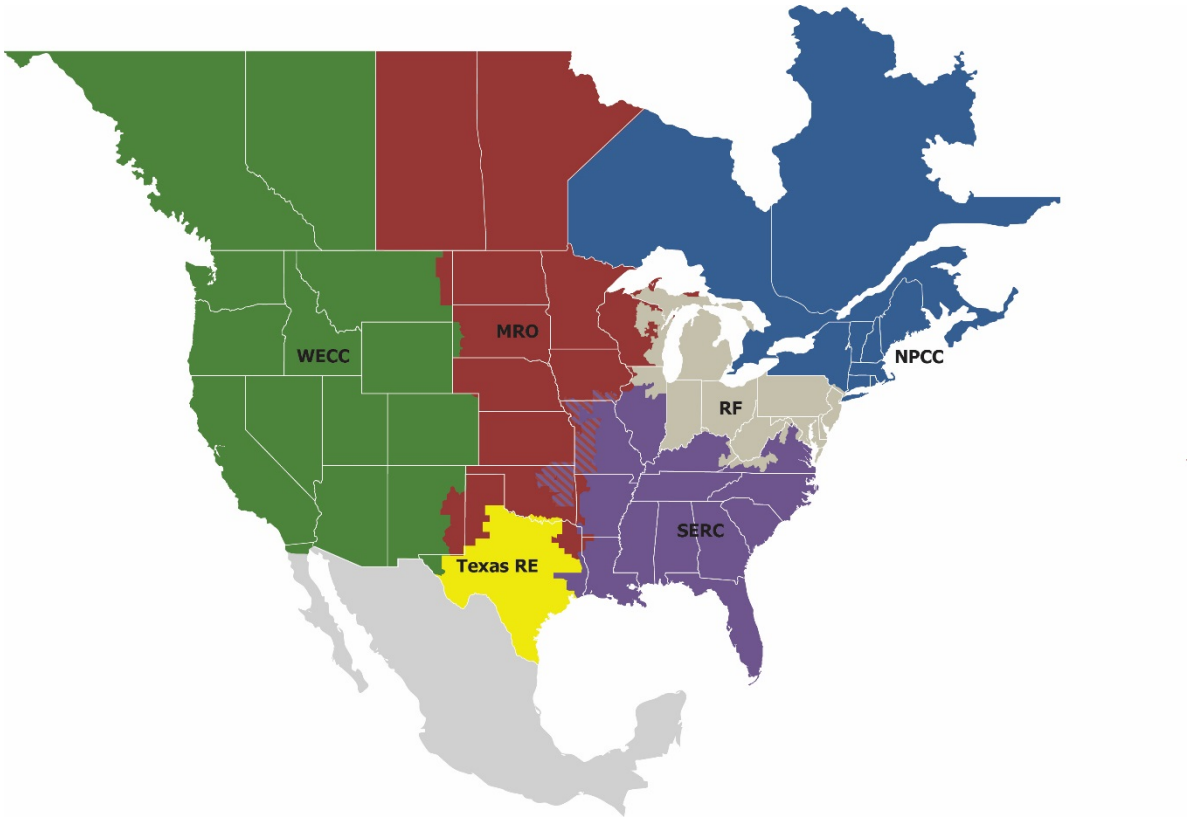
Preface

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

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

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



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

About NERC

Overview

The North American Electric Reliability Corporation (NERC) is a not-for-profit entity organized under the New Jersey Nonprofit Corporation Act. NERC's area of responsibility spans the continental U.S. and portions of Canada and Mexico. Entities under NERC's jurisdiction are the users, owners, and operators of the bulk power system (BPS)[1]—a system that serves the needs of nearly 400 million people.

Electric Reliability Organization

The Federal Energy Regulatory Commission (FERC) certified and has oversight of NERC as the Electric Reliability Organization (ERO) within the United States to establish and enforce NERC Reliability Standards for the U.S. portion of the BPS, pursuant to Section 215 of the Federal Power Act (FPA). As of June 18, 2007, FERC granted NERC the legal authority to enforce Reliability Standards with all U.S. users, owners, and operators of the BPS and made compliance with those standards mandatory and enforceable. Section 215 also requires that the organization certified by FERC as the ERO seek recognition with relevant authorities in Canada and Mexico. In 2005, the U.S. Department of Energy (DOE) and Canadian federal and provincial governments agreed to bilateral principles for a consistent, continent-wide reliability regulatory framework under a non-governmental institution (the ERO) designed to function on an international basis. To date, NERC has memoranda of understandings (MOUs) with eight Canadian provinces[2] and the Canada Energy Regulator in furtherance of this framework. Mexico is taking steps to implement such a framework pursuant to restructuring of Mexico's electricity industry and reforms of the country's regulatory framework enacted in 2013 and 2014. NERC works with the Mexican regulator, *Comísion Reguladora de Energía* (CRE), and the Mexican system and market operator, *CENACE*, under a MOU signed in 2017 to ensure consistency with the framework in Canada and the United States.

Membership and Governance

A 12-member Board of Trustees (Board), comprised of 11 independent trustees and NERC's president and chief executive officer serving as the management trustee, governs NERC. The Board has formed several committees to facilitate oversight of the organization in the areas of finance and audit, corporate governance and human resources, compliance, technology and security, nominations, and enterprise-wide risk.

Membership in NERC is open to any person or entity that has an interest in the reliability of the North American BPS. Membership is voluntary and affords participants the opportunity to engage in the governance of the organization, including through election to the Member Representatives Committee (MRC).[3] More than 500 entities and individuals are members of NERC. NERC, its members, and each applicable BPS owner, operator, and user must comply with the NERC *Rules of Procedure* (ROP).

[1] Standards, compliance, and enforcement activities focus on the Bulk Electric System (BES), comprised of certain BPS facilities.

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

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

Scope of Oversight

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

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

Delegated Authorities

In executing its responsibility, NERC delegates certain authorities to the REs to perform aspects of the ERO functions described through delegation agreements. FERC has approved delegation agreements between NERC and the six REs. These agreements describe the authorities delegated and responsibilities assigned to the REs in the United States to address, among other things: (1) developing regional Reliability Standards; (2) monitoring compliance with and enforcement of Reliability Standards (both North American-wide and regional); (3) registering owners, operators, and users of the BES and certifying reliability entities (Reliability Coordinators [RCs], Balancing Authorities [BAs], and Transmission Operators [TOPs]); (4) assessing reliability and analyzing performance; (5) training and education; (6) event analysis and reliability improvement; and (7) situation awareness and infrastructure security. NERC expects REs whose territories and geographic footprints extend into Canadian provinces and Mexico to perform equivalent functions in those jurisdictions.

Statutory and Regulatory Background

NERC's authority as the ERO in the United States is based on FPA Section 215, as added by the Energy Policy Act of 2005,[4] and FERC's regulations and orders pursuant to Section 215. In Canada, NERC's authorities are established by MOUs and regulations previously mentioned. In this Business Plan and Budget (BP&B), *Exhibit A – Application of NERC Section 215 Criteria* summarizes the major activities NERC proposes to undertake in 2022 and the approved FPA Section 215 criteria applicable to such activities.[5]

Funding

FPA Section 215 and FERC's regulations specify procedures for NERC's funding in the United States. NERC's annual BP&B is subject to FERC approval and, once approved, NERC's annual funding is provided primarily through assessments to load-serving entities. These assessments are allocated on a net-energy-for-load (NEL) basis. Equivalent funding mechanisms are provided in Canada, subject to the specific laws and regulations of each province. RE funding requirements are addressed separately in their respective BP&Bs, which must be reviewed and approved by NERC and FERC. The U.S. assessments for the REs are included in the overall NERC assessments to load-serving entities.

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

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

ERO Enterprise Model and Transformation

The vision of the ERO Enterprise, which is comprised of NERC and the six REs, is a highly reliable and secure North American BPS. Its mission is to assure the effective and efficient reduction of risks to the reliability and security of the grid. The ERO Enterprise is a collaborative group of organizations with distinct roles between NERC and the REs. The ERO Enterprise strives for consistency where necessary, but recognizes that each RE addresses reliability in unique ways based on its own challenges and stakeholder needs. This model effectively blends a continent-wide scope with flexibility and responsiveness, and provides the resources to tackle emerging issues while simultaneously enabling innovative and distinctive approaches to reliability risks and challenges.

Within the ERO Enterprise model, NERC has unique responsibilities to oversee ERO program areas, set qualifications and expectations for the performance of delegated activities, and assess, train, and give feedback to corresponding RE programs. The REs have a mirrored set of responsibilities, providing input into the overall development of each program area, providing training and development to meet qualifications, and ensuring delegated functions are completed. Both NERC and the REs have an obligation to meet professional standards of independence and objectivity.

As the ERO Enterprise continues to mature, the organization is working on a transformation initiative to further leverage resources, enhance communication and collaboration, and ensure grid reliability. A set of declarations was established in 2019, committing the ERO Enterprise to:

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

Building upon these commitments, the ERO Enterprise is now engaging in a collaborative process to accelerate its transformation through diverse activities, including ERO Enterprise-wide town halls, joint leadership training sessions, and work among ERO Enterprise Collaboration Groups.

ERO Enterprise Strategic and Operational Planning

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

In 2019, ERO Enterprise leadership came together to revise the *ERO Enterprise Long-Term Strategy* as part of an effort to streamline its strategic and operational documents and ensure alignment with the NERC Reliability Issues Steering Committee's (RISC's) currently identified BPS risks. This strategy, which was approved by the Board on December 12, 2019, and reaffirmed by ERO Enterprise leadership in September 2020, includes the following strategic focus areas:

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

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

Since risks to reliability and security are fluid and can be impacted by recent events, NERC and each RE may also create annual work plan priorities that summarize the most critical goals and objectives for the year. In many cases, these work plan priorities are also used for individual, departmental, and company performance measurement.[6]

[6] The *2021 ERO Work Plan Priorities* were approved by the Board in November 2020. NERC management and the Board evaluate annual work plan priorities throughout the year.

Introduction and Executive Summary

TOTAL RESOURCES (in whole dollars)	2022 Budget	U.S.	Canada	Mexico
Statutory FTEs	223.72			
Non-statutory FTEs	-			
Total FTEs	**223.72**			
Statutory Expenses	$ 85,009,534			
Non-Statutory Expenses	$ -			
Total Expenses	**$ 85,009,534**			
Statutory Fixed Asset Additions	$ 4,118,750			
Non-Statutory Fixed Asset Additions	$ -			
Total Fixed Asset Additions	**$ 4,118,750**			
Statutory Funding of Reserves	$ 229,604			
Non-Statutory Funding of Reserves	$ -			
Total Working Capital Requirement	**$ 229,604**			
Net Financing Activity	**$ (1,100,000)**			
Total Statutory Funding Requirement	$ 88,257,888			
Total Non-Statutory Funding Requirement	$ -			
Total Funding Requirement	**$ 88,257,888**			
	TOTAL	**US**	**CANADA**	**MEXICO**
Statutory Funding Assessments	**$ 78,387,280**	**$ 70,691,258**	**$ 7,432,831**	**$ 263,191**
Non-Statutory Fees	**$ -**	**$ -**	**$ -**	**$ -**
NEL	**4,469,657,994**	**3,944,336,587**	**510,636,231**	**14,685,176**
NEL%	**100.00%**	**88.25%**	**11.42%**	**0.33%**

2022 Business Plan and Budget Summary

Budget Reporting Format and Presentation

The North American Electric Reliability Corporation (NERC) and the Regional Entities' (REs') budgets are comprised of both operating and fixed asset (capital) costs as well as net financing activity (if applicable). Operating costs generally include personnel, contractor support, consulting, meetings, travel, office space, software licensing, communications, and other customary services to support office operations. Fixed asset costs primarily reflect investments in equipment and software to support operations, including investments in the development of software applications and infrastructure to facilitate improved business processes and efficiency. These operating and fixed asset costs, as well as corresponding funding and financing activity, are shown on a Statement of Activities and Fixed Asset Expenditures report (SOA report) in this business plan and budget (BP&B) document, which is provided at both the total entity and departmental levels. These reports include funding, expenses, and financing activity for the current budget year and prior budget year to show year-over-year changes.

Overview of 2022 Budget and Funding Requirements

NERC's 2022 expense and fixed asset budget, including financing activity, is approximately $88.0M, which is an increase of approximately $5.1M (6.2%) from the 2021 budget. Total expenses are increasing approximately $5.7M (7.2%) over 2021. The total fixed asset budget is approximately $4.1M, an increase of $1.4M (49.7%) from 2021, which includes the acquisition of $2.1M in capital lease assets (primarily for the replacement of existing leased audio visual equipment), offset by corresponding lease proceeds reflected in financing activity. Future annual lease payments are anticipated to remain near current levels, with a minimal net impact on the annual budget. Approximately $9.0M (10.2%) of NERC's 2022 budget is related to the Cybersecurity Risk Information Sharing Program (CRISP), with the majority of the CRISP budget funded by participating utilities, and a small portion funded through assessments.

NERC's proposed 2022 assessment is approximately $78.4M, which is an increase of approximately $6.4M (8.9%) from the 2021 assessment. Factors contributing to the difference between the proposed 2022 budget and assessment include assumptions regarding other funding sources, such as third-party funding for CRISP and fees collected to fund the System Operator Certification program. Additionally, the allocation of the assessment among U.S. and Canadian entities will reflect the final determination of credits for certain costs for Canadian entities pursuant to *NERC's Expanded Policy on Allocation of Certain Compliance and Enforcement Costs*, which was included in NERC's filing to the Federal Energy Regulatory Commission (FERC) requesting acceptance of the NERC 2009 BP&B.[7]

NERC Rules of Procedure (ROP) Section 1107.2 specifies that penalties received from July 1 through the following June 30 will offset U.S. assessments in the subsequent budget period. In 2015, the Board of Trustees (Board) and FERC approved the creation of the Assessment Stabilization Reserve (ASR), which was established to narrow the gap between annual budget and assessment percentage changes that result from year-to-year variations in penalty collections. This reserve may be funded with penalty funds and surplus operating reserves. The actual amount of the contribution, as well as releases from the fund to reduce assessments, are determined as part of NERC's BP&B process. The 2021 assessment did not reflect a release of funds from the ASR due to cost savings efforts to maintain a relatively flat budget, as well as the use of Operating Contingency Reserves (OCR) to fund final year costs associated with the development of the Compliance Monitoring and Enforcement Program (CMEP) Align tool. NERC did not collect any penalties during the 12 months ended June 30, 2021, and is not proposing to deposit any funds into the ASR. Further, NERC management is not recommending a release of funds from the ASR to offset 2022 assessments in order to preserve these funds to stabilize assessments in future years.

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

Key 2022 Budget Considerations

NERC was able to hold the 2021 budget and assessment artificially flat to provide relief to industry during the uncertainty of the pandemic. This was accomplished by (1) not adding any full-time equivalents (FTEs); (2) reducing meetings and travel expenses (assuming continued pandemic conditions); (3) narrowing the scope of or deferring, but not eliminating, consulting, contract, and professional services resources and certain system enhancements; and (4) using OCR to fund the final year development costs for Align of $1.8M. Additionally, cost savings efforts in 2020 allowed NERC to increase its OCR and cash fund Align development costs originally budgeted to be financed and cash fund a portion ($1.8M) of the initial $3.8M investment for the CMEP ERO Secure Evidence Locker (SEL) tool in 2020, which reduced future year debt service requirements.

From supply chain compromises to several cyber breaches and cold and record heat weather-related events, there has been an alarming increase in reliability and security risks to the bulk power system (BPS). While NERC remains sensitive to the economic uncertainties facing the industry as we navigate and eventually emerge from the COVID-19 pandemic, there is the need to thoughtfully balance current fiscal concerns with the extraordinary costs to nearly 400 million North American citizens if adequate and preventive measures are not taken in response to these risks. In support of the ERO Enterprise's mission to assure the effective and efficient reduction of risks to the reliability and security of the grid, NERC's 2022 BP&B reflects immediate needs to continue to reliably and securely support the BPS as well as a measured return to items deferred in 2021.

Priority Risks to Reliability and Security

The 2022 budget ensures NERC has adequate resources to focus on priority risks, including BPS and cyber security, increased distributed generation, fuel and energy assurance, and weatherization. This includes personnel and contract support in the Reliability Standards, Reliability Assessment and Performance Analysis (RAPA), Electricity Information Sharing and Analysis Center (E-ISAC), and CRISP areas, as well as data management tool enhancements. The budget also ensures NERC is properly resourced with respect to its own internal cyber security and system administration needs.

Support for Certain Audits

The 2022 budget reflects necessary support to complete FERC-mandated CMEP audits of the REs, as well as audits related to ERO Enterprise IT security and post-implementation of Align.

Meetings and Travel

After a decrease of $1.1M in this expense category for the 2021 budget due to the assumption of continued pandemic conditions, NERC is planning for a partial return to in-person meetings and related travel in 2022. This includes certain in-person meetings for larger-scale groups, including but not limited to the Board, Member Representatives Committee (MRC), Reliability and Security Technical Committee (RSTC), and ERO Enterprise leadership. Smaller stakeholder and ERO Enterprise meetings will primarily continue to realize the efficiencies of virtual meeting formats.

Office Leases

The successful demonstration of remote work capabilities during the pandemic and upcoming office lease expirations or early termination options provide NERC an opportunity to transition to a shared in-office workplace model with the goal of retaining the efficiencies of a more flexible remote work policy and reducing annual lease costs without impacting the effectiveness of operations, including stakeholder collaboration. In collaboration with NERC team members and the MRC, NERC has been working on long-term lease strategies for its two office locations. The 2022 budget reflects savings over 2021 based on new lease assumptions for the Washington, D.C. office while assuming the existing rent schedule for the Atlanta office as options continue to be explored for that facility.

Strategic Workforce Management

NERC is a knowledge-based organization. As the challenges to the reliability and security of the BPS evolve at the same time as the competition for talent increases, NERC's need to improve its ability to retain, engage, and attract top talent is critical. Moving to a more remote workforce, reducing the office footprint, and managing employee wellbeing through the pandemic accelerated the urgency to shift from a tactically focused people management model to a more sustainable people-centered organization. NERC is implementing a "People Strategy" designed to create an employee experience that meets the needs of an evolving workforce. This three-year plan brings core Human Resources (HR) functions in-house and leverages external support for specific expertise. New FTEs included in the 2022 budget in support of this plan are being offset by the repurposing of open positions within the company.

The return of investments related to 2021 deferrals as well as the need for adequate resources to meet work plan priorities and important strategic objectives are contributing to an increased demand on the NERC 2022 budget. In support of the proposed 2022 budget, assessment, and FTEs, NERC notes the following key historical information and considerations:

- Average annual total budgeted FTE growth since 2013, including proposed 2022 FTEs, is 2.1%.
- The total number of staff, excluding E-ISAC and CRISP, IT, and RAPA, is less in 2022 than in 2013.
- Total budget, assessment, and FTEs are lower than pre-pandemic projections for 2022 in the 2020 BP&B. Notably, these numbers are lower while including approximately $1.4M in annual costs for the ERO SEL that were not part of the 2022 projection in the 2020 BP&B.[8]
- NERC's two-year (2021 and 2022) average budget and assessment increases are 3.2% and 4.5%, respectively.

Key 2022 Budget Assumptions

Personnel

Personnel costs are increasing $3.8M (7.8%) from 2021. This includes a total of 223.7 FTEs, which incorporates a 6.0% reduction (vacancy rate) for attrition and hiring delays, which is the same rate applied in previous years. NERC is proposing to add 14 new positions, offset by a reallocation of 3 open positions, resulting in a net increase to headcount of 11 (10.3 FTEs). These positions support the following focus areas and strategies (FTEs by department are discussed later in this section):

- Reliability Standards – 2 positions
  - Critical Infrastructure Protection (CIP) standards revision considerations necessitated by the escalating threat environment and recent supply chain compromises
  - RSTC-identified changes to operations and planning standards
  - Increased activity related to the overall rapid transformation of the grid, especially in the areas of renewable resources and extreme events
- Analytics – 2 positions
  - BPS security, including cyber awareness and supply chain compromise, and incorporation of cyber security into system models
  - Risks related to transformation of the grid, including energy and fuel assurance and weatherization

[8] Annual costs include debt service, software licenses and maintenance, certification, and an incremental FTE.

- E-ISAC and CRISP – 5 positions
  - Strengthening analytical capabilities and leveraging of threat intelligence
  - Key support areas for industry priorities, such as operational technology (OT), Department of Energy (DOE) 100-Day Plan, and natural gas partnerships
  - Overall organization and succession planning to support execution of the long-term strategy and related initiatives
- Internal cyber security and system administration – 2 positions
  - Managing cyber threats increasing in sophistication and frequency
  - Supporting ERO Enterprise applications and infrastructure
- Strategic workforce management (People Strategy) – 3 positions
  - Retaining, engaging, and attracting top talent
  - Shifting to a more remote workforce and managing employee wellbeing
  - Bringing core functions in-house to create a more sustainable organization

The 2022 personnel budget reflects market-based compensation for personnel and medical and dental benefit plan costs. This includes (1) a 2.5% increase over actual 2021 base salaries for merit adjustments and up to 0.5% for equity and market adjustments,[9] which is the same assumption as in the 2021 budget, and (2) anticipated increases for medical and dental benefit plan costs, which are lower than previous year estimates due to an improved loss ratio trend. Executive and staff compensation and benefits are established based on guidelines established by the Board's Corporate Governance and Human Resources Committee (CGHRC) and the results of market compensation and benefit studies, most recently completed in late 2019. Medical and dental premium cost estimates are based on market data provided by the company's benefits consultant. No other changes to retirement or other benefit plans have been assumed for 2022. A breakdown of Personnel expenses is provided in Table B4 – Personnel.

Meetings and Travel

Meetings and travel expenses are increasing $406k (18.5%) from 2021. NERC is planning for a partial return to in-person meetings and related travel in 2022, particularly for the Board, MRC, RSTC, and ERO Enterprise leadership, while continuing to leverage efficiencies of virtual meeting formats for smaller groups. The 2022 budget for meetings and travel expenses is 22% lower than the pre-pandemic 2020 budget for these expenses. A breakdown of Meeting and Travel expenses is provided in Table B5 – Meetings & Travel.

Consulting, Contractors, and Professional Services

Consultants and contracts costs are increasing $983k (7.7%) and Professional Services expenses are increasing $303k (13.9%) from 2021. As mentioned above, in 2021 NERC narrowed the scope of or deferred these resources during the economic uncertainties of the pandemic. This included consulting and contract work in the RAPA area, as well as reduced consulting, contractor, and professional services support for Administrative Programs. The 2022 budget reflects a measured return to this work, as well as funding for current needs, including support for Internal Audit and the People Strategy discussed above. An overview of budgeted expenses for professional services and consultants and contracts are shown on Table B-9 – Professional Services and in *Exhibit B – Consultants and Contracts Costs*, respectively.

[9] This is a placeholder amount; actual increases will be evaluated by the Board at year-end.

Office Costs

Office costs are increasing $563k (5.5%) from 2021. The majority of this increase is for software licenses and support for CRISP OT and analytics (much of which is participant-funded) and annual escalation cost estimates for software used by the program areas and IT, with an increased focus on enhancing NERC's cybersecurity posture. Office Costs by category are shown on Table B8 – Office Costs.

Office Rent

As discussed above, NERC has been evaluating lease options for both its Atlanta and Washington, D.C. offices. The 2022 budget reflects savings over 2021 based on new lease assumptions for the Washington, D.C. office while assuming the existing rent schedule for the Atlanta office as options continue to be explored for that facility. See Table B-7 – Rent for current assumptions.

Fixed Asset (Capital) Budget and Capital Financing

NERC's fixed asset budget includes IT equipment and servers, including leased equipment (capital lease assets), and capital software. The 2022 fixed asset budget is approximately $4.1M, an increase of $1.4M (49.7%) from 2021. This includes $2.0M for a new audio visual equipment lease and $100k for laptop leases, which are offset by corresponding lease proceeds reflected in financing activity. Excluding these capital lease assets, NERC's fixed asset budget is $2.0M, which represents a decrease of $823k (23.9%) from 2021. This decrease is primarily due to the planned completion of development for Align in 2021, for which $1.8M was budgeted.[10] This decrease is offset by funding for ongoing enhancements and maintenance for Align and the ERO SEL, and a return to investment in NERC's suite of data management tools after the 2021 deferrals discussed above, which include (1) data management systems supporting the technical analysis areas, such as generating availability data (including solar and wind), transmission availability data, and data to inform reliability assessments and event analysis; and (2) situation awareness tools. These systems are discussed within the applicable program areas of Section A. A breakdown by fixed asset category is provided in Table B-12 – Fixed Assets.

NERC's capital financing program was established to fund certain ERO Enterprise software projects to help spread these investment costs over multiple years and reduce the volatility of annual assessments. The 2022 budget currently assumes no loan borrowing through the capital financing program, and $375k of loan principal payments and $55k of interest payments for the borrowing for the ERO SEL. Further information regarding capital financing can be found in *Exhibit C – Capital Financing*. As noted above, the 2022 budget also assumes $2.1M for financing lease proceeds for audio visual equipment and laptops, as well as approximately $625k of financing lease payments. These loan and financing lease borrowings and payments can be seen in the financing activity section of the applicable SOA reports in this document.

Program Budget and FTE Comparisons

The following table shows a 2022 versus 2021 total budget comparison by program area. The amounts reflect all direct and indirect departmental costs, including fixed asset expenditures. Costs incurred for Administrative Programs (overhead) are considered indirect and are allocated to the statutory departments based on the ratio of that department's budgeted FTEs to total budgeted statutory FTEs. The Administrative Programs encompass a number of necessary support functions, including IT, Legal, Internal Audit, Corporate Risk Management (CRM), Finance and Accounting, and HR. It also includes General and Administrative (G&A) functions, which include the Chief Executive Officer (CEO), the Chief Engineer, the Chief Administrative Officer (CAO), and their support staff, as well as External Affairs staff.

[10] The $1.8M was part of the 2021 budget but funded fully by OCR and therefore did not affect 2021 assessments.

2022 versus 2021 Total Budget by Program

Total Budget	2021 Budget	2022 Budget	Increase (Decrease)	
Reliability Standards	$ 7,856,641	$ 9,430,925	$ 1,574,284	20.0%
CMEP	21,014,178	19,509,934	(1,504,243)	-7.2%
RAPA	12,631,436	14,775,082	2,143,646	17.0%
Event Anlaysis	4,287,213	3,782,150	(505,063)	-11.8%
Situation Awareness	4,450,989	5,076,614	625,625	14.1%
Personnel Certification	1,736,522	1,827,619	91,097	5.2%
Training and Education	1,084,523	1,025,014	(59,510)	-5.5%
NERC Budget, excluding E-ISAC	**$ 53,061,501**	**$ 55,427,337**	**$ 2,365,837**	**4.5%**
E-ISAC (non-CRISP)	$ 21,625,531	$ 23,637,696	$ 2,012,165	9.3%
E-ISAC (CRISP)	8,196,207	8,963,250	767,044	9.4%
Total E-ISAC Budget	**$ 29,821,738**	**$ 32,600,947**	**$ 2,779,209**	**9.3%**
Total Budget	**$ 82,883,239**	**$ 88,028,284**	**$ 5,145,045**	**6.2%**

The primary areas of increase are in Reliability Standards, RAPA, Situation Awareness, E-ISAC, and CRISP. These increases are mainly due to the addition of incremental or reallocated FTEs (see the FTEs by department section below) which also results in higher allocations of indirect costs and fixed assets from the Administrative Programs. The increase in RAPA is also due to the resumption of reliability and technical analysis consulting work and data management system enhancements, and the increases in Situation Awareness and CRISP are also related to additional software costs, all of which are discussed above.

The primary areas of decrease are in Event Analysis and the CMEP, which includes the Compliance Assurance, Compliance Enforcement, and Organization Certification and Registration departments. These decreases are predominately due to a reallocation of FTEs to other program areas, which also results in lower allocations of indirect costs and fixed assets from the Administrative Programs.

The following table presents a 2022 versus 2021 comparison of budgeted FTEs by department, reflecting 2022 additions, reallocations, and attrition assumptions. The number of FTEs represents the number of employees employed full time during the year, plus the number of employees employed part time or during a portion of the year, converted to a full-time basis. See Appendix 1 for a 2022 organization chart.

2022 versus 2021 FTEs by Department

FTEs*	2021 Budget	2022 Budget	Increase (Decrease)
Reliability Standards	16.92	19.74	2.82
CMEP	35.72	33.84	(1.88)
RAPA	25.38	26.32	0.94
Event Anlaysis	7.52	6.58	(0.94)
Situation Awareness	6.58	7.52	0.94
Personnel Certification	2.82	2.82	-
Training and Education	1.88	1.88	-
Administrative Programs	77.08	81.08	4.00
NERC FTEs, excluding E-ISAC	**173.90**	**179.78**	**5.88**
E-ISAC (non-CRISP)	36.66	40.01	3.35
E-ISAC (CRISP)	2.82	3.94	1.12
Total E-ISAC FTEs	**39.48**	**43.95**	**4.47**
Total FTEs	**213.38**	**223.72**	**10.34**

**Reflects 2022 additions and transfers between departments, anticipated timing of 2022 hires, and assumes 6% attrition in all programs*

To support key focus areas and strategies, in 2022 NERC is adding 14 new positions (see related discussion on pages 9 and 10) offset by a repurposing of 3 open positions, resulting in a net headcount increase of 11 (10.3 FTEs). The table above reflects these positions as well as other reallocations as follows:

- Reliability Standards – The increase of 2.82 FTEs reflects the addition of one reallocated open position from RAPA and the addition of two positions for increased Reliability Standards activity.
- CMEP – Reflecting continued program maturation, the decrease of 1.88 FTEs is due to the reallocation of two open positions to Administrative Programs in support of the People Strategy.
- RAPA – The increase of 0.94 FTEs reflects the addition of two positions for reliability and security analytics and modeling, offset by a reallocation of one open position to Reliability Standards.
- Event Analysis and Situation Awareness – The decrease of one FTE from Event Analysis and the corresponding increase in Situation Awareness is related to a repurposing of a position that was previously budgeted in the Event Analysis department for organizational structure purposes; the core resources for and investments in the Event Analysis program remain the same as 2021.
- E-ISAC and CRISP – The increase of 4.47 FTEs reflects the addition of four positions in E-ISAC for analytics and overall strategy execution, and one in CRISP for OT program support. This is offset by the reallocation of one open position from E-ISAC to Administrative Programs in support of the People Strategy. The net FTE number also reflects a partial direct allocation of a project manager in IT in lieu of a contract resource.
- Administrative Programs – The increase of 4.00 FTEs reflects the addition of five positions. This includes two in IT for cybersecurity and system administration, offset by the partial direct allocation of a project manager to E-ISAC and CRISP, as well as two additional positions in HR and one in External Affairs in support of the People Strategy. The new FTE resources in support of the People Strategy are being offset by the repurposing of open positions within the company.

Reserves

NERC is proposing an overall reserve budget of $11.5M across all categories of reserves. This represents an increase of $636k (5.9%) from the total reserve amounts included in NERC's 2021 budget. The reserve categories are as follows:

- **Future Obligation Reserve** – Includes funding that has been received to satisfy future obligations under lease, credit, loan, or other agreements to which the company is a party. This reserve is budgeted to be $1.1M at December 31, 2022.
- **System Operator Certification Reserve** – Includes surplus funding from operator certification fees that are above incurred expenses and shall be used solely to support operator certification needs. The 2022 System Operator Certification Reserve is budgeted at $710k at December 31, 2022, and is comprised primarily of existing funds.
- **CRISP Reserve** – Represents funds dedicated to support CRISP. These reserves are established pursuant to a CRISP budget agreed to and funded entirely by utilities participating in CRISP. These reserves have no impact on assessments and are segregated from other reserves pursuant to the terms of the CRISP agreements. The CRISP reserves are projected to be $800k in the 2022 budget.
- **OCR** – Includes both general working capital funds[11] resulting from day-to-day operations and additional funds for contingencies that were not anticipated. NERC's current policy on OCR requires a reserve target of 3.5–7.0% of the company's total expense and fixed asset budget (less CRISP and System Operator Certification budgets), except as otherwise approved by the Board after review and recommendation by the Board's Finance and Audit Committee (FAC). This percentage is calculated against NERC's total budget for operating and capital expenditures, less those costs related to CRISP and System Operator Certification, each of which has a separate reserve category. NERC is projecting an OCR of approximately $6.3M at December 31, 2022, which is 8.1% of budgeted operating and fixed asset costs, and is slightly higher than the target maximum range of the current policy. NERC believes that maintaining a slightly higher OCR than policy target range is prudent to maintain adequate reserve levels to accommodate potential one-time costs associated with any Atlanta office lease change decisions. The current policy target range will be evaluated further with the FAC and Board in 2021.
- **ASR** – To date, this reserve has been funded entirely by previously received penalties and is projected to have a balance of $2.5M as of December 31, 2022. NERC did not collect any penalties during the 12 months ended June 30, 2021, and is not proposing to deposit any funds into the ASR. Further, NERC management is not recommending a release of funds from the ASR to offset 2022 assessments, in order to preserve these funds to stabilize assessments in future years.

The following table is a statement of activities and fixed asset expenditures comparing the 2021 budget, 2021 projection, and 2022 budget.

[11] NERC maintains a $4,000,000 line of credit with a major financial institution. Based on cash flow projections and the timing by which assessments are billed and paid, NERC does not project a need to access working capital in 2022 for monthly cash flow needs. The "Working Capital Requirement" shown in the table on page 1 reflects the projected net change for both the System Operator and CRISP reserves." See Table B-1 for details.

Statement of Activities and Fixed Asset Additions 2021 Budget & Projection, and 2022 Budget STATUTORY	2021 Budget	2021 Projection	Variance 2021 Projection v 2021 Budget Over(Under)	2022 Budget	Variance 2022 Budget v 2021 Budget Over(Under)	% Inc 2022 Over 2021
Funding						
NERC Funding						
NERC Assessments	$ 72,011,373	$ 72,011,374	$ -	$ 78,387,280	$ 6,375,906	
Penalties Released*	-	-	-	-	-	
Total NERC Funding	**$ 72,011,373**	**$ 72,011,374**	**$ -**	**$ 78,387,280**	**$ 6,375,906**	**8.9%**
Third-Party Funding (CRISP)	$ 7,064,343	$ 7,095,260	$ 30,917	$ 7,917,385	$ 853,042	
Testing, Renewal, & Continuing Ed Fees	1,801,634	1,654,822	(146,812)	1,756,723	(44,911)	
Services & Software	60,000	60,000	-	60,000	-	
Miscellaneous	-	60,500	60,500	60,000	60,000	
Interest & Investment Income	218,200	7,000	(211,200)	76,500	(141,700)	
Total Funding (A)	**$ 81,155,551**	**$ 80,888,956**	**$ (266,594)**	**$ 88,257,888**	**$ 7,102,337**	**8.8%**
Expenses						
Personnel Expenses						
Salaries	$ 36,636,628	$ 37,229,211	$ 592,583	$ 39,557,528	$ 2,920,900	
Payroll Taxes	2,122,568	2,176,206	53,638	2,310,836	188,267	
Benefits	5,703,799	5,360,249	(343,550)	6,038,487	334,688	
Retirement Costs	3,726,439	3,769,288	42,849	4,059,585	333,146	
Total Personnel Expenses	**$ 48,189,435**	**$ 48,534,954**	**$ 345,519**	**$ 51,966,435**	**$ 3,777,000**	**7.8%**
Meeting & Travel Expenses						
Meetings & Conference Calls	$ 890,751	$ 379,978	$ (510,773)	$ 1,132,550	$ 241,799	
Travel	1,310,997	381,990	(929,007)	1,475,500	164,503	
Total Meeting & Travel Expenses	**$ 2,201,748**	**$ 761,968**	**$ (1,439,780)**	**$ 2,608,050**	**$ 406,302**	**18.5%**
Operating Expenses, excluding Depreciation						
Consultants & Contracts	$ 12,691,813	$ 14,639,818	$ 1,948,005	$ 13,674,800	$ 982,987	
Office Rent	3,603,442	3,603,442	-	3,243,277	(360,165)	
Office Costs	10,185,789	10,483,815	298,026	10,749,222	563,433	
Professional Services	2,185,100	2,398,563	213,463	2,488,100	303,000	
Miscellaneous	100,150	105,086	4,936	144,650	44,500	
Total Operating Expenses, excluding Depreciation	**$ 28,766,294**	**$ 31,230,724**	**$ 2,464,430**	**$ 30,300,049**	**$ 1,533,755**	**5.3%**
Total Direct Expenses	**$ 79,157,477**	**$ 80,527,646**	**$ 1,370,169**	**$ 84,874,534**	**$ 5,717,057**	**7.2%**
Indirect Expenses	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	
Other Non-Operating Expenses	**$ 129,661**	**$ 181,048**	**$ 51,387**	**$ 135,000**	**$ 5,339**	**4.1%**
Total Expenses (B)	**$ 79,287,138**	**$ 80,708,694**	**$ 1,421,557**	**$ 85,009,534**	**$ 5,722,396**	**7.2%**
Change in Net Assets (=A-B)	**$ 1,868,413**	**$ 180,262**	**$ (1,688,151)**	**$ 3,248,354**	**$ 1,379,941**	
Fixed Asset Additions, excluding Right of Use Assets (C)	**$ 2,751,500**	**$ 3,286,328**	**$ 534,828**	**$ 4,118,750**	**$ 1,367,250**	**49.7%**
Financing Activity						
Loan or Financing Lease - Borrowing (-)	(100,000)	(887,476)	(787,476)	(2,100,000)	(2,000,000)	
Loan or Financing Lease - Principal Payments (+)	944,601	803,957	(140,640)	1,000,000	55,399	
Net Financing Activity (D)	**$ 844,601**	**$ (83,519)**	**$ (928,120)**	**$ (1,100,000)**	**$ (1,944,601)**	**-230.2%**
Total Budget (=B+C+D)	**$ 82,883,239**	**$ 83,911,503**	**$ 1,028,265**	**$ 88,028,284**	**$ 5,145,045**	**6.2%**
Change in Working Capital (=A-B-C-D)	**$ (1,727,688)**	**$ (3,022,547)**	**$ (1,294,859)**	**$ 229,604**	**$ 1,957,292**	
FTEs	**213.38**	**208.95**	**(4.43)**	**223.72**	**10.34**	**4.8%**

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

Projections for 2023 and 2024

NERC is currently developing preliminary operating and fixed asset projections for 2023 and 2024. Significant assumptions considered in preparing these projections include:

- Salary and benefit increases consistent with historical precedent (prospective inflation pressures not reflected);
- Gradual increase in meetings and travel expenses that are still below pre-pandemic levels;
- Continued Washington, D.C. office lease savings while assuming the existing rent schedule for the Atlanta office as options continue to be explored for that facility;
- Debt service repayment obligations in connection with the company's Capital Financing Program, including financing for the ERO SEL; and
- Continued resource additions and enhancements to data management systems as a result of 2020 and 2021 deferrals and to adequately address priority BPS reliability and security risks.

While NERC was able to reduce certain human resource and technology investments in the 2020 and 2021 periods, this was a deferral of short-term cost impacts and not an elimination of these strategies. Since the bulk of NERC's budget consists of people and technology, continued investments in human resources and software tools are necessary to support of NERC's strategic goals and mission. NERC's preliminary 2023 budget projection is $92.5M (5.1% increase over 2022) and its assessment projection is $82.7M (5.5% increase over 2022). In 2024, the budget projection is $97.2M (5.1% increase over 2023) and the assessment projection is $86.9M (5.1% increase over 2023). As with all future year projections, these numbers only reflect calculations based on management's preliminary planning (i.e., the projections are not Board-endorsed or approved) and the assessment projections do not consider the use of reserve funds to help mitigate assessment increases, a decision that would be made during the 2023 and 2024 BP&B processes. Resource needs are also under continuous strategic review, and technology projects are subject to scoping, requirements building, and business case development as applicable.

As mentioned earlier, NERC continues to be sensitive to the economic uncertainties facing the electricity sector resulting from the COVID-19 pandemic. NERC commits to thoughtfully balancing fiscal concerns with the evolution of BPS risk into different arenas, judicious use of reserves to manage assessment increases, ongoing assessment of the effectiveness and efficiency of its program areas, and ensuring that its budgets for 2023 and 2024 reflect activities that focus on the highest risks to reliability and security.

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

	2022 Budget	2023 Projection	$ Change 23 vs 22	% Change 23 vs 22	2024 Projection	$ Change 24 vs 23	% Change 24 vs 23
Funding							
ERO Funding							
NERC Assessments	$ 78,387,280	$ 82,676,270	$ 4,288,990	5.5%	$ 86,910,239	$ 4,233,969	5.1%
Penalties Released	-	-	-		-	-	
Total NERC Funding	**$ 78,387,280**	**$ 82,676,270**	**$ 4,288,990**	**5.5%**	**$ 86,910,239**	**$ 4,233,969**	**5.1%**
Third-Party Funding	$ 7,917,385	$ 7,979,206	$ 61,821	0.8%	$ 8,381,748	$ 402,542	5.0%
Testing Fees	1,756,723	1,671,250	(85,473)	-4.9%	1,783,325	112,075	6.7%
Services & Software	60,000	60,000	-	0.0%	60,000	-	0.0%
Miscellaneous	60,000	60,000	-	0.0%	60,000	-	0.0%
Interest & Investment Income	76,500	111,500	35,000	45.8%	111,500	-	0.0%
Total Funding (A)	**$ 88,257,888**	**$ 92,558,226**	**$ 4,300,338**	**4.9%**	**$ 97,306,812**	**$ 4,748,587**	**5.1%**
Expenses							
Personnel Expenses							
Salaries	$ 39,557,528	$ 42,150,150	$ 2,592,622	6.6%	$ 44,668,504	$ 2,518,354	6.0%
Payroll Taxes	2,310,836	2,428,007	117,171	5.1%	2,535,613	107,606	4.4%
Benefits	6,038,487	6,616,473	577,986	9.6%	7,157,732	541,259	8.2%
Retirement Costs	4,059,585	4,330,250	270,665	6.7%	4,592,939	262,689	6.1%
Total Personnel Expenses	**$ 51,966,435**	**$ 55,524,880**	**$ 3,558,445**	**6.8%**	**$ 58,954,788**	**$ 3,429,908**	**6.2%**
Meetings & Travel Expenses							
Meetings & Conference Calls	$ 1,132,550	$ 1,155,550	$ 23,000	2.0%	$ 1,170,000	$ 14,450	1.3%
Travel	1,475,500	1,631,500	156,000	10.6%	1,730,500	99,000	6.1%
Total Meetings and Travel Expenses	**$ 2,608,050**	**$ 2,787,050**	**$ 179,000**	**6.9%**	**$ 2,900,500**	**$ 113,450**	**4.1%**
Operating Expenses, excluding Depreciation							
Consultants & Contracts	$ 13,674,800	$ 13,396,803	$ (277,997)	-2.0%	$ 13,798,229	$ 401,426	3.0%
Office Rent	3,243,277	3,331,170	87,893	2.7%	3,497,840	166,670	5.0%
Office Costs	10,749,222	11,135,179	385,957	3.6%	11,571,569	436,390	3.9%
Professional Services	2,488,100	2,580,100	92,000	3.7%	2,762,100	182,000	7.1%
Miscellaneous	144,650	144,850	200	0.1%	144,750	(100)	-0.1%
Total Operating Expenses, excluding Depreciation	**$ 30,300,049**	**$ 30,588,102**	**$ 288,053**	**1.0%**	**$ 31,774,488**	**$ 1,186,386**	**3.9%**
Total Direct Expenses	**$ 84,874,534**	**$ 88,900,032**	**$ 4,025,498**	**4.7%**	**$ 93,629,776**	**$ 4,729,744**	**5.3%**
Indirect Expenses	**$ -**	**$ -**	**$ -**	**0.0%**	**$ -**	**$ -**	**0.0%**
Other Non-Operating Expenses	**$ 135,000**	**$ 135,000**	**$ -**	**0.0%**	**$ 135,000**	**$ -**	**0.0%**
Total Expenses (B)	**$ 85,009,534**	**$ 89,035,032**	**$ 4,025,498**	**4.7%**	**$ 93,764,776**	**$ 4,729,744**	**5.3%**
Change in Net Assets (=A-B)	**$ 3,248,354**	**$ 3,523,194**	**$ 274,840**	**8.5%**	**$ 3,542,037**	**$ 18,843**	**0.5%**
Fixed Asset Additions, excluding Right of Use Assets (C)	**$ 4,118,750**	**$ 2,569,000**	**$ (1,549,750)**	**-37.6%**	**$ 2,559,000**	**$ (10,000)**	**-0.4%**
Financing Activity							
Loan or Financing Lease - Borrowing (-)	(2,100,000)	(100,000)	2,000,000	-95.2%	(100,000)	-	0.0%
Loan or Financing Lease - Principal Payments (+)	1,000,000	1,000,000	-	0.0%	1,000,000	-	0.0%
Net Financing Activity (D)	**$ (1,100,000)**	**$ 900,000**	**$ 2,000,000**	**-181.8%**	**$ 900,000**	**$ -**	**0.0%**
Total Budget (=B+C+D)	**$ 88,028,284**	**$ 92,504,032**	**$ 4,475,748**	**5.1%**	**$ 97,223,776**	**$ 4,719,744**	**5.1%**
Change in Working Capital (=A-B-C-D)	**$ 229,604**	**$ 54,194**	**$ (175,410)**	**-76.4%**	**$ 83,037**	**$ 28,843**	**53.2%**
FTEs	**223.72**	**233.12**	**9.40**	**4.2%**	**241.58**	**8.46**	**3.6%**

Section A – 2022 Business Plan and Budget Program Area and Department Detail

Reliability Standards and Power Risk Issue Strategic Management

NERC has an Engineering and Standards department that consolidates NERC's technical resources together and provides engineering services to support the overall needs of the organization. The Reliability Standards group is focused specifically on the development and improvement of Reliability Standards. The Power Risk Issues and Strategic Management (PRISM) group supports Reliability Standards by providing technical support and develops, supports, and prioritizes the ERO Risk Registry.

Reliability Standards and Power Risk Issue Strategic Management (in whole dollars)	2021 Budget	2022 Budget	Increase (Decrease)
FTE Reporting	16.92	19.74	2.82
Personnel Expenses	3,312,011	3,926,928	614,917
Direct Expenses	$ 3,627,620	$ 4,321,038	$ 693,418
Indirect Expenses	4,087,161	4,916,148	828,986
Other Non-Operating Expenses	-	-	-
Fixed Asset Additions	82,885	397,858	314,973
Financing Activity	58,974	(204,119)	(263,093)
Total Budget	$ 7,856,641	$ 9,430,925	$ 1,574,284

Background and Scope

The Reliability Standards program carries out the ERO's statutory responsibility to develop, adopt, obtain approval of, and modify (as and when appropriate) mandatory NERC Reliability Standards (both continent-wide standards and regional reliability standards) to assure the Bulk Electric System (BES) is planned, operated, maintained, and secured to minimize risks of cascading failures, avoid damage to major equipment, or limit interruptions of the bulk power system (BPS). The purpose of the Reliability Standards group is to deliver high-quality risk-based Reliability Standards, facilitate continent-wide industry engagement, and support regulatory filings. The group focuses on expanding a risk-based approach to its projects, including ensuring that Reliability Standards are clear, timely, consider costs, effective in mitigating material risks, and do not unnecessarily burden industry with administrative requirements and/or detract from reliability or security.

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

Stakeholder Engagement and Benefit

NERC manages the work of over 200 industry contributors who serve on the Standards Committee, subgroups, and other project teams for the development of Reliability Standards. As part of the standard development process, industry technical experts scope, draft, and review new or revised Reliability Standards for approval by the industry ballot body, adoption by the Board, and filing with regulatory authorities in the United States and Canada. NERC standards staff provide project management and leadership to develop solutions necessary to address reliability risks identified through the Reliability Risk Management Process (RRMP). These solutions may include the development of or modifications to Reliability Standards, in which standards staff (1) conduct outreach activities; (2) facilitate drafting teams, including assisting teams in maintaining adherence to the development process in the *Standard Processes Manual*; (3) provide drafting support; and (4) ensure that the quality of documents produced is appropriate for approval by industry and the Board.

Additionally, federal, state, and provincial regulatory authorities, the Board, Regional Entities (REs), and many industry stakeholders have expressed interest in the identification of costs incurred from implementing Reliability Standards compared to risks they address. These elements are considered by requesting industry feedback on costs throughout the standard development or revision process.

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

Tools and Technology

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

Key Efforts Underway

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

- **Focusing on the selection of projects undertaken.** Resources are expended on issues determined to be a reliability risk through the RRMP. The Reliability Standards group applies broad project management skills to implement a variety of solutions to a reliability concern. An effective solution to an identified risk may be a Reliability Standard, a guideline, information request, training, NERC Alert, technical conference, research, or a combination of these or other tools.

- **Addressing FERC directives and responding to FERC orders or special reports** through standard development projects, as necessary. Each project determines whether: (1) the directive will be complied with as issued; (2) there is another equally effective way to address the concern that fostered the directive; or (3) there is technical justification that resolution of the directive is no longer needed, including whether the directive has been overcome by other events, processes, or advances in technology.
- **Standards Efficiency Review.** In 2018, NERC and industry began a comprehensive review of the Reliability Standards to measure their effectiveness and ability to mitigate the risks to the reliability and security of the BPS as compared to the industry burden for their implementation. One outcome of this review was the need to retire or enhance requirements based on operational experience. This includes an analysis of reliability risk, particularly emerging risks, and cost effectiveness. In 2019, projects were initiated to address the results of this review to retire or modify Reliability Standards. The Standards Efficiency Review Report and Transition Plan outlines one additional recommendation to minimize the need for future standards efficiency review type projects solely dedicated to remove or reduce administrative inefficiencies in the NERC Reliability Standards. As a result, standards development processes will be assessed and recommended standards modifications will be considered by future standard drafting teams and periodic review teams from Phase 1 and Phase 2 recommendations. For more information, see the Standards Efficiency Review page on the NERC website.
- **Facilitating smooth transition to new standards**. This includes working with other NERC program areas and the REs to develop guidelines, webinars, and other activities to support auditor and industry training for new standards.

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

- Completing NERC position documents for Distributed Energy Resources (DER), Interconnection Reliability Operating Limits (IROL) and System Operating Limits (SOL), and Energy Adequacy. These position documents will be compiled in collaboration with various NERC stakeholder groups, including but not limited to the RSTC, Inverter-Based Resource Performance Task force (IRPTF), and System Planning Impacts from Distributed Energy Resources Working Group (SPIDERWG);
- Reporting on statistical analysis around misoperations data to identify trends and discrete areas for improvement;
- Conducting Reliability Standards training for NERC and RE staff to enable consistent understandings. The PRISM group has extensive experience in standards development. As a result, the PRISM team provides additional standards training as needed for the ERO Enterprise;
- Refining the cross cutting tool discussed above while prioritizing risks in the Risk Registry;
- Measuring the effectiveness of the recently approved Electric Gas Working Group (EGWG) industry guideline on fuel assurance. Appropriate measurement and determination of the efficacy of this guideline will be a key driver in a potential fuel assurance standard;
- Supporting the FERC/NERC inquiry into the Texas Winter event of 2021; and
- Executing the work plan for the Energy Reliability Assessment Task Force (ERATF).

2022 Goals and Deliverables

In 2022, the Reliability Standards group will continue the key activities discussed above by addressing potential improvements to standards, any new directives issued by FERC, as well as any reliability risks identified through RRMP or by the RISC for which a Reliability Standard is part of the solution. Additionally, staff will work with industry to determine whether there is a need to make further improvements to the standards through periodic reviews that include: (1) a measured review of the content of standards, considering whether the requirements could more effectively mitigate risks to the BPS; (2) whether the standards are results-based and drafted with high quality; (3) whether the standards are concise or if the number of requirements could be reduced; and (4) whether compliance expectations are clear. The PRISM group will continue to support Reliability Standards by providing technical support throughout the development process.

Future Plans

In 2023 and beyond, as emerging technologies that are interconnected at scale continue to provide challenges and uncertainties to BPS reliability, standards alignment with the effects of these technologies is critical. This includes battery storage, DER, the proliferation of electric vehicles, cyber implications on system design, operations, restoration, energy management and systemic risks from interdependencies among gas, electric, and communications systems. This may also include seasonal preparation from utilities to ensure reliability during weather or other extreme events. NERC has access to increasing amounts of data for the purpose of identifying trends to BPS reliability risks, which can inform the efficacy of standards with respect to these emerging risks. NERC will continually evaluate approaches to ensure that standards are developed appropriately with respect to the commensurate cross-cutting influence and expertise available.

Resource Requirements

Personnel

The increase of 2.82 FTEs reflects the addition of one reallocated open positon from Reliability Assessment and Performance Analysis (RAPA) and the addition of two positions for increased standards development activity related to (1) Critical Infrastructure Protection (CIP) standards revisions necessitated by the escalating threat environment and recent supply chain compromises, (2) RSTC-identified changes to operations and planning standards, and (3) the overall rapid transformation of the grid, especially in the areas of renewable resources and extreme events.

Consultants and Contracts

The $159k for Consultants & Contracts expenses in 2022 is for technical and application support. A comparison of 2021 and 2022 budgeted expenses is shown in *Exhibit B – Consultants and Contracts Costs*.

Other Significant Direct Costs

The $27k increase for Meetings and Conference Calls in 2022 reflects a return to some in-person meetings following pandemic conditions in 2021, particularly with respect to anticipated increased standards-related activity.

Statement of Activities and Fixed Asset Additions 2021 Budget & Projection, and 2022 Budget Reliability Standards and Power Risk Isssue Strategic Management	2021 Budget	2021 Projection	Variance 2021 Projection v 2021 Budget Over(Under)	2022 Budget	Variance 2022 Budget v 2021 Budget Over(Under)
Funding					
NERC Funding					
NERC Assessments	$ 7,833,694	$ 7,833,694	$ -	$ 9,420,030	$ 1,586,336
Penalties Released	-	-	-	-	-
Total NERC Funding	**$ 7,833,694**	**$ 7,833,694**	**$ -**	**$ 9,420,030**	**$ 1,586,336**
Third-Party Funding	$ -	$ -	$ -	$ -	$ -
Testing, Renewal, & Continuing Ed Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Interest & Investment Income	22,947	421	(22,526)	10,895	(12,052)
Total Funding (A)	**$ 7,856,641**	**$ 7,834,115**	**$ (22,526)**	**$ 9,430,925**	**$ 1,574,284**
Expenses					
Personnel Expenses					
Salaries	$ 2,468,752	$ 2,705,314	$ 236,563	$ 2,951,243	$ 482,491
Payroll Taxes	155,276	161,678	6,402	183,584	28,308
Benefits	415,057	399,872	(15,185)	467,848	52,791
Retirement Costs	272,927	277,120	4,193	324,253	51,327
Total Personnel Expenses	**$ 3,312,011**	**$ 3,543,984**	**$ 231,973**	**$ 3,926,928**	**$ 614,917**
Meetings & Travel Expenses					
Meetings & Conference Calls	$ 37,860	$ 10,000	$ (27,860)	$ 65,000	$ 27,140
Travel	115,147	32,900	(82,247)	115,000	(147)
Total Meetings & Travel Expenses	**$ 153,007**	**$ 42,900**	**$ (110,107)**	**$ 180,000**	**$ 26,993**
Operating Expenses, excluding Depreciation					
Consultants & Contracts	$ 114,552	$ 271,080	$ 156,528	$ 158,960	$ 44,408
Office Rent	-	-	-	-	-
Office Costs	45,850	65,617	19,767	52,850	7,000
Professional Services	-	-	-	-	-
Miscellaneous	2,200	2,300	100	2,300	100
Total Operating Expenses, excluding Depreciation	**$ 162,602**	**$ 338,997**	**$ 176,395**	**$ 214,110**	**$ 51,508**
Total Direct Expenses	**$ 3,627,620**	**$ 3,925,881**	**$ 298,261**	**$ 4,321,038**	**$ 693,418**
Indirect Expenses	**$ 4,087,161**	**$ 4,551,801**	**$ 464,640**	**$ 4,916,148**	**$ 828,986**
Other Non-Operating Expenses	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Total Expenses (B)	**$ 7,714,782**	**$ 8,477,682**	**$ 762,901**	**$ 9,237,186**	**$ 1,522,404**
Change in Net Assets (=A-B)	**$ 141,859**	**$ (643,568)**	**$ (785,427)**	**$ 193,740**	**$ 51,880**
Fixed Asset Additions, excluding Right of Use Assets (C)	**$ 82,885**	**$ 59,717**	**$ (23,168)**	**$ 397,858**	**$ 314,973**
Financing Activity					
Loan or Financing Lease - Borrowing (-)	$ (12,558)	$ (25,098)	$ (12,539)	$ (290,610)	$ (278,051)
Loan or Financing Lease - Principal Payments (+)	71,533	76,837	5,304	86,491	14,958
Net Financing Activity (D)	**$ 58,974**	**$ 51,739**	**$ (7,235)**	**$ (204,119)**	**$ (263,093)**
Total Budget (=B+C+D)	**$ 7,856,641**	**$ 8,589,138**	**$ 732,497**	**$ 9,430,925**	**$ 1,574,284**
Change in Working Capital (=A-B-C-D)	**$ -**	**$ (755,024)**	**$ (755,024)**	**$ -**	**$ -**
FTEs	**16.92**	**17.56**	**0.64**	**19.74**	**2.82**

Compliance Assurance and Organization Registration and Certification

Compliance Assurance and Organization Registration and Certification (in whole dollars)	2021 Budget	2022 Budget	Increase (Decrease)
FTE Reporting	23.50	21.62	(1.88)
Direct Expenses	$ 6,591,671	$ 6,492,428	$ (99,243)
Indirect Expenses	5,730,723	5,384,352	(346,371)
Other Non-Operating Expenses	27,500	27,500	-
Fixed Asset Additions	1,066,217	695,750	(370,468)
Financing Activity	270,191	(36,058)	(306,249)
Total Budget	$ 13,686,302	$ 12,563,971	$ (1,122,331)

Background and Scope

Compliance Assurance

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

As part of the ERO Enterprise's risk-based CMEP, REs develop Compliance Oversight Plans (COPs) for each registered entity. The COP process provides the risk assessment and planning foundation to inform how and when each RE uses its monitoring processes (tools), including compliance audits, self-certification, and spot checking.

Under the COP approach, each RE assesses, categorizes, and prioritizes the inherent and performance risk of registered entities for CMEP purposes within a RE's larger population of registered entities. The COP is a continuous cycle that, with other COPs, informs the RE's planning and scheduling of compliance monitoring activities. REs also share a summary of the COP with each registered entity.

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

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

- Training and outreach activities for the CIP Reliability Standards and subsequent enhancements to support industry compliance and security;
- Coordination with the Reliability Standards group to assist in the smooth transition of standards from development to enforceability, providing feedback on risks seen in the field that are not addressed by a standard, as well as information on where a standard is too broad; and
- Support for RE and industry committees, working groups, and task forces, such as the ERO Risk, Performance, and Monitoring group (NERC and RE collaboration group), NERC Compliance and Certification Committee (CCC), and NERC Reliability and Security Technical Committee (RSTC).

Organization Registration and Certification

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

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

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

Stakeholder Engagement and Benefit

Compliance Assurance engages with stakeholders in two primary ways:

1. Through the CCC. The CCC is chartered to engage with, support, and advise the Board and NERC regarding all facets of the CMEP and Registration and Certification programs. Among other things, Compliance Assurance works with the CCC on activities related to the ERO Enterprise Effectiveness Survey, in seeking input and advice on the development of draft Reliability Standard Audit Worksheets (RSAWs) and the Compliance Guidance process, and coordinating ERO Enterprise Program Alignment Process issues.

2. Through stakeholder outreach. This is conducted through webinars related to specific processes throughout the year, such as to discuss development and evolution of the CMEP IP, and through RE and NERC workshops and conferences.

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

Tools and Technology

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

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

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

A BES notification and exception system tool is also used in support of the Registration group's activities. The application allows registered entities to submit to their respective RE notifications of changes to BES assets that affect the registered entity's responsibilities for compliance with the Reliability Standards.

Key Efforts Underway

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

NERC Oversight of Risk-Based Compliance Monitoring

NERC continues to implement risk-based compliance monitoring as part of its stated objectives of ensuring BPS reliability, improving consistency, effectiveness, and efficiency of ERO Enterprise compliance operations, focusing on identified risks and reducing unnecessary burdens on registered entities. Ensuring the successful implementation of NERC's risk-based CMEP remains the priority of Compliance Assurance's oversight plan for the REs. As part of that oversight, and in addition to offering regular feedback to the REs, NERC continues to identify areas for improvement or promoting consistency through training, guidance, or adjustments. For 2022 and beyond, emphasis on oversight related to integrating Align into CMEP activities continues. NERC also produces an ERO Enterprise CMEP annual report, which includes an assessment of the risk-based CMEP implementation.

In addition, during the Coronavirus Pandemic of 2020 and 2021, the ERO Enterprise released guidance that provided regulatory relief related to registered entities' coronavirus response and temporarily expanded the Self-Logging Program. The ERO Enterprise also deferred on-site audits through December 31, 2021, and, during that time, it successfully coordinated remote virtual audits and other activities that were originally scheduled to be on-site. On-site activities will resume as it becomes safe to do so, and in a manner that prioritizes risk.

Program Alignment Process

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

Align and ERO SEL Projects

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

RE Training

Compliance Assurance provides training to RE staff on critical elements of risk-based compliance monitoring, including enhancements to registered entity Inherent Risk Assessments (IRAs), internal controls reviews, COP development, and Reliability Standards monitoring. NERC also provides training on documentation practices of CMEP work within Align and the ERO SEL. NERC develops this training based on observations from its oversight activities of the REs, as well as the process reviews described above.

Small Group Advisory Sessions

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

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

- Maintenance of CORES, discussed above, including continued focus on functionality for CFRs;
- Execution of Certification engagements and response to industry changes requiring Certification review, with particular emphasis on control center relocations, Energy Management System (EMS) replacements, and RC, BA, and TOP footprint changes; and
- Processing registration change requests, including NERC-led Review Panels and BES Exceptions.

2022 Goals and Deliverables

In 2022, Compliance Assurance resources will focus on improvements implemented as a result of previous risk-based compliance monitoring activities. In continued support of the *ERO Enterprise Long-Term Strategic Plan*, specific objectives for this group are:

- As on-site compliance monitoring activities resume, work closely with REs to ensure that 2022 activities are risk-informed and evaluate 2020 and 2021 experiences.
- Continue to mature the risk-based compliance monitoring program, providing ongoing oversight of the risk-based CMEP, including IRAs, consideration of internal controls, coordinated oversight of Multi-Region Registered Entities (MRREs), and ensuring COPs are addressing the relevant risks and inform RE CMEP planning.
- Work closely with NERC's Enforcement and IT departments, as well as staff in the REs, to maintain and enhance the Align and ERO SEL tools.
- Support the continued successful implementation of the Cyber Security Supply Chain Risk Management Reliability Standard.
- Support the continued successful implementation of the CIP Version 5 Reliability Standards and subsequent enhancements as they become effective.
- Monitor and support effective implementation of the physical security Reliability Standards.
- Enhance and implement training to support monitoring of Reliability Standards, integrating principles from the *Compliance Monitoring Competency Guide*.
- Continue feedback to the Reliability Standards group through coordination between the standards and compliance functions to allow for clear stakeholder implementation of standards, as well as feedback on risks seen in the field. This effort will be supported through a common set of RSAWs, guidance, and outreach.
- Continue to focus on how registered entities have mitigated reliability and security risks while achieving compliance with the Reliability Standards, including applicable internal controls.
- Support international CMEP activities, including reliability and security subject matter expertise and outreach.
- Provide support and leadership to the CCC as well as its subcommittees, working groups, and task forces. Support the CCC leadership and development and implementation of annual work plans.

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

Future Plans

For 2023 and beyond, NERC anticipates continued implementation and enhancement of the Align and ERO SEL tools, providing significant impetus for continued harmonization of CMEP processes across the ERO Enterprise and enhanced CMEP workflow management. Additionally, the Align and ERO SEL implementation, along with continued coordination among NERC and the REs, should result in significant maturation and harmonization of risk-based CMEP processes, particularly in realizing opportunities to enhance the use of the risk-based CMEP processes to support CMEP planning activities.

Resource Requirements

Personnel
Reflecting continued program maturation, the decrease of 1.88 FTEs is due to the reallocation of two open positions in Compliance Assurance to Administrative Programs in support of the People Strategy discussed in the *Introduction and Executive Summary*.

Consultants and Contracts
The $255k increase for Consultants & Contracts from the 2021 budget to the 2022 budget is primarily related to support for the FERC-mandated CMEP audits of the REs and a post-implementation audit of Align, for which the total budget is split evenly between the Compliance Assurance and Compliance Enforcement areas. The increase also accounts for funding for program process documentation support. A comparison of 2021 and 2022 budgeted expenses is shown in *Exhibit B – Consultants and Contracts Costs*.

Other Significant Direct Costs

Meetings and Conference Calls
The $30k increase for Meetings and Conference Calls in 2022 reflects a partial return to in-person meetings following pandemic conditions in 2021.

Office Costs
The $647k for Office Costs in the 2022 budget primarily consists of expenses for software licensing and support for Align and the ERO SEL, for which the total annual cost is split evenly between Compliance Assurance and Compliance Enforcement.

Fixed Asset Additions
The 2022 Fixed Asset budget includes $250k for ongoing enhancements and maintenance for Align and the ERO SEL, for which the total annual cost is split evenly between Compliance Assurance and Compliance Enforcement, and approximately $10k for CORES enhancements.

Net Financing Activity
Net financing activity for 2022 includes approximately $188k for loan principal payments for the ERO SEL capital investment borrowing in 2020, for which the total annual cost is split evenly between Compliance Assurance and Compliance Enforcement.

Statement of Activities and Fixed Asset Additions 2021 Budget & Projection, and 2022 Budget Compliance Assurance and Organization Registration and Certification	2021 Budget	2021 Projection	Variance 2021 Projection v 2021 Budget Over(Under)	2022 Budget	Variance 2022 Budget v 2021 Budget Over(Under)
Funding					
NERC Funding					
NERC Assessments	$ 13,654,127	$ 13,654,127	$ -	$ 12,552,038	$ (1,102,089)
Penalties Released	-	-	-	-	-
Total NERC Funding	**$ 13,654,127**	**$ 13,654,127**	**$ -**	**$ 12,552,038**	**$ (1,102,089)**
Third-Party Funding	$ -	$ -	$ -	$ -	$ -
Testing, Renewal, & Continuing Ed Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Interest & Investment Income	32,175	512	(31,664)	11,933	(20,243)
Total Funding (A)	**$ 13,686,302**	**$ 13,654,639**	**$ (31,664)**	**$ 12,563,971**	**$ (1,122,331)**
Expenses					
Personnel Expenses					
Salaries	$ 4,038,791	$ 3,861,901	$ (176,890)	$ 3,759,888	$ (278,902)
Payroll Taxes	244,418	230,307	(14,111)	224,943	(19,475)
Benefits	824,511	736,067	(88,444)	761,083	(63,428)
Retirement Costs	449,687	399,661	(50,027)	416,398	(33,290)
Total Personnel Expenses	**$ 5,557,407**	**$ 5,227,935**	**$ (329,471)**	**$ 5,162,312**	**$ (395,095)**
Meetings & Travel Expenses					
Meetings & Conference Calls	$ 51,742	$ 16,000	$ (35,742)	$ 82,000	$ 30,258
Travel	237,413	67,832	(169,581)	251,000	13,587
Total Meetings & Travel Expenses	**$ 289,155**	**$ 83,832**	**$ (205,323)**	**$ 333,000**	**$ 43,845**
Operating Expenses, excluding Depreciation					
Consultants & Contracts	$ 89,552	$ 240,160	$ 150,608	$ 345,000	$ 255,448
Office Rent	-	-	-	-	-
Office Costs	652,307	641,080	(11,227)	648,866	(3,441)
Professional Services	-	-	-	-	-
Miscellaneous	3,250	3,250	-	3,250	-
Total Operating Expenses, excluding Depreciation	**$ 745,109**	**$ 884,490**	**$ 139,381**	**$ 997,116**	**$ 252,007**
Total Direct Expenses	**$ 6,591,671**	**$ 6,196,257**	**$ (395,413)**	**$ 6,492,428**	**$ (99,243)**
Indirect Expenses	**$ 5,730,723**	**$ 5,534,225**	**$ (196,498)**	**$ 5,384,352**	**$ (346,371)**
Other Non-Operating Expenses	**$ 27,500**	**$ 27,500**	**$ (0)**	**$ 27,500**	**$ -**
Total Expenses (B)	**$ 12,349,894**	**$ 11,757,982**	**$ (591,912)**	**$ 11,904,280**	**$ (445,615)**
Change in Net Assets (=A-B)	**$ 1,336,408**	**$ 1,896,656**	**$ 560,248**	**$ 659,691**	**$ (676,717)**
Fixed Asset Additions, excluding Right of Use Assets (C)	**$ 1,066,217**	**$ 1,372,606**	**$ 306,389**	**$ 695,750**	**$ (370,468)**
Financing Activity					
Loan or Financing Lease - Borrowing (-)	$ (17,609)	$ (380,515)	$ (362,906)	$ (318,287)	$ (300,678)
Loan or Financing Lease - Principal Payments (+)	287,799	208,421	(79,379)	282,228	(5,571)
Net Financing Activity (D)	**$ 270,191**	**$ (172,094)**	**$ (442,285)**	**$ (36,058)**	**$ (306,249)**
Total Budget (=B+C+D)	**$ 13,686,302**	**$ 12,958,495**	**$ (727,808)**	**$ 12,563,971**	**$ (1,122,331)**
Change in Working Capital (=A-B-C-D)	**$ -**	**$ 696,144**	**$ 696,144**	**$ -**	**$ -**
FTEs	**23.50**	**21.35**	**(2.15)**	**21.62**	**(1.88)**

Compliance Enforcement

Compliance Enforcement (in whole dollars)	2021 Budget	2022 Budget	Increase (Decrease)
FTE Reporting	12.22	12.22	0.00
Direct Expenses	$ 3,129,467	$ 3,317,700	$ 188,233
Indirect Expenses	2,979,976	3,043,329	63,353
Other Non-Operating Expenses	27,500	27,500	-
Fixed Asset Additions	960,433	496,293	(464,140)
Financing Activity	230,499	61,141	(169,358)
Total Budget	$ 7,327,875	$ 6,945,963	$ (381,912)

Background and Scope

The Enforcement group is responsible for overseeing enforcement processes, the application of penalties or sanctions, and activities to mitigate and prevent recurrence of noncompliance with Reliability Standards. The group works collaboratively with the REs to ensure consistent and effective implementation of the risk-based CMEP. The group focuses on ensuring that the ERO Enterprise dedicates resources to the matters that pose the greatest risk to the reliability of the BPS. The scope of the Enforcement group's activities include the following:

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

Stakeholder Engagement and Benefit

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

Tools and Technology

Historically, NERC has used CRATS to track violations, mitigation plans, and reporting. As discussed in the *Compliance Assurance and Organization Registration and Certification* section above, NERC has been working closely with the REs to implement strategic investments in tools that will replace CRATS and the CMEP data applications used among the REs with single, common applications, known as Align and its associated ERO SEL. The first release of Align and the ERO SEL to support self-reporting, self-logging, enforcement, and mitigation occurred in a phased manner across the REs during the first and second quarters of 2021, with two more releases planned in 2021 to support Compliance Assurance activities.

Funding for support of the CRATS application at reduced levels continue to be needed for historical record maintenance purposes. For more information, see the Align Project page on the NERC website.

Key Efforts Underway

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

Risk-based Enforcement

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

Streamlining of Minimal Risk Noncompliance

Enforcement continues to enhance risk-based enforcement by identifying additional opportunities to streamline the resolution of minimal risk noncompliance. This effort includes examining the processes to review and assess the risk of noncompliance to resolve minimal risk noncompliances more efficiently.

Program Alignment Process

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

Align and ERO SEL Projects

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

Continued Outreach

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

2022 Goals and Deliverables

Specific 2022 objectives for the Enforcement department include continuing to:

- Focus on identifying and mitigating the greatest risks to reliability and security.
- Support the enhancement of the Align and ERO SEL tools.
- Expand risk-based focus in Enforcement.
- Sustain and expand stakeholder outreach.
- With RE and stakeholder feedback, continue evaluation of compliance monitoring and enforcement processes for efficiency.

Future Plans

In 2023 and beyond, NERC and the REs will continue to conduct outreach focused on identification and mitigation of high risk noncompliance, risk assessment, and streamlined resolution of lower risk noncompliance. NERC plans to use existing industry events, such as RE and NERC conferences and industry webinars, to provide information on enforcement activities. Enforcement will continue to identify improvement areas and promotion of alignment through training, guidance, or other adjustments.

Resource Requirements

Personnel
There is no change in FTEs from the 2021 budget to the 2022 budget.

Consultants and Contracts
The increase of $180k for Consultants & Contracts from the 2021 budget to the 2022 budget is primarily related to support for the FERC-mandated CMEP audits of the REs and a post-implementation audit of Align, for which the total budget is split evenly between the Compliance Assurance and Compliance Enforcement areas. A comparison of 2021 and 2022 budgeted expenses is shown in *Exhibit B – Consultants and Contracts Costs*.

Other Significant Direct Costs

Office Costs
The $640k for Office Costs in the 2022 budget primarily consists of expenses for software licensing and support for Align and the ERO SEL, for which the total annual cost is split evenly between Compliance Assurance and Compliance Enforcement. The Office Costs budget also includes funding for ongoing support for CRATS for historical records maintenance purposes.

Fixed Asset Additions
The 2022 Fixed Asset budget includes $250k for ongoing enhancements and maintenance for Align and the ERO SEL, for which the total annual cost is split evenly between Compliance Enforcement and Compliance Assurance.

Net Financing Activity
Net financing activity for 2022 includes approximately $188k for loan principal payments for the ERO SEL capital investment borrowing in 2020, for which the total annual cost is split evenly between Compliance Assurance and Compliance Enforcement.

Statement of Activities and Fixed Asset Additions 2021 Budget & Projection, and 2022 Budget Compliance Enforcement	2021 Budget	2021 Projection	Variance 2021 Projection v 2021 Budget Over(Under)	2022 Budget	Variance 2022 Budget v 2021 Budget Over(Under)
Funding					
NERC Funding					
NERC Assessments	$ 7,311,144	$ 7,311,144	$ -	$ 6,939,219	$ (371,925)
Penalties Released	-	-	-	-	-
Total NERC Funding	**$ 7,311,144**	**$ 7,311,144**	**$ -**	**$ 6,939,219**	**$ (371,925)**
Third-Party Funding	$ -	$ -	$ -	$ -	$ -
Testing, Renewal, & Continuing Ed Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Interest & Investment Income	16,731	294	(16,437)	6,744	(9,987)
Total Funding (A)	**$ 7,327,875**	**$ 7,311,438**	**$ (16,437)**	**$ 6,945,963**	**$ (381,912)**
Expenses					
Personnel Expenses					
Salaries	$ 1,839,039	$ 1,790,568	$ (48,471)	$ 1,838,076	$ (963)
Payroll Taxes	115,307	119,819	4,512	122,697	7,390
Benefits	220,988	187,872	(33,115)	210,112	(10,876)
Retirement Costs	196,667	196,549	(118)	204,099	7,432
Total Personnel Expenses	**$ 2,372,000**	**$ 2,294,809**	**$ (77,191)**	**$ 2,374,984**	**$ 2,984**
Meetings & Travel Expenses					
Meetings & Conference Calls	$ 6,310	$ 2,000	$ (4,310)	$ 7,000	$ 690
Travel	32,645	9,327	(23,318)	30,000	(2,645)
Total Meetings & Travel Expenses	**$ 38,955**	**$ 11,327**	**$ (27,628)**	**$ 37,000**	**$ (1,955)**
Operating Expenses, excluding Depreciation					
Consultants & Contracts	$ 69,000	$ 50,000	$ (19,000)	$ 249,000	$ 180,000
Office Rent	-	-	-	-	-
Office Costs	632,612	623,953	(8,659)	639,816	7,204
Professional Services	15,000	10,000	(5,000)	15,000	-
Miscellaneous	1,900	1,900	-	1,900	-
Total Operating Expenses, excluding Depreciation	**$ 718,512**	**$ 685,853**	**$ (32,659)**	**$ 905,716**	**$ 187,204**
Total Direct Expenses	**$ 3,129,467**	**$ 2,991,989**	**$ (137,478)**	**$ 3,317,700**	**$ 188,233**
Indirect Expenses	**$ 2,979,976**	**$ 3,185,744**	**$ 205,768**	**$ 3,043,329**	**$ 63,353**
Other Non-Operating Expenses	**$ 27,500**	**$ 27,500**	**$ -**	**$ 27,500**	**$ -**
Total Expenses (B)	**$ 6,136,943**	**$ 6,205,233**	**$ 68,290**	**$ 6,388,529**	**$ 251,586**
Change in Net Assets (=A-B)	**$ 1,190,932**	**$ 1,106,206**	**$ (84,727)**	**$ 557,434**	**$ (633,498)**
Fixed Asset Additions, excluding Right of Use Assets (C)	**$ 960,433**	**$ 1,291,796**	**$ 331,362**	**$ 496,293**	**$ (464,140)**
Financing Activity					
Loan or Financing Lease - Borrowing (-)	$ (9,157)	$ (367,566)	$ (358,409)	$ (179,901)	$ (170,745)
Loan or Financing Lease - Principal Payments (+)	239,656	168,777	(70,879)	241,042	1,386
Net Financing Activity (D)	**$ 230,499**	**$ (198,789)**	**$ (429,288)**	**$ 61,141**	**$ (169,358)**
Total Budget (=B+C+D)	**$ 7,327,875**	**$ 7,298,240**	**$ (29,635)**	**$ 6,945,963**	**$ (381,912)**
Change in Working Capital (=A-B-C-D)	**$ -**	**$ 13,199**	**$ 13,199**	**$ -**	**$ -**
FTEs	**12.22**	**12.29**	**0.07**	**12.22**	**0.00**

Reliability Assessments and Performance Analysis

The Reliability Assessments and Performance Analysis (RAPA) program identifies, prioritizes, and enables activities to reduce known and emerging risks to the BPS. Four primary groups are focused on this program: (1) Reliability Assessments (RA) and Technical Committee; (2) Performance Analysis (PA); (3) Power System Analysis (PSA) and Advanced System Analytics and Modeling (ASAM); and (4) BPS Security and Grid Transformation (SGT).

Reliability Assessments and Performance Analysis (in whole dollars)	2021 Budget	2022 Budget	Increase (Decrease)
FTE Reporting	25.38	26.32	0.94
Direct Expenses	$ 6,554,566	$ 7,486,899	$ 932,333
Indirect Expenses	5,873,428	6,554,863	681,435
Other Non-Operating Expenses	-	-	-
Fixed Asset Additions	118,866	1,005,478	886,611
Financing Activity	84,575	(272,158)	(356,733)
Total Budget	$ 12,631,436	$ 14,775,082	$ 2,143,646

Background and Scope

Reliability Assessment and Technical Committee

The RA and Technical Committee group includes RA staff as well as the NERC staff secretaries of the RSTC. RA staff carry out the ERO's statutory responsibility to conduct assessments of the overall reliability and adequacy of the BPS and associated emerging reliability risks that could impact the short, mid, and long-term planning horizons, as well as other reliability issues requiring in-depth analysis. The RA program is governed by the requirements and procedures identified in Section 800 (801–805) of the NERC ROP. RA activities directly address the risk priorities established by the RISC, and the group relies on its own engineering and analysis expertise, as well as RE and stakeholder resources. Annual reports and assessments produced by RA staff include:

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

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

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

Performance Analysis

The PA group monitors the performance of and identifies risks to BPS reliability through analyzing industry data and measuring historic trends. The PA program is governed by the requirements and procedures identified in Section 800 (801, 809, and 811) of the NERC ROP. PA is responsible for the collection, management, and analysis of data related to the performance of four areas of BPS operations: transmission, generation, protection system misoperations, and demand response. Analysis performed by PA includes identifying potential risks of concern related to system, equipment, entity, and organizational performance that may indicate a need to develop remediation strategies, improvements to reporting applications, new data collection or analysis tools, or data used to create, revise, or retire Reliability Standards or consider new Reliability Standards or reporting areas. Such analyses provide the foundation for the annual *State of Reliability* (SOR) report and other analytical reports and technical papers to the industry. PA staff leads the ERO, technical committee, and stakeholder process to publish the SOR report examining the year-over-year performance indicators of the grid. The PA program also develops the business requirements for all new reliability information data systems, specifically those required by NERC ROP Section 1600 Data Requests. PA program analysts work with internal and external software developers to support the creation, testing, and implementation of data systems.

Power System Analysis and Advanced System Analytics and Modeling

PSA staff provide technical leadership and support in the areas of resource and demand balancing and system analysis and modeling, including technical support for the NERC balancing (BAL) and modeling (MOD) Reliability Standards. This is particularly important as the system uses new technologies and significant changes in the resource mix occur, with even more projected. PSA staff responsibilities include:

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

ASAM staff provide support for the development and improvement of long-term, sustainable interconnection-based power flow, dynamic, and load models that exhibit the accuracy and fidelity necessary to reflect actual BES reliability performance and dynamic conditions. As new technology incorporation into the BPS accelerates, there is a need for new and improved models to support simulation of their contributions and impacts on reliability. This facilitates improved design and maximizes incorporation of new technology while maintaining reliable operation of the BPS. ASAM staff:

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

- Conduct advanced system studies of increasing penetrations of new resource technologies or new technologies facilitating these penetrations, such as Battery Energy Storage Systems (BESS), as well as piloting use of new resource models for system simulations;
- Publish Institute of Electrical and Electronics Engineers (IEEE) and other industry papers to promote continual advancement of BPS knowledge and understanding; and
- Support research projects, including work with the Carnegie Mellon Industry Center (CEIC), the Power Systems Energy Research Center (PSERC), the Department of Energy (DOE) North American Energy Resilience Model (NAERM), and the Electric Power Research Institute (EPRI) and NERC solar project to advance modeling and protection for solar inverter-based resources.

ASAM further provides advanced statistical analysis functions to support: (1) the SOR report and reliability assessments; (2) the FRAA report and other parameters; (3) analytical review of Reliability Standard effectiveness; and (4) various reports on an emergent basis. ASAM also enhances NERC's credibility by publishing IEEE papers (frequently recognized as "Best Paper") that advance and gain academic acceptance of new concepts in statistical methods relative to the BPS. ASAM forms strong relationships through its selection of co-authors and co-presenters from industry and academic stakeholders.

BPS Security and Grid Transformation

SGT staff provide technical leadership and coordination for internal and external stakeholder efforts related to "security integration" and "grid transformation" topics. The group develops and promotes strategies for cyber and physical security to be integrated with conventional grid planning, operations, design, and restoration activities. In addition, the group coordinates a number of technical stakeholder groups in the areas of security and emerging grid transformation issues. SGT staff are responsible for:

- Coordinating technical stakeholder groups under the RSTC, including the following:
  - Security Integration and Technology Enablement Subcommittee (SITES)
  - Inverter-Based Resource Performance Working Group (IRPWG)
  - System Planning Impacts from DERs Working Group (SPIDERWG)
  - Synchronized Measurement Working Group (SMWG)
  - Security Working Group (SWG)
  - Supply Chain Working Group (SCWG)
  - Electromagnetic Pulse Working Group (EMPWG)
- Integrating cyber security into all aspects of system planning, operations and restoration;
- Providing vision and strategic leadership for the ERO Enterprise on cyber security during the planning, operating, and recover horizons;
- Supporting efforts to advance the RISC's security risk mitigation recommendations, helping identify security-related risks, and engaging efforts to mitigate those risks for registered entities;
- Engaging with industry stakeholders and industry forums to advance and enable new technologies in a secure manner;
- Supporting standards development process on engineering and security-related topics, particularly around security enablement and emerging grid technology issues; and
- Coordinating with the Electricity Information Sharing and Analysis Center (E-ISAC) on cross-departmental topics related to security risks.

Stakeholder Engagement and Benefit

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

- Synthesizing key information identified through analysis and assessment efforts;
- Extracting and prioritizing the associated reliability risks;
- Sharing and integrating risk analysis insights across the ERO Enterprise; and
- Translating knowledge into actionable guidance and recommendations for the Board and industry, along with state, federal, and provincial policymakers.

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

Tools and Technology

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

- Advanced analytics and analysis software
- Engineering software
- Infrastructure and geographic-related vulnerabilities analysis software
- Data management systems, including data for:
  - Generating availability (conventional and wind)
  - Transmission availability
  - Misoperations information
  - Reliability assessments
  - BA submittals
  - Frequency response analysis
  - Inadvertent interchange

Key Efforts Underway

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

- Ensure effective ERS in future resource mix. These efforts are expected to lead to a broad set of recommendations that culminate with defined elements, an evaluation of initial metrics and data compilation of actual performance, and refinement of the ongoing assessment of ERS measures;
- Advancing the value of the seasonal reliability assessment by providing predictive evaluations of the operational risk in each assessment area, and assessing the energy management plans and sufficiency for the upcoming season. In addition to the Planning Reserve Margin analysis, seasonal reliability assessments use historical resource performance data to identify expected and potentially extreme operational risks;

- Advancing probabilistic assessments and evaluations of energy assurance and energy management plans (including plans for managing energy requirements during extreme weather); and
- Enhancing ERO Enterprise-wide effectiveness and efficiency of RA-related functions. This includes coordinating data and information systems across the ERO Enterprise and providing consistent oversight regarding data collection, checking, validation, and assessment.

Additionally, support for the newly created ERATF will require resources to support energy adequacy challenges. Decarbonization efforts are expected to continue to drive fundamental changes in electricity supply, with significantly higher levels of variable and energy limited resources and decreasing levels of dispatchable synchronous generation. With more of the energy economy dependent on the electricity sector, the reliability and resiliency of the supply of electricity may need to increase to meet societal expectations and requirements. A key capability to achieve this need is the ability to assess whether the expected resources are adequate for meeting electricity demand for the future scenarios that may be encountered. As recent supply deficiency events in 2020 and 2021 have shown, however, traditional resource adequacy processes, based on capacity, metrics, and tools do not provide the level of resiliency required in the context of changing climate, changing resource mix, and extreme weather scenarios. NERC will work with EPRI, DOE, Natural Resources Canada (NRCan), and external research partners to support the development of resource adequacy processes and tools. These processes and tools are planned to be made available to be applied in various regulatory, market, and system characteristic contexts, with case studies demonstrating their effectiveness.

PA continues to oversee and evaluate reliability trends that identify reliability risks by analyzing generating and transmission availability data, along with reliability metrics and protection and controls system misoperations data. PA is currently expanding the generating data trend analysis and has begun reflecting post-seasonal reliability review, insights from analysis of generating and transmission availability data, and integration of event analysis and misoperations. Additionally, PA is developing reporting requirements for solar and associated energy storage data collection.

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

- Developing technical analyses in key reliability areas, resulting in comprehensive reports addressing areas of concern (e.g., frequency response, short circuit strength, inter-area oscillation, DER integration, and systemic interdependencies, such as gas/electric and communications/electric). The purpose of these technical analyses is to understand and evaluate BPS characteristics, behavior, and performance due to the changing resource mix and integration of new technology, thereby providing guidance and technical expertise to address key planning-related issues and Interconnection-wide concerns;
- Continuing to explore the use of state-of-the-art software to conduct power system analysis by enhancing the use of real-time tools used by the industry to sharpen and fine-tune models as the system evolves with the integration of new technology;
- Conducting detailed forensic analyses of significant system disturbances;
- Providing technical expertise, research, and feedback to the industry, including those that support development of key reliability planning-related standards;
- Providing industry insight related to modeling improvements and interconnection-wide system analysis through a State of Modeling report, with recommendations for enhancement and industry engagement;

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

2022 Goals and Deliverables

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

- Unacceptable inverter performance
- Increased amounts of DER
- Energy sufficiency
- Extreme weather resilience
- Cyber security in planning and operations

As the grid evolves, the ability to collect and the quality and integration of data becomes increasingly important, requiring continued investment in enhancements to and maintenance of NERC's suite of data management tools. Enhancements and modifications to the following software applications are expected:

- An enhanced system to manage reliability assessment data is envisioned to support the ERO's RA process by streamlining data reporting, analysis, and storage. The system would benefit reliability by establishing a program of record to meet the needs of the ERO's RA functions. Funding in 2022 provides for requirements building for improving this system.
- Funding in 2022 for the systems for conventional generating availability data and transmission availability data provides for continued enhancements, particularly to implement the proposed Section 1600 data request changes for conventional generating availability data. Changes to the data request are expected to be released for public comment in July 2021, with a portion focusing on gathering key data to support trending analysis of unit design.
- The Section 1600 data request for generating availability data that was released for public comment in June 2021 includes a new request for mandatory utility-scale solar reporting for solar plants that have an installed capacity of 20 MW or greater. The data request also includes major changes to current wind reporting, including event reporting, shared resources with solar reporting, a user interface, validations, and reports. The 2022 budget provides for the development of a system for generating availability data for solar and a rewrite of this system for wind. Some common features will exist, allowing for potential economies of scale.

Future Plans

In 2023 and beyond, NERC will continue to build and maintain the analytical capabilities needed to support the reliability and security of the changing grid. This will include implementing data collection applications to include solar reporting as well as integrating energy storage with the solar and wind facilities, security assessment and design basis, and developing a strategic plan to re-platform data collection applications to create better integration of collection efforts and analysis for the ERO Enterprise. These shared analytics, data warehouses, and tools advance the capabilities and credibility of the ERO as a trusted source for reliability and security assessment information and decision-making guidance. In addition, these capabilities provide industry and other stakeholders with important information to assist them in ensuring reliability in light of the unprecedented changes in the character and composition of the BPS.

Resource Requirements

Personnel

The increase of 0.94 FTEs reflects the addition of two positions, one for ASAM and one for SGT, to support increased analytics related to grid transformation, planning and cyber awareness, and incorporation of cyber security into system models. The increase is offset by a reallocation of one open position to Reliability Standards to realign staff with current needs.

Consultants and Contracts

The increase of $278k for Consultants & Contracts from the 2021 budget to the 2022 budget is primarily a result of a measured return to consulting work reduced or deferred in 2021 due to cost savings efforts, as well as support for the studies and partnerships discussed above. A comparison of 2021 and 2022 budgeted expenses is shown in *Exhibit B – Consultants and Contracts Costs*.

Other Significant Direct Costs

Fixed Asset Additions

The Fixed Asset budget for 2022 includes $475k for the data system enhancements discussed above.

Statement of Activities and Fixed Asset Additions 2021 Budget & Projection, and 2022 Budget Reliability Assessment and Performance Analysis	2021 Budget	2021 Projection	Variance 2021 Projection v 2021 Budget Over(Under)	2022 Budget	Variance 2022 Budget v 2021 Budget Over(Under)
Funding					
NERC Funding					
NERC Assessments	$ 12,538,528	$ 12,538,528	$ -	$ 14,700,555	$ 2,162,027
Penalties Released	-	-	-	-	-
Total NERC Funding	**$ 12,538,528**	**$ 12,538,528**	**$ -**	**$ 14,700,555**	**$ 2,162,027**
Third-Party Funding	$ -	$ -	$ -	$ -	$ -
Testing, Renewal, & Continuing Ed Fees	-	-	-	-	-
Services & Software	60,000	60,000	-	60,000	-
Miscellaneous	-	-	-	-	-
Interest & Investment Income	32,908	550	(32,358)	14,527	(18,381)
Total Funding (A)	**$ 12,631,436**	**$ 12,599,078**	**$ (32,358)**	**$ 14,775,082**	**$ 2,143,646**
Expenses					
Personnel Expenses					
Salaries	$ 3,830,459	$ 3,732,279	$ (98,180)	$ 4,377,751	$ 547,292
Payroll Taxes	244,412	228,850	(15,562)	272,752	28,340
Benefits	622,466	517,022	(105,444)	637,359	14,893
Retirement Costs	425,191	409,771	(15,420)	485,536	60,345
Total Personnel Expenses	**$ 5,122,528**	**$ 4,887,922**	**$ (234,606)**	**$ 5,773,397**	**$ 650,869**
Meetings & Travel Expenses					
Meetings & Conference Calls	$ 168,856	$ 6,025	$ (162,831)	$ 180,000	$ 11,144
Travel	199,429	56,979	(142,450)	207,000	7,571
Total Meetings & Travel Expenses	**$ 368,285**	**$ 63,004**	**$ (305,281)**	**$ 387,000**	**$ 18,715**
Operating Expenses, excluding Depreciation					
Consultants & Contracts	$ 403,203	$ 548,260	$ 145,057	$ 681,227	$ 278,024
Office Rent	-	-	-	-	-
Office Costs	655,950	661,725	5,775	640,675	(15,275)
Professional Services	-	-	-	-	-
Miscellaneous	4,600	5,400	800	4,600	-
Total Operating Expenses, excluding Depreciation	**$ 1,063,753**	**$ 1,215,384**	**$ 151,631**	**$ 1,326,502**	**$ 262,749**
Total Direct Expenses	**$ 6,554,566**	**$ 6,166,310**	**$ (388,256)**	**$ 7,486,899**	**$ 932,333**
Indirect Expenses	**$ 5,873,428**	**$ 5,951,560**	**$ 78,132**	**$ 6,554,863**	**$ 681,435**
Other Non-Operating Expenses	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Total Expenses (B)	**$ 12,427,994**	**$ 12,117,870**	**$ (310,124)**	**$ 14,041,762**	**$ 1,613,768**
Change in Net Assets (=A-B)	**$ 203,442**	**$ 481,207**	**$ 277,766**	**$ 733,320**	**$ 529,878**
Fixed Asset Additions, excluding Right of Use Assets (C)	**$ 118,866**	**$ 78,082**	**$ (40,784)**	**$ 1,005,478**	**$ 886,611**
Financing Activity					
Loan or Financing Lease - Borrowing (-)	$ (18,010)	$ (32,816)	$ (14,806)	$ (387,479)	$ (369,469)
Loan or Financing Lease - Principal Payments (+)	102,585	100,467	(2,118)	115,321	12,736
Net Financing Activity (D)	**$ 84,575**	**$ 67,651**	**$ (16,924)**	**$ (272,158)**	**$ (356,733)**
Total Budget (=B+C+D)	**$ 12,631,436**	**$ 12,263,603**	**$ (367,833)**	**$ 14,775,082**	**$ 2,143,646**
Change in Working Capital (=A-B-C-D)	**$ -**	**$ 335,474**	**$ 335,474**	**$ -**	**$ -**
FTEs	**25.38**	**22.96**	**(2.42)**	**26.32**	**0.94**

Situation Awareness

Situation Awareness (in whole dollars)	2021 Budget	2022 Budget	Increase (Decrease)
FTE Reporting	6.58	7.52	0.94
Direct Expenses	$ 2,674,692	$ 3,022,490	$ 347,798
Indirect Expenses	1,604,603	1,872,818	268,216
Other Non-Operating Expenses	-	-	-
Fixed Asset Additions	148,541	259,065	110,524
Financing Activity	23,153	(77,759)	(100,913)
Total Budget	$ 4,450,989	$ 5,076,614	$ 625,625

Background and Scope

NERC's Situation Awareness group and the REs monitor BPS conditions, significant occurrences and emerging risks, and threats across the 17 RC regions in North America to maintain an understanding of conditions and situations that could impact reliable operation. This group also supports the development and publication of NERC Alerts and awareness products and facilitates information sharing among industry, the REs, and the government during crisis situations and major system disturbances. The process for understanding the potential threats or vulnerabilities to BPS reliability starts with understanding occurrences and events in the context in which they occur.

Stakeholder Engagement and Benefit

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

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

Tools and Technology

The group uses and supports tools related to the following Situation Awareness activities:

- **Resource Adequacy (Area Control Error [ACE] Frequency) –** Continuously monitors key resource adequacy performance metrics, including pre-established thresholds and limits defined in standards, providing alerts to RCs and resource subcommittees to conditions that could result in critical inadequacies, such as major tie errors, inaccurate load forecasts, and inadequate frequency response.
- **Inadvertent Interchange** – Facilitates the entering of monthly scheduling data and submittal of monthly inadvertent performance standards reports to NERC and assists in the monitoring and resolution of reliability issues originated by inadvertent interchange imbalances.

- **Frequency Monitoring Network** – Global positioning system (GPS)-synchronized wide-area frequency measurement network that uses high dynamic accuracy frequency disturbance recorders to measure the frequency, phase angle, and voltage of the power system at ordinary 120V outlets.
- **Intelligent Alarms** – Detects short-term and long-term frequency deviations using data transmitted to NERC by the BAs. When coupled with the Frequency Monitoring Network, allows immediate differentiation of the cause of a frequency deviation—a generator trip or a scheduling error.
- **PowerIQ and Power RT** – Provides more detailed insight into current-day conditions impacting BPS conditions in both normal operations and stressed conditions.
- **Situation Awareness tool** – Provides near real-time information about the current operating conditions of the BPS and valuable information from a wide-area view about BPS impacts from hurricanes, hot and cold weather extremes, and varying system conditions.
- **RC Information System** – Allows RCs to post messages and share operating information in real time.
- **NERC Alerts –** Enables NERC to issue alerts to registered entities and the electricity sector when NERC discovers, identifies, or is provided with information that is critical to ensuring the reliability of the BPS.
- **Data collection and analysis tools** – Supports overall data collection and analysis related to Resource Adequacy and Intelligent Alarms and eventual receipt and consumption of streaming synchrophasor data in near real time.

Key Efforts Underway

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

- Ensuring that the ERO is aware of all BES events above a threshold of impact;
- Grid transformation (e.g., expansion of variable and distributed energy resources and integration of digital controls and new technologies);
- Extreme natural events:
- Security vulnerabilities (both cyber and physical);
- Enabling the sharing of information and data to facilitate wide-area situational awareness;
- Facilitating the exchange of information among industry, the Regional Entities, and the U.S. and Canadian governments during crisis situations;
- Keeping industry informed of emerging reliability threats and risks, including any expected actions;
- Administering the NERC Alerts process as specified in ROP Section 810 to issue Advisory (Level 1) Alerts on significant and emerging reliability and security-related topics as needed, and facilitate the tracking of actions specified in Recommendation (Level 2) and Essential Action (Level 3) Alerts;
- Continuing to set the conditions to bring in limited streaming synchrophasor data for wide-area situational awareness and event triage applications; and
- Looking at the importance of having visibility and understanding of the reliability or availability of natural gas and its interdependency with electrical generation.

The Situation Awareness group is continuing to focus on enhancements to its recently upgraded situation awareness application. The new platform allows users to have a more robust tool to increase situation awareness and the sharing of information with E-ISAC, FERC, and the REs and has more functionality and automatic model updates, weather overlays, fire data, and allows users to integrate gas data. The upgrade also allows for rapid and accurate situational awareness that appropriately protects the proprietary information in the tool while maximizing the value of understanding shared to the right audiences. Further, the enhanced tool incorporates functionality elements piloted during GridEx IV that will enable the Situation Awareness group to provide the E-ISAC and the ESCC with more timely and understandable common operating picture information. NERC is also implementing a disaster recovery site for this situation awareness tool, which will augment the redundancy inherent to the primary site's application architecture by hosting a second instance of the application in NERC's data center.

2022 Goals and Deliverables

In 2022, the Situation Awareness group will continue to execute the activities discussed above, including continued focus on the situation awareness tool enhancements and the implementation of the disaster recovery site. Additional 2022 plans include (1) examining the importance of having visibility to natural gas situational awareness through enhancing understanding of the tools and methods that are and will be available to monitor natural gas availability, transmission, and distribution across the BES and (2) working with the E-ISAC to increase situational awareness related to physical security.

Future Plans

In 2023 and beyond, efforts related to natural gas and physical security situational awareness will continue. The Situation Awareness group is also evaluating needed upgrades to or replacements of RCIS and the Resource Adequacy Tool.

Resource Requirements

Personnel

The increase of 0.94 FTEs from the 2021 budget to the 2022 budget is the result of a resource reallocation to Situation Awareness from Event Analysis to realign staff with current needs.

Consultants and Contracts

The $15k for Consultants & Contracts in the 2022 budget is for data collection and analysis software enhancements. A comparison of 2021 and 2022 budgeted expenses is shown in *Exhibit B – Consultants and Contracts Costs*.

Other Significant Direct Costs

Office Costs

The $84k increase for Office Costs from the 2021 budget to the 2022 budget is primarily due to the addition of software hosting and support costs for the situation awareness tool disaster recovery site discussed above as well as annual software license and support escalation assumptions for the suite of Situation Awareness tools.

Fixed Asset Additions

The Fixed Asset budget includes approximately $82k for two thirds of the situation awareness tool enhancement costs, with the remaining investment budgeted in the E-ISAC fixed asset budget.

Statement of Activities and Fixed Asset Additions 2021 Budget & Projection, and 2022 Budget Situation Awareness	2021 Budget	2021 Projection	Variance 2021 Projection v 2021 Budget Over(Under)	2022 Budget	Variance 2022 Budget v 2021 Budget Over(Under)
Funding					
NERC Funding					
NERC Assessments	$ 4,441,980	$ 4,441,980	$ -	$ 5,072,463	$ 630,484
Penalties Released	-	-	-	-	-
Total NERC Funding	**$ 4,441,980**	**$ 4,441,980**	**$ -**	**$ 5,072,463**	**$ 630,484**
Third-Party Funding	$ -	$ -	$ -	$ -	$ -
Testing, Renewal, & Continuing Ed Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Interest & Investment Income	9,009	164	(8,845)	4,150	(4,859)
Total Funding (A)	**$ 4,450,989**	**$ 4,442,144**	**$ (8,845)**	**$ 5,076,614**	**$ 625,625**
Expenses					
Personnel Expenses					
Salaries	$ 993,129	$ 1,114,227	$ 121,098	$ 1,227,161	$ 234,032
Payroll Taxes	65,048	66,946	1,898	76,087	11,039
Benefits	268,930	236,522	(32,407)	258,757	(10,173)
Retirement Costs	111,336	114,507	3,171	134,973	23,636
Total Personnel Expenses	**$ 1,438,443**	**$ 1,532,203**	**$ 93,760**	**$ 1,696,978**	**$ 258,535**
Meetings & Travel Expenses					
Meetings & Conference Calls	$ 66,310	$ 36,500	$ (29,810)	$ 70,000	$ 3,690
Travel	20,774	5,935	(14,839)	22,000	1,226
Total Meetings & Travel Expenses	**$ 87,084**	**$ 42,435**	**$ (44,649)**	**$ 92,000**	**$ 4,916**
Operating Expenses, excluding Depreciation					
Consultants & Contracts	$ 15,000	$ 15,000	$ -	$ 15,000	$ -
Office Rent	-	-	-	-	-
Office Costs	1,133,065	1,198,313	65,248	1,217,412	84,347
Professional Services	-	-	-	-	-
Miscellaneous	1,100	1,100	-	1,100	-
Total Operating Expenses, excluding Depreciation	**$ 1,149,165**	**$ 1,214,413**	**$ 65,248**	**$ 1,233,512**	**$ 84,347**
Total Direct Expenses	**$ 2,674,692**	**$ 2,789,051**	**$ 114,359**	**$ 3,022,490**	**$ 347,798**
Indirect Expenses	**$ 1,604,603**	**$ 1,773,026**	**$ 168,423**	**$ 1,872,818**	**$ 268,216**
Other Non-Operating Expenses	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Total Expenses (B)	**$ 4,279,294**	**$ 4,562,077**	**$ 282,782**	**$ 4,895,308**	**$ 616,014**
Change in Net Assets (=A-B)	**$ 171,694**	**$ (119,933)**	**$ (291,627)**	**$ 181,306**	**$ 9,611**
Fixed Asset Additions, excluding Right of Use Assets (C)	**$ 148,541**	**$ 155,761**	**$ 7,220**	**$ 259,065**	**$ 110,524**
Financing Activity					
Loan or Financing Lease - Borrowing (-)	$ (4,930)	$ (9,776)	$ (4,846)	$ (110,708)	$ (105,778)
Loan or Financing Lease - Principal Payments (+)	28,084	29,930	1,846	32,949	4,865
Net Financing Activity (D)	**$ 23,153**	**$ 20,153**	**$ (3,000)**	**$ (77,759)**	**$ (100,913)**
Total Budget (=B+C+D)	**$ 4,450,989**	**$ 4,737,991**	**$ 287,003**	**$ 5,076,614**	**$ 625,625**
Change in Working Capital (=A-B-C-D)	**$ -**	**$ (295,847)**	**$ (295,847)**	**$ -**	**$ -**
FTEs	**6.58**	**6.84**	**0.26**	**7.52**	**0.94**

Event Analysis

Event Analysis (in whole dollars)	2021 Budget	2022 Budget	Increase (Decrease)
FTE Reporting	7.52	6.58	(0.94)
Direct Expenses	$ 2,389,731	$ 2,018,854	$ (370,877)
Indirect Expenses	1,833,832	1,638,716	(195,116)
Other Non-Operating Expenses	-	-	-
Fixed Asset Additions	37,190	192,619	155,430
Financing Activity	26,461	(68,040)	(94,501)
Total Budget	$ 4,287,213	$ 3,782,150	$ (505,063)

Background and Scope

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

Resources within this group focus on identifying human-error risks and those precursor factors that allow human error to impact system reliability. The group educates industry regarding risks, precursors, and mitigation methods. Resources also support compliance and Reliability Standards training initiatives and trending and analysis to identify emerging reliability risks. These efforts are conducted in collaboration with industry human performance projects, including those of ERO Enterprise human performance groups, the RSTC's Event Analysis Subcommittee (EAS), and other partners.

Stakeholder Engagement and Benefit

The Event Analysis group coordinates the use of collective resources, consistency in analysis, and timely delivery of event analysis reports as per the *ERO Event Analysis Process*. The ERO disseminates lessons learned and other useful information to the electric industry obtained from or as a result of event analysis. The Event Analysis team conducts in-depth analyses on the order of 150 events per year on average. The team also conducts calls facilitated by the REs with over 140 registered entities to discuss in detail and finalize root and contributing causes for the categorized events analyzed each year. Major analysis to date includes continuing assessment of EMS outages, continued collaboration with the RAPA groups on frequency response performance, analyses of substation equipment failure events, and protective relay trends, including ground overcurrent relay misoperations, relay communication system failures, and the importance of commissioning testing. Additionally, substantial work and analysis is being done in the area of inverters and inverter technologies.

Tools and Technology

Event Analysis uses an Event Analysis data management system to track and process records originating from the EOP-004 reporting, OE-417 reporting, Event Analysis, and the ERO Cause Code Assignment processes. Relevant reports are recorded, uploaded, and tied together into a single event. The data is used

to fuel event cause coding, general system performance analysis, and key performance indicators. Maintenance and incremental improvements to the existing database are the current priorities. Future upgrades are being informed by in-house prototyping efforts to improve data manipulation. The focus is on tools and methods to support more flexible and nimble analytics.

Key Efforts Underway

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

- Work with the REs to obtain and review information from registered entities on qualifying events and disturbances to advance awareness of events above a threshold level; facilitate analysis of root and contributing causes, risks to reliability, wide-area assessments, and remediation efforts; and disseminate information regarding events in a timely manner.
- Ensure that all reportable events are analyzed for sequence of events, root cause, risk to reliability, and mitigation.
- Continue to refine risk-based methods to support better identification of reliability risks, including the use of more sophisticated cause codes for analysis.
- Conduct events (webinars, workshops, and conference support) to inform industry and the ERO of lessons learned, root cause analysis, trends, human performance, and extreme weather preparedness and recommendations, including events like the annual NERC Monitoring and Situational Awareness Conference and annual Electric Power Human Performance Improvement Symposium.
- Develop reliability recommendations and alerts as needed and track industry accountability for critical reliability recommendations.
- Ensure that industry is well informed of system events, emerging trends, risk analysis, lessons learned, and expected actions.
- Conduct major event analysis and reporting of major findings and recommendations that will improve reliability.

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

2022 Goals and Deliverables

In addition to continuing the activities described above, in 2022 the Event Analysis group will continue to update/upgrade data collection and storage capabilities and capacity for its data management system. Additionally, the Event Analysis and PA groups will work to improve the linkage between performance and event analysis data in an effort to enhance the ability to conduct event analyses, as well as to identify key areas for trend analyses across multiple databases. The Event Analysis group will also lead the planning and execution of human performance events like the annual ERO Enterprise and industry-wide Electric Power Human Performance Improvement Symposium and/or virtual sessions.

Future Plans

In 2023 and beyond, the Event Analysis group will continue to work to improve the depth of event analyses across the ERO Enterprise, including enhancing data collection abilities, data analysis tools, and capacity and integration with other database systems. The group will also work with industry leaders to provide education on human-error and performance topics to improve human-system interaction on the BES going forward.

Resource Requirements

Personnel

The decrease of 0.94 FTEs is related to a repurposing of a position that was previously budgeted in the Event Analysis department for organizational structure purposes and is being reallocated to the Situation Awareness group to realign staffing with current needs. The core resources for and investments in the Event Analysis program remain the same as 2021.

Consultants and Contracts

The $118k for Consultants & Contracts in the 2022 budget includes support and maintenance for the Event Analysis data management system and Event Analysis review augmentation. A comparison of 2021 and 2022 budgeted expenses is shown in *Exhibit B – Consultants and Contracts Costs*.

Other Significant Direct Costs

Fixed Asset Additions

The 2022 Fixed Asset budget includes $60k for Event Analysis data management system enhancements as well as data integration efforts with other ERO data management systems.

Statement of Activities and Fixed Asset Additions 2021 Budget & Projection, and 2022 Budget Event Analysis	2021 Budget	2021 Projection	Variance 2021 Projection v 2021 Budget Over(Under)	2022 Budget	Variance 2022 Budget v 2021 Budget Over(Under)
Funding					
NERC Funding					
NERC Assessments	$ 4,276,917	$ 4,276,917	$ -	$ 3,778,518	$ (498,398)
Penalties Released	-	-	-	-	-
Total NERC Funding	**$ 4,276,917**	**$ 4,276,917**	**$ -**	**$ 3,778,518**	**$ (498,398)**
Third-Party Funding	$ -	$ -	$ -	$ -	$ -
Testing, Renewal, & Continuing Ed Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Interest & Investment Income	10,296	162	(10,134)	3,632	(6,664)
Total Funding (A)	**$ 4,287,213**	**$ 4,277,079**	**$ (10,134)**	**$ 3,782,150**	**$ (505,063)**
Expenses					
Personnel Expenses					
Salaries	$ 1,630,745	$ 1,305,549	$ (325,197)	$ 1,297,758	$ (332,987)
Payroll Taxes	85,892	78,933	(6,960)	73,630	(12,263)
Benefits	218,265	198,069	(20,196)	205,684	(12,581)
Retirement Costs	179,177	148,204	(30,973)	145,524	(33,653)
Total Personnel Expenses	**$ 2,114,080**	**$ 1,730,754**	**$ (383,325)**	**$ 1,722,596**	**$ (391,484)**
Meetings & Travel Expenses					
Meetings & Conference Calls	$ 18,930	$ 10,000	$ (8,930)	$ 35,000	$ 16,070
Travel	89,031	25,437	(63,594)	91,000	1,969
Total Meetings & Travel Expenses	**$ 107,961**	**$ 35,437**	**$ (72,524)**	**$ 126,000**	**$ 18,039**
Operating Expenses, excluding Depreciation					
Consultants & Contracts	$ 115,590	$ 117,680	$ 2,090	$ 118,158	$ 2,568
Office Rent	-	-	-	-	-
Office Costs	50,500	48,239	(2,261)	50,500	-
Professional Services	-	-	-	-	-
Miscellaneous	1,600	1,600	-	1,600	-
Total Operating Expenses, excluding Depreciation	**$ 167,690**	**$ 167,519**	**$ (171)**	**$ 170,258**	**$ 2,568**
Total Direct Expenses	**$ 2,389,731**	**$ 1,933,710**	**$ (456,020)**	**$ 2,018,854**	**$ (370,877)**
Indirect Expenses	**$ 1,833,832**	**$ 1,754,881**	**$ (78,951)**	**$ 1,638,716**	**$ (195,116)**
Other Non-Operating Expenses	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Total Expenses (B)	**$ 4,223,562**	**$ 3,688,591**	**$ (534,971)**	**$ 3,657,570**	**$ (565,992)**
Change in Net Assets (=A-B)	**$ 63,651**	**$ 588,488**	**$ 524,837**	**$ 124,580**	**$ 60,929**
Fixed Asset Additions, excluding Right of Use Assets (C)	**$ 37,190**	**$ 23,023**	**$ (14,166)**	**$ 192,619**	**$ 155,430**
Financing Activity					
Loan or Financing Lease - Borrowing (-)	$ (5,635)	$ (9,676)	$ (4,041)	$ (96,870)	$ (91,235)
Loan or Financing Lease - Principal Payments (+)	32,096	29,623	(2,472)	28,830	(3,265)
Net Financing Activity (D)	**$ 26,461**	**$ 19,947**	**$ (6,514)**	**$ (68,040)**	**$ (94,501)**
Total Budget (=B+C+D)	**$ 4,287,213**	**$ 3,731,562**	**$ (555,651)**	**$ 3,782,150**	**$ (505,063)**
Change in Working Capital (=A-B-C-D)	**$ -**	**$ 545,517**	**$ 545,517**	**$ -**	**$ -**
FTEs	**7.52**	**6.77**	**(0.75)**	**6.58**	**(0.94)**

Electricity Information Sharing and Analysis Center

E-ISAC (including CRISP) (in whole dollars)	2021 Budget	2022 Budget	Increase (Decrease)
FTE Reporting	39.48	43.95	4.47
Direct Expenses	$ 20,100,328	$ 21,134,114	$ 1,033,786
Indirect Expenses	9,315,576	10,944,281	1,628,704
Other Non-Operating Expenses	-	-	-
Fixed Asset Additions	271,624	976,958	705,334
Financing Activity	134,209	(454,407)	(588,616)
Total Budget	$ 29,821,738	$ 32,600,947	$ 2,779,209

Background and Scope

In 2017 the E-ISAC, with guidance from the Electricity Subsector Coordinating Council (ESCC) Member Executive Committee (MEC), the NERC Board, and various trade associations and stakeholder groups, developed a long-term strategic plan to better define its mission and focus its resources in helping the electric sector protect itself from escalating cyber and physical security risks. The E-ISAC strategic plan has three primary areas of focus—engagement, information sharing, and analysis. The strategic plan embraces the ongoing need to review priorities under each focus area, ensure alignment between priorities, optimize resource allocation, and establish metrics to measure progress. The central underpinning of the strategic plan is for the E-ISAC to focus on providing timely and actionable information and analysis to industry regarding cyber and physical security threats and mitigation strategies. To advance this important objective, the strategic plan also recognizes the critical interdependencies between the E-ISAC, industry, U.S. and Canadian government agencies, and other stakeholders. In 2020, the strategic plan was reviewed and validated in terms of the primary focus areas. Additionally, the opportunity was taken to identify priority initiatives in the areas of operational technology risk, automated information sharing, and improved operational effectiveness.

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

PNNL is the primary subcontractor to NERC in connection with the provision of CRISP services to participating utilities. PNNL is a U.S. DOE National Laboratory, operated by Battelle with oversight by the DOE. PNNL is responsible for the deployment of the required technology, supporting infrastructure, analysis, and technical capabilities for CRISP.

The CRISP budget includes two major categories of expense: (1) costs funded fully by CRISP participants (i.e., participant-paid-only costs), which include the contract with PNNL, the annual security review, and

any additional programs agreed to be funded exclusively by CRISP participants; and (2) operational and administrative program costs, which are funded 50% by participants and 50% by NERC assessments. These operational and administrative expenses include dedicated personnel for CRISP program management and administration, as well as time allocated from E-ISAC staff for data analysis. For the 2022 CRISP budget this equates to 3.94 FTEs, as shown on the "CRISP Only" Statement of Activities (SOA) report on page 58. The remaining operational and administrative expenses include hardware and software, other office costs, insurance, professional services, meetings and travel, and indirect cost allocations.

The participant-paid-only costs make up the majority of the CRISP budget, particularly the PNNL contract. For 2022, the total participant-paid-only costs for the CRISP budget is approximately $7.6M, of which $5.7M is for the contract with PNNL. These participant-paid-only costs as well as 50% of the CRISP operational and administrative expenses that are paid by CRISP participants are shown on the "Third-Party Funding" line of the "CRISP Only" SOA report on page 53. Also for 2022, CRISP is anticipating to collect an additional $300k of revenue from participants to increase funds in the CRISP operating reserve (subject to final approval of CRISP members), bringing the total "Third-Party Funding" line to $7.9M. Funding for the remaining 50% of CRISP operational and administrative costs (less additional funding from interest and investment income) is shown on the "NERC Assessments" line of the "CRISP Only" SOA report.

Stakeholder Engagement and Benefit

Active engagement of members (electricity industry asset owners and operators) and partners (government and other security organizations) expands the breadth of information sources, leverages cross-sector security expertise, and increases the use of shared information. Electric power industry members are the defenders of critical electricity infrastructure and the collection and dissemination of timely and actionable security-related information is a key component of that defense. Therefore, successful engagement with electric industry members and other stakeholders is vital to cyber and physical security risk identification, sharing, analysis, and mitigation.

To this end, in 2020 the E-ISAC increased organizational membership by 31% across both member and partner organizations with a 57% increase in E-ISAC Portal users. Improved process efficiency enabled by customer relationship management (CRM) technology, leveraging industry trade organizations, establishment of a Designated Approving Official (DAO) role for each member organization, and a tighter tie with participation in the upcoming GridEx VI contributed to this increase.

Tools and Technology

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

- The E-ISAC Portal
- Technology funded and supported as part of CRISP
- An E-ISAC data platform
- Industry critical broadcast program (CBP) communication capability
- Incident (case) management and threat intelligence tools
- Various third-party physical and cyber security sharing information services
- A CRM system
- Survey tools and virtual event hub and delivery tools
- Secure text communications for facilitating threat communications among members
- Email, document sharing, and on-line collaboration tools

- Basic data storage and technology infrastructure on premise, in leased data centers, and via various cloud service providers.

Key Efforts Underway

During 2020, despite unprecedented challenges from a global pandemic, closure of offices and a move to a remote work force, and the Solar Winds cyber supply chain compromise, the E-ISAC took steps to improve the efficiency and effectiveness of operations. In support of Focus Areas 3, 4, and 5 of the *ERO Enterprise Long-Term Strategy*, leadership was strengthened and an around-the-clock integrated watch operations team was established. E-ISAC authored and posted 1,195 information shares to the E-ISAC Portal in 2020. This was an increase of over 50% from 2019, with an average of over 120 posts per month for the last three months of 2020. Increased information sharing from members and partners, investments in new third-party security information sharing services, increased staff focus, and the 24x7 watch operations staff all contributed to this increase. Consistent sharing of original and partner-provided analytical tools such as Argonne National Lab's Protective Measures Index (PMI) tool and associated training was also established. In addition, a performance management group was created to oversee the implementation of process improvements, technology, and metrics to improve the quality, timeliness, and value of information sharing, data management, and analysis. Recent E-ISAC accomplishments include:

- Establishing 24x7 watch operations;
- Initiation of the CRISP OT pilots with Dragos and further planning with DOE on the Essence OT pilot project;
- Supporting U.S. government initiatives, including the Cyberspace Solarium Commission and the National Infrastructure Advisory Council (NIAC);
- Implementing the E-ISAC data platform;
- Increasing information sharing with members and government partners by 57%;
- Operating a CBP to quickly disseminate information regarding imminent threats and other important notifications;
- Transition of new member/partner on-boarding and the case management processes to the Salesforce CRM system and initiation of the effort to migrate the E-ISAC Portal to Salesforce;
- Increasing member/partner membership by 31% within the United States and Canada across all major industry trade groups;
- Operating the industry-supported Physical Security Advisory Group (PSAG), a two-year action plan to expand physical security risk identification, risk mitigation, and preparedness;
- Heightened role and leadership provided to the ESCC and ESCC Tiger Teams;
- Completion of a prototype and discovery task force effort for automated information sharing;
- Entering into detailed collaboration agreements with the Ontario Independent Electricity System Operator (IESO), the Downstream Natural Gas ISAC (DNG-ISAC) and the Multi-State ISAC (MS-ISAC);
- Conducting events such as GridEx and the annual Grid Security Conference (GridSecCon); and
- Further strengthening E-ISAC's talent pool and analytic capabilities, including both cyber and physical security expertise.

As part of management's planning efforts for 2021 and 2022, and taking into account feedback from the Board, MEC, members and other stakeholders, E-ISAC leadership assessed progress to date, re-confirmed operating and strategic priorities, and identified both gaps and opportunities to further improve products, services and, ultimately, provide greater value to members. The following is a summary of actions the E-ISAC will be undertaking to address these gaps and opportunities.

The primary focus of the E-ISAC over the next two years will be improving the effectiveness and efficiency of current products, platforms, and services. These efforts support Focus Area 5 of the *ERO Enterprise Long-Term Strategy* to capture effectiveness, efficiency, and continuous improvement opportunities. The E-ISAC will sharpen its focus and execution in building and maintaining membership by demonstrating value through improved analysis, timely sharing of actionable information, and collaboration with key government and strategic partners, while ensuring that E-ISAC operations are both effective and efficient. The primary long-term term focus areas of the E-ISAC over the next three to five years are to increase E-ISAC's analytical capabilities; identify and share operational technology risks and risk mitigation strategies; better leverage classified and other critical threat and intelligence; and evaluate the issues and alternatives to extending services and capabilities to support the downstream natural gas sector. These efforts are directly aligned with the *ERO Enterprise Long-Term Strategy* Focus Area 3 objective to build a strong, E-ISAC-based security capability.

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

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

2022 Goals and Deliverables

The E-ISAC remains focused on furtherance of the strategic efforts discussed above as 2022 marks the fifth year of the long-term strategy. Building on its existing foundation and current resources, the E-ISAC 2022 budget reflects a continued measured approach in strengthening the resources and technology required to support the three primary elements of the E-ISAC's strategic plan—engagement, information sharing, and analysis.

Engagement

- Continuing to build and enrich the value of E-ISAC membership with a specific focus on increasing public power and small and medium sized utility engagement in partnership with trade organizations and in new E-ISAC services developed under the White House 100-day Industrial Control Systems (ICS) Cybersecurity Initiative action plan;
- Strengthening trusted source relationships in both the private sector and government;
- Enhancing engagement within the electricity industry in both the United States and Canada via resumed Industry Engagement Programs, GridSecCon, and increased collaboration with ERO regional offices; and

- Continuing to improve and mature security exercises by expanding and increasing the diversity of participation and developing and refining scenarios to provide meaningful and practical learning opportunities via GridEx VI.

Information Sharing

- Increasing the quality and volume of information shared with E-ISAC from industry, government partners, and trusted third parties (including information from classified sources);
- Strengthening the E-ISAC's capabilities for information sharing via E-ISAC Portal enhancements and pilot of the automated information sharing capability;
- Improving timeliness and actionable value of information shared from the E-ISAC to industry via a Priority Intelligence Requirements (PIR) process; and
- Continuing to operate the 24x7 watch operations in an effective, efficient, and responsive manner

Analysis

- Effectively collecting data and capturing new information sources via CRISP OT pilot and evaluating and expanding third party tools and data sources;
- Incorporating existing and new tools and techniques into the analysis process; and
- Strengthening analytical capabilities through strategic relationships and hiring, developing, and retaining qualified staff.

Future Plans

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

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

The E-ISAC will continue to evaluate partnership opportunities with the commercial sector, other ISACs, and government-sponsored research and development organizations. The E-ISAC will also work with stakeholders and government partners to evaluate the benefits, resource requirements, potential challenges, and risks associated with these initiatives, as well as in the formulation of appropriate program activities, budgets, and schedules through transparent resource planning and budget approval processes.

Resource Requirements

Personnel

The increase of 4.47 FTEs reflects the addition of four positions in E-ISAC, particularly related to increasing analytical capabilities and leveraging of threat intelligence and overall strategy execution and operations

management, and one in CRISP for OT program support. This is offset by the reallocation of one open position from E-ISAC to Administrative Programs in support of the People Strategy discussed in the *Introduction and Executive Summary*. The net FTE number also reflects a partial direct allocation of a project manager in IT in lieu of a contract resource.

Consultants and Contracts

Consultants & Contracts expenses for the E-ISAC 2022 budget, including CRISP, are approximately $8.3M, which is a decrease of $400k from 2021. Excluding CRISP, E-ISAC's Consultants & Contracts expenses are decreasing $229k over 2021, primarily attributable to a contractor conversion to a NERC employee and use of a NERC IT project manager in lieu of a contract resource (offset by higher spending in personnel expenses) as well as a reduction in biennial GridEx expenses for the 2022 off-year. CRISP's Consultants & Contracts expenses are $6.2M, which is $172k less than the 2021 budget, predominantly due to the removal of OT program pilot support. This decrease offset by higher spending in personnel and an increase in PNNL costs for expenses related to new offerings and upgrades, a data backup location, and audit support. A comparison of 2021 and 2022 budgeted expenses is shown in *Exhibit B – Consultants and Contracts Costs*.

Other Significant Direct Costs

Office Costs

The $385k increase for Office Costs for E-ISAC (including CRISP) from the 2021 budget to the 2022 budget is primarily related to software licenses, support, and maintenance costs for CRISP analytics and OT (much of which is participant-funded).

Fixed Asset Additions

The 2022 Fixed Asset budget for E-ISAC (including CRISP) includes approximately $42k for one-third of the situation awareness tool enhancements costs (with the remaining two-thirds budgeted in Situation Awareness) and $50k for equipment and hardware.

Statement of Activities and Fixed Asset Additions 2021 Budget & Projection, and 2022 Budget E-ISAC (including CRISP)	2021 Budget	2021 Projection	Variance 2021 Projection v 2021 Budget Over(Under)	2022 Budget	Variance 2022 Budget v 2021 Budget Over(Under)
Funding					
NERC Funding					
NERC Assessments	$ 22,673,035	$ 22,673,035	$ -	$ 24,900,480	$ 2,227,445
Penalties Released	-	-	-	-	-
Total NERC Funding	**$ 22,673,035**	**$ 22,673,035**	**$ -**	**$ 24,900,480**	**$ 2,227,445**
Third-Party Funding	$ 7,064,343	$ 7,095,260	$ 30,917	$ 7,917,385	$ 853,042
Testing, Renewal, & Continuing Ed Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Miscellaneous	-	60,000	60,000	60,000	60,000
Interest & Investment Income	84,360	2,850	(81,510)	23,082	(61,278)
Total Funding (A)	**$ 29,821,738**	**$ 29,831,145**	**$ 9,407**	**$ 32,900,947**	**$ 3,079,209**
Expenses					
Personnel Expenses					
Salaries	$ 7,283,602	$ 7,341,460	$ 57,858	$ 8,011,321	$ 727,719
Payroll Taxes	413,208	448,927	35,720	480,111	66,903
Benefits	990,022	930,932	(59,090)	1,069,032	79,010
Retirement Costs	776,988	750,062	(26,926)	869,944	92,957
Total Personnel Expenses	**$ 9,463,819**	**$ 9,471,381**	**$ 7,562**	**$ 10,430,408**	**$ 966,589**
Meetings & Travel Expenses					
Meetings & Conference Calls	$ 82,812	$ 92,000	$ 9,188	$ 102,000	$ 19,188
Travel	214,268	61,220	(153,048)	222,000	7,732
Total Meetings & Travel Expenses	**$ 297,080**	**$ 153,220**	**$ (143,860)**	**$ 324,000**	**$ 26,920**
Operating Expenses, excluding Depreciation					
Consultants & Contracts	$ 8,725,641	$ 9,398,582	$ 672,941	$ 8,325,861	$ (399,780)
Office Rent	-	-	-	-	-
Office Costs	1,469,438	1,833,506	364,068	1,854,095	384,657
Professional Services	135,000	168,620	33,620	190,000	55,000
Miscellaneous	9,350	9,350	-	9,750	400
Total Operating Expenses, excluding Depreciation	**$ 10,339,429**	**$ 11,410,058**	**$ 1,070,629**	**$ 10,379,706**	**$ 40,277**
Total Direct Expenses	**$ 20,100,328**	**$ 21,034,659**	**$ 934,331**	**$ 21,134,114**	**$ 1,033,786**
Indirect Expenses	**$ 9,315,576**	**$ 9,966,789**	**$ 651,213**	**$ 10,944,281**	**$ 1,628,704**
Other Non-Operating Expenses	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Total Expenses (B)	**$ 29,415,905**	**$ 31,001,448**	**$ 1,585,544**	**$ 32,078,395**	**$ 2,662,490**
Change in Net Assets (=A-B)	**$ 405,833**	**$ (1,170,303)**	**$ (1,576,137)**	**$ 822,551**	**$ 416,718**
Fixed Asset Additions, excluding Right of Use Assets (C)	**$ 271,624**	**$ 246,009**	**$ (25,615)**	**$ 976,958**	**$ 705,334**
Financing Activity					
Loan or Financing Lease - Borrowing (-)	$ (28,579)	$ (54,955)	$ (26,376)	$ (646,952)	$ (618,373)
Loan or Financing Lease - Principal Payments (+)	162,789	168,244	5,455	192,545	29,757
Net Financing Activity (D)	**$ 134,209**	**$ 113,289**	**$ (20,920)**	**$ (454,407)**	**$ (588,616)**
Total Budget (=B+C+D)	**$ 29,821,738**	**$ 31,360,747**	**$ 1,539,009**	**$ 32,600,947**	**$ 2,779,209**
Change in Working Capital (=A-B-C-D)	**$ -**	**$ (1,529,601)**	**$ (1,529,601)**	**$ 300,000**	**$ 300,000**
FTEs	**39.48**	**38.45**	**(1.03)**	**43.95**	**4.47**

Statement of Activities and Fixed Asset Additions 2021 Budget & Projection, and 2022 Budget E-ISAC Only	2021 Budget	2021 Projection	Variance 2021 Projection v 2021 Budget Over(Under)	2022 Budget	Variance 2022 Buddget v 2021 Budget Over(Under)
Funding					
NERC Funding					
NERC Assessments	$ 21,577,172	$ 21,577,172	$ -	$ 23,555,615	$ 1,978,443
Penalties Released	-	-	-	-	-
Total NERC Funding	**$ 21,577,172**	**$ 21,577,172**	**$ -**	**$ 23,555,615**	**$ 1,978,443**
Third-Party Funding	$ -	$ -	$ -	$ -	$ -
Testing, Renewal, & Continuing Ed Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Miscellaneous	-	60,000	60,000	60,000	60,000
Interest & Investment Income	48,360	850	(47,510)	22,082	(26,278)
Total Funding (A)	**$ 21,625,531**	**$ 21,638,022**	**$ 12,491**	**$ 23,637,696**	**$ 2,012,165**
Expenses					
Personnel Expenses					
Salaries	$ 6,608,091	$ 6,665,414	$ 57,324	$ 7,160,834	$ 552,744
Payroll Taxes	384,291	418,385	34,094	439,258	54,967
Benefits	912,362	814,438	(97,924)	933,864	21,502
Retirement Costs	726,065	694,959	(31,106)	800,898	74,833
Total Personnel Expenses	**$ 8,630,808**	**$ 8,593,196**	**$ (37,612)**	**$ 9,334,855**	**$ 704,046**
Meetings & Travel Expenses					
Meetings & Conference Calls	$ 75,240	$ 90,000	$ 14,760	$ 90,000	$ 14,760
Travel	192,901	55,115	(137,786)	200,000	7,099
Total Meetings & Travel Expenses	**$ 268,141**	**$ 145,115**	**$ (123,026)**	**$ 290,000**	**$ 21,859**
Operating Expenses, excluding Depreciation					
Consultants & Contracts	$ 2,399,918	$ 2,482,645	$ 82,727	$ 2,171,041	$ (228,877)
Office Rent	-	-	-	-	-
Office Costs	1,357,910	1,354,688	(3,222)	1,384,704	26,794
Professional Services	-	-	-	-	-
Miscellaneous	8,900	8,900	-	9,200	300
Total Operating Expenses, excluding Depreciation	**$ 3,766,728**	**$ 3,846,233**	**$ 79,505**	**$ 3,564,945**	**$ (201,783)**
Total Direct Expenses	**$ 12,665,677**	**$ 12,584,544**	**$ (81,133)**	**$ 13,189,800**	**$ 524,122**
Indirect Expenses	**$ 8,627,890**	**$ 9,199,515**	**$ 571,625**	**$ 9,963,978**	**$ 1,336,088**
Other Non-Operating Expenses	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Total Expenses (B)	**$ 21,293,567**	**$ 21,784,059**	**$ 490,492**	**$ 23,153,777**	**$ 1,860,210**
Change in Net Assets (=A-B)	**$ 331,964**	**$ (146,037)**	**$ (478,001)**	**$ 483,919**	**$ 151,954**
Fixed Asset Additions, excluding Right of Use Assets (C)	**$ 207,678**	**$ 161,943**	**$ (45,735)**	**$ 897,624**	**$ 689,945**
Financing Activity					
Loan or Financing Lease - Borrowing (-)	$ (26,466)	$ (50,724)	$ (24,258)	$ (589,003)	$ (562,537)
Loan or Financing Lease - Principal Payments (+)	150,753	155,293	4,540	175,299	24,546
Net Financing Activity (D)	**$ 124,286**	**$ 104,568**	**$ (19,718)**	**$ (413,705)**	**$ (537,991)**
Total Budget (=B+C+D)	**$ 21,625,531**	**$ 22,050,570**	**$ 425,039**	**$ 23,637,696**	**$ 2,012,165**
Change in Working Capital (=A-B-C-D)	**$ -**	**$ (412,548)**	**$ (412,548)**	**$ -**	**$ -**
FTEs	**36.66**	**35.49**	**(1.17)**	**40.01**	**3.35**

Statement of Activities and Fixed Asset Additions 2021 Budget & Projection, and 2022 Budget CRISP Only	2021 Budget	2021 Projection	Variance 2021 Projection v 2021 Budget Over(Under)	2022 Budget	Variance 2022 Budget v 2021 Budget Over(Under)
Funding					
NERC Funding					
NERC Assessments	$ 1,095,863	$ 1,095,863	$ -	$ 1,344,865	$ 249,002
Penalties Released	-	-	-	-	-
Total NERC Funding	**$ 1,095,863**	**$ 1,095,863**	**$ -**	**$ 1,344,865**	**$ 249,002**
Third-Party Funding	$ 7,064,343	$ 7,095,260	$ 30,917	$ 7,917,385	$ 853,042
Testing, Renewal, & Continuing Ed Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Interest & Investment Income	36,000	2,000	(34,000)	1,000	(35,000)
Total Funding (A)	**$ 8,196,207**	**$ 8,193,123**	**$ (3,084)**	**$ 9,263,250**	**$ 1,067,044**
Expenses					
Personnel Expenses					
Salaries	$ 675,511	$ 676,046	$ 535	$ 850,486	$ 174,975
Payroll Taxes	28,917	30,543	1,626	40,853	11,936
Benefits	77,660	116,493	38,833	135,168	57,508
Retirement Costs	50,923	55,104	4,181	69,046	18,124
Total Personnel Expenses	**$ 833,011**	**$ 878,185**	**$ 45,175**	**$ 1,095,553**	**$ 262,543**
Meetings & Travel Expenses					
Meetings & Conference Calls	$ 7,572	$ 2,000	$ (5,572)	$ 12,000	$ 4,428
Travel	21,367	6,105	(15,262)	22,000	633
Total Meetings & Travel Expenses	**$ 28,939**	**$ 8,105**	**$ (20,834)**	**$ 34,000**	**$ 5,061**
Operating Expenses, excluding Depreciation					
Consultants & Contracts	$ 6,325,723	$ 6,915,937	$ 590,214	$ 6,154,820	$ (170,903)
Office Rent	-	-	-	-	-
Office Costs	111,528	478,818	367,290	469,391	357,863
Professional Services	135,000	168,620	33,620	190,000	55,000
Miscellaneous	450	450	-	550	100
Total Operating Expenses, excluding Depreciation	**$ 6,572,701**	**$ 7,563,825**	**$ 991,124**	**$ 6,814,761**	**$ 242,060**
Total Direct Expenses	**$ 7,434,651**	**$ 8,450,115**	**$ 1,015,465**	**$ 7,944,314**	**$ 509,664**
Indirect Expenses	**$ 687,687**	**$ 767,274**	**$ 79,587**	**$ 980,303**	**$ 292,616**
Other Non-Operating Expenses	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Total Expenses (B)	**$ 8,122,338**	**$ 9,217,389**	**$ 1,095,052**	**$ 8,924,618**	**$ 802,280**
Change in Net Assets (=A-B)	**$ 73,869**	**$ (1,024,266)**	**$ (1,098,135)**	**$ 338,633**	**$ 264,764**
Fixed Asset Additions, excluding Right of Use Assets (C)	**$ 63,946**	**$ 84,066**	**$ 20,120**	**$ 79,335**	**$ 15,389**
Financing Activity					
Loan or Financing Lease - Borrowing (-)	$ (2,113)	$ (4,231)	$ (2,118)	$ (57,949)	$ (55,836)
Loan or Financing Lease - Principal Payments (+)	12,036	12,951	915	17,247	5,211
Net Financing Activity (D)	**$ 9,923**	**$ 8,721**	**$ (1,202)**	**$ (40,702)**	**$ (50,625)**
Total Budget (=B+C+D)	**$ 8,196,207**	**$ 9,310,176**	**$ 1,113,970**	**$ 8,963,250**	**$ 767,044**
Change in Working Capital (=A-B-C-D)	**$ -**	**$ (1,117,053)**	**$ (1,117,053)**	**$ 300,000**	**$ 300,000**
FTEs	**2.82**	**2.96**	**0.14**	**3.94**	**1.12**

Personnel Certification and Continuing Education

Personnel Certification and Continuing Education (in whole dollars)	2021 Budget	2022 Budget	Increase (Decrease)
FTE Reporting	2.82	2.82	-
Direct Expenses	$ 982,466	$ 1,097,635	$ 115,169
Indirect Expenses	687,687	702,307	14,620
Other Non-Operating Expenses	-	-	-
Fixed Asset Additions	56,446	56,837	391
Financing Activity	9,923	(29,160)	(39,083)
Total Budget	$ 1,736,522	$ 1,827,619	$ 91,097

Background and Scope

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

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

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

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

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

Stakeholder Engagement and Benefit

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

Tools and Technology

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

Key Efforts Underway

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

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

2022 Goals and Deliverables

Under the guidance of the PCGC, the Personnel Certification group is dedicated to enhancing the System Operator Certification program to support reliable operation of the BPS. In 2022, the group will focus on further development of the credential maintenance portion of the certification program. Key deliverables for the System Operator Certification program include:

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

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

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

Future Plans

In 2023 and beyond, the Personnel Certification group will focus on transition and implementation plans for the primary activities in 2022. For the System Operator Certification Program, this includes transitioning to One Credential and the appropriate credential maintenance requirements, and for the Credential Maintenance Program this includes improvement of the Credential Maintenance Program Manual.

Resource Requirements

Personnel

There is no change in FTEs from the 2021 budget to the 2022 budget.

Consultants and Contracts

The $75k increase for Consultants & Contracts from the 2021 budget to the 2022 budget is primarily attributable to additional support for a credential maintenance research project. A comparison of 2021 and 2022 budgeted expenses is shown in *Exhibit B – Consultants and Contracts Costs*.

Other Significant Direct Costs

There are no significant changes for any other direct costs.

Statement of Activities and Fixed Asset Additions 2021 Budget & Projection, and 2022 Budget Personnel Certification and Continuing Education	2021 Budget	2021 Projection	Variance 2021 Projection v 2021 Budget Over(Under)	2022 Budget	Variance 2022 Budget v 2021 Budget Over(Under)
Funding					
NERC Funding					
NERC Assessments	$ -	$ -	$ -	$ -	$ -
Penalties Released	-	-	-	-	-
Total NERC Funding	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Third-Party Funding	$ -	$ -	$ -	$ -	$ -
Testing, Renewal, & Continuing Ed Fees	1,801,634	1,654,822	(146,812)	1,756,723	(44,911)
Services & Software	-	-	-	-	-
Miscellaneous	-	500	500	-	-
Interest & Investment Income	7,200	2,000	(5,200)	500	(6,700)
Total Funding (A)	**$ 1,808,834**	**$ 1,657,322**	**$ (151,512)**	**$ 1,757,223**	**$ (51,611)**
Expenses					
Personnel Expenses					
Salaries	$ 304,433	$ 324,713	$ 20,281	$ 318,852	$ 14,419
Payroll Taxes	22,091	23,002	911	23,835	1,744
Benefits	44,346	41,954	(2,391)	43,222	(1,124)
Retirement Costs	33,665	36,365	2,700	35,638	1,973
Total Personnel Expenses	**$ 404,534**	**$ 426,034**	**$ 21,500**	**$ 421,547**	**$ 17,013**
Meetings & Travel Expenses					
Meetings & Conference Calls	$ 20,192	$ 5,000	$ (15,192)	$ 32,000	$ 11,808
Travel	13,190	3,770	(9,420)	14,000	810
Total Meetings & Travel Expenses	**$ 33,382**	**$ 8,770**	**$ (24,612)**	**$ 46,000**	**$ 12,618**
Operating Expenses, excluding Depreciation					
Consultants & Contracts	$ 388,650	$ 484,650	$ 96,000	$ 463,188	$ 74,538
Office Rent	-	-	-	-	-
Office Costs	155,600	164,642	9,042	166,600	11,000
Professional Services	-	-	-	-	-
Miscellaneous	300	300	-	300	-
Total Operating Expenses, excluding Depreciation	**$ 544,550**	**$ 649,592**	**$ 105,042**	**$ 630,088**	**$ 85,538**
Total Direct Expenses	**$ 982,466**	**$ 1,084,396**	**$ 101,930**	**$ 1,097,635**	**$ 115,169**
Indirect Expenses	**$ 687,687**	**$ 769,866**	**$ 82,179**	**$ 702,307**	**$ 14,620**
Other Non-Operating Expenses	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Total Expenses (B)	**$ 1,670,153**	**$ 1,854,262**	**$ 184,109**	**$ 1,799,942**	**$ 129,789**
Change in Net Assets (=A-B)	**$ 138,681**	**$ (196,940)**	**$ (335,621)**	**$ (42,719)**	**$ (181,400)**
Fixed Asset Additions, excluding Right of Use Assets (C)	**$ 56,446**	**$ 52,600**	**$ (3,846)**	**$ 56,837**	**$ 391**
Financing Activity					
Loan or Financing Lease - Borrowing (-)	$ (2,113)	$ (4,245)	$ (2,132)	$ (41,516)	$ (39,403)
Loan or Financing Lease - Principal Payments (+)	12,036	12,996	960	12,356	320
Net Financing Activity (D)	**$ 9,923**	**$ 8,751**	**$ (1,172)**	**$ (29,160)**	**$ (39,083)**
Total Budget (=B+C+D)	**$ 1,736,522**	**$ 1,915,613**	**$ 179,092**	**$ 1,827,619**	**$ 91,097**
Change in Working Capital (=A-B-C-D)	**$ 72,312**	**$ (258,291)**	**$ (330,604)**	**$ (70,396)**	**$ (142,708)**
FTEs	**2.82**	**2.97**	**0.15**	**2.82**	**0.00**

Training and Education

Training and Education (in whole dollars)	2021 Budget	2022 Budget	Increase (Decrease)
FTE Reporting	1.88	1.88	-
Direct Expenses	$ 610,153	$ 538,358	$ (71,795)
Indirect Expenses	458,458	468,205	9,747
Other Non-Operating Expenses	-	-	-
Fixed Asset Additions	9,297	37,891	28,594
Financing Activity	6,615	(19,440)	(26,055)
Total Budget	$ 1,084,523	$ 1,025,014	$ (59,510)

Background and Scope

ROP Section 901 acknowledges the need to acquire and sustain informed, knowledgeable, and skilled personnel in order to assure the reliable operation of the North American BPS. The Training and Education group facilitates the learning and development of NERC[12] and ERO Enterprise staff as well as BPS industry participants. The program oversees and coordinates learning activities and resources that support the acquisition and increase of knowledge and skills among stakeholders.

Stakeholder Engagement and Benefit

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

Tools and Technology

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

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

Key Efforts Underway

The Training and Education team's key efforts are based on the ERO Enterprise's long-term strategic goal of developing the skills needed to perform high quality rigorous activities keeping up with the fast changing pace of supporting technology, and supporting the transformation of NERC and the ERO

[12] NERC's HR budget includes funding for general NERC employee training and development.

Enterprise. The Training and Education group is currently focused on the follow priorities and ongoing activities:

- Assisting in the facilitation of the ERO Enterprise CMEP staff workshop by designing, developing, and delivering video-based and interactive e-learning resources as well as the management of supporting resources, such as interactive audience response applications;
- Developing Confidential Information e-learning part 1 and the follow up live training (to be converted to e-learning at a later date);
- Developing CMEP e-learning modules for ERO Enterprise auditors, systems training products for data systems, including GADS Wind, and functional program training modules, such as the Cause Analysis e-learning module;
- Supporting the ERO's People Strategy and cultural initiatives; and
- Developing multi-modal Align training for registered entities, compliance enforcement authorities, and NERC.

2022 Goals and Deliverables

The Training and Education group's deliverables for 2022 include:

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

Future Plans

In 2023 and beyond, the Training and Education group expects to focus on the following:

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

Resource Requirements

Personnel

There is no change in FTEs from the 2021 budget to the 2022 budget.

Consultants and Contracts

The $70k decrease for Consultants & Contracts from the 2021 budget to the 2022 budget is due to a reduction in ERO Enterprise transformation related training as current cultural initiatives mature. A comparison of 2021 and 2022 budgeted expenses is shown in *Exhibit B – Consultants and Contracts Costs*.

Other Significant Direct Costs

There are no significant changes for any other direct costs.

Statement of Activities and Fixed Asset Additions 2021 Budget & Projection, and 2022 Budget Training and Education	2021 Budget	2021 Projection	Variance 2021 Projection v 2021 Budget Over(Under)	2022 Budget	Variance 2022 Budget v 2021 Budget Over(Under)
Funding					
NERC Funding					
NERC Assessments	$ 1,081,949	$ 1,081,949	$ -	$ 1,023,976	$ (57,973)
Penalties Released	-	-	-	-	-
Total NERC Funding	**$ 1,081,949**	**$ 1,081,949**	**$ -**	**$ 1,023,976**	**$ (57,973)**
Third-Party Funding	$ -	$ -	$ -	$ -	$ -
Testing, Renewal, & Continuing Ed Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Interest & Investment Income	2,574	47	(2,527)	1,038	(1,536)
Total Funding (A)	**$ 1,084,523**	**$ 1,081,996**	**$ (2,527)**	**$ 1,025,014**	**$ (59,510)**
Expenses					
Personnel Expenses					
Salaries	$ 226,511	$ 240,386	$ 13,875	$ 234,880	$ 8,369
Payroll Taxes	18,582	18,355	(227)	18,880	298
Benefits	63,864	61,651	(2,213)	49,040	(14,824)
Retirement Costs	25,471	27,054	1,583	26,357	886
Total Personnel Expenses	**$ 334,429**	**$ 347,446**	**$ 13,017**	**$ 329,158**	**$ (5,271)**
Meetings & Travel Expenses					
Meetings & Conference Calls	$ 1,262	$ 1,000	$ (262)	$ 2,000	$ 738
Travel	3,297	942	(2,355)	3,500	203
Total Meetings & Travel Expenses	**$ 4,559**	**$ 1,942**	**$ (2,617)**	**$ 5,500**	**$ 941**
Operating Expenses, excluding Depreciation					
Consultants & Contracts	$ 170,000	$ 80,000	$ (90,000)	$ 100,000	$ (70,000)
Office Rent	-	-	-	-	-
Office Costs	100,465	100,216	(249)	103,000	2,535
Professional Services	-	-	-	-	-
Miscellaneous	700	700	-	700	-
Total Operating Expenses, excluding Depreciation	**$ 271,165**	**$ 180,916**	**$ (90,249)**	**$ 203,700**	**$ (67,465)**
Total Direct Expenses	**$ 610,153**	**$ 530,304**	**$ (79,849)**	**$ 538,358**	**$ (71,795)**
Indirect Expenses	**$ 458,458**	**$ 513,244**	**$ 54,786**	**$ 468,205**	**$ 9,747**
Other Non-Operating Expenses	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Total Expenses (B)	**$ 1,068,610**	**$ 1,043,548**	**$ (25,063)**	**$ 1,006,562**	**$ (62,048)**
Change in Net Assets (=A-B)	**$ 15,913**	**$ 38,449**	**$ 22,536**	**$ 18,451**	**$ 2,539**
Fixed Asset Additions, excluding Right of Use Assets (C)	**$ 9,297**	**$ 6,734**	**$ (2,564)**	**$ 37,891**	**$ 28,594**
Financing Activity					
Loan or Financing Lease - Borrowing (-)	$ (1,409)	$ (2,830)	$ (1,421)	$ (27,677)	$ (26,268)
Loan or Financing Lease - Principal Payments (+)	8,024	8,663	639	8,237	213
Net Financing Activity (D)	**$ 6,615**	**$ 5,833**	**$ (782)**	**$ (19,440)**	**$ (26,055)**
Total Budget (=B+C+D)	**$ 1,084,523**	**$ 1,056,114**	**$ (28,409)**	**$ 1,025,014**	**$ (59,510)**
Change in Working Capital (=A-B-C-D)	**$ -**	**$ 25,882**	**$ 25,882**	**$ -**	**$ -**
FTEs	**1.88**	**1.98**	**0.10**	**1.88**	**0.00**

Administrative Programs

Administrative Programs (in whole dollars)	Direct Expenses, Fixed Assets, & Net Financing Activity			FTEs		
	2021 Budget	2022 Budget	Increase (Decrease)	2021 Budget	2022 Budget	Increase (Decrease)
General & Administrative	$ 11,304,770	$ 11,736,346	$ 431,576	17.86	18.80	0.94
Legal and Regulatory	4,631,911	5,123,376	491,465	15.98	15.98	-
Information Technology	12,936,602	14,026,598	1,089,996	26.32	27.50	1.18
Human Resources & Administration	2,775,720	3,852,313	1,076,593	9.40	11.28	1.88
Finance and Accounting	2,052,043	2,186,385	134,342	7.52	7.52	-
Total Administrative Programs	**$ 33,701,046**	**$ 36,925,018**	**$ 3,223,972**	**77.08**	**81.08**	**4.00**

Program Scope and Functional Description

NERC's Administrative Programs area includes the budget for all business and administrative functions of the organization, including (1) General and Administrative (G&A); (2) Legal and Regulatory; (3) IT; (4) Human Resources (HR) & Administration; (5) Finance and Accounting; and (6) other general administrative expenses necessary to support program area activities. The costs of the Administrative Programs functions are allocated to the statutory programs as indirect expenses. The resource requirements and comparative budget information for each of these functions are described below.

G&A

The G&A area is responsible for the administration and general management of the organization. Expenses allocated in this area include office rent as well as personnel and related costs for (1) the CEO, the Chief Engineer, the CAO, and their support staff; (2) External Affairs staff, described below; and (3) Board costs, detailed below.

External Affairs

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

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

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

Legislative and Regulatory

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

Communication

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

North American Affairs

- Reviewing standards adoption and Canadian enforcement status in coordination with NERC business units;
- Identifying and expanding messaging related to international value of the ERO with international organizations and agencies;
- Maintaining relationships across the ERO Enterprise, focusing on those REs with international borders;
- Acting as the primary liaison with Canadian provincial, federal, and industry stakeholder groups related to reliability (e.g., Canada's Energy and Utility Regulators [CAMPUT], NRCan);
- Supporting the outreach efforts to Canada and Mexico by NERC business units and the E-ISAC; and
- Communicating the value of a North American ERO to external stakeholders and policymakers.

External Affairs continues to see increased activity in external and internal communication efforts as well as in the legislative and regulatory arenas related to reliability and security matters. As a registered lobbying organization, tracking and monitoring advocacy efforts for reliability and security could potentially trigger additional reporting requirements, calling for more vigilance in tracking costs. Additionally, communications activities are increasing to support NERC's People Strategy, transformation efforts and further coordination across the ERO Enterprise, the E-ISAC, and a potential future website redesign.

Resource Requirements

External Affairs staff is increasing by 0.94 FTEs from the 2021 budget to the 2022 budget due to the reallocation of an open position from Compliance Assurance to External Affairs for an employee communications position in support of the People Strategy discussed in the *Introduction and Executive Summary*. The 2022 budget for External Affairs also includes $40k for Professional Services for government relations support, and there is $20k in the Consultants & Contracts budget for general communications support. The G&A area also has $100k for Consultants & Contracts in the 2022 budget for strategic initiatives support. A comparison of 2021 and 2022 budgeted expenses is shown in *Exhibit B – Consultants and Contracts Costs.*

Board Costs

The following table details the Board costs included in the total G&A expenses.

Board of Trustee Expenses	2021 Budget	2022 Budget	Increase (Decrease)	
Meeting and Travel Expenses				
Quarterly Board Meetings	$ 145,130	$ 240,000	$ 94,870	65.4%
Trustee Travel	97,934	160,000	62,066	63.4%
Total	**$ 243,064**	**$ 400,000**	**$ 156,936**	**64.6%**
Professional Services				
Independent Trustee Fees	$ 1,392,500	$ 1,580,000	$ 187,500	13.5%
Trustee Search Fees	50,000	-	(50,000)	-100.0%
Total	**$ 1,442,500**	**$ 1,580,000**	**$ 137,500**	**9.5%**
Total	**$ 1,685,564**	**$ 1,980,000**	**$ 294,436**	**17.5%**

The $157k increase for meeting and travel expenses from the 2021 budget to the 2022 budget is primarily due to the planned return to in-person Board meetings and related travel, which is discussed in the *Introduction and Executive Summary*. The $187k increase for independent trustee fees is predominately related to the addition of one Board member[13] and estimated increases to trustee compensation, subject to the next independent study on trustee compensation scheduled for the end of 2021.

Legal and Regulatory

The Legal and Regulatory department supports the NERC program areas and is responsible for providing a wide range of legal support to the NERC management team regarding antitrust, corporate, commercial, insurance, contract, employment, real estate, copyright, tax, legislation, and other legal matters. The department also addresses legal and regulatory matters that arise in connection with the delegation agreements with the REs. Additionally, the Legal and Regulatory department includes the Internal Audit and Corporate Risk Management (CRM) functions, explained further below.

[13] An additional Board member was added pursuant to Article III, Section 1a of the NERC Bylaws.

Internal Audit and Corporate Risk Management

The Internal Audit group performs independent, objective activities (i.e., audits and assessments) designed to add value and improve NERC and RE operations. The activities ensure:

- Risks are appropriately identified, prioritized, and managed across NERC and the ERO Enterprise;
- The effectiveness of risk management processes is monitored and evaluated;
- Systems of internal control are adequately promoted and are effectively functioning; and
- Significant risk exposures and control issues, including fraud risks, governance issues, and other matters needed or requested by the Board are reported.

Internal Audit specifically engages with the CCC to collaborate on monitoring of the ERO Enterprise as contemplated by ROP Sections 406, 506, and Appendix 4A. Internal Audit also collaborates with NERC's CMEP and ORCP teams to take an ERO Enterprise-wide approach to the CMEP and ORCP self-certification process. Internal Audit, the CCC, and the Board Enterprise-wide Risk Committee (EWRC) collectively provide oversight regarding NERC's and the ERO Enterprise's compliance with relevant portions of the ROP, allowing for timely reporting and consistent remediation effort, as necessary.

The Corporate Risk Management (CRM) process focuses on ERO Enterprise corporate financial, operational, legal, regulatory and compliance risks. NERC's current enterprise risk management (ERM) process is conducted annually, based on the Committee of Sponsoring Organization of the Treadway Commission (COSO) framework. The process considers the ERO Enterprise-wide strategic plans and goals and determines the applicability of other inputs, such as the RISC report, LTRA, and the annual CMEP report. Risk is also identified via interviews or surveys with program management, executives and the Board. The results of the ERM process serve as a roadmap in developing the company's corporate risk, compliance, and ethics framework. The CRM group is continuing to work with the REs to enhance the ERO Enterprise-wide corporate risk identification and risk mitigation efforts. This occurs through collaborative interactions to identify high priority ERO Enterprise risks, remediating internal control weaknesses, implementing performance improvement recommendations, and sharing lessons learned and best practices. Deliverables include more streamlined and coordinated reports and harmonized assessment of ERO Enterprise risks and processes. At times, CRM also interfaces with stakeholders to perform risk assessment activities.

In 2022 and beyond, Internal Audit will continue to perform risk-based audits and participate in special projects that will provide value to NERC and the ERO Enterprise. Internal Audit and CRM also will seek to leverage the CMEP's Align application, with minimum customization, to implement a governance, risk management, and compliance (GRC) tool to support Internal Audit and CRM activities.

Resource Requirements

There is no change in FTEs from the 2021 budget to the 2022 budget in the Legal and Regulatory area. There is a $100k increase for Contracts & Consultants from the 2021 budget to the 2022 budget primarily due to Internal Audit support for an ERO Enterprise IT security audit (support for FERC-mandated CMEP audits of the REs is budgeted in the Compliance Assurance and Enforcement areas, as discussed in those sections). A comparison of 2021 and 2022 budgeted expenses is shown in *Exhibit B – Consultants and Contracts Costs.* Outside law firms and consultants supporting Legal area are budgeted as Professional Services. The Professional Services budget for Legal and Regulatory in 2022 is $21k more than 2021.

Information Technology

NERC's IT department provides the technology needed for the organization to meet ERO statutory obligations. IT also supports, configures, and secures NERC corporate and enterprise applications and

infrastructure leveraged by the ERO Enterprise and registered entities. The IT department includes a Project Management Office (PMO) that provides project management skills and leadership for major ERO Enterprise and NERC IT projects, including those of the E-ISAC. NERC's IT strategy includes adoption of an enterprise IT investment planning methodology that ensures major projects have compelling business cases, and a "platform" strategy that enables more cost-effective configuration solutions versus creating custom solutions. Examples of these platforms include Microsoft Dynamics xRM, Microsoft SharePoint, the Salesforce CRM system, and the BWise GRC system.

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

Cyber Security. Cyber threat volume and sophistication continues to increase while time to respond is minimal. This is seen outside of NERC in recent events related to zero day supply chain attacks (e.g., SolarWinds), vulnerabilities and breaches (e.g., Microsoft Exchange), and ransomware events (e.g., Colonial Pipeline). Potential threat actors include criminal groups to highly active nation states. The burden for alert and incident response, vulnerability management, patching, and keeping systems up to date is at an all-time high. Since security must be applied to the full application and infrastructure lifecycle, NERC IT continues to take a defense in depth best practice approach and enhance and mature its cyber security program to protect NERC assets and the availability, integrity, and confidentiality of the data NERC stewards. This includes requirements for additional dedicated highly skilled cyber security personnel and additional technology procurement, including enhanced identity management, data protection, and security monitoring systems and services.

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

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

  CORES was initially released in 2019, and ongoing enhancements are continuing. The first release of Align and the ERO SEL to support self-reporting, self-logging, enforcement, and mitigation occurred in a phased manner across the REs during the first and second quarters of 2021, with two more releases planned in 2021 to support Compliance Assurance activities. Continued enhancements for these tools are budgeted for 2022 and beyond. For more information, see the *Compliance Assurance and Organization Registration and Certification* section and the Align Project and CORES Technology Project pages on the NERC website.

- Situation Awareness tools – The upgraded situation awareness tool provides near real-time information to NERC, FERC, and the REs on current operating conditions of the BPS from a wide-area view. The upgrade allows for rapid and accurate situational awareness that appropriately protects the proprietary information in the tool while maximizing the value of understanding shared to the right audiences. Additionally, a disaster recovery site in being implemented to augment the redundancy inherent to the primary site's application architecture by hosting a second instance of the application in NERC's data center. For more information, see the *Situation Awareness* section.
- Data management system enhancements – As the grid evolves, the collection, quality, and integration of data becomes increasingly important, requiring continued investment in enhancements to the suite of data management tools, including those related to generating availability, transmission availability, and event analysis data. Enhancements and modifications to existing software applications are expected in 2022 and beyond, as well as the development of a system for data associated with solar energy storage and requirements building for a more functional system for data supporting reliability assessments. For more information, see the *Reliability Assessment and Performance Analysis* and *Event Analysis* sections.

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

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

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

In 2023 and beyond, NERC IT and PMO staff will continue to oversee the requirements, design, and implementation of new and enhanced technology for NERC and the ERO Enterprise. This includes planned enhancements for Align and the ERO SEL, CORES, the suite of data management and E-ISAC systems, as well as potential upgrades to the NERC website.

Resource and Other Requirements

The increase of 1.18 FTEs in IT from the 2021 budget to the 2022 budget is the result of two additional positions for internal cyber security and system administration, offset by a partial direct allocation of a project manager to E-ISAC and CRISP. There is a $98k increase for Consultants & Contracts expenses from the 2021 budget to the 2022 budget primarily for additional ERO application and infrastructure support

that was reduced in scope in 2021 as a part of cost savings efforts. A comparison of 2021 and 2022 budgeted expenses is shown in *Exhibit B – Consultants and Contracts Costs.*

A $140k increase in Office Costs from the 2021 budget to the 2022 budget is primarily a result of annual escalation estimates for existing software licenses and support, as well as for enhanced security solutions. The IT Fixed Asset budget includes $675k for planned technology equipment replacements, as well as $2.1M for capital lease assets, which includes $2.0M for a new audio visual equipment lease and $100k for laptop leases. This $2.1M is offset by $2.1M for financing lease proceeds, and the budget for financing lease payments is approximately $625k.

Human Resources and Administration

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

As discussed in the *Introduction and Executive Summary*, NERC's ability to retain, engage, and attract top talent is critical to the mission of the ERO Enterprise. NERC is implementing a "People Strategy" designed to create an employee experience that meets the expectations of an evolving workforce and shift from a tactically focused people management model to a more sustainable people-centered organization. This three-year plan uses existing and new staff to bring core HR functions in-house and leverages external support for specific expertise, particularly in the following areas.

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

As part of the ERO Enterprise's ongoing efforts to engage and retain highly qualified talent with the leadership and technical skills to support its mission, NERC's executives, managers, and professional and support staff will participate in ongoing training and development to improve competencies critical to success and succession planning. NERC will also continue to invest in learning opportunities in several areas, including (1) an e-leaning platform for improving soft and technical skills; (2) broad-based staff development training though real-world access via tours of and training on control centers, electric substations, and power generation plants; and (3) access to additional education, including but not limited to degree-oriented university education, pursuit of specialized certifications, and other in-house and external training that provides essential competencies and skills development. A key current and future focus includes ongoing coaching, education, and culture and leadership training with respect to the ERO Enterprise transformation discussed in the *About NERC* section at the beginning of this document, as well as a concerted focus on diversity and inclusion and remote work training.

Compensation Strategy

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

Compensation Consulting

Consultants are periodically retained to examine appropriate compensation based on current market data, including independent analysis of pay equity. This ensures that decisions affecting compensation are made in light of the current market climate and that qualified employees are attracted and retained within a defined total remuneration range. NERC also periodically retains compensation subject matter experts

to perform periodic assessments of the Board compensation model to ensure alignment with market practices.

Surveys
HR uses surveys as appropriate, based on business needs, which may include periodic internal employee engagement surveys.

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

HR Products and Services Automation
HR continues to operate, maintain, and investigate investment in additional electronic platforms for HR support services that reduce administrative burden and improve employee access to tools and information.

Resource and Other Requirements
The 1.88 increase in FTEs is in support of the successful execution of the People Strategy previously discussed, and is offset on the company level by the reallocation of one open position in Compliance Assurance to HR and Administration and the repurposing of one open position due to a senior director-level retirement. Consultants & Contracts expenses are increasing by $260k also in support of the People Strategy, particularly for leadership training and cultural transformation initiatives. A comparison of 2021 and 2022 budgeted expenses is shown in *Exhibit B – Consultants and Contracts Costs.*

Miscellaneous expenses budgeted in the HR area include employee engagement expenses. Employee Engagement expenses are increasing $44k for costs related to NERC's Employee Resource Groups, which provide employees opportunities to engage, connect, and advance a culture of diversity and inclusion.

Finance and Accounting

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

Resource Requirements
There is no change in FTEs from the 2021 budget to the 2022 budget in the Finance and Accounting area. Consultants & Contracts expenses are increasing $60k primarily due to the return of consulting and contract support deferred in 2021 as a part of cost savings efforts. A comparison of 2021 and 2022 budgeted expenses is shown in *Exhibit B – Consultants and Contracts Costs.* Outside firm support for legal services, financial statement and savings and investment plan audits, tax compliance services, and retirement plan and advisory consulting are budgeted as Professional Services. The Professional Services budget for Finance and Accounting in 2022 is slightly higher than 2021 due to a return of support that was deferred in 2021 as a part of cost savings efforts.

Statement of Activities and Fixed Asset Additions 2021 Budget & Projection, and 2022 Budget Administrative Programs	2021 Budget	2021 Projection	Variance 2021 Projection v 2021 Budget Over(Under)	2022 Budget	Variance 2022 Budget v 2021 Budget Over(Under)
Funding					
NERC Funding					
NERC Assessments	$ (1,800,000)	$ (1,800,000)	$ -	$ -	$ 1,800,000
Penalties Released	-	-	-	-	-
Total NERC Funding	**$ (1,800,000)**	**$ (1,800,000)**	**$ -**	**$ -**	**$ 1,800,000**
Third-Party Funding	$ -	$ -	$ -	$ -	$ -
Testing, Renewal, & Continuing Ed Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Miscellaneous	-	0	-	-	-
Interest & Investment Income	-	(0)	-	-	-
Total Funding (A)	**$ (1,800,000)**	**$ (1,800,000)**	**$ -**	**$ -**	**$ 1,800,000**
Expenses					
Personnel Expenses					
Salaries	$ 14,021,169	$ 14,812,814	$ 791,646	$ 15,540,598	$ 1,519,429
Payroll Taxes	758,335	799,390	41,055	834,316	75,982
Benefits	2,035,351	2,050,287	14,936	2,336,350	300,999
Retirement Costs	1,255,330	1,409,995	154,664	1,416,863	161,533
Total Personnel Expenses	**$ 18,070,184**	**$ 19,072,485**	**$ 1,002,301**	**$ 20,128,127**	**$ 2,057,943**
Meetings & Travel Expenses					
Meetings & Conference Calls	$ 436,477	$ 201,453	$ (235,024)	$ 557,550	$ 121,073
Travel	385,803	117,648	(268,155)	520,000	134,197
Total Meetings & Travel Expenses	**$ 822,280**	**$ 319,101**	**$ (503,179)**	**$ 1,077,550**	**$ 255,270**
Operating Expenses, excluding Depreciation					
Consultants & Contracts	$ 2,600,625	$ 3,434,406	$ 833,781	$ 3,218,406	$ 617,781
Office Rent	3,603,442	3,603,442	-	3,243,277	(360,165)
Office Costs	5,290,002	5,146,524	(143,478)	5,375,408	85,406
Professional Services	2,035,100	2,219,943	184,843	2,283,100	248,000
Miscellaneous	75,150	79,186	4,036	119,150	44,000
Total Operating Expenses, excluding Depreciation	**$ 13,604,319**	**$ 14,483,501**	**$ 879,182**	**$ 14,239,341**	**$ 635,022**
Total Direct Expenses	**$ 32,496,783**	**$ 33,875,088**	**$ 1,378,304**	**$ 35,445,018**	**$ 2,948,235**
Indirect Expenses	**$ (32,571,444)**	**$ (34,001,136)**	**$ (1,429,691)**	**$ (35,525,018)**	**$ (2,953,574)**
Other Non-Operating Expenses	**$ 74,661**	**$ 126,048**	**$ 51,387**	**$ 80,000**	**$ 5,339**
Total Expenses (B)	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Change in Net Assets (=A-B)	**$ (1,800,000)**	**$ (1,800,000)**	**$ -**	**$ -**	**$ 1,800,000**
Fixed Asset Additions, excluding Right of Use Assets (C)	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Financing Activity					
Loan or Financing Lease - Borrowing (-)	$ -	$ -	$ -	$ -	$ -
Loan or Financing Lease - Principal Payments (+)	-	-	-	-	-
Net Financing Activity (D)	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Total Budget (=B+C+D)	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Change in Working Capital (=A-B-C-D)	**$ (1,800,000)**	**$ (1,800,000)**	**$ -**	**$ -**	**$ 1,800,000**
FTEs	**77.08**	**77.78**	**0.70**	**81.08**	**4.00**

Section B – Supplemental Financial Information

Breakdown by Statement of Activity Sections

The following detailed schedules support the consolidated Statement of Activities.

Table B-1 – Total Reserves Analysis

Total Reserves Analysis Statutory	Total Reserves	Future Obligation Reserve[1]	Operating Contingency Reserve[2]	System Operator Certification Reserve	CRISP Reserves[3]	Assessment Stabilization Reserve
Beginning Reserves - 1/1/2021	**$ 14,707,583**	**$ 1,657,901**	**$ 7,982,913**	**$ 996,220**	**$ 1,549,549**	**$ 2,521,000**
Generation or (Use) of reserves from 2021 projections						
Projected 2021 operating results, including debt service and financing	$ (1,222,545)	$ -	$ 85,294	$ (258,290)	$ (1,049,549)	$ -
From 2021 approved addition/(use) of reserves	(2,351,600)	(551,600)	(1,800,000)	-	-	-
Other addition/(use) of reserves	-	-	-	-	-	-
Projected Reserves - 12/31/21	**$ 11,133,438**	**$ 1,106,301**	**$ 6,268,207**	**$ 737,930**	**$ 500,000**	**$ 2,521,000**
Required Working Capital and Operating Reserves - 12/31/22	**$ 11,392,306**	**$ 1,135,565**	**$ 6,268,207**	**$ 667,534**	**$ 800,000**	**$ 2,521,000**
Adjustment in funding to achieve required reserve balance	258,868	29,264	-	(70,396)	300,000	-
Less: Assessment Stabilization Reserve Release - Penalties	-	-	-	-	-	-
Total Adjustments to Reserves	**$ 258,868**	**$ 29,264**	**$ -**	**$ (70,396)**	**$ 300,000**	**$ -**
Assessment Reconciliation						
2022 Expenses, Capital Expenditures & Net Financing	$ 88,028,284					
Less: Assessment Stabilization Reserve Release - Penalties	-					
Adjustment in funding to achieve required reserve balance	229,604					
Less: Other Funding Sources	(9,870,608)					
2022 NERC Assessment	**$ 78,387,280**					

[1]As explained in the discussion of reserves in the *Introduction and Executive Summary*, the Future Obligations Reserve offsets future, non-current liabilities.

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

[3]The CRISP Reserve is used solely for certain contingencies in connection with CRISP. The reserve level of $500,000 at December 31, 2021 is equal to the original CRISP reserve, established in 2015, funded by the participating utilities. Subject to approval of the CRISP participants, NERC proposes to increase the reserve by $300,000 in 2022, funded by the participants, to provide additional operating reserve for CRISP.

Table B-2 – Penalties

Penalty Sanctions and Allocation Method

NERC Rules of Procedure (ROP) Section 1107.2 specifies that penalty monies received by NERC during the 12 months ended June 30 are to be used in the subsequent budget year to offset assessments. In 2015, the Board of Trustees (Board) approved an updated *Working Capital and Operating Reserves Policy* that was approved by FERC. This updated policy allows NERC, with Board and Federal Energy Regulatory Commission (FERC) approval pursuant to ROP Section 1107.4, to place penalty funds into an Assessment Stabilization Reserve for use in future years to offset assessments. Penalty sanctions released from the Assessment Stabilization Reserve are allocated to the following statutory programs to reduce assessments: (1) Reliability Standards and Power Risk Issues Strategic Management, (2) Compliance Assurance and Organization Registration and Certification, (3) Compliance Enforcement, (4) Reliability Assessment and Performance Analysis (RAPA), (5) Situation Awareness, (6) Event Analysis, (7) the Electricity Information Sharing and Analysis Center (E-ISAC), including the Cybersecurity Risk Information Sharing Program (CRISP), and (8) Training and Education. Penalty sanctions are allocated based on the number of full-time equivalents (FTEs) in the program divided by the aggregate total FTEs in the programs receiving the allocation.

NERC did not collect any penalties during the period July 1, 2020 to June 30, 2021 and is not requesting to deposit any funds into the Assessment Stabilization Reserve. The 2022 assessment also does not reflect a proposed release of funds from this reserve. The balance held in the Assessment Stabilization Reserve will be used for assessment offsets to stabilize and reduce assessments in future years.

Penalty Sanctions	Date Received	Amount Received
Penalties received between 7/1/2020 and 6/30/2021		
	N/A	$ -
		$ -
Penalties received prior to 6/30/2020, held in the assessment stabilization reserve		$ 2,521,000
Total penalties available on 1/1/2022 to offset assessments		$ 2,521,000
Adjustments		
Total penalties released to offset assessments in the 2022 Budget		$ -
Total penalties held in Assessment Stabilization Reserve 12/31/2022		$ 2,521,000

Table B-3 – Outside Funding

Outside Funding Breakdown By Program (Excludes Any Penalty Releases)	2021 Budget	2022 Budget	Increase (Decrease)
Reliability Standards			
Interest & Investment Income Allocation	$ 22,947	$ 10,895	$ (12,052)
Total	**$ 22,947**	**$ 10,895**	**$ (12,052)**
Compliance Assurance, Certification, and Registration			
Interest & Investment Income Allocation	$ 32,175	$ 11,933	$ (20,243)
Total	**$ 32,175**	**$ 11,933**	**$ (20,243)**
Compliance Enforcement			
Interest & Investment Income Allocation	$ 16,731	$ 6,744	$ (9,987)
Total	**$ 16,731**	**$ 6,744**	**$ (9,987)**
Reliability Assessment and Performance Analysis			
Services and Software	$ 60,000	$ 60,000	$ -
Interest & Investment Income Allocation	32,908	14,527	(18,381)
Total	**$ 92,908**	**$ 74,527**	**$ (18,381)**
Personnel Certification and Continuing Education			
Testing Fees	$ 520,000	$ 496,600	$ (23,400)
Certificate Renewals	800,000	825,000	25,000
Continuing Education Fees	481,634	435,123	2,600
Interest & Investment Income Allocation	7,200	500	(6,700)
Total	**$ 1,808,834**	**$ 1,757,223**	**$ (2,500)**
Training and Education			
Interest & Investment Income Allocation	$ 2,574	$ 1,038	$ (1,536)
Total	**$ 2,574**	**$ 1,038**	**$ (1,536)**
Event Analysis			
Interest & Investment Income Allocation	$ 10,296	$ 3,632	$ (6,664)
Total	**$ 10,296**	**$ 3,632**	**$ (6,664)**
Situation Awareness			
Interest & Investment Income Allocation	$ 9,009	$ 4,150	$ (4,859)
Total	**$ 9,009**	**$ 4,150**	**$ (4,859)**
E-ISAC			
Third Party Funding (CRISP)	$ 7,064,343	$ 7,917,385	$ 853,042
Miscellaneous Funding	-	60,000	60,000
Interest & Investment Income Allocation	84,360	23,082	(61,278)
Total	**$ 7,148,703**	**$ 8,000,467**	**$ 851,764**
Grand Total	**$ 9,144,177**	**$ 9,870,608**	**$ 775,542**

Interest & Investment Income – The $142k decrease is due to anticipated lower interest rates in 2022.

Testing Fees and Certificate Renewals – The $23k decrease in testing fees and $25k increase in certificate renewals reflects the estimate of the numbers of tests and renewals in 2022.

Third Party Funding (CRISP) – The $853k increase is due to an increase in participant-paid costs for PNNL for expenses related to new offerings and upgrades, a data backup location, and audit support, and for operational technology (OT) program software licenses and support. CRISP is also anticipating to collect an additional $300k of revenue from participants to increase funds in the CRISP operating reserve (subject to final approval of CRISP members).

Miscellaneous Funding – The $60k increase reflects revenue related to E-ISAC's partnership with the Downstream Natural Gas (DNG) ISAC.

Table B-4 – Personnel

Personnel	2021 Budget	2022 Budget	Increase (Decrease)	
Salaries	$ 36,636,628	$ 39,557,528	$ 2,920,900	8.0%
Payroll Taxes	2,122,568	2,310,836	188,267	8.9%
Benefits	5,703,799	6,038,487	334,688	5.9%
Retirement	3,726,439	4,059,585	333,146	8.9%
Total	**$ 48,189,435**	**$ 51,966,435**	**$ 3,777,000**	**7.8%**
FTEs	213.38	223.72	10.34	4.8%
Cost per FTE				
Salaries	$ 171,697	$ 176,817	$ 5,120	3.0%
Payroll Taxes	9,947	10,329	382	3.8%
Benefits	26,731	26,991	261	1.0%
Retirement	17,464	18,146	682	3.9%
Total	**$ 225,839**	**$ 232,283**	**$ 6,445**	**2.9%**

The increase in overall Personnel costs is primarily related to the increase of 10.3 FTEs (see the Personnel discussion in the *Introduction and Executive Summary* for more details) and salary and benefit increase assumptions. The 2022 budget for base salaries assumes a 2.5% increase over actual 2021 base salaries for merit adjustments and up to 0.5% for equity and market adjustments, which is the same assumption used in the 2021 budget. The anticipated increase for medical and dental benefit plan costs in 2022 is 7.0%, which is lower than previous year estimates due to an improved loss ratio trend. No other changes to retirement or other benefit plans have been assumed for 2022.

Table B-5 – Meetings & Travel

Meetings & Travel	2021 Budget	2022 Budget	Increase (Decrease)	
Meetings & Conference Calls	$ 890,751	$ 1,132,550	$ 241,799	27.1%
Travel	1,310,997	1,475,500	164,503	12.5%
Total	**$ 2,201,748**	**$ 2,608,050**	**$ 406,302**	**18.5%**

As discussed in the *Introduction and Executive Summary*, Meetings & Travel expenses are increasing as NERC plans for a partial return to in-person meetings and related travel in 2022, particularly for the Board, Member Representatives Committee (MRC), Reliability and Security Technical Committee (RSTC), and ERO Enterprise leadership, while continuing to leverage efficiencies of virtual meeting formats for smaller groups.

Table B-6 – Consultants and Contracts

Refer to *Exhibit B – Consultants and Contracts Costs*

Table B-7 – Rent

Office Rent	2021 Budget	2022 Budget	Increase (Decrease)	
Office Rent	$ 3,329,442	$ 3,119,677	$ (209,765)	-6.3%
Maintenance	274,000	123,600	(150,400)	-54.9%
Total	**$ 3,603,442**	**$ 3,243,277**	**$ (360,165)**	**-10.0%**

As discussed in the *Introduction and Executive Summary*, NERC has been working on long-term lease strategies for its two office locations. The 2022 budget reflects savings over 2021 based on new lease assumptions for the Washington, D.C. office while assuming the existing rent schedule for the Atlanta office as options continue to be explored for that facility. The $150k decrease in maintenance reflects estimates for these expenses for the new Washington, D.C. office lease and recent operating cost trends for the Atlanta office.

Table B-8 – Office Costs

Office Costs	2021 Budget	2022 Budget	Increase (Decrease)	
Telephone	$ 330,800	$ 333,838	$ 3,038	0.9%
Internet	294,650	325,783	31,133	10.6%
Office Supplies	276,450	131,350	(145,100)	-52.5%
Computer Supplies	140,250	155,250	15,000	10.7%
Software License and Support	8,022,452	8,582,357	559,905	7.0%
Subscription and Publications	363,299	443,894	80,595	22.2%
Dues	142,445	157,850	15,405	10.8%
Postage	10,500	10,500	-	0.0%
Express Shipping	34,700	34,700	-	0.0%
Copying	39,500	39,500	-	0.0%
Audio/Visual and Hardware Lease	282,743	280,000	(2,743)	-1.0%
Equipment Repair/Service Contracts	130,000	130,000	-	0.0%
Bank Charges	28,000	28,000	-	0.0%
Merchant Card Fees	90,000	95,000	5,000	5.6%
Total	**$ 10,185,789**	**$ 10,748,022**	**$ 562,233**	**5.5%**

Internet costs are increasing $31k in 2022 due to the addition of circuits for a disaster recovery site for one of the Situation Awareness tools. Office Supplies are decreasing $145k and Computer Supplies are increasing $15k to bring these budgets closer to recent actual costs.

Software Licenses and Support includes non-capital software license and support costs, as well as support and service expenses for infrastructure management software, data center co-location, offsite backup of data, and network and security monitoring. The $560k increase in 2022 is primarily due to software license and support for CRISP OT and analytics (much of which is participant-funded) and annual escalation cost estimates for software used by the program areas and Information Technology (IT), with an increased focus on enhancing NERC's cybersecurity posture.

Subscription and Publications expenses are increasing $81k in 2022 for resource and research subscriptions to support the Corporate Risk Management (CRM) and Human Resources (HR) areas.

Table B-9 – Professional Services

Professional Services	2021 Budget	2022 Budget	Increase (Decrease)	
Independent Trustee Fees	$ 1,392,500	$ 1,580,000	$ 187,500	13.5%
Trustee Search Fees	50,000	-	(50,000)	-100.0%
Outside Legal	388,500	430,000	41,500	10.7%
Government Relations	-	20,000	20,000	
Accounting and Auditing Fees	155,000	160,000	5,000	3.2%
Insurance Commercial	185,000	284,000	99,000	53.5%
Outside Services	14,100	14,100	-	0.0%
Total	**$ 2,185,100**	**$ 2,488,100**	**$ 303,000**	**13.9%**

As discussed on page 64, the $187k increase for Independent Trustee Fees in 2022 is predominately for the addition of one Board member and estimated increases to trustee compensation, subject to the next independent study on trustee compensation scheduled for the end of 2021. The $50k decrease for Trustee Search Fees is a result of not having to conduct a search for any Board member replacements in 2022.

The increases in Outside Legal, Government Relations, and Accounting and Auditing Fees in 2022 are a result of a return of support that was deferred in 2021 as a part of cost savings efforts.

The $99k increase for Insurance Commercial in 2022 is to bring the CRISP liability insurance and NERC property and liability insurance budgets closer to recent actual costs and projected estimates.

Table B-10 – Miscellaneous

Miscellaneous Expenses	2021 Budget	2022 Budget	Increase (Decrease)	
Miscellaneous Expense	$ 10,250	$ 10,250	$ -	0.0%
Employee Rewards and Recognition	20,900	21,400	500	2.4%
Employee Engagement	41,000	85,000	44,000	107.3%
Sponsorships	28,000	28,000	-	0.0%
Total	**$ 100,150**	**$ 144,650**	**$ 44,500**	**44.4%**

The increase of $44k for Employee Engagement in 2022 is for expenses related to NERC's Employee Resource Groups, which provide staff connection opportunities to advance a culture of diversity and inclusion.

Table B-11 – Other Non-Operating Expenses

Other Non-Operating Expenses	2020 Budget	2021 Budget	Increase (Decrease)	
Property and Other Tax Expense	$ 60,000	$ 60,000	$ -	0.0%
Interest Expense	69,661	75,000	5,339	7.7%
Total	**$ 129,661**	**$ 135,000**	**$ 5,339**	**4.1%**

Table B-12 – Fixed Assets

Fixed Asset Additions	2021 Budget	2022 Budget	Increase (Decrease)	
Computer & Software CapEx	$ 2,091,500	$ 1,268,750	(822,750)	-39.3%
Furniture & Fixtures CapEx	-	-	-	
Equipment CapEx	660,000	750,000	90,000	13.6%
Leasehold Improvements	-	-	-	
Total	**$ 2,751,500**	**$ 2,018,750**	**$ (732,750)**	**-26.6%**

Computer & Software CapEx is decreasing $823k primarily due to the planned completion of development for Align in 2021, offset by funding for ongoing enhancements and maintenance for Align and the ERO Secure Evidence Locker (SEL), and a return to investment in NERC's suite of data management tools that was deferred in 2021 as a part of cost savings efforts. The $90k increase for Equipment CapEx is for planned IT equipment technology replacements. This table excludes $2.1M of capital lease assets, which are offset by corresponding lease financing proceeds.

Table B-13 – 2023 and 2024 Projections

Refer to the *Introduction and Executive Summary* section on page 11 and 12

Section C – Non-Statutory Activity

NERC has no non-statutory activities.

Section D – Consolidated Statement of Activities by Program Area	Statutory Total	Reliability Standards and Power Risk Issue Strategic Management	Compliance Assurance and Organization Registration and Certification	Event Analysis	Compliance Enforcement	Personnel Certification	Training and Education	Reliability Assessment and Performance Analysis	Situation Awareness	E-ISAC (including CRISP)	General and Administrative (Includes Executive and External Affairs)	Legal and Regulatory (Includes Internal Audit and Corporate Risk Management	Information Technology	Human Resources and Administration	Accounting and Finance
							STATUTORY								
Funding															
ERO Funding															
NERC Assessments	$ 78,387,280	$ 9,420,030	$ 12,552,038	$ 3,778,518	$ 6,939,219	$ -	$ 1,023,976	$ 14,700,555	$ 5,072,463	$ 24,900,480	$ -	$ -	$ -	$ -	$ -
Penalties Released	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total NERC Funding	**$ 78,387,280**	**$ 9,420,030**	**$ 12,552,038**	**$ 3,778,518**	**$ 6,939,219**	**$ -**	**$ 1,023,976**	**$ 14,700,555**	**$ 5,072,463**	**$ 24,900,480**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Third-Party Funding	$ 7,617,385	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 7,617,385	$ -	$ -	$ -	$ -	$ -
Testing Fees	1,756,723	-	-	-	-	1,756,723	-	-	-	-	-	-	-	-	-
Services & Software	60,000	-	-	-	-	-	-	60,000	-	-	-	-	-	-	-
Miscellaneous	60,000	-	-	-	-	-	-	-	-	60,000	-	-	-	-	-
Interest & Investment Income	76,500	10,895	11,933	3,632	6,744	500	1,038	14,527	4,150	23,082	-	-	-	-	-
Total Funding (A)	**$ 88,257,888**	**$ 9,430,925**	**$ 12,563,971**	**$ 3,782,150**	**$ 6,945,963**	**$ 1,757,223**	**$ 1,025,014**	**$ 14,775,082**	**$ 5,076,614**	**$ 32,900,947**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Expenses															
Personnel Expenses															
Salaries	$ 39,557,528	$ 2,951,243	$ 3,759,888	$ 1,297,758	$ 1,838,076	$ 318,852	$ 234,880	$ 4,377,751	$ 1,227,161	$ 8,011,321	$ 4,346,817	$ 3,246,030	$ 4,888,306	$ 1,943,814	$ 1,115,631
Payroll Taxes	2,310,836	183,584	224,943	73,630	122,697	23,835	18,880	272,752	76,087	480,111	202,803	173,300	284,467	103,781	69,965
Benefits	6,038,487	467,848	761,083	205,684	210,112	43,222	49,040	637,359	258,757	1,069,032	563,000	460,223	751,720	366,445	194,963
Retirement Costs	4,059,585	324,253	416,398	145,524	204,099	35,638	26,357	485,536	134,973	869,944	247,198	349,224	520,772	178,443	121,227
Total Personnel Expenses	**$ 51,966,435**	**$ 3,926,928**	**$ 5,162,312**	**$ 1,722,596**	**$ 2,374,984**	**$ 421,547**	**$ 329,158**	**$ 5,773,397**	**$ 1,696,978**	**$ 10,430,408**	**$ 5,359,819**	**$ 4,228,776**	**$ 6,445,264**	**$ 2,592,483**	**$ 1,501,785**
Meetings and Travel Expenses															
Meetings & Conference Calls	$ 1,132,550	$ 65,000	$ 82,000	$ 35,000	$ 7,000	$ 32,000	$ 2,000	$ 180,000	$ 70,000	$ 102,000	$ 388,750	$ 10,000	$ 148,800	$ 5,000	$ 5,000
Travel	1,475,500	115,000	251,000	91,000	30,000	14,000	3,500	207,000	22,000	222,000	360,000	55,000	60,000	20,000	25,000
Total Meetings and Travel Expenses	**$ 2,608,050**	**$ 180,000**	**$ 333,000**	**$ 126,000**	**$ 37,000**	**$ 46,000**	**$ 5,500**	**$ 387,000**	**$ 92,000**	**$ 324,000**	**$ 748,750**	**$ 65,000**	**$ 208,800**	**$ 25,000**	**$ 30,000**
Operating Expenses, excluding Depreciation															
Consultants & Contracts	$ 13,674,800	$ 158,960	$ 345,000	$ 118,158	$ 249,000	$ 463,188	$ 100,000	$ 681,227	$ 15,000	$ 8,325,861	$ 120,000	$ 310,000	$ 1,733,406	$ 870,000	$ 185,000
Office Rent	3,243,277	-	-	-	-	-	-	-	-	-	3,243,277	-	-	-	-
Office Costs	10,749,222	52,850	648,866	50,500	639,816	166,600	103,000	640,675	1,217,412	1,854,095	402,950	144,600	4,315,828	268,730	243,300
Professional Services	2,488,100	-	-	-	15,000	-	-	-	-	190,000	1,774,000	275,000	-	9,100	225,000
Miscellaneous	144,650	2,300	3,250	1,600	1,900	300	700	4,600	1,100	9,750	27,550	-	3,300	87,000	1,300
Total Operating Expenses, excluding Depreciation	**$ 30,300,049**	**$ 214,110**	**$ 997,116**	**$ 170,258**	**$ 905,716**	**$ 630,088**	**$ 203,700**	**$ 1,326,502**	**$ 1,233,512**	**$ 10,379,706**	**$ 5,567,777**	**$ 729,600**	**$ 6,052,534**	**$ 1,234,830**	**$ 654,600**
Total Direct Expenses	**$ 84,874,534**	**$ 4,321,038**	**$ 6,492,428**	**$ 2,018,854**	**$ 3,317,700**	**$ 1,097,635**	**$ 538,358**	**$ 7,486,899**	**$ 3,022,490**	**$ 21,134,114**	**$ 11,676,346**	**$ 5,023,376**	**$ 12,706,598**	**$ 3,852,313**	**$ 2,186,385**
Indirect Expenses	**$ -**	**$ 4,916,148**	**$ 5,384,352**	**$ 1,638,716**	**$ 3,043,329**	**$ 702,307**	**$ 468,205**	**$ 6,554,863**	**$ 1,872,818**	**$ 10,944,281**	**$ (11,736,346)**	**$ (5,023,376)**	**$ (12,726,598)**	**$ (3,852,313)**	**$ (2,186,385)**
Other Non-Operating Expenses	**$ 135,000**	**$ -**	**$ 27,500**	**$ -**	**$ 27,500**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 60,000**	**$ -**	**$ 20,000**	**$ -**	**$ -**
Total Expenses (B)	**$ 85,009,534**	**$ 9,237,186**	**$ 11,904,280**	**$ 3,657,570**	**$ 6,388,529**	**$ 1,799,942**	**$ 1,006,562**	**$ 14,041,762**	**$ 4,895,308**	**$ 32,078,395**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Change in Net Assets (=A-B)	**$ 3,248,354**	**$ 193,740**	**$ 659,691**	**$ 124,580**	**$ 557,434**	**$ (42,719)**	**$ 18,451**	**$ 733,320**	**$ 181,306**	**$ 822,551**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Fixed Asset Additions, excluding Right of Use Assets (C)	**$ 4,118,750**	**$ 397,858**	**$ 695,750**	**$ 192,619**	**$ 496,293**	**$ 56,837**	**$ 37,891**	**$ 1,005,478**	**$ 259,065**	**$ 976,958**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Financing Activity															
Loan or Financing Lease - Borrowing (-)	$ (2,100,000)	$ (290,610)	$ (318,287)	$ (96,870)	$ (179,901)	$ (41,516)	$ (27,677)	$ (387,479)	$ (110,708)	$ (646,952)	$ -	$ -	$ -	$ -	$ -
Loan or Financing Lease - Principal Payments (+)	1,000,000	86,491	282,228	28,830	241,042	12,356	8,237	115,321	32,949	192,545	-	-	-	-	-
Net Financing Activity (D)	**$ (1,100,000)**	**$ (204,119)**	**$ (36,058)**	**$ (68,040)**	**$ 61,141**	**$ (29,160)**	**$ (19,440)**	**$ (272,158)**	**$ (77,759)**	**$ (454,407)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Total Budget (=B+C+D)	**$ 88,028,284**	**$ 9,430,925**	**$ 12,563,971**	**$ 3,782,150**	**$ 6,945,963**	**$ 1,827,619**	**$ 1,025,014**	**$ 14,775,082**	**$ 5,076,614**	**$ 32,600,947**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Change in Working Capital (=A-B-C-D)	**$ 229,604**	**$ -**	**$ -**	**$ -**	**$ -**	**$ (70,396)**	**$ -**	**$ -**	**$ -**	**$ 300,000**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
FTEs	**223.72**	**19.74**	**21.62**	**6.58**	**12.22**	**2.82**	**1.88**	**26.32**	**7.52**	**43.95**	**18.80**	**15.98**	**27.50**	**11.28**	**7.52**

Exhibit A – Application of NERC Section 215 Criteria

DISCUSSION OF HOW THE NERC MAJOR ACTIVITIES IN THE 2022 BUSINESS PLAN AND BUDGET MEET THE NERC WRITTEN CRITERIA FOR DETERMINING WHETHER A RELIABILITY ACTIVITY IS ELIGIBLE TO BE FUNDED UNDER FEDERAL POWER ACT SECTION 215

I. Introduction

This Exhibit discusses how the major activities in NERC's 2022 Business Plan and Budget meet the NERC written criteria for determining whether a reliability activity is eligible to be funded under §215 of the Federal Power Act (FPA §215). This Exhibit is intended to satisfy Recommendation No. 38 resulting from the financial performance review of NERC conducted by the Federal Energy Regulatory Commission's (Commission's) Division of Audits (DA) in 2012–2013 and adopted by the Commission in its November 2, 2012 order on NERC's 2013 Business Plan and Budget.[14] NERC submitted the written criteria to the Commission in a compliance filing dated February 21, 2013 in Docket No. FA11-21-000.[15] The Commission approved the NERC written criteria, with modifications, in an order issued in that docket on April 18, 2013.[16] The NERC written criteria as used in this Exhibit incorporate the modifications specified in the Compliance Order.[17]

II. Reliability Standards and Power Risk Issue Strategic Management 2022 Major Activities

The major activities of Reliability Standards and Power Risk Issue Strategic Management (PRISM) are described at pages 13–16 of the 2022 Business Plan and Budget. Reliability Standards and PRISM is comprised of the Reliability Standards group, which is focused specifically on the development and improvement of reliability standards; and the PRISM group, which supports Reliability Standards by providing technical support and develops, supports, and prioritizes the ERO Risk Registry. Reliability Standards carries out the ERO's responsibility to develop, adopt, obtain approval of, and modify as and when appropriate, mandatory Reliability Standards to assure the Bulk Electric System (BES) is planned, operated, maintained, and secured to minimize risks of cascading failures, avoid damages to major equipment, and limit interruptions. This group focuses on expanding a risk-based approach to its projects, to ensure that Reliability Standards are clear, timely, consider costs, effective in mitigating material risks, and do not unnecessarily burden industry with administrative requirements and/or detract from reliability or security. The major activity of PRISM is to leverage in-house expertise on Reliability Standards and standards development to implement cross-cutting efforts among NERC functions and the NERC standing and technical committees, with emphasis on developing NERC's positions on emerging technologies and the effect of these technologies on Reliability Standards. The PRISM group provides in-house training on Reliability Standards and conducts statistical analyses concerning the results of standards to identify potential weaknesses, redundancies, and overall necessity.

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

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

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

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

The major activities for the Reliability Standards program include (1) providing project management and leadership to the reliability standard development process to deliver high quality, continent-wide Reliability Standards, both new and modified, to provide solutions to address reliability risks identified through the Reliability Risk Management Process, including standard development outreach activities, facilitation of drafting team activities, drafting support, assisting drafting teams in adhering to the processes in the *Standard Processes Manual*, and ensuring that the quality of documents produced are appropriate for approval by industry and the NERC Board; (2) facilitating continent-wide industry engagement in the standard development processes; and (3) conducting industry balloting on standards, disseminating information on standards and the standard development processes, and supporting regulatory filings and proceedings relating to standards. In response to input from regulatory authorities, Regional Entities, and industry stakeholders, the Reliability Standards program gathers industry feedback during the standard development and revision processes on costs of proposed standards and the risks they are intended to address. The PRISM group interacts with stakeholder groups, including the NERC Reliability and Security Technical Committee (RSTC), and ensures that the processes to address Standards Authorization Requests and Requests for Interpretations of standards are coordinated and reviewed for technical accuracy and completeness.

For 2022, the major activities of the Reliability Standards program will continue to focus on (1) selection of standards projects to be undertaken based on the nature of the reliability issue, and whether a standard or another solution is most appropriate to address the issue; (2) addressing FERC directives and responding to FERC orders and special reports as necessary through the standards development process; (3) continuing to implement the results of the comprehensive review of standards initiated in 2018, through projects to modify or retire standards, including analyzing the need to retire or enhance standards requirements based on operational experience, and also including review of standards development processes for efficiency modifications; and (4) facilitating smooth transitions to new standards, including by working with the other NERC program areas and the Regional Entities to develop guidelines, webinars, and other activities to support auditor and industry training for new standards. In 2022, this program will continue to work with stakeholders to determine whether there is a need to make further improvements to Reliability Standards through periodic reviews that include measured review of the contents of standards, considering whether the requirements could more effectively mitigate risks to the Bulk Power System (BPS); whether the standards are results-based and drafted with high quality; whether the standards are concise or if the number of requirements could be reduced; and whether compliance expectations are clear.

Activities of the PRISM group for 2022 include completing NERC position documents for Distributed Energy Resources (DER), Interconnection Reliability Operating Limits, System Operating Limits, and Energy Adequacy; reporting on statistical analyses around misoperations; conducting Reliability Standards training for NERC and Regional Entity staff; refining the cross-cutting tool to track Reliability Issues Steering Committee (RISC) issues and work plan items from NERC and Regional Entity committees while prioritizing risks in the Risk Registry; measuring the effectiveness of the Electric Gas Working Group industry guidelines on fuel assurance; supporting the FERC/NERC inquiry into the 2021 Texas Winter Event; and executing the work plan for the Energy Reliability Assessment Task Force (ERATF). PRISM will continue to support Reliability Standards by providing technical support during the development process.

The major activities of the Reliability Standards and PRISM program satisfy the following criteria:

I.A: Is the activity necessary or appropriate for Reliability Standards development projects pursuant to the NERC Rules of Procedure (ROP)?

I.B: Is the activity necessary or appropriate for providing guidance and assistance to Regional Entities in carrying out Regional Reliability Standards development activities?

I.C: Is the activity necessary or appropriate for information gathering, collection and analysis activities to obtain information for Reliability Standards development, including for purposes of identifying areas in which new Reliability Standards could be developed, existing Reliability Standards could be revised, or existing Reliability Standards could be eliminated?

I.D: Is the activity necessary or appropriate for the provision of training and education concerning Reliability Standards development processes, procedures, and topics for/to (i) NERC personnel, (ii) Regional Entity personnel, (iii) industry personnel?

II.F.1: Is the activity necessary or appropriate for the provision of training, education and dissemination of information for/to (i) NERC personnel, (ii) Regional Entity personnel, and (ii) industry personnel with respect to compliance monitoring and enforcement topics and topics concerning reliability risks identified through compliance monitoring and enforcement activities, such as (1) Requirements of Reliability Standards, including how to comply and how to demonstrate compliance? This includes development of guidance and interpretation documents.

IV: Is the activity one that was required or directed by a Commission order issued pursuant to §215? (Reliability Standards development projects are often initiated in response to directives in Commission orders).

V: Is the activity one that is required or specified by, or carries out, the provisions of NERC's ROP that have been approved by the Commission as "Electric Reliability Organization Rules" (defined in 18 C.F.R. §39.1) pursuant to FPA §215(f)? (The applicable ROP provisions for the Reliability Standards Program are §300 and Appendix 3A.)

VI: Is the activity necessary or appropriate for the supervision and oversight of Regional Entities in the performance of their delegated responsibilities in accordance with FPA §215, 18 C.F.R. Part 39, the Commission-approved delegation agreement between NERC and the Regional Entity, the NERC ROP, and applicable provisions of Commission orders?

IX. Is the activity necessary or appropriate for NERC and Regional Entity committees, subcommittees and working groups engaged in activities encompassed by one or more of the other criteria?

X. Is the activity necessary or appropriate for the analysis and evaluation of activities encompassed by one or more of the other criteria for the purpose of identifying means of performing the activities more effectively and efficiently?

III. Compliance Assurance, Organization Registration and Certification, and Compliance Enforcement 2022 Major Activities

The major activities of Compliance Assurance and Organization Registration and Certification and of Compliance Enforcement are described on pages 18–22 and 25–26 of the 2022 Business Plan and Budget.

The Compliance Assurance group works collaboratively with the Regional Entities to ensure effective implementation of risk-based compliance monitoring under the Compliance Monitoring and Enforcement Program (CMEP) across the ERO Enterprise. This group's activities include the following major activities and functions: (1) oversight of the Regional Entities' implementation of the risk-based compliance monitoring program and the NERC ROP, including ensuring that Regional Entities monitor registered entities for compliance based on customized compliance oversight plans (COPs) for each registered entity;

(2) development and execution of the annual CMEP Implementation Plan; (3) oversight of use of necessary compliance-related processes, procedures, information technology (IT) platforms, tools and templates; (4) development and delivery of education and training for ERO Enterprise staff; (5) training and outreach activities for the Critical Infrastructure Protection (CIP) Reliability Standards and subsequent enhancements to support industry compliance and security; (6) coordinating with the Reliability Standards program to assist in smooth transition for standards from development to enforceability and to provide feedback on risks seen in the field that are not addressed by a standard, as well as information on whether a standard is too broad; and (7) supporting Regional Entity and industry committees, working groups and task forces, such as the ERO Risk, Performance, and Monitoring Group (NERC and Regional Entity collaboration group), NERC Compliance and Certification Committee (CCC), and NERC RSTC. Ensuring successful implementation of the risk-based CMEP is the priority of Compliance Assurance's oversight plan for Regional Entities. Compliance Assurance provides training to Regional Entity staffs on the elements of risk-based compliance monitoring, including enhancements to registered entities' Individual Risk Assessments (IRA), internal controls reviews, COP development, and Reliability Standards monitoring. In addition, in 2022 Compliance Assurance will continue to emphasize oversight relating to integrating the Align application into CMEP activities.

The ongoing and new major activities of the Compliance Assurance group for 2022 will include: (1) as on-site compliance monitoring activities resume, working with Regional Entities to ensure that 2022 activities are risk-informed and evaluate 2020 and 2021 experiences; (2) continuing to mature the risk-based compliance program, including ongoing oversight of the risk-based CMEP, IRAs, internal controls, coordinated oversight of Multi-Region Registered Entities (MRREs), and ensuring that COPs are addressing the relevant risks and inform Regional Entity CMEP planning; (3) working with NERC Enforcement and IT and with Regional Entities to maintain and enhance the Align and ERO SEL tools; (4) supporting continued successful implementation of the Cyber Security Supply Chain Risk Management Reliability Standard; (5) supporting the continued successful implementation of CIP V5 standards and subsequent enhancements as they become effective; (6) monitoring and supporting effective implementation and monitoring of the Physical Security Reliability Standard; (7) enhancing and implementing training to support monitoring of compliance with Reliability Standards, integrating principles from the Compliance Monitoring Competency Guide; (8) continuing feedback to the Reliability Standards group through coordination between the standards and compliance functions to allow for clear stakeholder implementation of standards and feedback on risks seen in the field, and supporting this effort through a common set of Reliability Standard Audit Worksheets, guidance, and outreach; (9) continuing to focus on how registered entities have mitigated reliability and security risks while achieving compliance with Reliability Standards, including internal controls; (10) supporting international CMEP activities including reliability and security subject matter expertise and outreach; and (11) providing support and leadership to applicable committees and subcommittees including the CCC.

Organization Registration and Certification manages the Organization Registration and Certification Program (ORCP). Organization Registration identifies and registers BPS users, owners, and operators that are responsible for performing specific reliability functions to which Reliability Standards requirements are applicable. Organization Certification ensures that an applicant to be a Reliability Coordinator (RC), Balancing Authority (BA), or Transmission Operator (TOP) has the tools, processes, training, and procedures to demonstrate its ability to become certified and operational for the applicable functions. Organization Registration and Certification works with the CCC's Organization Registration and Certification Subcommittee, which oversees the ORCP, and provides training, guidance, and outreach to stakeholders through NERC and Regional Entity webinars and other forums as well as on an individual basis with entities. Organization Registration and Certification is involved in development and implementation of the Align-ERO SEL and the Centralized Organization Registration ERO System (CORES)

applications, including in particular development, roll-out, and maintenance of CORES, with continued focus on functionality for Coordinated Functional Registrations (CFRs). Organization Registration and Certification also processes registration change requests, including NERC-led review panels and BES Exceptions. Organization Registration and Certification's responsibilities include oversight of the Regional Entities' implementation of the Registration and Certification programs; leading NERC-led Review Panel proceedings; oversight of the use of necessary processes, procedures, IT platforms, tools, and templates; leading and supporting Regional Entity and industry committees, working groups, and task forces, including the ERO Organization Registration and Certification Group, the NERC CCC, and the CCC Organization Registration and Certification subcommittee; maintaining the NERC Compliance Registry and adhering to NERC ROP Section 500 and ROP Appendices 5A, 5B and 5C; and providing training on IT applications, including CORES and the CFR tool, to Regional Entities and registered entities.

Compliance Enforcement is responsible for overseeing enforcement processes, the application of Penalties or sanctions, and activities to mitigate and prevent recurrence of noncompliance with Reliability Standards. This group works collaboratively with the Regional Entities to ensure consistent and effective implementation of the risk-based CMEP. It also focuses on ensuring that the ERO Enterprise dedicates resources to the matters that pose the greatest risk to reliability. Compliance Enforcement monitors Regional Entities' enforcement processes and provides oversight over the outcomes of such processes, to ensure alignment across the ERO Enterprise; collects and analyzes compliance enforcement data and trends to help identify emerging risks to the BPS and inform the development of enforcement policies and processes; files Notices of Penalty and other disposition documents associated with noncompliance discovered through Regional Entity or NERC-led CMEP activities; collaborates with other NERC departments, including Reliability Standards, Compliance Assurance, and Event Analysis; and delivers training to ERO Enterprise staff and registered entities and supports other outreach efforts. During 2022, the major activities of Compliance Enforcement will include: (1) identifying and mitigating the greatest risks to reliability and security; (2) supporting enhancement of the Align and ERO SEL tools, which are being released in a series of releases during 2021; (3) expanding the risk-based focus on Enforcement; (4) sustaining and expanding stakeholder outreach; and (5) with Regional Entity and stakeholder feedback, continue evaluating compliance monitoring and enforcement processes for efficiency.

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

I.A: Is the activity necessary or appropriate for Reliability Standards development projects pursuant to the NERC ROP?

I.C: Is the activity necessary or appropriate for information gathering, collection and analysis activities to obtain information for Reliability Standards development, including for purposes of identifying areas in which new Reliability Standards could be developed, existing Reliability Standards could be revised, or existing Reliability Standards could be eliminated?

II. Is the activity necessary or appropriate for the monitoring and enforcement of compliance with Reliability Standards?

A: Is the activity necessary or appropriate for the identification and registration of users, owners, and operators of the BPS that are required to comply with Requirements of Reliability Standards applicable to the reliability functions for which they are registered?

B: Is the activity necessary or appropriate for the Certification of RCs, TOPs, and BAs as having the requisite personnel, qualifications and facilities and equipment needed to perform these reliability functions in accordance with the applicable Requirements of Reliability Standards?

D: Is the activity necessary or appropriate for conducting, participating in or overseeing compliance monitoring and enforcement activities pursuant to the NERC ROP and (through the Regional Entities) the Commission-approved delegation agreements?

E: Is the activity necessary or appropriate for information gathering, collection and analysis activities to obtain information to monitor and enforce compliance with Reliability Standards, including evaluating the effectiveness of current compliance monitoring and enforcement processes, the need for new or revised compliance monitoring and enforcement processes, and the need for new or different means of training and education on compliance with Reliability Standards.

F: Is the activity necessary or appropriate for the provision of training, education and dissemination of information for/to (i) NERC personnel, (ii) Regional Entity personnel, and (iii) industry personnel with respect to compliance monitoring and enforcement topics and topics concerning reliability risks identified through compliance monitoring and enforcement activities, such as: (1) Requirements of Reliability Standards, including how to comply and how to demonstrate compliance? This includes development of guidance and interpretation documents. (2) Compliance monitoring and enforcement processes, including how to conduct them, how to participate in them, and the expectations for the process? This includes development of guidance documents. (3) Disseminating, through workshops, webinars, Advisories/Recommendations/Essential Actions, and other publications, "lessons learned" information on compliance concerns and reliability risks obtained through compliance monitoring and enforcement activities, monitoring and investigation of BPS major events, off-normal occurrences and near miss events, and other BPS monitoring activities? (4) Registered Entity internal processes for compliance with Reliability Standards, such as development, implementation and maintenance of internal reliability compliance programs?

IV: Is the activity one that was required or directed by a Commission order issued pursuant to §215? (FERC orders directed NERC to develop and implement a revised definition of "Bulk Electric System" and a procedure for requesting and receiving exceptions from the BES definition, and subsequently approved NERC's proposed revised BES definition and its proposed BES exception procedure.)

V: Is the activity one that is required or specified by, or carries out, the provisions of NERC's ROP that have been approved by the Commission as "Electric Reliability Organization Rules" (defined in 18 C.F.R. §39.1) pursuant to FPA §215(f)? (The applicable ROP provisions for these major activities are §400 and 500 and Appendices 4B, 4C, 5A, 5B and 5C.)

VI: Is the activity necessary or appropriate for the supervision and oversight of Regional Entities in the performance of their delegated responsibilities in accordance with FPA §215, 18 C.F.R. Part 39, the Commission-approved delegation agreement between NERC and the Regional Entity, the NERC ROP, and applicable provisions of Commission orders?

IX: Is the activity necessary or appropriate for NERC and Regional Entity committees, subcommittees and working groups engaged in the activities encompassed by one or more of the other criteria?

X: Is the activity necessary or appropriate for the analysis and evaluation of activities encompassed by one or more of the other criteria for the purpose of identifying means of performing the activities more effectively and efficiently?

IV. Reliability Assessments and Performance Analysis 2022 Major Activities

The major activities of Reliability Assessments and Performance Analysis (RAPA) are described at pages 29–35 of the 2022 Business Plan and Budget. RAPA comprises four primary groups: (1) Reliability Assessments and Technical Committee (RATC); (2) Performance Analysis (PA); (3) Power System Analysis (PSA) and Advanced System Analytics and Modeling (ASAM); and (4) BPS Security and Grid Transformation (SGT).

The RATC group, which includes Reliability Assessment staff and the NERC staff secretaries of the RSTC, carries out the ERO's responsibility to conduct assessments of the reliability and adequacy of the BPS and associated emerging reliability risks, as well as other reliability issues requiring in-depth analysis. The RA program is governed by the requirements and procedures in NERC ROP 801-805. Annual reports and assessments produced by this group include the Long-Term Reliability Assessment (supplemented by the Probabilistic Assessment), the Summer and Winter Reliability Assessments, and Special Reliability Assessments that are selected based on high risk issues requiring an independent assessment from the ERO. The NERC RSTC and its subgroups provide oversight, guidance, and leadership essential to enhancing BPS reliability; the NERC staff secretaries of the RSTC coordinate and administer these activities and efforts. In addition to developing the annual and other assessments, the major ongoing activities of the RATC include focusing on ensuring effective Essential Reliability Services (ERS); advancing the value of the seasonal reliability assessments, including assessing the energy management plans and sufficiency for the upcoming season; advancing probabilistic assessments and evaluations of energy assurance and energy management plans (including plans for managing energy requirements during extreme weather); and enhancing ERO Enterprise-wide effectiveness and efficiency of reliability assurance-related functions. In addition, RATC will support the newly-created ERATF in analyzing energy adequacy challenges resulting from fundamental changes in electricity supply due to decarbonization efforts, including higher levels of variable and energy-limited resources and decreasing levels of dispatchable synchronous generation; and will work with EPRI, DOE, Natural Resources Canada, and external research partners to support development of resource adequacy processes and tools that can more effectively evaluate energy adequacy in light of these changes to the BPS.

PA monitors the performance of and identifies risks to reliability of the BPS through analyzing data from industry and measuring historic trends, in four areas of BPS operations: transmission, generation, protection system misoperations, and demand response. The PA program is governed by the requirements and procedures in NERC ROP 801, 809 and 811. Analysis performed by PA includes identifying potential risks that may indicate a need to develop remediation strategies, improvements to reporting applications, and new data collection or analysis tools which may be used to create, retire, or revise Reliability Standards. These analyses provide the foundation for the annual State of Reliability (SOR) report and other analytical reports and technical papers to the industry. PA staff leads the ERO, technical committees, and stakeholder process to publish the SOR report examining year-over-year performance indicators of the grid. PA also develops the business requirements for all new reliability information data systems, specifically those required by NERC ROP 1600 data requests; PA analysts work with internal and external software developers to support creation, testing, and implementation of data systems. PA will continue to evaluate reliability trends that identify reliability risks by analyzing generation and transmission availability data, and integration of event analysis and misoperations. PA is also developing reporting requirements for solar and associated energy storage data collection.

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

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

PSA's and ASAM's ongoing major activities include developing technical analyses in key reliability area to address areas of concern, including frequency response, short-circuit strength, inter-area oscillation, DER integration, and system interdependencies such as gas/electric and communications/electric, in order to evaluate BPS characteristics, behavior and performance due to the changing resource mix and integration of new technologies; continuing to explore use of state-of-the-art software to conduct power system analysis; conducting detailed forensic analysis of significant system disturbances; and providing technical expertise, research, and feedback to the industry, including those that support development of key reliability planning-related Reliability Standards. Ongoing major activities also include providing industry insight on modeling improvements through a State of Modeling report; in coordination with the Inverter-Based Resource Performance Task Force, performing event analyses and investigating abnormal performance of inverter-based resources to develop industry recommendations and address potential reliability gaps; supporting industry in reliable integration of increased levels of DER by providing technical guidance on key reliability impacts and developing recommended modeling, planning, and operations guidelines to ensure BPS reliability; supporting industry adoption and advancement of synchrophasor technology through the Synchronized Measurement Subcommittee; supporting industry understanding and expertise in power plant modeling through the System Analysis and Modeling Subcommittee's Power Plant Modeling and Verification Task Force; advancing improvements in dynamic load modeling in support of industry stability studies for planning and real-time reliability assessments; supporting studies and technical positions on the changing nature of end-use loads; performing annual assessments of case quality and fidelity on interconnection-wide cases released by the MOD-032 designees; addressing

deficiencies in interconnection-wide models and providing industry education on key modeling topics; providing a report of results from a Composite Reliability Study using probabilistic or near-probabilistic methods for transmission and resources; supporting a Battery Storage Assessment using the WECC/NERC Battery Study of the Western Interconnection to determine the adequacy of battery energy injection to support frequency response and primary frequency reserve margin; and conducting advanced statistical studies in support of the Standards Efficiency Review and the SOR report.

SGT provides technical leadership and coordination for stakeholder efforts relating to security integration and grid transformation topics, including by developing and promoting strategies for physical and cyber security to be integrated with conventional grid planning, operations, design, and restoration activities. SGT coordinates a number of technical stakeholder groups in areas of security and emerging grid transformation issues. SGT staff are responsible for coordinating several stakeholder groups under the RSTC; integrating cyber security into all aspects of system planning, operations and restoration; providing vision and strategic leadership for the ERO Enterprise on cyber security during planning, operations, and recovery horizons; supporting efforts to advance the RISC's security risk mitigation recommendations, helping identify security-related risks, and engaging in efforts to mitigate those risks; engaging with industry stakeholders and forums to advance and enable new technologies in a secure manner; supporting standards development processes on engineering and security-related topics; and coordinating with E-ISAC on topics relating to security risks.

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

In 2022, the RAPA groups will continue the efforts described above with particular focus on risk issues identified in the latest RISC report; and on assessments and technical reports under direction of the RSTC; including these high-risk issues: unacceptable inverter performance; increased amounts of DER; energy sufficiency; extreme weather resilience; and cyber security in planning and operations. In addition, the 2022 budget includes funding for various stages of development of several new or enhanced software applications for collection and integration of data, including an enhanced system to manage reliability assessment data; enhancements to systems for conventional generation and transmission availability data; and new and enhanced systems for solar and wind generation availability data.

The major activities of RAPA satisfy the following criteria:

I.A: Is the activity necessary or appropriate for Reliability Standards development projects pursuant to the NERC ROP?

I.C: Is the activity necessary or appropriate for information gathering, collection and analysis activities to obtain information for Reliability Standards development, including for purposes of identifying areas in which new Reliability Standards could be developed, existing Reliability Standards could be revised, or existing Reliability Standards could be eliminated, such as: (1) Measuring reliability performance—past, present and future; publishing or disseminating the results of such measurements; analyzing the results of such measurements; identifying and analyzing risks to reliability of the Bulk Power System based on such measurements; and/or identifying approaches to mitigating or eliminating such risks? (2) Monitoring, event analysis and investigation of BPS major events, off-normal occurrences and near miss events?

II.A: Is the activity necessary or appropriate for the identification and registration of users, owners, and operators of the BPS that are required to comply with Requirements of Reliability Standards applicable to the reliability functions for which they are registered?

II.E.: Is the activity necessary or appropriate for information gathering, collection and analysis activities to obtain information to monitor and enforce compliance with Reliability Standards, including evaluating the effectiveness of current compliance monitoring and enforcement processes, the need for new or revised compliance monitoring and enforcement processes, and the need for new or different means of training and education on compliance with Reliability Standards, such as: (1) Measuring reliability performance—past, present and future; publishing or disseminating the results of such measurements; analyzing the results of such measurements; identifying and analyzing risks to reliability of the BPS based on such measurements; and/or identifying approaches to mitigating or eliminating such risks? (2) Monitoring, event analysis and investigation of BPS major events, off-normal occurrences, and near miss events?

III.A: Is the activity necessary or appropriate for the preparation or dissemination of long-term, seasonal, and special assessments of the reliability and adequacy of the BPS?

III.B: Is the activity necessary or appropriate for measuring reliability performance—past, present and future; publishing or disseminating the results of such measurements; analyzing the results of such measurements; identifying and analyzing risks to reliability of the BPS based on such measurements; and/or identifying approaches to mitigating or eliminating such risks?

III.C. Is the activity necessary or appropriate for investigating, analyzing, evaluating, and disseminating information concerning, the causes of major events and off-normal occurrences, and/or providing coordination assistance, technical expertise and other assistance to users, owners, and operators of the BPS in connection with BPS major events and off-normal occurrences, but not real-time operational control of the BPS?

III.D. Is the activity necessary or appropriate for awareness of circumstances on the BPS and to contribute to understanding risks to reliability?

III.E. Is the activity necessary or appropriate for gathering, analyzing and sharing with and among industry and government participants, information regarding the physical or cyber security of the BPS?

III.F: Is the activity necessary or appropriate for the development and dissemination of Advisories/Recommendations/Essential Actions regarding lessons learned and potential reliability risks to users, owners, and operators of the BPS?

V. Is the activity one that is required or specified by, or carries out, the provisions of NERC's ROP that have been approved by the Commission as "Electric Reliability Organization Rules" (defined in 18 C.F.R. §39.1) pursuant to FPA §215(f)? (The applicable ROP provisions for major activities of the RAPA program are §801-806 and §809-811.)

VI: Is the activity necessary or appropriate for the supervision and oversight of Regional Entities in the performance of their delegated responsibilities in accordance with FPA §215, 18 C.F.R. Part 39, the Commission-approved delegation agreement between NERC and the Regional Entity, the NERC ROP, and applicable provisions of Commission orders?

IX: Is the activity necessary or appropriate for NERC and Regional Entity committees, subcommittees and working groups engaged in activities encompassed by one or more of the other criteria?

X: Is the activity necessary or appropriate for the analysis and evaluation of activities encompassed by one or more of the other criteria for the purpose of identifying means of performing the activities more effectively and efficiently?

V. Situation Awareness 2022 Major Activities

The major activities of Situation Awareness are described at pages 37–39 of the 2022 Business Plan and Budget. The Situation Awareness group, along with the Regional Entities, monitors BPS conditions, significant occurrences and emerging risks, and threats across the 16 Reliability Coordinator regions in North America, to maintain an understanding of conditions and situations that could impact reliable operations. Situation Awareness supports development and publication of NERC Alerts and awareness products, and facilitates information sharing among industry, Regional Entities and government during crisis situations and major system disturbances. Situation Awareness assists the NERC RSTC's Real-Time Operating Subcommittee in enhancing BPS reliability with efforts to provide operational guidance to industry by managing NERC-sponsored technology tools and services that support operational coordination, as well as by providing technical support and advice. Situation Awareness uses and supports reliability-related tools in support of Situation Awareness activities, including Resource Adequacy (Area Control Error Frequency); Inadvertent Interchange; Frequency Monitoring Network; Intelligent Alarms; PowerIQ and PowerRT; Situation Awareness; RC Information System; and NERC Alerts (secure alerting system); as well as data collection and analysis tools.

The ongoing and new major activities of Situation Awareness for 2022 include: ensuring the ERO is aware of all BES events above a threshold of impact; focusing on grid transformation, extreme natural events, and security vulnerabilities (cyber and physical); enabling the sharing of information and data to facilitate wide-area situational awareness; during crisis situations, facilitating the exchange of information among industry, Regions, and U.S. and Canadian governments; keeping the industry informed of emerging reliability threats and risks, including any expected actions; administering the NERC Alerts process as specified in NERC ROP 810 to issue Advisory (Level 1) Alerts on significant and emerging reliability and security related topics, and facilitate the tracking of actions specified in Recommendation (Level 2) and Essential Action (Level 3) Alerts; continuing to set the conditions to bring in limited streaming synchrophasor data for wide-area situational awareness and event triage applications; examining the importance of having visibility to natural gas situation awareness through enhancing understanding of the tools and methods that are and will be available to monitor natural gas availability, transmission, and distribution across the BES; and continuing to focus on enhancements to the recently upgraded situation awareness application. NERC is also developing a disaster recovery site for the situation awareness tool. In 2022, Situation Awareness will also continue to enhance natural gas situational awareness and work with E-ISAC to increase situational awareness related to physical security.

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

I.C.2: Is the activity necessary or appropriate for information gathering, collection and analysis activities to obtain information for Reliability Standards development, including for purposes of identifying areas in which new Reliability Standards could be developed, existing Reliability Standards could be revised, or existing Reliability Standards could be eliminated, such as: (2) Monitoring, event analysis and investigations of BPS major events, off-normal occurrences and near-miss events?

II.G: Is the activity necessary or appropriate for the development and provision of tools and services that are useful for the provision of adequate reliability, because they relate specifically to compliance with existing Reliability Standards and they proactively help avert Reliability

Standard violations and BPS disturbances?

III.C. Is the activity necessary or appropriate for investigating, analyzing, evaluating, and disseminating information concerning, the causes of major events and off-normal occurrences, and/or providing coordination assistance, technical expertise and other assistance to users, owners, and operators of the BPS in connection with BPS major events and off-normal occurrences, but not real-time operational control of the BPS?

III.D: Is the activity necessary or appropriate for awareness of circumstances on the BPS System and to contribute to understanding risks to reliability?

III.E: Is the activity necessary or appropriate for gathering, analyzing and sharing with and among industry and government participants, information regarding the physical or cyber security of the BPS?

III.F: Is the activity necessary or appropriate for the development and dissemination of Advisories/Recommendations/Essential Actions regarding lessons learned and potential reliability risks to users, owners, and operators of the BPS?

V: Is the activity one that is required or specified by, or carries out, the provisions of NERC's ROP that have been approved by the Commission as "Electric Reliability Organization Rules" (defined in 18 C.F.R. §39.1) pursuant to FPA §215(f)? (The applicable ROP provisions for these major activities are ROP 810 and 1001.)

IX. Is the activity necessary or appropriate for NERC and Regional Entity committees, subcommittees and working groups engaged in activities encompassed by one or more of the other criteria?

VI. Event Analysis 2022 Major Activities

The major activities of Event Analysis are described at pages 41–42 of the 2022 Business Plan and Budget. Event Analysis performs assessments of the reliability and adequacy of the BES to identify potential issues related to system, equipment, entity, and human performance that may indicate a need to develop remediation strategies, action plans, or data used to revise or retire Reliability Standards or consider new Reliability Standards. Event Analysis analyzes and determines the causes of events, promptly assures tracking of corrective actions, and provides lessons learned to the industry. Event Analysis analyzes all voluntarily reportable events for sequence of events, root cause, risks to reliability, and mitigation and keeps the industry well-informed of system events, emerging trends, risk analysis, lessons learned, and expected actions. Event Analysis conducts in-depth analyses of on the order of 150 events per year on average, and also conducts calls facilitated by Regional Entities with registered entities to discuss in detail and finalize root and contributing causes for the events analyzed. Event Analysis identifies human error risks and precursor factors that allow human error to affect system reliability, and educates industry regarding such risks, precursors, and related mitigation methods. Event Analysis works in collaboration with and supports the activities of other groups involved in human performance analysis, including the ERO Enterprise human performance groups, the RSTC's Event Analysis Subcommittee, and others.

Ongoing and new major activities for 2022 for the Event Analysis group include: (1) Working with Regional Entities to obtain and review information from registered entities on qualifying events and disturbances in order to advance awareness of events above a threshold level; facilitating analysis of root and contributing causes, risks to reliability, wide-area assessments and remediation efforts; and disseminating information regarding events in a timely manner. (2) Ensuring that all reportable events are analyzed for sequence of events, root cause, risk to reliability, and mitigation. (3) Continuing to refine risk-based methodologies to support better identification of reliability risks, including use of more sophisticated

cause codes for analysis. (4) Conducting events (webinars, workshops and conference support) to inform industry and the ERO of lessons learned, root cause analysis, trends, human performance, and extreme weather preparedness and recommendations, including events like the annual NERC Monitoring and Situational Awareness Conference and the annual Electric Power Human Performance Improvement Symposium. (5) Developing reliability recommendations and Alerts as needed, and tracking industry accountability for critical reliability recommendations. (6) Ensuring that industry is well informed of system events, emerging trends, risk analysis, lessons learned, and expected actions. (7) Conducting major event analysis and reporting of major findings and recommendations that will improve reliability. The Event Analysis department will also support several top priority reliability risk projects being led by RAPA. Additionally, in 2022, Event Analysis will continue to update and upgrade data collection and storage capabilities and capacity for its data management system; as well as working with the PA group to improve the linkage between performance and event analysis data to enhance the ability to conduct event analyses and to identify key areas for trend analyses across multiple databases. Event Analysis will continue to lead the planning and execution of human performance events such as the annual ERO Enterprise and Industry-wide Electric Power Human Performance Improvement Symposium.

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

I.C.2: Is the activity necessary or appropriate for information gathering, collection and analysis activities to obtain information for Reliability Standards development, including for purposes of identifying areas in which new Reliability Standards could be developed, existing Reliability Standards could be revised, or existing Reliability Standards could be eliminated, such as: (2) Monitoring, event analysis and investigations of BPS major events, off-normal occurrences and near-miss events?

II.E.2: Is the activity necessary or appropriate for information gathering, collection and analysis activities to obtain information to monitor and enforce compliance with Reliability Standards, including evaluating the effectiveness of current compliance monitoring and enforcement processes, the need for new or revised compliance monitoring and enforcement processes, and the need for new or different means of training and education on compliance with Reliability Standards, such as: (2) Monitoring, event analysis and investigation of BPS major events, off-normal occurrences, and near miss events?

II.F.3: Is the activity necessary or appropriate for the provision of training, education and dissemination of information for/to (i) NERC personnel, (ii) Regional Entity personnel, and (iii) industry personnel with respect to compliance monitoring and enforcement topics and topics concerning reliability risks identified through compliance monitoring and enforcement activities, such as: (3) Disseminating, through workshops, webinars, Advisories, Recommendations, Essential Actions, and other publications; “lessons learned” information on compliance concerns and reliability risks obtained through compliance monitoring and enforcement activities; monitoring and investigation of BPS major events, off-normal occurrences and near miss events, and other BPS monitoring activities?

III.B. Is the activity necessary or appropriate for measuring reliability performance—past, present and future; publishing or disseminating the results of such measurements; analyzing the results of such measurements; identifying and analyzing risks to reliability of the BPS based on such measurements; and/or identifying approaches to mitigating or eliminating such risks?

III.C. Is the activity necessary or appropriate for investigating, analyzing, evaluating, and disseminating information concerning, the causes of major events and off-normal occurrences, and/or providing coordination assistance, technical expertise and other assistance to users,

owners, and operators of the BPS in connection with BPS major events and off-normal occurrences, but not real-time operational control of the BPS?

III.D. Is the activity necessary or appropriate for awareness of circumstances on the BPS and to contribute to understanding risks to reliability?

III.E: Is the activity necessary or appropriate for gathering, analyzing and sharing with and among industry and government participants, information regarding the physical or cyber security of the BPS?

III.F: Is the activity necessary or appropriate for the development and dissemination of Advisories/Recommendations/Essential Actions regarding lessons learned and potential reliability risks to users, owners, and operators of the BPS?

V: Is the activity one that is required or specified by, or carries out, the provisions of NERC's ROP that have been approved by the Commission as "Electric Reliability Organization Rules" (defined in 18 C.F.R. §39.1) pursuant to FPA §215(f)? (The applicable ROP provisions for these major activities are §807-808 and §810-811 and Appendix 8.)

VI. Is the activity necessary or appropriate for the supervision and oversight of Regional Entities in the performance of their delegated responsibilities in accordance with FPA §215, 18 C.F.R. Part 39, the Commission-approved delegation agreement between NERC and the Regional Entity, the NERC ROP, and applicable provisions of Commission orders?

IX. Is the activity necessary or appropriate for NERC and Regional Entity committees, subcommittees and working groups engaged in activities encompassed by one or more of the other criteria?

VII. Electricity Information Sharing and Analysis Center 2022 Major Activities

The major activities of the Electricity Information Sharing and Analysis Center (E-ISAC) are described at pages 45–49 of the 2022 Business Plan and Budget. The primary function of E-ISAC is to reduce cyber and physical risk to the electricity industry across North America by providing unique insights, leadership and coordination, and to be a world-class trusted source of quality analysis and rapid sharing of security information for the electric industry. E-ISAC oversees the Cybersecurity Risk Information Sharing Program (CRISP). CRISP delivers real-time, relevant, and actionable cybersecurity risk information to E-ISAC member electricity asset owners and operators, including those from Canada and Mexico. Current and recent accomplishments include establishing a 24X7 watch in 2020; implementing the E-ISAC data platform; operating a critical broadcast program (CBP) to quickly disseminate information on imminent threats and other important notifications; increasing information sharing with members and government partners; operating the industry-supported Physical Security Advisory Group to expand physical security risk identification, risk mitigation, and preparedness; entering into collaboration agreements with the Independent Electric System Operator, the Downstream Natural Gas ISAC, and the Multi-State ISAC; and further strengthening E-ISAC's talent pool and analytical capabilities, including both cyber and physical security expertise.

E-ISAC's major activities for 2022 will continue to focus on three areas: (1) Increasing and enhancing engagement with industry participants. (2) Information sharing – increasing the quality and volume of information shared from industry, government partners, and trusted third parties members; strengthening E-ISAC's capabilities for information sharing via E-ISAC portal enhancements; improving timeliness and actionable value of information shared from E-ISAC to industry through a Priority Intelligence Requirements process; and continuing to operate the 24X7 watch operations in an effective, efficient, and responsive manner. (3) Analysis – effectively collecting data and capturing new information

sources via the CRISP Operational Technology (OT) pilot and evaluating and expanding third party tools and data sources; incorporating existing and new tools and techniques into the analysis process; and strengthening analytical capabilities through strategic relationships and hiring, developing, and retaining qualified staff.

The major activities of the E-ISAC satisfy the following criteria:

I.C.1: Is the activity necessary or appropriate for information gathering, collection and analysis activities to obtain information for Reliability Standards development, including for purposes of identifying areas in which new Reliability Standards could be developed, existing Reliability Standards could be revised, or existing Reliability Standards could be eliminated, such as: (1) Measuring reliability performance—past, present and future; publishing or disseminating the results of such measurements; analyzing the results of such measurements; identifying and analyzing risks to reliability of the BPS based on such measurements; and/or identifying approaches to mitigating or eliminating such risks? (2) Monitoring, event analysis and investigation of BPS major events, off-normal occurrences and near-miss events?

III.D: Is the activity necessary or appropriate for awareness of circumstances on the BPS and to contribute to understanding risks to reliability.

III.E: Is the activity necessary or appropriate for gathering, analyzing and sharing with and among industry and government participants, information regarding the physical or cyber security of the BPS.

III.F: Is the activity necessary or appropriate for the development and dissemination of Advisories/Recommendations/Essential Actions regarding lessons learned and potential reliability risks to users, owners, and operators of the BPS?

V: Is the activity one that is required or specified by, or carries out, the provisions of NERC's ROP that have been approved by the Commission as "Electric Reliability Organization Rules" (defined in 18 C.F.R. §39.1) pursuant to FPA §215(f)? (The applicable ROP provisions for these major activities are §810 and 1003.)

VIII. Personnel Certification and Continuing Education 2022 Major Activities

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

The major activities of the Personnel Certification group are described at pages 54–56 of the 2022 Business Plan and Budget. The System Operator Certification Program promotes the reliability of the North American BPS by ensuring that employers have a workforce of system operators that meet minimum qualifications and maintain their required credentials to work in system control centers. NERC's System Operator Certification exam tests specific knowledge of job skills and Reliability Standards, and prepares operators to handle the BPS during normal and emergency operations. Certification is maintained by completing NERC approved Credential Maintenance Program courses and activities. The Credential Maintenance Program is developed and maintained by the Credential Maintenance Working Group under the guidelines set by the PCGC. The Exam Working Group, consisting of subject matter experts from all regions of North America, is responsible for conducting extensive job analysis surveys of certified operators across the industry, which provides the basis for certification exams.

Major ongoing and new activities of the Personnel Certification group include analysis of System Operator Certification program survey results; updates to the System Operator Certification Exam Item Bank to ensure relevance to current Reliability Standards; enhancements to the exam "skills assessment" process to better assess the skills and knowledge of system operators; development of an implementation plan for One Credential transition; evaluating credential review and rationalization to maintain credentials; improving Provider Renewal Audits; updating the current System Operator Certification Continuing Education Database (SOCCED) platform consistent with the revised Credential Maintenance Program Manual; and continued improvements to the SOCCED to enhance user experiences. In 2022, the Personnel Certification Group will focus on further development of the credential maintenance portion of the certification program. The Personnel Certification group will continue to focus on revisions, approval, and implementation of the Credential Maintenance Program Manual to provide clear and concise definitions, instructions, and processes.

The major activities of the Personnel Certification group satisfy the following criteria:

I.D: Is the activity necessary or appropriate for the provision of training and education concerning Reliability Standards development processes, procedures and topics for/to (i) NERC personnel, (ii) Regional Entity personnel, and (iii) industry personnel?

II.C: Is the activity necessary or appropriate for the Certification of system operating personnel as qualified to carry out the duties and responsibilities of their positions in accordance with the Requirements of applicable Reliability Standards?

II.F.1: Is the activity necessary or appropriate for the provision of training, education and dissemination of information for/to (i) NERC personnel, (ii) Regional Entity personnel, and (iii) industry personnel with respect to compliance monitoring and enforcement topics and topics concerning reliability risks identified through compliance monitoring and enforcement activities, such as: (1) Requirements of Reliability Standards, including how to comply and how to demonstrate compliance? This includes development of guidance and interpretation documents.

V: Is the activity one that is required or specified by, or carries out, the provisions of NERC's ROP that have been approved by the Commission as "Electric Reliability Organization Rules" (defined in 18 C.F.R. §39.1) pursuant to FPA §215(f)? (The applicable ROP provision for the major activities of the Personnel Certification Program is §900.)

IX. Is the activity necessary or appropriate for NERC and Regional Entity committees, subcommittees and working groups engaged in activities encompassed by one or more of the other criteria?

IX. Training and Education 2022 Major Activities

The major activities of Training and Education are described at pages 58–59 of the 2022 Business Plan and Budget. The Training and Education group oversees and coordinates the delivery of training programs to ERO Enterprise staff and BPS industry participants. Training and Education uses both one-way mass communication media (e-mails, newsletters, flyers and videos) and two-way communication methods (face-to-face meetings and webinars) to convey learning materials and information. The ongoing and new major activities of the Training and Education group include assisting in facilitation of the ERO Enterprise CMEP staff workshop; developing Confidential Information e-learning; developing CMEP e-learning modules for ERO Enterprise auditors, systems training products for data systems, and functional program training modules; supporting the ERO's People Strategy; and developing multi-module Align training for registered entities, compliance enforcement authorities, and NERC. Activities of the Training and

Education Program in 2022 will include development of promotional and training videos, e-learning modules, and instructor-led training for the Align and ERO SEL system software; identification, design, development, and implementation of a management development program and other employee training; updating or enhancing as needed existing instructional design support tools and software; implementing training and adoption for the new Learning Management System among ERO Enterprise employees; continued development of the ERO Enterprise Systems Training Website; updating systems training products for NERC data systems to reflect enhancements to these systems; and design and development of cause analysis training.

The major activities of Training and Education satisfy the following criteria:

I.D: Is the activity necessary or appropriate for the provision of training and education concerning Reliability Standards development processes, procedures and topics for/to (i) NERC personnel, (ii) Regional Entity personnel, and (iii) industry personnel?

II.F: Is the activity necessary or appropriate for the provision of training, education and dissemination of information for/to (i) NERC personnel, (ii) Regional Entity personnel, and (iii) industry personnel with respect to compliance monitoring and enforcement topics and topics concerning reliability risks identified through compliance monitoring and enforcement activities, such as: (1) Requirements of Reliability Standards, including how to comply and how to demonstrate compliance? This includes development of guidance and interpretation documents. (2) Compliance monitoring and enforcement processes, including how to conduct them, how to participate in them, and the expectations for the processes? This includes development of guidance documents. (3) Disseminating, through workshops, webinars, Advisories/Recommendations/Essential Actions, and other publications, "lessons learned" information on compliance concerns and reliability risks obtained through compliance monitoring and enforcement activities, monitoring and investigation of BPS major events, off-normal occurrences and near miss events, and other BPS monitoring activities. (4) Registered Entity internal processes for compliance with Reliability Standards, such as development, implementation and maintenance of internal reliability compliance programs?

III.E: Is the activity necessary or appropriate for gathering, analyzing and sharing with and among industry and government participants, information regarding the physical or cyber security of the BPS?

V: Is the activity one that is required or specified by, or carries out, the provisions of NERC's ROP that have been approved by the Commission as "Electric Reliability Organization Rules" (defined in 18 C.F.R. §39.1) pursuant to FPA §215(f)? (The applicable ROP provisions for the major activities of the Training and Education are in §900.)

VI: Is the activity necessary or appropriate for the supervision and oversight of Regional Entities in the performance of their delegated responsibilities in accordance with FPA §215, 18 C.F.R. Part 39, the Commission-approved delegation agreement between NERC and the Regional Entity, the NERC ROP, and the applicable provisions of Commission orders.

X. Administrative Services 2022 Major Activities

NERC's Administrative Services Departments are General and Administrative, Legal and Regulatory, Information Technology (IT), Human Resources (HR) and Administration, and Finance and Accounting. The major activities of these departments are described at pages 62–69 of the 2022 Business Plan and Budget.

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

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

IT supports the technology needs necessary to the existence and function of the organization in executing statutory responsibilities, and supports, configures, and secures corporate and enterprise applications and infrastructure leveraged by the ERO Enterprise and registered entities. IT's Project Management Office provides project management skills and leadership for major ERO Enterprise and NERC IT projects. IT's major activities are focused on the following areas: (1) Cyber security; (2) developing and implementing ERO Enterprise new functionality, including Align, ERO-SEL, and CORES, Situation Awareness tools, and enhancements to data management systems; (3) ERO Enterprise application and infrastructure support, the underlying infrastructure and resources required to support existing and future ERO Enterprise applications; (4) E-ISAC; and (5) NERC infrastructure support, including productivity tools, audio-visual systems, laptops, and business continuity and security technologies.

HR and Administration's activities include hiring, benefits administration, employee relations, performance and compensation management, training and development for leadership, management, and professional and administrative staff, facilities management of NERC's two offices, and meeting planning and coordination. HR and Administration is heavily involved in implementing NERC's People Strategy to enhance retention, engagement, and attraction of top talent to carry out the mission of the ERO Enterprise. A key focus of HR and Administration is diversity and inclusion training. Under the direction of the NERC Board Corporate Governance and Human Resources Committee, HR and Administration develops compensation strategy and performs or obtains (through consultants) market compensation studies, effectiveness studies, and other compensation and staffing related studies and surveys as needed.

Finance and Accounting manages all finance and accounting functions of NERC, including employee payroll, 401(k), 457(b) and 457(f) plans, travel and expense reporting, monthly financial reporting, sales and use tax, corporate insurance, and development of the annual business plan and budget.

As support functions for all of NERC's statutory programs, the major activities of NERC's Administrative Services Departments satisfy the following criteria:

I.A: Is the activity necessary or appropriate for Reliability Standards development projects pursuant to the NERC ROP?

II.A: Is the activity necessary or appropriate for the identification and registration of users, owners, and operators of the BPS that are required to comply with Requirements of Reliability Standards applicable to the reliability functions for which they are registered?

II.D: Is the activity necessary or appropriate for conducting, participating in or overseeing compliance monitoring and enforcement activities pursuant to the NERC ROP and (through the Regional Entities) the Commission-approved delegation agreements?

III.C: Is the activity necessary or appropriate for investigating, analyzing, evaluating, and disseminating information concerning, the causes of major events and off-normal occurrences, and/or providing coordination assistance, technical expertise and other assistance to users, owners, and operators of the BPS in connection with BPS major events and off-normal occurrences, but not real-time operational control of the BPS?

V: Is the activity one that is required or specified by, or carries out, the provisions of NERC's ROP that have been approved by the Commission as "Electric Reliability Organization Rules" (defined in 18 C.F.R. §39.1) pursuant to FPA §215(f)? (The applicable ROP provisions for ERO Enterprise audits conducted by the Internal Audit group in Legal and Regulatory are §406, §506, and Appendix 4A, and for major activities of Finance and Accounting is §1100.)

VI: Is the activity necessary or appropriate for the supervision and oversight of Regional Entities in the performance of their delegated responsibilities in accordance with FPA §215, 18 C.F.R. Part 39, the Commission-approved delegation agreement between NERC and the Regional Entity, the NERC ROP, and the applicable provisions of Commission orders.

IX. Is the activity necessary or appropriate for NERC and Regional Entity committees, subcommittees and working groups engaged in activities encompassed by one or more of the other criteria?

XI: Is the activity a governance or administrative/overhead function, activity or service necessary or appropriate for the activities encompassed by the other criteria and, in general, necessary and appropriate to operate a functioning organization?

NERC WRITTEN CRITERIA FOR DETERMINING WHETHER AN ACTIVITY IS ELIGIBLE TO BE FUNDED UNDER SECTION 215 OF THE FEDERAL POWER ACT

For purposes of internal management approval of a proposed new activity or group of related activities ("major activity"), the proposed activity or major activity must be shown to fall within at least one of the criteria listed below. When sub-criteria are listed below a roman numeral numbered major criterion, the proposed activity should be a positive answer to at least one of the sub-criteria. Conversely, an activity that falls under a sub-criterion should pertain to the subject matter of the major criterion.

NERC's annual business plan and budget will describe how each major activity falls within one or more of the criteria listed below. If the major activity is substantially the same as a major activity that was shown to fall within the criteria in a previous year's business plan and budget, the current year's business plan and budget can refer to the prior year business plan and budget.

A determination that an activity falls within FPA §215 does not necessarily mean that NERC will propose or undertake such activity. The determination of whether an activity falling under FPA §215 should or will be undertaken in a given budget year will be addressed in the context of the applicable business plan and budget and will include opportunities for stakeholder input.

The criteria listed below are not necessarily each distinct from the others. An activity or major activity may fall within more than one of the criteria listed below.

I. Is the activity necessary or appropriate for the development of Reliability Standards?

A. Is the activity necessary or appropriate for Reliability Standards development projects pursuant to the NERC ROP?

B. Is the activity necessary or appropriate for providing guidance and assistance to Regional Entities in carrying out Regional Reliability Standards development activities?

C. Is the activity necessary or appropriate for information gathering, collection and analysis activities to obtain information for Reliability Standards development, including for purposes of identifying areas in which new Reliability Standards could be developed, existing Reliability Standards could be revised, or existing Reliability Standards could be eliminated, such as:

1. Measuring reliability performance—past, present and future; publishing or disseminating the results of such measurements; analyzing the results of such measurements; identifying and analyzing risks to reliability of the Bulk Power System (BPS)[18] based on such measurements; and/or identifying approaches to mitigating or eliminating such risks?

2. Monitoring, event analysis and investigation of BPS major events, off-normal occurrences and near miss events?

D. Is the activity necessary or appropriate for the provision of training and education concerning Reliability Standards development processes, procedures and topics for/to (i) NERC personnel, (ii) Regional Entity personnel, and (iii) industry personnel?

II. Is the activity necessary or appropriate for the monitoring and enforcement of compliance with Reliability Standards?

A. Is the activity necessary or appropriate for the identification and registration of users, owners, and operators of the BPS that are required to comply with Requirements of Reliability Standards applicable to the reliability functions for which they are registered?

B. Is the activity necessary or appropriate for the Certification of RCs, TOPS, and BAs as having the requisite personnel, qualifications and facilities and equipment needed to perform these reliability functions in accordance with the applicable Requirements of Reliability Standards?

C. Is the activity necessary or appropriate for the Certification of system operating personnel as qualified to carry out the duties and responsibilities of their positions in accordance with the Requirements of applicable Reliability Standards?[19]

D. Is the activity necessary or appropriate for conducting, participating in or overseeing compliance monitoring and enforcement activities pursuant to the NERC ROP and (through the Regional Entities) the Commission-approved delegation agreements?

E. Is the activity necessary or appropriate for information gathering, collection and analysis activities to obtain information to monitor and enforce compliance with Reliability Standards, including evaluating the effectiveness of current compliance monitoring and enforcement processes, the need for new or revised compliance monitoring and enforcement processes, and the need for new or different means of training and education on compliance with Reliability Standards, such as:

[18] This document uses the term "Bulk Power System" because that is the term defined and used in FPA §215. NERC recognizes that a different term, "Bulk Electric System," is used to define the current reach of reliability standards.

[19] Although certification of system operating personnel is an activity falling within the scope of, and eligible to be funded pursuant to, FPA §215, NERC strives to fully fund the costs of this activity through fees charged to participants.

1. Measuring reliability performance—past, present and future; publishing or disseminating the results of such measurements; analyzing the results of such measurements; identifying and analyzing risks to reliability of the BPS based on such measurements; and/or identifying approaches to mitigating or eliminating such risks?

2. Monitoring, event analysis and investigation of BPS major events, off-normal occurrences, and near miss events?

F. Is the activity necessary or appropriate for the provision of training, education and dissemination of information for/to (i) NERC personnel, (ii) Regional Entity personnel, and (iii) industry personnel with respect to compliance monitoring and enforcement topics and topics concerning reliability risks identified through compliance monitoring and enforcement activities, such as:

1. Requirements of Reliability Standards, including how to comply and how to demonstrate compliance? This includes development of guidance and interpretation documents.

2. Compliance monitoring and enforcement processes, including how to conduct them, how to participate in them, and the expectations for the processes? This includes development of guidance documents.

3. Disseminating, through workshops, webinars, Advisories, Recommendations, Essential Actions, and other publications; "lessons learned" information on compliance concerns and reliability risks obtained through compliance monitoring and enforcement activities; monitoring and investigation of BPS major events, off-normal occurrences and near miss events, and other BPS monitoring activities?

4. Registered Entity internal processes for compliance with Reliability Standards, such as development, implementation and maintenance of internal reliability compliance programs?

G. Is the activity necessary or appropriate for the development and provision of tools and services that are useful for the provision of adequate reliability, because they relate specifically to compliance with existing Reliability Standards and they proactively help avert Reliability Standard violations and BPS disturbances?

III. Is the activity necessary or appropriate for conducting and disseminating periodic assessments of the reliability of the BPS or monitoring the reliability of the BPS?

A. Is the activity necessary or appropriate for the preparation or dissemination of long-term, seasonal, and special assessments of the reliability and adequacy of the BPS?

B. Is the activity necessary or appropriate for measuring reliability performance—past, present and future; publishing or disseminating the results of such measurements; analyzing the results of such measurements; identifying and analyzing risks to reliability of the BPS based on such measurements; and/or identifying approaches to mitigating or eliminating such risks?

C. Is the activity necessary or appropriate for investigating, analyzing, evaluating, and disseminating information concerning, the causes of major events and off-normal occurrences, and/or providing coordination assistance, technical expertise and other

assistance to users, owners, and operators of the BPS in connection with BPS major events and off-normal occurrences, but not real-time operational control of the BPS?

D. Is the activity necessary or appropriate for awareness of circumstances on the BPS and to contribute to understanding risks to reliability?

E. Is the activity necessary or appropriate for gathering, analyzing and sharing with and among industry and government participants, information regarding the physical or cyber security of the BPS?

F. Is the activity necessary or appropriate for the development and dissemination of Advisories/Recommendations/Essential Actions regarding lessons learned and potential reliability risks to users, owners, and operators of the BPS?

G. Is the activity necessary or appropriate for data collection and analysis of information regarding BPS reliability matters mandated by the Commission?

IV. Is the activity one that was required or directed by a Commission order issued pursuant to FPA §215? Justification of an activity as a FPA §215 activity based on this category must reference the particular Commission order and directive.

V. Is the activity one that is required or specified by, or carries out, the provisions of NERC's ROP that have been approved by the Commission as "Electric Reliability Organization Rules" (defined in 18 C.F.R. §39.1) pursuant to FPA §215(f)?

VI. Is the activity necessary or appropriate for the supervision and oversight of Regional Entities in the performance of their delegated responsibilities in accordance with FPA §215, 18 C.F.R. Part 39, the Commission-approved delegation agreement between NERC and the Regional Entity, the NERC ROP, and applicable provisions of Commission orders?

VII. Is the activity necessary or appropriate to maintain NERC's certification as the Electric Reliability Organization? This Criterion includes conducting periodic assessments of NERC's and the Regional Entities' performance as the Electric Reliability Organization as required by 18 C.F.R. §39.3(c).

VIII. Does the activity respond to or is it necessary or appropriate for audits of NERC and the Regional Entities conducted by the Commission?

IX. Is the activity necessary or appropriate for NERC and Regional Entity committees, subcommittees and working groups engaged in activities encompassed by one or more of the other criteria?

X. Is the activity necessary or appropriate for the analysis and evaluation of activities encompassed by one or more of the other criteria for the purpose of identifying means of performing the activities more effectively and efficiently?

XI. Is the activity a governance or administrative/overhead function, activity or service necessary or appropriate for the activities encompassed by the other criteria and, in general, necessary and appropriate to operate a functioning organization? (Should NERC perform any non-FPA §215 activities, the costs of governance and administrative/overhead functions must be appropriately allocated.)

NERC's current governance and administrative/overhead functions are carried out in the following program areas:

A. Technical Committees and Members' Forum Programs

B. General and administrative (includes, but is not limited to, executive, board of trustees, communications, government affairs, and facilities and related services)

C. Legal and Regulatory

D. Information Technology

E. Human Resources

F. Accounting and Finance

The following matters are excluded from the scope of FPA §215 activities. While a list of non-FPA §215 activities would be infinite, the following excluded matters are listed here because they are expressly referred to in FPA §215, the Commission's ERO regulations and/or a Commission order issued pursuant to FPA §215:

A. Developing or enforcing requirements to enlarge BPS facilities, or to construct new transmission capacity or generation capacity, or requirements for adequacy or safety of electric facilities or services.

B. Activities entailing Real-time operational control of the BPS.

C. Activities pertaining to facilities used in the local distribution of electricity.

Exhibit B – Consultants and Contracts Costs

Consultants & Contracts	2021 Budget	2022 Budget	Increase(Decrease)
Reliability Standards			
Standards and PRISM Application Support	$ 39,552	$ 108,960	$ 69,408
Engineering and Standards Support	75,000	50,000	(25,000)
Total	**$ 114,552**	**$ 158,960**	**$ 44,408**
CMEP			
Compliance Assurance Process Documentation Support	$ -	$ 75,000	$ 75,000
Evidence Locker Annual Certification	100,000	100,000	-
Regional Entity CMEP and Align Post-Implementation Audit Support	-	360,000	360,000
BES Exception Process Application Support	39,552	40,000	448
Workshop Facilitation	19,000	19,000	-
Total	**$ 158,552**	**$ 594,000**	**$ 435,448**
RAPA			
RAPA Application Support	$ 218,203	$ 261,227	$ 43,024
EMP Task Force Support	-	50,000	50,000
Environmental Regulatoy, Resource Adequacy, & Emerging Technology Analysis	-	200,000	200,000
Probabilistic Analysis	65,000	50,000	(15,000)
Research Partnerships and Projects	100,000	100,000	-
Workshop Facilitation	20,000	20,000	-
Total	**$ 403,203**	**$ 681,227**	**$ 278,024**
Event Analysis			
Event Analysis Application Support	$ 85,590	$ 88,157	2,567
Event Analysis Review Support	30,000	30,000	-
Total	**$ 115,590**	**$ 118,157**	**$ 2,567**
Situation Awareness			
Situation Awareness Application Support	$ 15,000	$ 15,000	$ -
Total	**$ 15,000**	**$ 15,000**	**$ -**
E-ISAC			
Security Consulting	$ 75,000	$ 87,950	$ 12,950
GridEx and Other Events	551,500	278,000	(273,500)
Projects and Systems	878,983	491,843	(387,140)
Operations	494,435	913,248	418,813
Partnerships	400,000	400,000	-
CRISP	6,325,723	6,154,820	(170,903)
Total	**$ 8,725,641**	**$ 8,325,861**	**$ (399,780)**
Personnel Certification			
System Operator Testing Expenses and Examination Development	$ 113,650	$ 96,188	$ (17,462)
Job Task Analysis	50,000	-	(50,000)
Continuing Education Audit and Review Services	100,000	100,000	-
SOCCED Database Support	125,000	125,000	-
Research Support	-	142,000	142,000
Total	**$ 388,650**	**$ 463,188**	**$ 74,538**
Training and Education			
ERO Enterprise and Industry Learning and Development Support	$ 170,000	$ 100,000	$ (70,000)
Total	**$ 170,000**	**$ 100,000**	**$ (70,000)**
General and Administrative			
Communications Support	$ 20,000	$ 20,000	$ -
Executive Support	-	100,000	100,000
Total	**$ 20,000**	**$ 120,000**	**$ 100,000**
Information Technology			
Applications & Infrastructure, Security, and Ongoing Operations Support	$ 1,635,625	$ 1,733,406	$ 97,781
Total	**$ 1,635,625**	**$ 1,733,406**	**$ 97,781**
Human Resources			
Training and Development	$ 450,000	$ 565,000	$ 115,000
Compensation and Benefits Consulting	100,000	155,000	55,000
Documentation and System Support	60,000	150,000	90,000
Total	**$ 610,000**	**$ 870,000**	**$ 260,000**
Finance and Accounting			
Finance and Accounting Support	$ 125,000	$ 185,000	$ 60,000
Total	**$ 125,000**	**$ 185,000**	**$ 60,000**
Legal & Regulatory			
Internal Audit and Corporate Risk Management Support	$ 200,000	$ 300,000	$ 100,000
Workshop Facilitation	10,000	10,000	-
Total	**$ 210,000**	**$ 310,000**	**$ 100,000**
Total Consultants & Contracts	**$ 12,691,813**	**$ 13,674,799**	**$ 982,986**

Exhibit C – Capital Financing

The company secured a capital financing program in July 2020 for $8.0 million as a funding source for major software application development projects and hardware equipment that primarily benefits the ERO Enterprise. The $8.0M non-revolving credit facility is available to finance certain capital expenditures made from July 2020 to December 2021. Authorized annual borrowings under the facility are limited to the amount approved by the Board of Trustees and the Federal Energy Regulatory Commission (FERC).

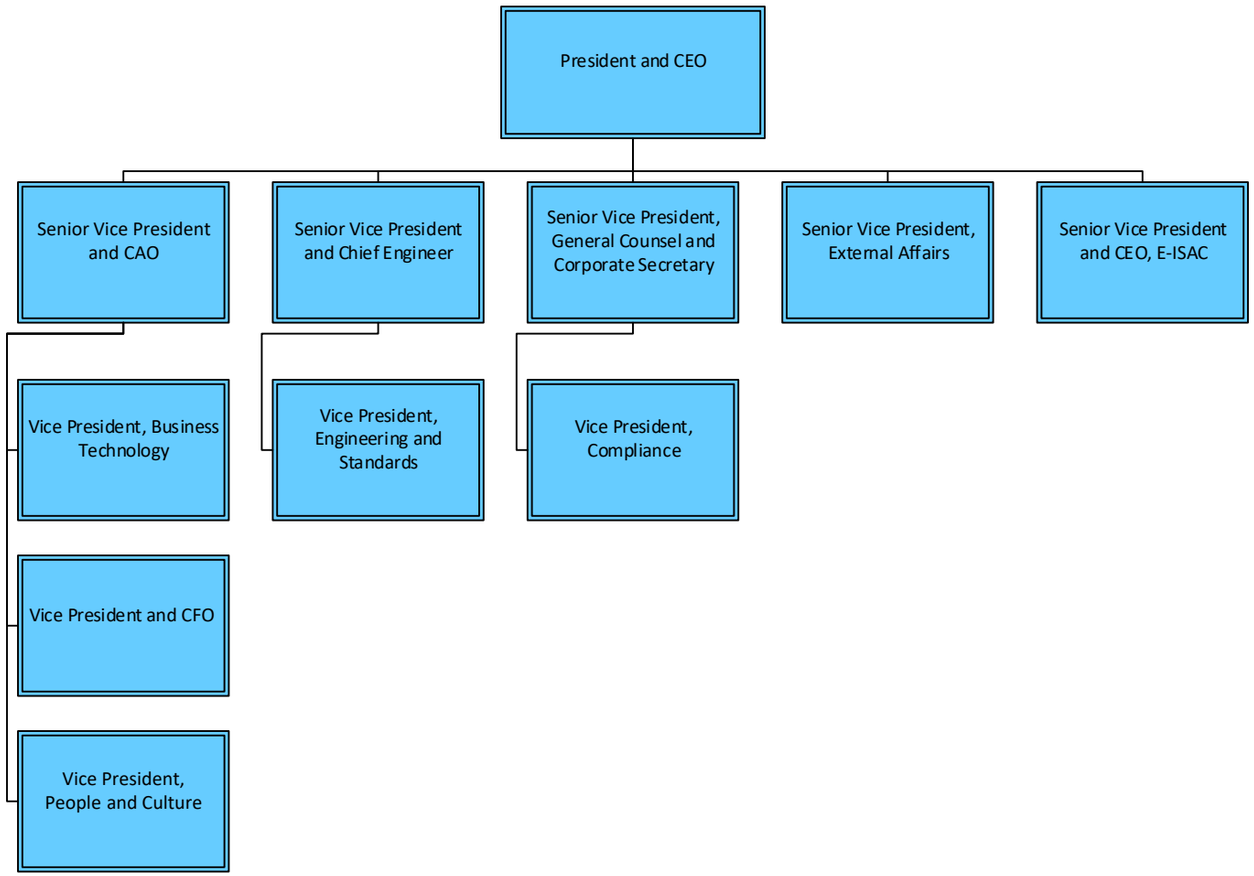
NERC financed $2.0M for ERO Secure Evidence Locker (SEL) project costs, borrowing $1.3M in late 2020 and is anticipating to finance the remaining $700k in 2021. Borrowings under the credit facility for the ERO SEL are amortized over a five-year period, and can be prepaid without penalty. The interest rate for the credit facility is floating, and NERC projects the average interest rate during 2022 for the ERO SEL project borrowing will be 3.0%.

NERC is assuming no loan borrowing through the capital financing program in 2022. The tables below show projected year-end outstanding debt and the future annual payments for debt service.

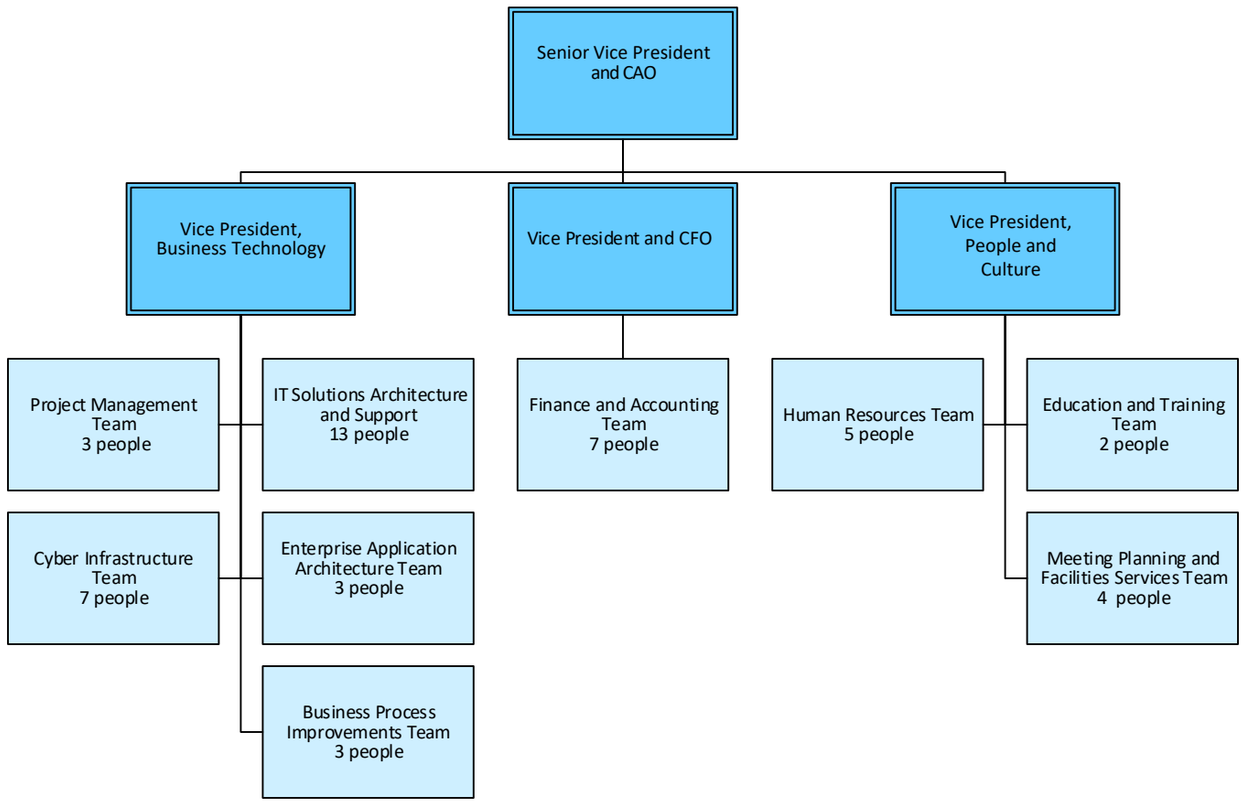
	Year-End Outstanding Debt Balance				
	Prior Years Actual	2021 Projected	2022 Budget	2023 Projected	2024 Projected
Prior Years	$ 1,291,714	$ 916,714	$ 672,964	$ 429,214	$ 185,464
2021 Projection	-	708,286	$ 577,036	$ 445,786	$ 314,536
2022 Budgeted	-	-	-	-	-
2023 Projected	-	-	-	-	-
2024 Projected	-	-	-	-	-
Total Outstanding Balance	$ 1,291,714	$ 1,625,000	$ 1,250,000	$ 875,000	$ 500,000

	Future Annual Payments for Debt Service			
	2021 Projected	2022 Budget	2023 Projected	2024 Projected
Prior Years - Principal	$ -	$ -	$ -	$ -
2021 Projection	375,000	375,000	375,000	375,000
2022 Budgeted	-	-	-	-
2023 Projected	-	-	-	-
2024 Projected	-	-	-	-
Interest Expense	55,000	55,000	55,000	55,000
Total Principal and Interest Costs	$ 430,000	$ 430,000	$ 430,000	$ 430,000

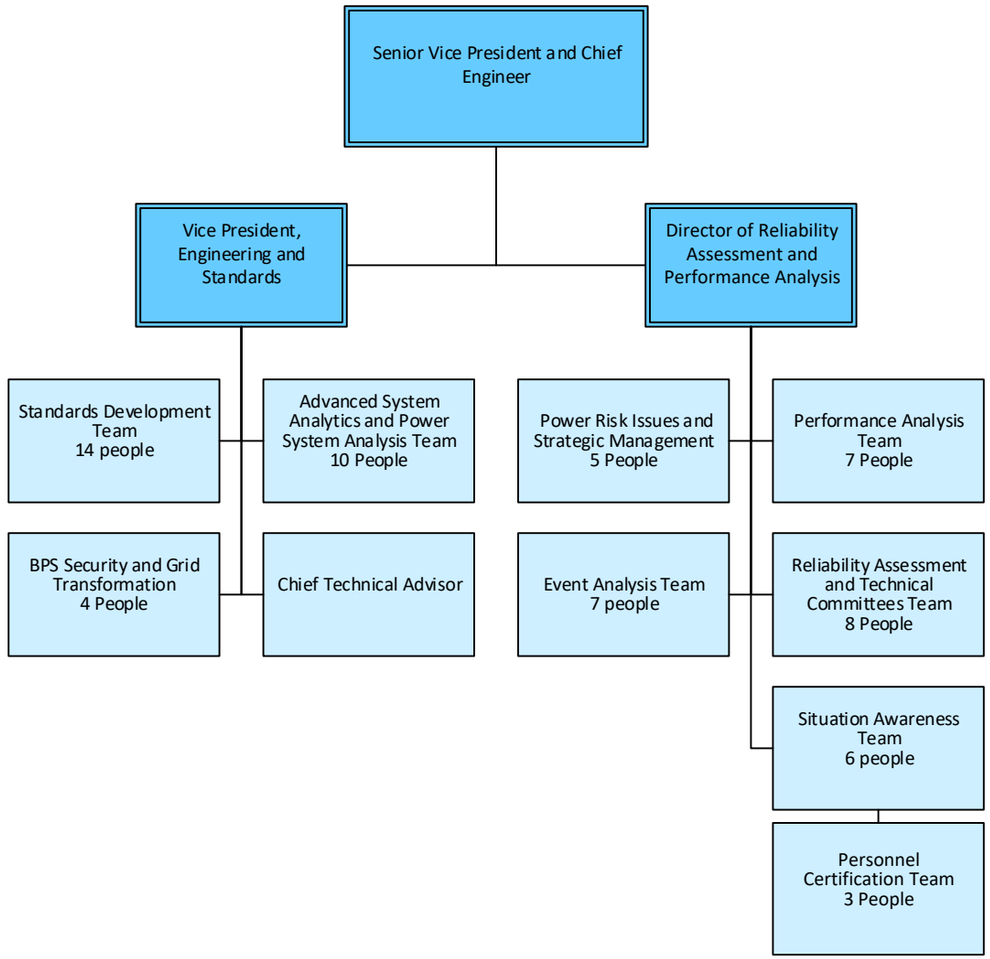
NERC Staff Organization Chart – Budget 2022



IT, Finance, HR, and Administration



Engineering & Standards, and Reliability Risk Management



NERC
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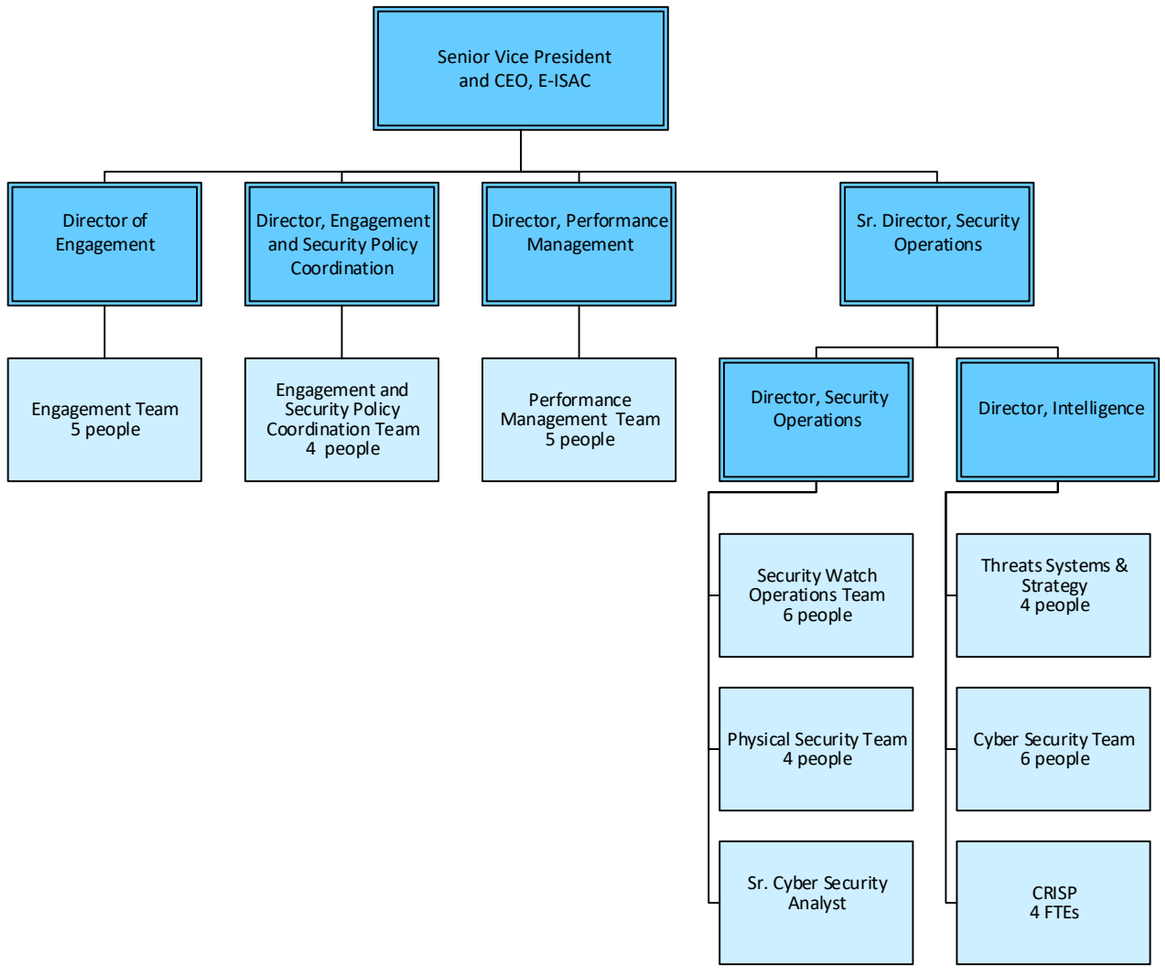
Electricity Information Sharing and Analysis Center



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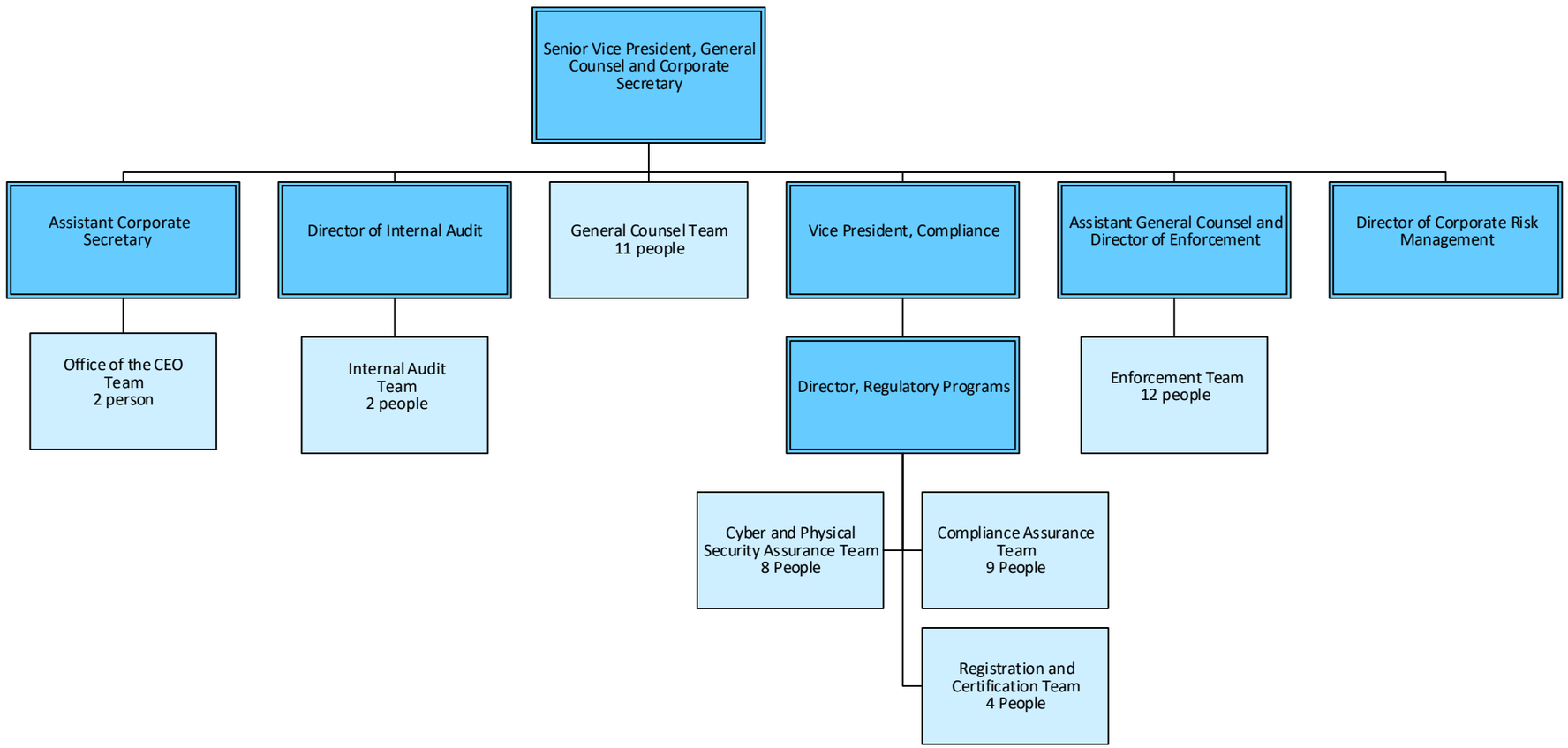
Executive, Legal and Regulatory, Internal Audit and Corporate Risk Management, and Compliance Enforcement



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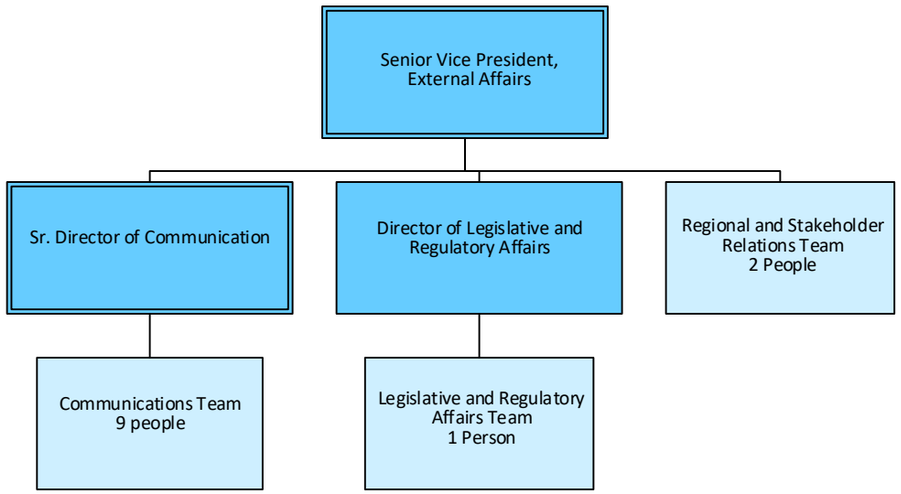
External Affairs



NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Attachment 3

Northeast Power Coordinating Council, Inc. Proposed 2022 Business Plan and Budget

Northeast Power Coordinating Council, Inc. (NPCC)

2022 Business Plan and Budget

Approved by the
NPCC Board of Directors
at its June 23, 2021 Meeting and
Submitted to NERC June 23, 2021

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Introduction

Total NPCC Resources (in whole dollars)	2022 Budget	U.S.	Canada	Mexico
Regional Entity Division FTEs	49.90			
Criteria Services Division FTEs	2.10			
Total FTEs	**52.00**			
Regional Entity Division Expenses	$17,353,983			
Criteria Services Division Expenses	$941,761			
Total Expenses	**$18,295,744**			
Regional Entity Division Inc(Dec) in Fixed Assets	**$111,150**			
Criteria Services Division Inc(Dec) in Fixed Assets	**$5,850**			
Total Inc(Dec) in Fixed Assets	**$117,000**			
Regional Entity Division Working Capital Requirement**	**($1,289,473)**			
Criteria Services Division Working Capital Requirement***	**($309,331)**			
Total Working Capital Requirement	**($1,598,804)**			
Total Regional Entity Division Funding Requirement	$16,175,660			
Total Criteria Services Division Funding Requirement	$638,280			
Total Funding Requirement	**$16,813,940**			
Regional Entity Division Assessments	**$15,912,313**	**$9,624,476**	**$6,287,836**	
Regional Entity Division Assessments Percentage	**100%**	**60%**	**40%**	
Criteria Services Division Membership Fees	**$636,745**	**$280,785**	**$355,961**	
Total NPCC Assessments & Membership Fees	**$16,549,058**	**$9,905,261**	**$6,643,797**	
NEL	605,651,000	267,073,000	338,578,000	
NEL %	100%	44%	56%	

Table 1: NPCC Budget

** Refer to Table B-1 on page 63 in Section B.
*** Refer to the Reserve Analysis on page 80 in Section C.

2022 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 a budget change of 5.6% and assessments change of 4.6%. On a divisional level, NPCC proposes a Regional Entity budget change of 6.2% and assessments change of 5.0% and a Criteria Services division budget change of -5.2% and assessment change of -5.2%. The proposed 2022 funding requirements will be satisfied by a Regional Entity division assessment of $15,912,313 and Criteria Services division membership fees of $636,745, for a total of $16,549,058. The total NPCC assessments and fees represent a change of 4.6% compared to the 2021 total assessments and fees of $15,826,338. The Regional Entity division assessment is equal to the Regional Entity funding requirement reduced by the application of penalty funds, workshop fee revenue and interest & investment income. The Criteria Services membership fees are equal to the Criteria Services division funding requirement less interest & investment income. Detailed projected statements of activities for the Regional Entity division and Criteria Services division are included on pages 13 and 78, respectively. NPCC believes that the Region remains an effective provider of Regional Entity and Criteria Services division functions. NPCC's corporate culture centers on consistent delivery of excellent results at a cost that is considerate of the longstanding tradition in Northeastern North America of affordable and reliable electricity.

Organizational Overview

Northeast Power Coordinating Council, Inc. (NPCC) is a 501(c)(6) not-for-profit corporation in the state of New York responsible for promoting and improving the reliability of the international, interconnected bulk power systems in Northeastern North America through (i) the development of Regional Reliability Standards and compliance assessment and enforcement of continent-wide and Regional Reliability Standards, (ii) coordination of system planning, design and operations, and assessment of reliability (collectively, Regional Entity activities), and (iii) 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. From a net energy for load perspective, NPCC is approximately 44% U.S. and 56% Canadian; while approximately 65% of Canadian net energy for load is within the NPCC Region.

Effective January 1, 2021, NPCC executed an Amended and Restated Regional Delegation Agreement with the North American Electric Reliability Corporation (NERC or Electric Reliability Organization ("ERO")) that delegates to NPCC certain responsibilities and authorities of a cross-border Regional Entity as defined by *Section 215* of the Federal Power Act in the U.S. In addition, NPCC has executed Memoranda of Understanding (MOU) or Agreements with Canadian provincial regulatory and/or governmental authorities in Ontario, Québec, New Brunswick and Nova Scotia.

NPCC meets all requirements of Section 215 of the Federal Power Act, the ERO Regulations, and the NERC Rules of Procedure as approved by the Federal Energy Regulatory Commission necessary to qualify for delegation for the coming five-year period. This Amended and Restated Regional Delegation Agreement incorporates the benefits of the NPCC and NERC mutual experience and lessons learned while operating under the predecessor agreement with regard to NPCC U.S. and thereby provides for efficient and effective execution of respective responsibilities in a transparent manner that is pursuant to Section 215 and ERO Regulations. It is imperative that NPCC maintain its ability to carry out delegated authorities and responsibilities. NPCC has a 2022 targeted staffing level of 52 power industry professionals and support personnel. Details of the 2022 business plans and budget for each program area are included in Section A for the Regional Entity division. The 2022 Regional Entity division supplemental financial schedules are shown in Section B. Section C details the 2022 Criteria Services division business plan and budget.

Membership and Governance

NPCC monitors approximately 239 registered entities and some 472 functions in the Region for compliance with mandatory Reliability Standards. NPCC currently has approximately 97 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, who are also registered entities within the NPCC Region, are subject to compliance with Reliability Standards, consistent with their registration, and 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), transmission companies, 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. Full Members also receive additional services from the Criteria Services division of NPCC, which is not funded through the ERO.

Under the Criteria Services division, NPCC will seek out and evaluate for membership, entities involved in emerging technologies to assure that those entities that have an impact on Bulk Electric System reliability are included in appropriate NPCC activities.

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

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

A Finance and Audit Committee (FAC), a Pension Committee (PC), a Corporate Governance and Nominating Committee (CGNC), and a Management Development and Compensation Committee (MDCC) are committees of the Board and advise the Board on finance, pension, governance, compensation, and human resource matters consistent with their approved charters.

The Regional Standards Committee (RSC), the Compliance Committee (CC), the Reliability Coordinating Committee (RCC), and the Public Information Committee (PIC), are committees of the corporation and 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.

In addition, all Compliance and enforcement activities are carried out by the NPCC compliance staff and are independent of all users, owners, and operators of the international bulk electric system.

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

International Foundation

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

a) U.S. Foundation

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

b) Ontario

NPCC activities in Ontario are executed in accordance with a February 5, 2010, MOU between NERC, NPCC and the Independent Electricity System Operator (IESO) in Ontario.

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.

The IESO is subject to compliance monitoring and enforcement by NPCC.

The IESO is subject to NPCC assessments of compliance, including audits, as well as NPCC remedial action directives to correct noncompliance. 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.

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 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.

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, the Nova Scotia Utility and Review Board (NSUARB) issues decision on standards and criteria filed by NERC and NPCC for approval in Nova Scotia.

NPCC conducts compliance and enforcement activities with respect to the standards and forwards any noncompliance information and recommendations to the NSUARB. The NSUARB maintains the final authority with respect to enforcement in Nova Scotia and based on the recommendations from NPCC, may determine whether a violation has occurred and, if so, what remedial measures or non-monetary penalties should be imposed.

ERO Enterprise Model and Transformation

The vision of the ERO Enterprise, which is comprised of NERC and the six Regional Entities, is a highly reliable and secure North American bulk power system (BPS). Its mission is to assure the effective and efficient reduction of risks to the reliability and security of the grid. The ERO Enterprise is a collaborative group of organizations with distinct roles between NERC and the Regional Entities. The ERO Enterprise strives for consistency where necessary, but recognizes that each Regional Entity addresses reliability in unique ways based on its own challenges and stakeholder needs. This model effectively blends a continent-wide scope with flexibility and responsiveness and provides the resources to tackle emerging issues while simultaneously enabling innovative and distinctive approaches to reliability risks and challenges.

Within the ERO Enterprise model, NERC has unique responsibilities to oversee ERO program areas, set qualifications and expectations for the performance of delegated activities, and assess, train, and give feedback to corresponding Regional Entity programs. The Regional Entities have a mirrored set of responsibilities, providing input into the overall development of each program area, providing training and development to meet qualifications, and ensuring delegated functions are completed. Both NERC and the Regional Entities have an obligation to meet professional standards of independence and objectivity.

As the ERO Enterprise continues to mature, the organization is working on a transformation initiative to further leverage resources, enhance communication and collaboration, and ensure grid reliability. A set of declarations was established in 2019, committing the ERO Enterprise to:

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

Building upon these commitments, the ERO Enterprise is now engaging in a collaborative process to accelerate its transformation through diverse activities, including ERO Enterprise-wide town halls, joint leadership training sessions, and work among ERO Enterprise Collaboration Groups.

ERO Enterprise Strategic and Operational Planning

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

In 2019, ERO Enterprise leadership came together to revise the *ERO Enterprise Long-Term Strategy* as part of an effort to streamline its strategic and operational documents and ensure alignment with the NERC Reliability Issues Steering Committee's (RISC's) currently identified bulk power system (BPS) risks. This strategy, which was approved by the NERC Board of Trustees (Board) on December 12, 2019, and reaffirmed by ERO Enterprise leadership in September 2020, includes the following strategic focus areas:

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

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

2022 Key Goals and Key Deliverables

NPCC activities that support ERO Enterprise Long-Term Goals are detailed in each of the following program area sections. For example, key goals and deliverables within the Reliability Standards program area include supporting the development of risk-responsive continent-wide and Regional Reliability Standards, facilitating a Distributed Energy Resources (DER) Variable Energy Resource (VER) Forum, and expanding activities related to working with State and Provincial Regulators to facilitate achievement of decarbonization goals. Within the Compliance Monitoring and Enforcement and Organization Registration and Certification program, in addition to conducting objective, risk-informed compliance monitoring, enforcement and entity registration activities, this area will be addressing increased reliability enhancement activities and implementing the ERO Enterprise CMEP data application (Align). The Reliability Assessment and Performance Analysis program will be focusing on the reduction of known risks

to reliability and the identification and assessment of emerging reliability risks, such as changing resource composition. In the Situation Awareness and Infrastructure Security area there is an increasing focus on the identification and reduction of cyber and physical security risks through expanded outreach.

Regional Entity Division Functional Scope

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

- Active participation in the development and revision of North American Reliability Standards for the bulk electric system, and as needed development of Regional Reliability Standards and Variances applicable within the NPCC cross-border Regional Entity.
- Monitoring and enforcement of approved Reliability Standards, including the registration of responsible entities, and as needed certification of such entities.
- Facilitate the reliable deployment of Distributed Energy Resources (DER) and Variable Energy Resources (VER).
- Assessment of the present and future reliability of the bulk power system.
- Operational coordination and situation awareness support.
- Event analysis and identifying lessons learned to improve reliability.
- Effective training and education of reliability personnel.
- Promoting the protection of critical bulk electric infrastructure.
- Participating in reliability and security activities that enhance resilience of the bulk power system.
- Coordinate NPCC and NERC activities with local State and Provincial Regulators to facilitate meeting decarbonization goals.

In recognition of the delegated compliance role of Regional Entities as an important means to enhancing reliability, NPCC has designated a significant percentage of its staff resources to compliance monitoring and enforcement. NPCC, in conjunction with NERC and the other Regional Entities, has developed and deployed an ERO Enterprise-wide CMEP data application (Align) for gathering data, analysis, and tracking of compliance information to carry out these responsibilities in a consistent and cost-effective manner.

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

2022 Overview of Regional Entity Division Cost Impacts

The proposed Regional Entity division assessment of $15,912,313, to support the Regional Entity division budget of $17,465,133, is a change of 5.0% compared to the 2021 assessment of $15,154,584. NPCC has budgeted an increase in staffing of 7.79 FTEs, comprised of 6.72 FTEs in statutory programs (including 5.50 FTEs in the Compliance Monitoring and Enforcement and Organization Registration and Certification program) and 1.07 FTEs in Administrative programs.

2021 Projections

Current year projections are taken into consideration in development of the budget. Expenses are currently projected to be under budget in the aggregate for 2021. Projections for 2021 reflect expectations based on the first quarter variance report. It is anticipated that projections could change throughout 2021 and would be reflected in each subsequent quarter's variance report.

Summary by Program

Program	Budget 2021	Projection 2021	Budget 2022	Variance 2022 Budget v 2021 Budget	Variance %
Reliability Standards	$ 968,675	$ 978,938	$ 966,823	$ (1,852)	-0.2%
Compliance Monitoring and Enforcement and Organization Registration and Certification	$ 9,030,944	$ 8,971,155	$ 10,119,600	$ 1,088,656	12.1%
Reliability Assessments and Performance Analysis	$ 3,314,770	$ 3,382,272	$ 3,744,171	$ 429,401	13.0%
Training, Education and Operator Certification	$ 242,257	$ 87,174	$ 172,931	$ (69,326)	-28.6%
Situation Awareness and Infrastructure Security	$ 2,406,482	$ 2,444,206	$ 2,461,608	$ 55,126	2.3%
Total	$ 15,963,128	$ 15,863,744	$ 17,465,133	$ 1,502,005	9.4%

Table 2: Budget by Program Area

This chart does not include allocation of working capital requirements among the Program Areas.

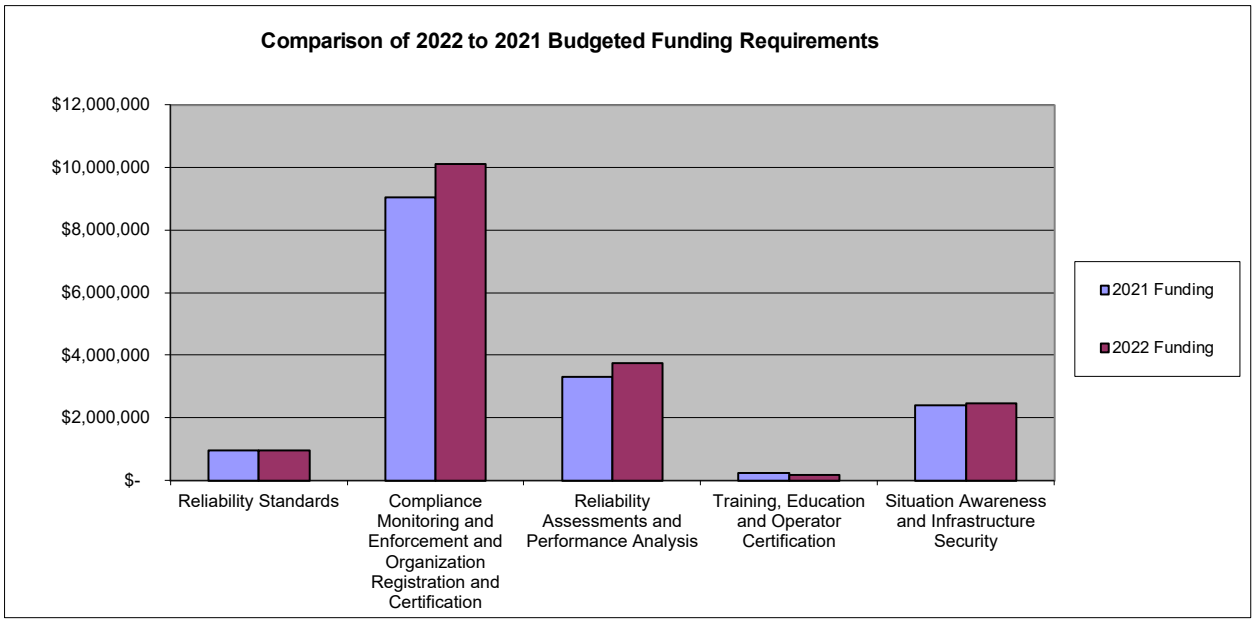


Figure 1: Budget by Program Area Chart

This chart does not include allocation of working capital requirements among the Program Areas.

Personnel Analysis

Total FTE's by Program Area	Budget 2021	Projection 2021	Direct FTEs 2022 Budget	Shared FTEs[1] 2022 Budget	Total FTEs 2022 Budget	Change from 2021 Budget
REGIONAL ENTITY DIVISION						
Operational Programs						
Reliability Standards	1.84	1.84	1.00	0.85	1.85	0.01
Compliance Monitoring and Enforcement and Organization Registration and Certification	19.45	22.45	24.95	0.00	24.95	5.50
Training, Education, and Operator Certification	0.10	0.10	0.10	0.00	0.10	0.00
Reliability Assessment and Performance Analysis	5.44	5.44	5.50	0.95	6.45	1.01
Situation Awareness and Infrastructure Security	5.40	5.40	5.60	0.00	5.60	0.20
Total FTEs Operational Programs	**32.23**	**35.23**	**37.15**	**1.80**	**38.95**	**6.72**
Administrative Programs						
Technical Committees and Member Forums	0.10	0.10	0.00	0.10	0.10	0.00
General and Administrative	2.73	3.23	2.50	0.00	2.50	-0.23
Information Technology	2.55	3.55	3.85	0.00	3.85	1.30
Legal and Regulatory	2.00	2.00	2.00	0.00	2.00	0.00
Human Resources	0.50	0.00	0.50	0.00	0.50	0.00
Accounting and Finance	2.00	2.00	2.00	0.00	2.00	0.00
Total FTEs Administrative Programs	**9.88**	**10.88**	**10.85**	**0.10**	**10.95**	**1.07**
Total FTEs	**42.11**	**46.11**	**48.00**	**1.90**	**49.90**	**7.79**

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

Table 3: Regional Entity Personnel Analysis

Changes are addressed within each program area section.

2021 Budget and Projection and 2022 Budget Comparisons

Statement of Activities and Capital Expenditures
2021 Budget & Projection, and 2022 Budget

REGIONAL ENTITY DIVISION

	2021 Budget	2021 Projection	Variance[2] 2021 Projection v 2021 Budget Over(Under)	2022 Budget	Variance 2022 Budget v 2021 Budget Over(Under)
Funding					
ERO Funding					
ERO Assessments	$ 15,154,584	$ 15,154,584	$ -	$ 15,912,313	$ 757,729
Penalties Released[1]	201,132	201,132	-	201,132	(0)
Total ERO Funding	**$ 15,355,716**	**$ 15,355,716**	**$ -**	**$ 16,113,445**	**$ 757,729**
Membership Dues	-	-	-	-	-
Testing Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Workshops & Misc Revenue	67,500	-	(67,500)	33,750	(33,750)
Interest & Investment Income	56,264	15,275	(40,989)	28,465	(27,799)
Total Funding (A)	**$ 15,479,480**	**$ 15,370,991**	**$ (108,489)**	**$ 16,175,660**	**$ 696,180**
Expenses					
Personnel Expenses					
Salaries	$ 7,982,119	$ 8,297,656	$ 315,537	$ 9,072,408	$ 1,090,289
Payroll Taxes	485,768	546,254	60,486	595,815	110,048
Benefits	2,021,243	2,192,475	171,231	2,234,738	213,494
Retirement Costs	909,832	908,567	(1,266)	1,041,405	131,573
Total Personnel Expenses	**$ 11,398,962**	**$ 11,944,951**	**$ 545,989**	**$ 12,944,366**	**$ 1,545,404**
Meeting Expenses					
Meetings & Conference Calls	$ 334,400	$ 73,200	$ (261,200)	$ 230,600	$ (103,800)
Travel	727,920	327,960	(399,960)	505,572	(222,348)
Total Meeting Expenses	**$ 1,062,320**	**$ 401,160**	**$ (661,160)**	**$ 736,172**	**$ (326,148)**
Operating Expenses, excluding Depreciation					
Consultants & Contracts	$ 1,509,800	$ 1,163,650	$ (346,150)	$ 839,650	$ (670,150)
Office Rent	870,141	870,141	-	906,141	36,000
Office Costs	837,420	1,081,420	244,000	1,218,071	380,651
Professional Services	1,005,000	1,005,000	-	1,017,000	12,000
Computer & Equipment Leases	-	-	-	-	-
Miscellaneous	51,000	51,000	-	51,000	-
Total Operating Expenses, excluding Depreciation	**$ 4,273,361**	**$ 4,171,211**	**$ (102,150)**	**$ 4,031,862**	**$ (241,499)**
Total Direct Expenses	**$ 16,734,643**	**$ 16,517,322**	**$ (217,321)**	**$ 17,712,400**	**$ 977,757**
Indirect Expenses	**$ (387,995)**	**$ (387,995)**	**$ -**	**$ (358,417)**	**$ 29,578**
Other Non-Operating Expenses	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Total Expenses (B)	**$ 16,346,648**	**$ 16,129,328**	**$ (217,321)**	**$ 17,353,983**	**$ 1,007,335**
Change in Net Assets (=A-B)	**$ (867,169)**	**$ (758,337)**	**$ 108,832**	**$ (1,178,323)**	**$ (311,154)**
Fixed Asset Additions, excluding Right of Use Assets (C)	**$ 94,000**	**$ 116,000**	**$ 22,000**	**$ 111,150**	**$ 17,150**
TOTAL BUDGET (=B+C)	**$ 16,440,648**	**$ 16,245,328**	**$ (195,321)**	**$ 17,465,133**	**$ 1,024,485**
TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)	**$ (961,169)**	**$ (874,337)**	**$ 86,832**	**$ (1,289,473)**	**$ (328,304)**

(1) $201,132 of penalties released from the Assessment Stabilization Reserve (ASR) to offset U.S. assessments as approved by the NPCC Board of Directors, NERC and FERC. Actual penalties invoiced in the current reporting year are shown as an increase in the ASR on the reserve summary table and will be reported as income on the audited financial statements in accordance with Generally Accepted Accounting Principles (GAAP).

(2) 2021 Projections reflect expectations based on the first quarter statement of activities. It is anticipated that projections could change throughout 2021 and would be reflected in each subsequent quarter's statement of activities.

Table 4: Budget and Current Year Projection Comparison

Section A – Regional Entity Division
2022 Business Plan and Budget

Section A — 2022 Regional Entity Division Business Plan and Budget

Reliability Standards Program

Reliability Standards Program Resources (in whole dollars)	2021 Budget	2022 Budget	Increase (Decrease)
Total FTEs	1.84	1.85	0.01
Direct Expenses	$629,706	$645,796	$16,090
Indirect Expenses	$333,603	$315,748	($17,855)
Other Non-Operating Expenses	$0	$0	$0
Fixed Asset Additions	$5,366	$5,279	($87)
Total Funding Requirement	$968,675	$966,823	($1,852)

Table A - 1: Reliability Standards Budget

Program Scope and Functional Description

The NPCC Reliability Standards Program Area operates in accordance with NPCC's filed and approved Regional Delegation Agreement and NERC Rules of Procedure Section 300. The program supports the ERO Standards Program Area roles and responsibilities, the ERO Enterprise Long-Term Strategy and aligns with NPCC's Strategic Plan and Board of Director goals. NPCC's Reliability Standards Program Area provides an efficient and effective mechanism for stakeholders to provide input and facilitate the development of, and improvement to, NERC and Regional cost effective reliability standards. NPCC works with the ERO and its stakeholders to expand the risk-based focus in all standards. The primary objectives of NPCC's Reliability Standards Program Area are to support the development of ERO standards and Regional variances which establish "results-based" requirements, based on risk, and continue to deliver a high level of BPS reliability and security, with no identified gaps, and with due consideration given to cost effectiveness. NPCC supports the ERO efforts to develop reliability standards in a timely and efficient manner and which are also responsive to FERC Directives and risk to the reliable operation of the BPS. NPCC leverages the subject matter expertise of its staff and member Task Forces and Working Groups to provide comment to reliability related issues during standards development and ensures the ERO standards continually align with NPCC's reliability objectives and criteria.

At the Regional level, the standards program area develops, and maintains NPCC Regional Reliability Standards, and ERO Standards Variances for the northeast as required. The NPCC Reliability Standards Program Area also provides oversight to ensure that NPCC's Regional Reliability Criteria contained in the form of Directories, are developed, approved, and maintained as necessary to implement, augment, or to facilitate compliance with NERC Reliability Standards in accordance with Section 313 of the NERC Rules of Procedure. NPCC's reliability criteria are not reliability standards but are mandatory and subject to enforcement as outlined in the NPCC *Amended and Restated Bylaws* and various contractual agreements, e.g. ISO tariffs, and individual interconnection agreements, as well as other agreements. Regional Reliability Criteria may also address issues not within NERC's statutory jurisdiction for Reliability Standards, such as resource adequacy, and must in all cases at a minimum conform to stated requirements in Section 313 of the NERC Rules of Procedure.

In addition, the NPCC Reliability Standards Program Area has been conducting Distributed Energy Resources (DER) Variable Energy Resource (VER) Forums. Conventional fossil fuel units and nuclear retirements are increasingly being replaced by VER on the transmission system and DER on the distribution system. DER is commonly referred to as "grid edge resources" and has introduced the concept of decentralized generation and virtual power plants. It is projected that the future "reliable operation" of the BES, as defined in the US Federal Power Act, will be increasingly dependent on these resources. The control systems of VER, DER, Energy Storage Systems, and the hybrid installations of both will introduce new capabilities that could enhance reliability and understanding the interoperability issues between transmission and distribution systems will be critical. Additionally, electric vehicle (EVs) will be an important part of meeting green energy goals. The use of energy to both charge EVs, as well as discharge and participate in energy markets at both the retail and wholesale aggregate level, will have an effect on how NPCC and our ISOs conduct planning. NPCC is engaged in a number of areas to promote their reliable integration into the BES and opportunities to provide industry guidance for interconnecting DER. NPCC also has an increasing amount of VER in the various ISO queues, specifically offshore wind resources. Integrating these forms of VER requires different designs of planning and protection systems to reliably operate these resources. NPCC will continue to work with all stakeholders to identify opportunities to support their integration into the Regional BPS.

NPCC's Reliability Standards Program Area has also been conducting outreach activities with local State and Provincial Regulators to coordinate our standards and criteria reliability related work. This outreach promotes coordination of activities to facilitate meeting local decarbonization objectives, increases efficiencies, reduces duplication of effort, identifies obstacles, and provides opportunities to further integrate planning processes while meeting reliability objectives.

2022 Key Assumptions

- Due to the COVID-19 pandemic, a number of lower priority reliability standards development projects had been placed "on-hold" due to stresses on industry resources. Contemporaneously, there have been a number of standards development opportunities identified by FERC, industry, and NERC technical committees to improve cyber security, supply chain, data gathering, and modeling of inverter-based resources. It is expected that the industry and NERC technical committees will be submitting a number of standard authorization requests to address other known risks as well, e.g. resilience for extreme events, hardening for Electromagnetic Pulse (EMP), and other high impact low frequency events.
- Continent-wide reliability standards projects will consist primarily of acting on recommendations of the various phases of the Standards Efficiency Review project, Standards Grading activities, conducting periodic reviews on existing ERO Reliability Standards to improve their content and quality, responding to identified risks to reliability (including those that may be identified through the implementation of risk-based Compliance Monitoring and Enforcement), and addressing FERC directives that may arise.
- NPCC's Regional Reliability Standards development activity is expected to remain at a stable level, driven by requests that the Regional Entity may receive or reliability issues that are identified and not under consideration by NERC. Creation of Variances to NERC Reliability Standards to address reliability concerns or to recognize the unique topology and reliability considerations of the Northeast (i.e. Québec's recognition as an asynchronous interconnection within NPCC's footprint) will be performed as necessary.
- The number of NERC and Regional standards interpretations is expected to remain low. Compliance Implementation Guidance documents, which provide approaches to being compliant with NERC Reliability Standards may be developed using NPCC's open process

and other industry vetting practices. These guidance documents are currently being developed by industry and the Standard Drafting Teams, and the number of requests may increase. The NPCC Reliability Standards program area will assist and facilitate support of these activities.

- Consistent with the NERC Rules of Procedure Sections 312 and 313, as continent-wide standards continue to evolve, NPCC Regional Standards and Criteria will need to be continually reviewed to ensure they augment but do not add redundancy to the ERO standards.

2022 Goals and Key Deliverables

- Participate in the annual development and revision of the NERC's three-year Reliability Standards Development Plan (RSDP) through review, commenting, and other RSC activities.
- Participate in the NERC Standards Committee activities, as a representative for NPCC Regional stakeholders to advance strategic initiatives, to measure the effectiveness and quality of standards, support ERO efforts to address outstanding FERC Directives, and provide input in the prioritization of standards development projects.
- Support any further development of cost effectiveness principles, processes and pilots. Continue to provide insights to NERC, based on NPCC experiences, regarding strategy for developing cost effectiveness analysis for standards and identify opportunities to mitigate implementation costs for the draft standards and provide comments on cost effective alternative requirements.
- Participate in the NERC Standards Efficiency Review Project to retire standard requirements that are duplicative, administrative and add no additional benefit to the reliable operation of the bulk electric system and revise NERC process to ensure efficiency and effectiveness of standards development.
- Participate in the development of ERO Reliability Standards specified in NERC's three-year Reliability Standards Development Plan with the emphasis placed on reducing the amount of new FERC Directives issues through closer coordination with Commission staff.
- Conduct thorough reviews of all NERC standards under development or revision by leveraging existing NPCC Task Forces and subject matter experts and coordinate NPCC comments for Northeastern North America.
- Participate in the Periodic Review Standing Team's grading efforts and coordinate and represent the Regional and interregional input.
- Assist NERC's review of all industry "Requests for Interpretations" of NERC Reliability Standards.
- NPCC staff and Regional drafting team volunteers will participate in the drafting of all ERO standards and provide support for development of improvements to standards. Those chosen to participate in drafting of standards will provide a point of contact for the NPCC RSC input to the standard being developed.
- NPCC and its members will review and coordinate comments on FERC staff informal assessments of the ERO Enterprise as appropriate.
- Participate in pre-ballot reviews of ERO standards and coordinate the development of consensus recommendations to NPCC's Registered Ballot Body Members and Entities. Develop a list of any unaddressed reliability issues to inform and allow the Members to cast a ballot based on Regional concerns. This will continue to enhance the efficiency of the ERO standards development projects.

- Review and identify issues and concerns raised in FERC Notice of Proposed Rulemakings (NOPRs) and Notice of Inquiries (NOIs) for any and all standards related issues as appropriate.
- Educate and notify stakeholders and regulators about issues related to standards development through various means such as webinars and workshops.
- Provide outreach to industry trade groups such as the North American Generator Forum and North American Transmission Forum when requested.
- Monitor the NERC Reliability Issues Steering Committee (RISC) and the Reliability and Security Technical Committee (RSTC) activities as they identify emerging risks, develop recommended actions to mitigate such risks, and endorse Standards Authorization Requests (SARs) to initiate standards development. 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, Geomagnetic Disturbances, High Altitude Electromagnetic Pulse (HEMP), changes to standards driven by inverter-based resources DERs, modeling and verification, etc.
- Identify opportunities and initiate Regional Variances to the NERC Reliability Standards as soon as possible, allowing incorporation into the continent-wide standard during the development process.
- Conduct reviews of Regional Standards as necessitated by the revision and approval of any associated Continent-wide NERC reliability standards or further reliability related need.
- Conduct the development of any Québec Interconnection-Wide variances to NERC continent-wide standards using the NPCC Reliability Standards Development Process.
- Identify potential reliability benefits and impacts to the BES as a result of DER penetration.
- Conduct ongoing DER VER Forum activities to solicit and identify both opportunities and challenges to enhancing reliability through education, promotion of awareness and developing guidance, particularly for interconnection of utility scale DER on the Distribution System and large VER installations on the Transmission system.
- Update, maintain and revise the NPCC DER VER guidance document as necessary and promote consistency across the NPCC footprint where possible.
- In conjunction with the Reliability Coordinating Committee (RCC), review any DER impacts identified by stakeholders and develop an approach to promote awareness and resolution of any issues.
- Identify opportunities to improve resilience of the BES and develop potential approaches either with the ERO or within the Region.
- Monitor, collaborate and coordinate with State and Provincial reliability proceedings as they relate to the deployment of DER and VER to meet emissions targets (e.g. New York Dept. of Public Service Interconnection Technical Working Group, Massachusetts Technical Standards Group, etc.).
- Collaborate with State and Provincial Regulatory Staff to identify areas where NPCC can support local decarbonization goals.
- Identify and coordinate BPS reliability related issues with applicable Federal, State or Provincial governmental authorities.
- Ensure the topics addressed by the Reliability Standards align with emerging risks and reliability objectives.
- Participate in reliability metrics developmental activities to identify potential measures for benchmarking of reliability and standards to determine if an adequate level of reliability is being achieved through the Enhanced Periodic Review Standing Review Team and Standards Grading activities.

- Identify opportunities and processes for cost effectiveness analysis activities to determine the need to revise a standard during the Enhanced Periodic Review or Standards Grading activities.
- Identify any emerging interconnection-wide reliability issues which may need an industry guideline or a reliability standards solution, and provide the input to the NERC Reliability Issues Steering Committee for their consideration.
- Identify opportunities to increase reliability or mitigate emerging risk(s) through the revision of standards and their associated requirements by notifying NERC and submitting a Standards Authorization Request (SAR) if necessary.
- Identify any North American Electric Standards Review Board (NAESB) activities which may impact ERO standards e.g. NAESB commercial standards development activities as a result of FERC Order 2222 on DER Aggregator participation in Wholesale Markets.
- Identify potential market related issues that reliability standards or DER and VER may cause during the NPCC RSC coordination and review process.
- Participate in NPCC Compliance and Standards Workshops and NERC workshops and webinars to promote industry awareness.

NPCC estimates that it will expend approximately 6% of its resources on Reliability Standards development activities.

Resource Requirements

Meetings

- Reduction in meetings and travel expenses based on changes in meeting formats related to COVID-19 pandemic. It is expected that some meetings will continue to be held in virtual formats such as teleconference or webinar to allow for remote participation and greater access throughout 2022.

Reliability Standards Program

Funding sources and related expenses for the Reliability Standards section of the 2022 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 2021 Budget & Projection, and 2022 Budget Reliability Standards					
	2021 Budget	2021 Projection	Variance 2021 Projection v 2021 Budget Over(Under)	2022 Budget	Variance 2022 Budget v 2021 Budget Over(Under)
Funding					
ERO Funding					
ERO Assessments	$ 957,193	$ 957,193	$ -	$ 957,270	$ 77
Penalty Sanctions	11,483	11,483	-	9,553	(1,929)
Total ERO Funding	**$ 968,675**	**$ 968,675**	**$ -**	**$ 966,823**	**$ (1,852)**
Membership Dues	-	-	-	-	-
Testing Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Workshops & Misc Revenue	-	-	-	-	-
Interest & Investment Income	-	-	-	-	-
Total Funding (A)	**$ 968,675**	**$ 968,675**	**$ -**	**$ 966,823**	**$ (1,852)**
Expenses					
Personnel Expenses					
Salaries	$ 359,491	$ 404,520	$ 45,029	$ 398,873	$ 39,382
Payroll Taxes	21,383	24,618	3,234	23,836	2,453
Benefits	111,331	107,355	(3,976)	100,793	(10,538)
Retirement Costs	38,780	43,116	4,335	42,512	3,731
Total Personnel Expenses	**$ 530,986**	**$ 579,608**	**$ 48,622**	**$ 566,014**	**$ 35,028**
Meeting Expenses					
Meetings & Conference Calls	$ 4,000	$ 2,000	$ (2,000)	$ 3,000	$ (1,000)
Travel	72,720	36,360	(36,360)	54,540	(18,180)
Total Meeting Expenses	**$ 76,720**	**$ 38,360**	**$ (38,360)**	**$ 57,540**	**$ (19,180)**
Operating Expenses, excluding Depreciation					
Consultants & Contracts	$ 20,000	$ 20,000	$ -	$ 20,000	$ -
Office Rent	-	-	-	-	-
Office Costs	2,000	2,000	-	2,242	242
Professional Services	-	-	-	-	-
Computer & Equipment Leases	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Total Operating Expenses, excluding Depreciation	**$ 22,000**	**$ 22,000**	**$ -**	**$ 22,242**	**$ 242**
Total Direct Expenses	**$ 629,706**	**$ 639,968**	**$ 10,262**	**$ 645,796**	**$ 16,090**
Indirect Expenses	**$ 333,603**	**$ 333,603**	**$ -**	**$ 315,748**	**$ (17,855)**
Other Non-Operating Expenses	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Total Expenses (B)	**$ 963,309**	**$ 973,571**	**$ 10,262**	**$ 961,544**	**$ (1,765)**
Change in Net Assets (=A-B)	**$ 5,366**	**$ (4,896)**	**$ (10,262)**	**$ 5,279**	**$ (87)**
Fixed Asset Additions, excluding Right of Use Assets (C)	**5,366**	**5,366**	**-**	**5,279**	**(87)**
TOTAL BUDGET (=B+C)	**$ 968,675**	**$ 978,938**	**$ 10,262**	**$ 966,823**	**$ (1,852)**
TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)	**$ 0**	**$ (10,262)**	**$ (10,262)**	**$ 0**	**$ 0**

Table A - 2: Reliability Standards Budget Detail

Compliance Monitoring and Enforcement and Organization Registration and Certification Program

Compliance Monitoring and Enforcement and Organization Registration and Certification Program Resources (in whole dollars)	2021 Budget	2022 Budget	Increase (Decrease)
Total FTEs	19.45	24.95	5.50
Direct Expenses	$5,447,816	$5,790,066	$342,250
Indirect Expenses	$3,526,402	$4,258,335	$731,934
Other Non-Operating Expenses	$0	$0	$0
Fixed Asset Additions	$56,727	$71,199	$14,472
Total Funding Requirement	$9,030,944	$10,119,600	$1,088,656

Table A - 3: Compliance Monitoring and Enforcement and Organization Registration and Certification Budget

Program Scope and Functional Description

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

The CORC Program Area scope covers:

1) The identification, registration and certification of those entities responsible for meeting the NERC Reliability Standards and any approved Regional Standards;
2) The implementation of the risk-based NERC Compliance Monitoring and Enforcement Program (CMEP) in the United States, including the compliance monitoring, mitigation assessment and enforcement of NERC Reliability Standards and Regional Reliability Standards;
3) In accordance with the relevant memorandums of understanding (MOU's), the implementation of the risk-based NERC CMEP in Ontario and Nova Scotia, including the assessment and enforcement of NERC Reliability Standards and Regional Reliability Standards effective in those jurisdictions;
4) The implementation of the Québec Reliability Standards Compliance Monitoring and Enforcement Program (QCMEP), including the compliance monitoring, assessment and enforcement of NERC Reliability Standards and Regional Reliability Standards effective in Quebec; and
5) The implementation of the New Brunswick Compliance Monitoring and Enforcement Program (NBCMEP) in New Brunswick, including the compliance monitoring, assessment and enforcement recommendations of the NERC Reliability Standards and Regional Reliability Standards effective in New Brunswick.

Through the CORC Program Area, NPCC strives to be a strong enforcement authority that is independent, objective, fair, and promotes a culture of reliability excellence through risk-informed compliance monitoring, mitigation, enforcement, and registration. To accomplish this goal,

CORC is divided into three sub-program areas: Compliance Fundamentals; Compliance Audits and Investigations; and Compliance Mitigation and Enforcement.

Compliance Fundamentals

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

- Collaborates across the ERO through participation in the Risk Performance and Monitoring Group (RPMG), Enforcement Group (EG), Organization Registration and Certification Group (ORCG), and the development of the annual ERO CMEP staff workshop;
- Identifies and registers the BES owners, operators, and users that are required to comply with the NERC and Regional Reliability Standards;
- Conducts Certifications and re-Certifications in accordance with the NERC ROP;
- Leads or assists with the development of the annual CMEP implementation plans (ERO Enterprise, Quebec, New Brunswick);
- Implements the ERO Enterprise registration tool (CORES -Centralized Organization Registration ERO System) and the ERO Enterprise CMEP data application (Align),
- Responds to any complaints submitted to NPCC;
- Maintains any NPCC specific compliance tools or programs needed;
- Conducts two stakeholder compliance workshops on an annual basis;
- Assesses compliance trends and conducts additional outreach, training, and education to support the implementation of Reliability Standards;
- Conducts Inherent Risk Assessments (IRA) on registered entities;
- Conducts ad-hoc evaluations of internal controls (EIC) on volunteering registered entities and,
- Develops compliance oversight plans (COP) for registered entities.

Compliance Audits and Investigations

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

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

Compliance Mitigation and Enforcement

The Compliance Mitigation and Enforcement sub-program area is responsible for undertaking enforcement activities in accordance with risk-based approaches and conducting technical assessments of registered entities' plans and activities to mitigate noncompliance. Depending on the jurisdiction, enforcement either makes official recommendations to the appropriate regulatory

authority or assists and coordinates with NERC to make such official recommendations. The Compliance Mitigation and Enforcement sub-program area:

- Determines the relevant facts and circumstances necessary to understand each noncompliance;
- Evaluates and assigns a risk level to each noncompliance;
- Advises on the level of mitigation required to prevent recurrence of the issue;
- Evaluates and approves the mitigation activities or Mitigation Plan(s) for each noncompliance;
- Assesses the relevant compliance history for each noncompliance;
- Determines the disposition method for each noncompliance;
- Conducts settlement negotiations;
- Calculates penalty and non-penalty sanctions in consistent fashion;
- Files noncompliance closings with NERC/FERC and Canadian Regulators and,
- Evaluates registered entities for the self-logging program.

2022 Key Assumptions

- CORC activities will be cost effectively addressed with the addition of five FTEs (net increase of 5.50 FTEs compared to 2021 budget including the re-allocation of an employee formerly partially allocated to IT), offset by a decrease in consultants and contracts.
- The 2022 Business Plan projects the same number of enforcement processing activities as the 2021 Budget, however, the complexity of processing noncompliance is expected to continue to increase as entities' compliance history grows and technology continues to evolve and advance.
- One Compliance Investigation is projected for 2022. Compliance Investigations are manpower intensive for NPCC staff (requiring allocation of more resources and potentially higher than normal costs).

2022 Goals and Key Deliverables

- Conduct scheduled compliance monitoring and enforcement activities pursuant to the 2022 Implementation Plans.
- Continue applying risk-based approaches for CMEP, registration, and certification activities.
- Identify potential issues related to NERC Reliability Standards as a result of compliance monitoring, enforcement and event analysis activities.
- Continue to implement compliance responsibilities in Canada based on the unique regulatory structure specific to each provincial and/or governmental jurisdiction.
- Evaluate monitoring, violation processing, risk-assessment, registration and certification program for sufficiency and effectiveness. Modify as needed.
- Collaborate within the ERO Enterprise to implement Align and the Secure Evidence Locker (SEL) for CMEP compliance processes, information systems, and methods among Regions.
- Provide education and outreach to the registered entities on all CMEP, registration, and certification topics, including the development and implementation of the ERO Enterprise Registration tool (CORES – Centralized Organization Registration ERO System) and the Align/SEL CMEP data application.
- Conduct one in-person and two virtual compliance workshops.
- Develop annual reports for QCMEP/CMEP activity in Québec and New Brunswick.

- Develop and/or provide input on various 2023 CMEP Implementation Plans (ERO Enterprise, Québec, New Brunswick).
- Attend training necessary and/or beneficial to performing Registration, Certification, Entity Risk Assessment, Monitoring, and Enforcement activities.
- Assure that NPCC staff is appropriately trained to conduct Certification and Auditing activities.
- Provide detailed responses to oversight activity performed by NERC, FERC, and other relevant authorities.
- Continue to perform and update IRAs for registered entities.
- Continue to perform ad-hoc EIC outreach for registered entities that volunteer for such an assessment.
- Continue to assess internal controls during monitoring engagements.
- Conduct 2022 compliance engagement schedule based on budget, risk to the BPS, and number of registered entities.
- Utilize the ERO risk-based initiatives by:
    - Utilizing the audit checklist and auditor's handbook for all on-site and off-site audits.
    - Preparing an updated IRA as necessary for all scheduled engagements, performing an EIC for all entities that volunteer, and developing COPs for audited entities.
- Continue to perform comprehensive enforcement investigations to determine the relevant facts and circumstances necessary to understand each noncompliance, assess the risk, and evaluate the mitigation activities or Mitigation Plan for each noncompliance. Determine the disposition method in accordance with established risk-based approaches. (i.e. Compliance Exceptions, FFTs, Simplified Identification Correction Method (Québec), Settlements, etc.)
- Evaluate the mitigation activities or Mitigation Plan for each noncompliance, track the progress and verify the completion of each Mitigation Plan.
- As necessary, represent NPCC during any enforcement hearings before the NPCC Hearing Body, the NERC Hearing Body, the Régie, or the NBEUB.
- Evaluate registered entities internal compliance programs to determine entry into the self-logging program.
- Analyze noncompliance trends and associated risks to develop guidance to registered entities in support of a culture of reliability.
- Perform outreach (webinars, workshops) to educate entities on noncompliance root causes, techniques for noncompliance assessment, communication associated with self-reporting, and guidance on the development of mitigation activities that will prevent recurrence.
- Assess evolving cybersecurity risks for opportunities to provide entity guidance.

NPCC estimates that it will expend 57% of its resources on CORC activities.

Resource Requirements

Personnel

- Increase of 5.50 FTEs (including the re-allocation of an FTE formerly partially allocated to IT), to increase in-house expertise. Increase in personnel expenses will be partially offset by a decrease in consultants and contracts.

Meetings

- Reduction in meetings and travel expenses based on changes in meeting formats related to COVID-19 pandemic. It is expected that some meetings will continue to be held in virtual formats such as teleconference or webinar to allow for remote participation and greater access throughout 2022.

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 2022 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 2021 Budget & Projection, and 2022 Budget Compliance Monitoring and Enforcement and Organization Registration and Certification			Variance		Variance
			2021 Projection		2022 Budget
	2021	2021	v 2021 Budget	2022	v 2021 Budget
	Budget	Projection	Over(Under)	Budget	Over(Under)
Funding					
ERO Funding					
ERO Assessments	$ 8,444,793	$ 8,444,793	$ -	$ 9,196,118	$ 751,325
Penalty Sanctions	121,378	121,378	-	128,838	7,460
Total ERO Funding	**$ 8,566,171**	**$ 8,566,171**	**$ -**	**$ 9,324,956**	**$ 758,785**
Membership Dues	-	-	-	-	-
Testing Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Workshops & Misc Revenue	-	-	-	-	-
Interest & Investment Income	-	-	-	-	-
Total Funding (A)	**$ 8,566,171**	**$ 8,566,171**	**$ -**	**$ 9,324,956**	**$ 758,785**
Expenses					
Personnel Expenses					
Salaries	$ 3,058,980	$ 3,310,431	$ 251,451	$ 3,863,613	$ 804,634
Payroll Taxes	214,978	245,369	30,391	286,998	72,021
Benefits	834,388	943,516	109,128	1,001,839	167,450
Retirement Costs	333,201	349,151	15,950	422,710	89,509
Total Personnel Expenses	**$ 4,441,546**	**$ 4,848,466**	**$ 406,920**	**$ 5,575,160**	**$ 1,133,614**
Meeting Expenses					
Meetings & Conference Calls	$ 12,000	$ 6,000	$ (6,000)	$ 4,000	$ (8,000)
Travel	269,120	134,560	(134,560)	161,472	(107,648)
Total Meeting Expenses	**$ 281,120**	**$ 140,560**	**$ (140,560)**	**$ 165,472**	**$ (115,648)**
Operating Expenses, excluding Depreciation					
Consultants & Contracts	$ 707,150	$ 381,000	$ (326,150)	$ 32,000	$ (675,150)
Office Rent	-	-	-	-	-
Office Costs	18,000	18,000	-	17,434	(566)
Professional Services	-	-	-	-	-
Computer & Equipment Leases	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Total Operating Expenses, excluding Depreciation	**$ 725,150**	**$ 399,000**	**$ (326,150)**	**$ 49,434**	**$ (675,716)**
Total Direct Expenses	**$ 5,447,816**	**$ 5,388,026**	**$ (59,790)**	**$ 5,790,066**	**$ 342,250**
Indirect Expenses	**$ 3,526,402**	**$ 3,526,402**	**$ -**	**$ 4,258,335**	**$ 731,934**
Other Non-Operating Expenses	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Total Expenses (B)	**$ 8,974,218**	**$ 8,914,428**	**$ (59,790)**	**$ 10,048,401**	**$ 1,074,184**
Change in Net Assets (=A-B)	**$ (408,046)**	**$ (348,256)**	**$ 59,790**	**$ (723,445)**	**$ (315,399)**
Fixed Asset Additions, excluding Right of Use Assets (C)	**$ 56,727**	**$ 56,727**	**$ -**	**$ 71,199**	**$ 14,472**
TOTAL BUDGET (=B+C)	**$ 9,030,944**	**$ 8,971,155**	**$ (59,790)**	**$ 10,119,600**	**$ 1,088,656**
TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)	**$ (464,773)**	**$ (404,983)**	**$ 59,790**	**$ (794,644)**	**$ (329,871)**

Table A - 4: Compliance Monitoring and Enforcement and Organization Registration and Certification Budget Detail

Reliability Assessment and Performance Analysis Program

Reliability Assessment and Performance Analysis Program Resources (in whole dollars)	2021 Budget	2022 Budget	Increase (Decrease)
Total FTEs	5.44	6.45	1.01
Direct Expenses	$2,312,599	$2,624,913	$312,314
Indirect Expenses	$986,305	$1,100,852	$114,548
Other Non-Operating Expenses	$0	$0	$0
Fixed Asset Additions	$15,866	$18,406	$2,540
Total Funding Requirement	$3,314,770	$3,744,171	$429,401

Table A - 5: Reliability Assessments and Performance Analysis (RAPA) Budget

Program Scope and Functional Description

NPCC, through its top technical committee, the Reliability Coordinating Committee (RCC), integrates the deliverables of its Task Forces' and Working Groups' Reliability Assessment and Performance Analysis (RAPA) related activities.

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

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

2022 Key Assumptions

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

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

2022 Goals and Key Deliverables

Eastern Interconnection Reliability Assessment Group (ERAG)
The primary function of the Eastern Interconnection Reliability Assessment Group (ERAG) is to support reliability of the bulk-power system in the Eastern Interconnection through periodic reviews of generation and transmission expansion. These assessments are conducted by the ERAG Committee.

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

ERAG Committee Activities 2022 Goals and Deliverables

- Oversee the steady state and dynamic simulation base case data compilation and development.
- Oversee the ERAG assessment plan and coordinate assessment efforts with NERC Assessment Program staff. Determine the targeted ERAG assessment topic for 2022. Determine the method of assessment: analytical study, research effort, peer review.
- Make appropriate revisions, as necessary, to the ERAG Strategic Direction (i.e. anticipated new developments in MMWG process and system assessments).
- Develop and approve the ERAG activity budgets.

Multi-Regional Modeling Working Group 2022 Goals and Deliverables

- Facilitate the completion of the steady state and dynamic simulation base case data compilation and development for the 2022 series of cases.
- Check and confirm that the dynamic model data passes all applicable checks and acceptance criteria and emphasize the accurate modeling of distributed energy resources.
- Incorporate dispatch information into the future and seasonal MMWG base cases so that the dispatches are more closely aligned with economic dispatch practices.
- Continue to improve the representations of the governor-turbine plant control models.
- Apply MMWG base case non-disclosure agreement process so that MMWG cases continue to have sufficient protections in place for use and transmittal of confidential data and information.

ERAG System Assessments 2022 Goals and Deliverables

- Determine an appropriate topic of focus for the 2022 ERAG Assessment. In recent years, ERAG has conducted peer reviews on select topics in lieu of conducting assessments. Conduct the 2022 ERAG Assessment and prepare any associated documentation.
- Coordinate Assessment efforts with the NERC Reliability Assessment and Performance Analysis (RAPA) Program staff to incorporate any risk-based or other approaches to supplement NERC Assessments.

Bulk Electric System Notification and Exception (BESnet) application and Exception Request (ERs)

NPCC supports maintenance of the BESnet application and the processing of the Regional BES Exception Requests (ERs), including periodic certifications that the basis for an Element being included or excluded in the BES through the Exception remains valid. One NPCC Exclusion Exception Request is due for recertification in 2022. There are currently no pending or ongoing Exception Request that are expected to extend into 2022. However, Exception Requests are mainly entity driven and can be submitted at any time. NPCC resources, supplemented by contractor support would be utilized to process and evaluate submitted Exception Requests.
Furthermore, NPCC Staff may be requested to participate on other Regions' Technical Review Panel as part of the NERC Rules of Procedure, Appendix 5C – Procedure for Requesting and Receiving an Exception from the Application of the NERC Definition of Bulk Electric System.

2022 NERC Activities

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

- Reliability and Security Technical Committee (RSTC)
- Inverter-Based Resource Performance Working Group (IRPWG)
- Performance Analysis Subcommittee (PAS)
  - Demand Response Availability Data System User Group (DADSUG)
  - Generating Availability Data System User Group (GADSUG)
  - Misoperation Information Data Analysis System User Group (MIDASUG)
  - Transmission Availability Data System User Group (TADSUG)
- Reliability Assessment Subcommittee (RAS)
  - Probabilistic Assessment Working Group (PAWG)
- Security Integration and Technology Enablement Subcommittee (SITES)
- Load Modeling Working Group (LMWG)
- System Protection and Control Working Group (SPCWG)
- Synchronized Measurement Working Group (SMWG)
- System Planning Impacts from Distributed Energy Resources Working Group (SPIDERWG)
  - SPIDERWG Studies Sub-Group
  - SPIDERWG Modeling Sub-Group
  - SPIDERWG Coordination Sub-Group
  - SPIDERWG Verification Sub-Group
- Electric-Gas Working Group (EGWG)
- Energy Reliability Assessment Task Force (ERATF)
- Electro Magnetic Pulse Task Force (EMPTF)

- ERO RAPA Steering Group (ERO RAPA-SG)
  - Reliability Assessment Ad Hoc Team
  - Performance Analysis Ad Hoc Team
  - Event Analysis Ad Hoc Team
  - Situational Awareness Ad Hoc Team
  - System Analysis Ad Hoc Team

ERO Enterprise Transformational activities

- ERO Proven Test Laboratories

ERO – Operations Leadership Team (OLT) 2022 Activities

- Provide analytic support for the ERO Executive Committee;
- Bulk Electric System Exception Process and BES Definition sub-team, under Organization Registration and Certification Group (ORCG);
- ERO-RAPA Steering Group; and,
- Other activities as directed by the ERO Executive Committee.

Task Force on Coordination of Planning

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

TFCP Reliability Assessment and Performance Analysis 2022 Goals and Deliverables

- Coordinate the development of additional Criteria as necessary and track any new and developing standards through the Regional Standards Committee (RSC).
- Continue Directory No. 1 review as per the recommendation from the Strategic Review of NPCC Regional Reliability Criteria.
- Oversee the Directory No. 1 Implementation Plan (Dated: September 30, 2015).
- Conduct through the CP-8 Working Group the seasonal reliability assessments and review the load shape assumption used in NPCC Multi-Area Probabilistic Reliability Assessments.
- Conduct through the CP-8 Working Group an update to the NPCC Interregional Long-Range Adequacy Overview and the NERC Probabilistic Assessment Study of the NPCC Region.
- Evaluate and approve Area Transmission Reviews.
- Evaluate and approve Area Reviews of Resource Adequacy.
- Coordinate, monitor, review, and make recommendations on the retirement of existing in-service Remedial Action Schemes (RAS); and the implementation of proposed new or modified RAS.
- 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 regional initiatives.
- Review the load shape assumption through the CP-8 Working Group used in NPCC Multi-Area Probabilistic Reliability Assessments.
- Monitor and review the development of NERC Standards through the RSC.

- Monitor the reliability issues associated with fuel supply, demand resources, energy efficiency, and conservation methods including all intermittent renewable resources, including distributed energy resources and make recommendations to NPCC as appropriate.
- Support the NPCC Regional Standards Committee ("RSC") as required.
- Members keep TFCP informed on studies and developments with neighboring systems which might impact NPCC.
- Monitor the actions of applicable NERC committees as a standing agenda item at the face-to-face TFCP meeting in the areas of resource and transmission adequacy, system protection and system control to determine their impact on the NPCC and any potential adjustments to Criteria.
- Lead the NPCC Task Forces in the on-going effort of reviewing and revising the NPCC Glossary of Terms (established in 2011 after NPCC Document A-7 was retired).
- Review Events Analysis Lessons Learned using the Events Analysis discussion/review template.
- Facilitate Wide-Area Planning through participation in regional activities and coordinate inter-Area reliability analysis.

Task Force on System Studies

The primary mission of the NPCC Task Force on System Studies (TFSS) is to provide active overall coordination of system studies of the reliability of the international interconnected bulk power systems in Northeastern North America and for the review of related NPCC documents.

TFSS Reliability Assessment and Performance Analysis 2022 Goals and Deliverables

- Review and recommend approval of Area Transmission Reviews.
- Review and classify new and modified Remedial Action Schemes.
- Review and recommend approval of changes to the NPCC list of bulk power system elements.
- Review and process Multiple Circuit Tower exclusions.
- Participate in the development and submission of NPCC comments/inputs into the development of regional and/or continent-wide reliability standards that address the NERC Reliability Standards.
- Provide support and technical input, for Task Force related Bulk Electric System risks as identified by the NERC Reliability Issues Steering Committee.
- Review existing NPCC Regional Criteria and procedures for validation of data used in power flow and dynamic simulations; propose changes to provide for adequate data validation.
- Perform investigation of Distributed Energy Resources modeling practices.
- Annually develop a library of power flow base cases and associated dynamic cases.
- Enable the annual review of the NPCC event replication procedure and ensure the preparedness of the NPCC Planning Coordinators to develop base cases for a required investigation of a major system event in or affecting NPCC and support the performance of event replication by benchmarking simulations against actual system performance.
- Work with software vendors and NERC to enhance the capability for dynamic simulations.
- Continue to investigate the use of dynamic load models for transient stability studies.
- Investigate the use of load monitoring equipment to aid in the benchmarking of dynamic load models used in transient stability studies.

- Develop voluntary guidelines for meeting Requirements of NERC Standard TPL-007 on Geomagnetic Disturbances.

Task Force on System Protection

The primary purpose of the NPCC Task Force on System Protection (TFSP) is to promote the reliable and efficient operation of the international interconnected bulk power systems in Northeastern North America through the establishment of directories, criteria, guidelines, and procedures and coordination of design, relative to NPCC protection systems.

TFSP Reliability Assessment and Performance Analysis 2022 Goals and Deliverables

- Assess proposed protection systems and remedial action schemes.
- Review and respond to Questions, Requests for Interpretations and/or Clarifications related to bulk power system protection requirements in NPCC Directories and Criteria.
- Participate in the ongoing development and submission of NPCC inputs/comments into the development of bulk electric system protection related NERC Reliability Standards.
- Manage the misoperations review and analysis of transmission and generation protection systems.
- Monitor the NPCC metric on protection system Entity Misoperation Risk Index Score (Entity MRI Score) to enhance NPCC ability to analyze the risks associated with misoperations and to encourage entities to take appropriate actions and mitigation plans to further reduce misoperation.
- Review mitigations and/or progress reports for Bulk Power System Risk Reduction Implementation.
- Provide support and technical input for related protection system risks as identified by the NERC Reliability Issues Steering Committee.
- Conduct review/development of related NPCC Directories.
- Consistent with the TFSP's scope, conduct joint meeting with other Regions to share best practices and experiences.
- Discuss NERC CIP standards and its impact on protection system design and operation.
- Discussion on how TOs are complying with PRC-026 and PRC-027 standards.

Task Force on Coordination of Operation

The NPCC Task Force on Coordination of Operation (TFCO) primarily facilitates the coordination of operations among the NPCC Reliability Coordinator areas and adjacent NERC Regions to enhance the reliability of the bulk power system.

TFCO Reliability Assessment and Performance Analysis 2022 Goals and Deliverables

- Prepare and conduct the spring and autumn NPCC System Operator Seminars.
- Develop and securely disseminate the annual compilation of "Facilities for Notification."
- Review a biennial summary of operating tool failures and lessons learned for the preceding study period.
- Support an annual enhanced, wide-area restoration drill among the Reliability Coordinator areas of NPCC and their neighboring Reliability Coordinators incorporating the annual review of the NPCC regional restoration plan.
- Support and take part in a biennial, continent-wide Grid Security Exercise (GridEx), including a review of the associated reports and Lessons Learned.

- Coordinate system awareness among NPCC RCs through periodic conference calls. This includes the existing emergency preparedness, NPCC weekly and daily system operator conference calls.
- Monitor the trends and impacts of the changing resource mix and the effects of the proliferation of the new resources (intermittent, DER, batteries, hybrid resources, etc.) on real-time operations, including energy sufficiency issues, behavior during and impacts on recovery and restoration plans, to support reliable integration of regulatory decarbonization goals and evaluate opportunities for a coordinated approach to enhancing system resilience and addressing energy sufficiency concerns.
- Review and analyze the performance of Simultaneous Activation of Reserve (SAR) implementation following an event to enhance the process.
- Conduct seasonal NPCC Reliability Assessment and incorporate the multi-area probabilistic simulation results in each assessment. Coordinate the NPCC input for the annual short-term NERC Reliability Assessment Subcommittee assessment.
- Develop respective scopes for and conduct reviews of applicable NPCC Directories, Criteria, Guides and Procedures in accordance with their applicable review dates.
- Assess the current capabilities of system operations communication systems.
- Consider, evaluate, and identify risk mitigating actions, tools and processes for various aspects of security (cyber and physical) in operations, and restoration activities.

NPCC estimates that it will expend 21% of its resources on Reliability Assessment and Performance Analysis activities.

Resource Requirements

Personnel

- Increase of one FTE to develop data analytics and visualization tools, to support the NERC ERO Analytical Community of Excellence initiative and to support the Reliability and Security Technical Committee's Energy Reliability Assessment Task Force on behalf of NPCC.

Meetings

- Reduction in meetings and travel expenses based on changes in meeting formats related to COVID-19 pandemic. It is expected that some meetings will continue to be held in virtual formats such as teleconference or webinar to allow for remote participation and greater access throughout 2022.

Consultants and Contracts

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

Reliability Assessment and Performance Analysis Program

Funding sources and related expenses for the Reliability Assessment and Performance Analysis section of the 2022 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 2021 Budget & Projection, and 2022 Budget Reliability Assessment and Performance Analysis						
	2021 Budget	2021 Projection	Variance 2021 Projection v 2021 Budget Over(Under)	2022 Budget	Variance 2022 Budget v 2021 Budget Over(Under)
Funding					
ERO Funding					
ERO Assessments	$ 3,280,822	$ 3,280,822	$ -	$ 3,710,864	$ 430,043
Penalty Sanctions	33,948	33,948	-	33,307	(642)
Total ERO Funding	**$ 3,314,770**	**$ 3,314,770**	**$ -**	**$ 3,744,171**	**$ 429,401**
Membership Dues	-	-	-	-	-
Testing Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Workshops & Misc Revenue	-	-	-	-	-
Interest & Investment Income	-	-	-	-	-
Total Funding (A)	**$ 3,314,770**	**$ 3,314,770**	**$ -**	**$ 3,744,171**	**$ 429,401**
Expenses					
Personnel Expenses					
Salaries	$ 1,017,371	$ 1,120,023	$ 102,652	$ 1,232,794	$ 215,423
Payroll Taxes	64,068	71,282	7,214	79,765	15,697
Benefits	280,566	322,822	42,256	332,187	51,621
Retirement Costs	110,034	120,694	10,660	133,166	23,133
Total Personnel Expenses	**$ 1,472,039**	**$ 1,634,822**	**$ 162,782**	**$ 1,777,913**	**$ 305,873**
Meeting Expenses					
Meetings & Conference Calls	$ 17,600	$ 8,800	$ (8,800)	$ 17,250	$ (350)
Travel	172,960	86,480	(86,480)	129,720	(43,240)
Total Meeting Expenses	**$ 190,560**	**$ 95,280**	**$ (95,280)**	**$ 146,970**	**$ (43,590)**
Operating Expenses, excluding Depreciation					
Consultants & Contracts	$ 647,000	$ 647,000	$ -	$ 692,000	$ 45,000
Office Rent	-	-	-	-	-
Office Costs	3,000	3,000	-	8,030	5,030
Professional Services	-	-	-	-	-
Computer & Equipment Leases	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Total Operating Expenses, excluding Depreciation	**$ 650,000**	**$ 650,000**	**$ -**	**$ 700,030**	**$ 50,030**
Total Direct Expenses	**$ 2,312,599**	**$ 2,380,102**	**$ 67,502**	**$ 2,624,913**	**$ 312,314**
Indirect Expenses	**$ 986,305**	**$ 986,305**	**$ -**	**$ 1,100,852**	**$ 114,548**
Other Non-Operating Expenses	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Total Expenses (B)	**$ 3,298,904**	**$ 3,366,406**	**$ 67,502**	**$ 3,725,765**	**$ 426,861**
Change in Net Assets (=A-B)	**$ 15,866**	**$ (51,636)**	**$ (67,502)**	**$ 18,406**	**$ 2,540**
Fixed Asset Additions, excluding Right of Use Assets (C)	**$ 15,866**	**15,866**	**$ -**	**$ 18,406**	**$ 2,540**
TOTAL BUDGET (=B+C)	**$ 3,314,770**	**$ 3,382,272**	**$ 67,502**	**$ 3,744,171**	**$ 429,401**
TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)	**$ 0**	**$ (67,502)**	**$ (67,502)**	**$ 0**	**$ 0**

Table A - 6: Reliability Assessments and Performance Analysis (RAPA) Budget Detail

Training, Education, and Operator Certification Program

Training, Education, and Operator Certification Program Resources (in whole dollars)	2021 Budget	2022 Budget	Increase (Decrease)
Total FTEs	0.10	0.10	0.00
Direct Expenses	$223,835	$155,578	($68,257)
Indirect Expenses	$18,131	$17,067	($1,063)
Other Non-Operating Expenses	$0	$0	$0
Inc(Dec) in Fixed Assets	$292	$285	($6)
Total Funding Requirement	$242,257	$172,931	($69,326)

Table A - 7: Training, Education, and Operator Certification Budget

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.

This NPCC Program establishes and coordinates training for system operators relating to inter-Reliability Coordinator area matters, criteria, terminology, standards and operating procedures and instructions. It includes development and execution of training seminars, held twice yearly, at which:

- Potential operational problems for the coming season are discussed;
- Physical layouts and electrical characteristics of the NPCC and PJM Areas are discussed;
- Application of NPCC Directory and NERC Standard requirements pertinent to operation are discussed;
- Major industry issues that are important for system operators are discussed;
- Significant disturbances are reviewed for lessons learned; and
- Table-top drills and communication and coordination exercises are conducted.

The seminars promote camaraderie and better communication among system operators from the NPCC and PJM Reliability Coordinator (RC) Areas and the Nova Scotia Balancing Authority (BA) area, as well as Newfoundland and Labrador Hydro (NLH) Energy Control Center operations. PJM RC has significant interaction with the NPCC RCs and system operators from PJM have been regular participants at past seminars. With the completion of the DC links connecting Newfoundland and Labrador Hydro to the Quebec and Eastern Interconnections, NLH has been increasing their engagement with NPCC, including active participation in the system operator seminars. Examples of specific topics addressed at recent seminars include: 1) System Operators COVID-19 Pandemic Operations, 2) human performance related to system operations, 3) COVID-19 Impact to System Load, 4) cybersecurity threats and system operator concerns - Lessons Learned: Ukraine Cyberattack, 5) system restoration approaches and tie-ins to neighboring systems, including hot line restoration and 6) overview of NPCC and preview of the 2020 NERC Long-Term Reliability Assessment. Usually, control center or other pertinent visits are included as part of the seminar activities.

This Program also provides for:

- Sharing of RC/BA existing training program and system simulator area content;
- Verification and sharing of training methods;
- Evaluation of training and simulator aids as they become available;
- Opportunities to consolidate training among the NPCC RCs and BAs, which includes opportunities to share training material and training sessions; and
- Exchange of information on internal methods of system operator training.

2022 Key Assumptions

- Build appropriate outreach, training, and education to registered entities through NERC and the Regional Entities to reduce the incidence of known risks to reliability.
- Nurture relationships with key industry trade associations, as well as those associations representing technology, affiliated sectors, and end users to understand context and leverage their experience and reach.
- Collaborate effectively with other non-profit organizations that share elements of the ERO Enterprise's reliability and security mission, and seek out and work with representatives of academia, other critical infrastructures, and international experts to broaden the ERO Enterprise's collective knowledge and awareness of current and unknown risks and strategies to address them.
- Provide the Regional perspective and support with appropriate NPCC Training and Education staff participation on selected NERC Committees, including the ERO Enterprise and NATF Electric Power Human Performance Improvement Symposium (EPHPIS) Organizing Committee.

Activities below further support the NPCC 2021-2024 Strategic Plan through targeted discussion of operational impacts and considerations in the specific Focus Areas, including:

- System resilience and critical infrastructure interdependencies,
- Reliably Integrating the Resources brought forward by Societal De-carbonization Objectives, including DERs, VERs, energy storage, etc.; and,
- Identifying and collaboratively advancing better practices to mitigation of security threats.

Funding Drivers and Reliability Benefits:

- System operators participating in the Seminars: 1) share various approaches to addressing operational problems and learn about the characteristics of neighboring systems; 2) gain exposure to NPCC issues and current industry operational topics; 3) review recent NPCC and PJM major external disturbances; 4) review key operational related content in NPCC Directories and NERC Standards; and 5) participate in hands-on "tabletop exercises" pertaining to system operational practices. PJM system operators and trainers are also invited to participate and normally attend and participate in these seminars.
- Seminar attendees also receive Continuing Education Hours (CEHs) (normally 3 CEHs) and operator trainers from each RC/BA area can utilize the seminar content by including it in their internal training programs to provide CEHs to all system operators; The seminars help to improve system operational coordination through better contact among system operators at other Reliability Coordinator Areas.
- Continually review and revise the curriculum of the training seminars to better emphasize NERC Standard requirements related to system operation, NPCC wide-area operations and Regionally-specific criteria and procedures.

- Enhance system operator awareness and knowledge of the standards, criteria and procedures that are applied in real time operation.
- Provide more sharing of training approaches, exchange of information on internal methods of system operator selection, training material and training sessions.
- Enhance efficiency and cost savings in the training programs in the NPCC RC/BA areas:
- Provide a forum among NPCC RC/BA areas for sharing of approaches to meet the requirements of the NERC PER and COM standards.
- NPCC will conduct one in-person and two virtual Standards and Compliance workshops in 2022, 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).

In addition to the Standards and Compliance workshops, NPCC regularly conducts System Operators seminars, specifically designed with tabletop exercises, targeted breakout classroom sessions and presentations on current industry related activities, to provide for the most efficient exchange of information between the NPCC and Areas' training staff, NPCC Compliance and Standards staff and the NPCC Stakeholders. Presentations in the past have been conducted by FERC, NERC and Stakeholder representatives in addition to NPCC and Areas' training staff members. To supplement these seminars and workshops, NPCC may develop webinars that will focus on specific topics pertinent to developments related to system operations, compliance program implementation, standards development or technical issues.

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

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

2022 Goals and Key Deliverables

- Prepare and conduct the 2022 Spring and Fall NPCC System Operator Seminars.
- Continue collaboration and sharing of the intended RC/BA approaches, experiences and materials to task identification and training development.
- As needed, enhance the NPCC repository of training resources and learning verification activities addressing fundamental power system topics, training methods and operation procedure training exercises, which may be shared as elements of operator training in compliance with NERC Standards PER-003-1 "*Operating Personnel Credentials"* and PER-005-2 "*Operations Personnel Training.*"
- Develop on-line operational training webinars that focus on specific topics pertinent to compliance program implementation, standards development or technical issues.

- Conduct Spring and Fall 2021 Standards and Compliance workshops addressing the development of NERC and Regional Reliability Standards and the implementation of the Compliance Monitoring and Enforcement Program (CMEP).
- Support EPHPIS Organization Committee activities and execution of the HP symposium.
- Participate on the Reliability Training WG and collaborate with the NPCC CO-2 Operations Training WG and other NPCC Members' training personnel on the activities related to the reliable operation of the BES.

NPCC estimates that it will expend 1% of its resources on training, education, and operator certification activities.

Resource Requirements

Meetings

- Reduction in meetings and travel expenses based on changes in meeting formats related to COVID-19 pandemic. It is expected that some meetings will continue to be held in virtual formats such as teleconference or webinar to allow for remote participation and greater access throughout 2022. NPCC began holding virtual Standards and Compliance Workshops during 2020 due to the COVID-19 pandemic. Based on high levels of participation and positive feedback on the virtual workshop format, NPCC plans to hold two virtual workshops and one in-person workshop in 2022.

Training, Education, and Operator Certification Program

Funding sources and related expenses for the training, education, and operator certification section of the 2022 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
2021 Budget & Projection, and 2022 Budget
Training, Education, and Operator Certification

	2021 Budget	2021 Projection	Variance 2021 Projection v 2021 Budget Over(Under)	2022 Budget	Variance 2022 Budget v 2021 Budget Over(Under)
Funding					
ERO Funding					
ERO Assessments	$ 174,133	$ 174,133	$ -	$ 138,664	$ (35,469)
Penalty Sanctions	624	624	-	516	(108)
Total ERO Funding	**$ 174,757**	**$ 174,757**	**$ -**	**$ 139,181**	**$ (35,576)**
Membership Dues	-	-	-	-	-
Testing Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Workshops & Misc Revenue	67,500	-	(67,500)	33,750	(33,750)
Interest & Investment Income	-	-	-	-	-
Total Funding (A)	**$ 242,257**	**$ 174,757**	**$ (67,500)**	**$ 172,931**	**$ (69,326)**
Expenses					
Personnel Expenses					
Salaries	$ 18,352	$ 23,909	$ 5,558	$ 23,642	$ 5,290
Payroll Taxes	1,068	1,518	450	1,471	403
Benefits	6,091	6,863	771	6,283	192
Retirement Costs	2,324	2,462	138	2,434	110
Total Personnel Expenses	**$ 27,835**	**$ 34,752**	**$ 6,917**	**$ 33,830**	**$ 5,995**
Meeting Expenses					
Meetings & Conference Calls	$ 184,000	$ 28,000	$ (156,000)	$ 112,400	$ (71,600)
Travel	12,000	6,000	(6,000)	9,000	(3,000)
Total Meeting Expenses	**$ 196,000**	**$ 34,000**	**$ (162,000)**	**$ 121,400**	**$ (74,600)**
Operating Expenses, excluding Depreciation					
Consultants & Contracts	$ -	$ -	$ -	$ -	$ -
Office Rent	-	-	-	-	-
Office Costs	-	-	-	348	348
Professional Services	-	-	-	-	-
Computer & Equipment Leases	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Total Operating Expenses, excluding Depreciation	**$ -**	**$ -**	**$ -**	**$ 348**	**$ 348**
Total Direct Expenses	**$ 223,835**	**$ 68,752**	**$ (155,083)**	**$ 155,578**	**$ (68,257)**
Indirect Expenses	**$ 18,131**	**$ 18,131**	**$ -**	**$ 17,067**	**$ (1,063)**
Other Non-Operating Expenses	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Total Expenses (B)	**$ 241,965**	**$ 86,883**	**$ (155,083)**	**$ 172,645**	**$ (69,320)**
Change in Net Assets (=A-B)	**$ 292**	**$ 87,875**	**$ 87,583**	**$ 285**	**$ (6)**
Fixed Asset Additions, excluding Right of Use Assets (C)	**$ 292**	**$ 292**	**$ -**	**$ 285**	**$ (6)**
TOTAL BUDGET (=B+C)	**$ 242,257**	**$ 87,174**	**$ (155,083)**	**$ 172,931**	**$ (69,326)**
TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)	**$ (0)**	**$ 87,583**	**$ 87,583**	**$ (0)**	**$ 0**

Table A - 8: Training, Education, and Operator Certification Budget Detail

Situation Awareness and Infrastructure Security Program

Situation Awareness and Infrastructure Security Program Resources (in whole dollars)	2021 Budget	2022 Budget	Increase (Decrease)
Total FTEs	5.40	5.60	0.20
Direct Expenses	$1,411,680	$1,489,849	$78,169
Indirect Expenses	$979,052	$955,779	($23,274)
Other Non-Operating Expenses	$0	$0	$0
Fixed Asset Additions	$15,749	$15,980	$231
Total Funding Requirement	$2,406,482	$2,461,608	$55,126

Table A - 9: Situation Awareness and Infrastructure Security Budget

Program Scope and Functional Description

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

NPCC's Event Analysis Program resides within the SAIS program area and supports the overall goal of promoting the reliability of the bulk power system in Northeastern North America and the entire North American grid. NERC, Regions and the industry analyze events, identify the lessons to be learned, and conduct a formal cause code analysis. The Event Analysis Program recognizes that many events, which occur on the bulk power system beyond those identified through NERC Reliability Standard EOP-004, "Event Reporting," can have varying levels of significance to the electric system. By implementing a "bottom-up" approach to an event review within the framework of the NERC Event Analysis Program consistency, comparability, flexibility, quality and timeliness in the event analysis process will be promoted by NPCC, the registered entities and NERC in a collaborative initiative, resulting in industry lessons learned and trends identify and prioritizing possible reliability concerns.

2022 Key Assumptions

- Use the full suite of tools, activities and resources for risk mitigation to provide guidance to industry as to how to mitigate emerging risks, evaluating the effectiveness of such approaches.
- Build/enhance appropriate outreach, training, and education to registered entities to reduce the incidence of known risks to reliability.

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

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

- Event Analysis Subcommittee (EAS)
- Event Analysis Ad Hoc Team
- Situational Awareness Ad Hoc Team
- NERC Physical Security Advisory Group (PSAG)

Activities below further support the NPCC 2021-2024 Strategic Plan through targeted discussion of operational impacts and considerations in the specific Focus Areas, including targeted activities, such as:

- Enhancing System Resilience and Assuring Energy Sufficiency
    - Assessing gas-electric interdependencies, as well as other common mode failure and single points of disruption scenarios involving communications, water, and other interdependent critical infrastructure sectors.

- Addressing Cyber and Physical Threats
    - Developing Regional concurrence on appropriate levels of cyber resilience, the adequacy of security controls, and methodologies to simulate cyber impacts on BPS reliability;
    - Expanding Regional support for and interaction with the E-ISAC and enhancing actionable information sharing within Northeastern North America; and,
    - Identifying and collaboratively advancing better practice approaches to mitigating cyber and physical security threats.

The monitoring of Lessons Learned will continue to be a major focus of NERC and NPCC in 2022, including:

- Continued reporting and processing of qualifying events in the voluntary Event Analysis Program (EAP);
- Consideration and collaboration with E-ISAC on analysis process of security related events, including notifications related to CIP-008-6 – Cyber Security – Incident Reporting and Response Planning; and,
- Analysis of non-EAP qualifying events, continued utilization of a revised Category 1h - EMS/Loss of monitoring or control at a Control Center events Brief Report template and Addendum, developed with the input of the EMS Working Group to ensure continuation of analysis of such events to improve information collection related to such events and associated analysis, taking into account the modifications to the mandatory EOP-004-4 reporting requirements thresholds.
- TFIST support of the following activities:
    - Supply Chain – new version of the Standard, more guidelines by RSTC's Supply Chain WG and industry (like NATF)
    - Virtualization – updates to most CIP Standards
    - CIP-012 – development and implementation of the new version of the Standard (version 2)
    - CIP-008 – assist in new metrics and follow up on NPCC incidents.
    - Coordinate TFIST activities with:
    - NERC's Security Integration and Technology Enablement Subcommittee (SITES),
    - NERC's Security Working Group (SWG),
    - NERC's Evidence Request Tool team
    - IST-4 WG – update CIP-012 version 1 implementation suggestions for version 2
    - Grid Ex VI - implement recommendations.
    - BES Cyber Systems Information (BCSI) - CIP updates approval and registered entities' implementation
    - IST-2 WG
    - Annual report on previous year's monthly tests of cross-border emergency telecommunications
    - Monthly tests of cross-border emergency telecommunications
    - Development of the Ring Down NPCC Guideline (Type "B") Document
    - Implementation of applicable findings and recommendations from NPCC's 2021 telecommunications during restoration goal
    - Activities pertaining to the new CIP-002 version of the standard.

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

2022 Goals and Key Deliverables

Situation Awareness 2022 Goals and Key Deliverables

- NPCC will provide the Regional perspective through NPCC staff support of the NERC Reliability and Security Technical Committee and participation on the key related NERC Subcommittees, Task Forces and Working Groups, including the Event Analysis Subcommittee, the ERO – Event Analysis and Situational Awareness Group. Work directly with applicable NPCC Task Forces and Working Groups to provide an in-depth assessment of Lessons Learned unique to the NPCC Members and NPCC Criteria.
- Situation Awareness:
    - Monitor the operational status of the bulk power system and coordinate normal and pre-emergency communication, awareness and assistance in addition to the same during an emergency among the Reliability Coordinators within NPCC. These events include contingencies on the bulk power system, potential shortfalls of operating reserve, operating problems, potential security threats and potential threats or disruptions to the cyber systems.
    - Prepare daily reports and conduct daily and weekly conference calls to serve as a complement to the NPCC Emergency Preparedness Conference Call. The participants of the calls are the Reliability Coordinators within NPCC and its neighboring RCs, the Midcontinent ISO and PJM.
    - Monthly test of the satellite telephone network, to ensure the capability for continued voice communications among NPCC and its Reliability Coordinators.
    - Monthly test of the NPCC Emergency Preparedness Communications Procedure, as required.
    - Coordination and communication with the NERC Bulk Power System Awareness group in preparation for and during ongoing significant events in the NPCC's footprint.
    - Participation in the ERO Enterprise-wide Situation Awareness activities, including NERC SA Oversight Plan specified goals and deliverables in support of the activities to identify, prioritize, and assure effective and efficient mitigation of risk to the reliability and security of the North American Bulk Power System (BPS).
    - Monitor the status of the bulk power system through the NERC Situational Awareness-FERC, NERC, Regions version 3 (SAFNRv3) tool.
    - Coordinating inter-Regional pre-emergency actions in the event of a threat to the security of the Northeastern North American bulk power supply system.
    - Assisting in the development and performance of real-time operating tools ensuring cyber security concerns are addressed.

- Review and implementation of applicable recommendations and lessons learned from the planning and distributed play activities of the GridEx VI wide-area exercise.
- Participation in the ERO Enterprise-wide SA activities, including NERC SA Oversight Plan specified goals and deliverables in support of the activities to identify, prioritize, and assure effective and efficient mitigation of risk to the reliability and security of the North American Bulk Power System (BPS), including such activities as:
    - NERC Bulk Power Situational Awareness calls
    - Participation in the ERO Enterprise Crisis Action Plan (CAP) tabletop exercises and enhancements to the CAP processes
    - Participation in the ERO Enterprise CAP activations
- Support implementation and activities of NPCC's Emergency Communications Plan.

- Events Analysis:
    - Continue to promote, implement and manage voluntary ERO Event Analysis Process (EAP) and Cause Coding process as part of the ERO Event Analysis Program, including review and analysis of applicable, qualifying events, development of lessons learned and cause coding of events.
    - Promote NPCC's Event Analysis group's process for sharing and dissemination of the detailed Event Analysis Report information among industry participants (registered entities).
    - Participation in the ERO Enterprise-wide Events Analysis activities, including NERC EA Oversight Plan specified goals and deliverables in support of the activities to identify, prioritize, and assure effective and efficient mitigation of risk to the reliability and security of the North American Bulk Power System (BPS).
    - Work directly with applicable NPCC Task Forces and Working Groups to provide an in-depth assessment of Lessons Learned unique to the NPCC Members and NPCC Criteria and development of Regional Insights, as applicable.
    - Support ERO Enterprise lessons learned development through participation on the NPCC events lessons learned review teams, as well as lessons learned from other Regional Entities and NERC.

Infrastructure Security 2022 Goals and Deliverables

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

- Providing a forum for NPCC review of proposed and posted documents from the NERC Reliability and Security Technical Committee (RSTC) and its subgroups; and,
- Representing and advocating NPCC's position in the activities of NERC groups involved in the development and/or implementation of physical and cyber security.

NPCC's physical and cyber security outreach efforts, will supplement infrastructure security focus areas and support the ERO Enterprise contributing activity of "Strengthen relationships and intelligence sharing with key government agencies, such as the DOE as the U.S. electricity sector-specific agency, the Department of Homeland Security (DHS), as well as Natural Resources Canada (NRCan), Canada's Communications Security Establishment" and "Build appropriate

outreach, training, and education to registered entities through NERC and the Regional Entities to reduce the incidence of known risks to reliability" as it pertains to the operational security (both cyber and physical). Security outreach activities will include development of periodic Security Bulletins, presenting to TFIST, development/promotion of best practice, expand interaction & engagement with the E-ISAC, and perform Cyber Outreach sessions to assess entity implementation of CIS Critical Security Control.

Furthermore, NPCC's Security Outreach program will support ERO Enterprise activities aimed at addressing known and emerging security risks to strengthen and enhance industry security posture through active participation and engagement in the ERO Enterprise and industry activities, including:

- ERO Enterprise Security Initiative - with focus on the development, coordination and promotion of physical and cyber security efforts, including sharing of best practices; development of security training and participation in regional and continent-wide security exercises; and supporting NERC, the Regions and industry on matters related to the interface between reliability and security, including providing support for the implementation of risk mitigation priorities recommended by the Reliability Issues Steering Committee (RISC). These efforts will bolster the ongoing security efforts of industry and the ERO Enterprise as a whole.
- Reliability and Security Technical Committee's Security Integration and Technology Enablement Subcommittee activities

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

Infrastructure Security 2022 Goals and Deliverables:

- Monitor the reliable implementation of the Cyber Security Standards.
- Monitor the Homeland Security Information Network (HSIN), E-ISAC, NERC Alerts, Canadian Information Sharing and North American Transmission Forum and share information with CO-8.
- 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 and Notice of Inquiry.
- Provide support and technical input for TFIST and PSWG related to the Bulk Power System risks as identified by the NERC Reliability Issues Steering Committee;

support, discuss and coordinate activities and approaches identified in the recommendations for mitigating security risks.

- Support NERC GridEx VI activities and after-action report development and review and of pertinent recommendations and lessons learned of the exercise.
- Review infrastructure security & technologies and provide recommendations to RCC to enhance physical and cyber security in compliance with NERC guidelines/standards.
- Provide recommendations to RCC 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 Entities associated with infrastructure security and technology.
- Provide education, awareness, and support for Cross Sector coordination in Entity agreements and response plans with focus upon Telecommunications, Water and Natural Gas, including monitoring and sharing with the E-ISAC.
- Provide physical and cyber security outreach services to registered entities.
- Support ERO Enterprise Security Initiative and grow coordination and collaboration with the ERO, E-ISAC, other NERC Regions and US and Canadian federal, state and local Authorities.
- Physical Security Working Group shall exchange information regarding approaches to physical security that will enhance the reliability and resiliency of the BPS and further address any physical security threats that could challenge efficient operation of the BPS. The Physical Security Working Group will also support TFIST in their work on issues related to Physical Security.
- Conduct an annual review of cross border emergency telecommunications to verify each Area can communicate with each other.
- Provide a forum for members of NPCC, NPCC Task Forces and Working Group to identify and discuss cyber security issues and practices related to the bulk power system, including Bulk Electric System cyber security topics that span one or more Task Forces or Working Groups.

NPCC estimates that it will expend 15% of its resources on situation awareness and infrastructure security activities.

Resource Requirements

Personnel

- Increase of 0.20 FTE to support security outreach.

Meetings

- Reduction in meetings and travel expenses based on changes in meeting formats related to COVID-19 pandemic. It is expected that some meetings will continue to be held in virtual formats such as teleconference or webinar to allow for remote participation and greater access throughout 2022.

Consultants and Contracts

- Decrease in consultants and contracts based on planned utilization.

Situation Awareness and Infrastructure Security Program

Funding sources and related expenses for the situation awareness and infrastructure security section of the 2022 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 2021 Budget & Projection, and 2022 Budget Situation Awareness and Infrastructure Security						
	2021 Budget	2021 Projection	Variance 2021 Projection v 2021 Budget Over(Under)	2022 Budget	Variance 2022 Budget v 2021 Budget Over(Under)
Funding					
ERO Funding					
ERO Assessments	$ 2,372,783	$ 2,372,783	$ -	$ 2,432,690	$ 59,907
Penalty Sanctions	33,699	33,699	-	28,918	(4,781)
Total ERO Funding	**$ 2,406,482**	**$ 2,406,482**	**$ -**	**$ 2,461,608**	**$ 55,126**
Membership Dues	-	-	-	-	-
Testing Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Workshops & Misc Revenue	-	-	-	-	-
Interest & Investment Income	-	-	-	-	-
Total Funding (A)	**$ 2,406,482**	**$ 2,406,482**	**$ -**	**$ 2,461,608**	**$ 55,126**
Expenses					
Personnel Expenses					
Salaries	$ 885,454	$ 994,972	$ 109,519	$ 1,009,298	$ 123,844
Payroll Taxes	60,595	68,001	7,405	68,007	7,412
Benefits	233,918	204,051	(29,867)	202,785	(31,133)
Retirement Costs	96,873	108,460	11,587	110,066	13,193
Total Personnel Expenses	**$ 1,276,840**	**$ 1,375,484**	**$ 98,644**	**$ 1,390,155**	**$ 113,316**
Meeting Expenses					
Meetings & Conference Calls	$ 6,400	$ 3,200	$ (3,200)	$ 4,800	$ (1,600)
Travel	75,440	37,720	(37,720)	56,580	(18,860)
Total Meeting Expenses	**$ 81,840**	**$ 40,920**	**$ (40,920)**	**$ 61,380**	**$ (20,460)**
Operating Expenses, excluding Depreciation					
Consultants & Contracts	$ 50,000	$ 30,000	$ (20,000)	$ 30,000	$ (20,000)
Office Rent	-	-	-	-	-
Office Costs	3,000	3,000	-	8,313	5,313
Professional Services	-	-	-	-	-
Computer & Equipment Leases	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Total Operating Expenses, excluding Depreciation	**$ 53,000**	**$ 33,000**	**$ (20,000)**	**$ 38,313**	**$ (14,687)**
Total Direct Expenses	**$ 1,411,680**	**$ 1,449,404**	**$ 37,724**	**$ 1,489,849**	**$ 78,169**
Indirect Expenses	**$ 979,052**	**$ 979,052**	**$ -**	**$ 955,779**	**$ (23,274)**
Other Non-Operating Expenses	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Total Expenses (B)	**$ 2,390,732**	**$ 2,428,457**	**$ 37,724**	**$ 2,445,627**	**$ 54,895**
Change in Net Assets (=A-B)	**$ 15,749**	**$ (21,975)**	**$ (37,724)**	**$ 15,980**	**$ 231**
Total Funding (A) Requirement	**$ 2,374,983**	**$ 2,374,983**	**$ 37,724**	**$ 2,429,647**	**$ 54,664**
Fixed Asset Additions, excluding Right of Use Assets (C)	**15,749**	**15,749**	**-**	**15,980**	**231**
TOTAL BUDGET (=B+C)	2,406,482	2,444,206	37,724	2,461,608	55,126
TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)	**$ (0)**	**$ (37,724)**	**$ (37,724)**	**$ -**	**$ (0)**

Table A - 10: Situation Awareness and Infrastructure Security Budget Detail

Administrative Services

Administrative Services Program Resources (in whole dollars)	Direct Expenses			FTEs		
	2021 Budget	2022 Budget	Increase (Decrease)	2021 Budget	2022 Budget	Increase (Decrease)
Technical Committees and Members Forum	$35,729	$43,474	$7,746	0.10	0.10	0.00
General and Administrative	$3,874,497	$3,367,214	($507,283)	2.73	2.50	-0.23
Legal and Regulatory	$748,924	$825,477	$76,553	2.00	2.00	0.00
Information Technology	$1,341,144	$2,015,000	$673,857	2.55	3.85	1.30
Human Resources	$67,066	$76,331	$9,265	0.50	0.50	0.00
Finance and Accounting	$735,648	$789,852	$54,204	2.00	2.00	0.00
Total Administrative Services[1]	$6,803,007	$7,117,349	$314,342	9.88	10.95	1.07

NPCC's 2022 Administrative Services Direct Expenses and Fixed Assets total $7,117,349 of which $358,417 is allocated to NPCC's Criteria Services division, which is a non-statutory function. As a result of the allocation to the Criteria Services division, the Administrative Expenditures included in the 2022 statutory budget are $6,758,932 which is an increase of $343,920 from the 2021 budget of $6,415,012.

Table A - 11: Administrative Services Budget

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 2022 business plan are shown in the table below. Explanations of variances by expense category are included within the Supplemental Tables found in Section B.

Statement of Activities and Capital Expenditures
2021 Budget & Projection, and 2022 Budget
ADMINISTRATIVE SERVICES

		2021 Budget	2021 Projection	Variance 2021 Projection v 2021 Budget Over(Under)	2022 Budget	Variance 2022 Budget v 2021 Budget Over(Under)
Funding						
ERO Funding						
	ERO Assessments	$ (75,140)	$ (75,140)	$ -	$ (523,294)	$ (448,154)
	Penalty Sanctions	-	-	-	-	-
Total ERO Funding		**$ (75,140)**	**$ (75,140)**	**$ -**	**$ (523,294)**	**$ (448,154)**
	Membership Dues	-	-	-	-	-
	Testing Fees	-	-	-	-	-
	Services & Software	-	-	-	-	-
	Workshops & Misc Revenue	-	-	-	-	-
	Interest & Investment Income	56,264	15,275	(40,989)	28,465	(27,799)
Total Funding (A)		**$ (18,876)**	**$ (59,865)**	**$ (40,989)**	**$ (494,829)**	**$ (475,953)**
Expenses						
Personnel Expenses						
	Salaries	$ 2,642,472	$ 2,443,800	$ (198,672)	$ 2,544,187	$ (98,285)
	Payroll Taxes	123,675	135,466	11,791	135,739	12,063
	Benefits	554,948	607,868	52,920	590,851	35,903
	Retirement Costs	328,620	284,684	(43,936)	330,517	1,897
Total Personnel Expenses		**$ 3,649,716**	**$ 3,471,819**	**$ (177,897)**	**$ 3,601,294**	**$ (48,422)**
Meeting Expenses						
	Meetings & Conference Calls	$ 110,400	$ 25,200	$ (85,200)	$ 89,150	$ (21,250)
	Travel	125,680	26,840	(98,840)	94,260	(31,420)
Total Meeting Expenses		**$ 236,080**	**$ 52,040**	**$ (184,040)**	**$ 183,410**	**$ (52,670)**
Operating Expenses, excluding Depreciation						
	Consultants & Contracts	$ 85,650	$ 85,650	$ -	$ 65,650	$ (20,000)
	Office Rent	870,141	870,141	-	906,141	36,000
	Office Costs	811,420	1,055,420	244,000	1,181,703	370,283
	Professional Services	1,005,000	1,005,000	-	1,017,000	12,000
	Computer & Equipment Leases	-	-	-	-	-
	Miscellaneous	51,000	51,000	-	51,000	-
Total Operating Expenses, excluding Depreciation		**$ 2,823,211**	**$ 3,067,211**	**$ 244,000**	**$ 3,221,494**	**$ 398,283**
	Total Direct Expenses	**$ 6,709,007**	**$ 6,591,070**	**$ (117,937)**	**$ 7,006,199**	**$ 297,192**
Indirect Expenses		**$ (6,231,487)**	**$ (6,231,487)**	**$ -**	**$ (7,006,199)**	**$ (774,712)**
Other Non-Operating Expenses		**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Total Expenses (B)		**$ 477,520**	**$ 359,583**	**$ (117,937)**	**$ 0**	**$ (477,520)**
Change in Net Assets (=A-B)		**$ (496,396)**	**$ (419,448)**	**$ 76,947**	**$ (494,829)**	**$ 1,567**
Total Funding (A) Requirement		**$ (323,075)**	**$ (323,075)**	**$ (76,947)**	**$ (323,075)**	**$ -**
Fixed Asset Additions, excluding Right of Use Assets (C)		**$ -**	**$ 22,000**	**$ 22,000**	**$ -**	**$ -**
TOTAL BUDGET (=B+C)		**$ 477,520**	**$ 381,583**	**$ (95,937)**	**$ 0**	**$ (477,520)**
TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)		**$ (496,396)**	**$ (441,448)**	**$ 54,947**	**$ (494,829)**	**$ 1,567**

Table A - 12: Administrative Services Budget Detail

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.

2022 Key Assumptions

- NPCC's standing committee and subgroup structure for effective stakeholder involvement will continue in 2022.
- 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 2022.
- NPCC will continue to invest in technology and innovation to allow efficient collaboration on technical issues related to reliability.

2022 Goals and Deliverables

- The 2022 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.
- 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 an annual Media Release Event for the Summer NPCC Reliability Assessment
    - Preparing other NPCC media releases and statements on an as-needed basis
    - Responding to media inquiries (and coordinating responses)
    - Participating in the ERO Communications Group's 2021 Work Plan activities, including:
        - Information sharing/education of key audiences/stakeholders to further ERO Enterprise's mission;
        - Coordination/planning for outreach communications and crisis/media relations; and,
        - Consistent/coordinated outreach to support public and regulatory confidence of ERO Enterprise and its activities.
        - Periodic update of NPCC's Emergency Communications Plan (A Guide for Media Communications During Emergencies).

Resource Requirements

Meetings

- Reduction in meetings and travel expenses based on changes in meeting formats related to COVID-19 pandemic. It is expected that some meetings will continue to be held in virtual formats such as teleconference or webinar to allow for remote participation and greater access throughout 2022.

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

Meetings

- Reduction in meetings and travel expenses based on changes in meeting formats related to COVID-19 pandemic. It is expected that some meetings will continue to be held in virtual formats such as teleconference or webinar to allow for remote participation and greater access throughout 2022.

Legal and Regulatory

Program Scope and Functional Description

To ensure and maintain independence and objectivity consistent with ERO Enterprise value drivers, NPCC's in-house professional services develop corporate policies and procedures, evaluate internal controls and corporate, operational, strategic and reputational risk, and participate in risk identification, evaluation and mitigation activities. In-house professional legal services provide advice and advance significant strategic planning initiatives, assisting in the development of NPCC's strategic focus areas and their alignment with ERO Enterprise approaches. In addition, in-house professional legal services provide support to other program areas on matters arising in connection with the performance of NPCC's delegated functions to achieve organizational excellence consistent with NPCC's values. NPCC's professional legal services provide counsel and advise to the President and CEO, Board of Directors, Board Committees, officers, and staff on a wide range of legal, compliance and regulatory matters including legislation, corporate law, code of conduct, member services, privacy, confidentiality, governance, employment law, tax matters, contracts and other areas affecting NPCC. Outside counsel, as necessary, reviews complex matters for legal sufficiency and provides independent legal advice and guidance on certain employment and Human Resource related matters.

The Legal and Regulatory program area is also responsible for activities associated with the Corporate Secretary function such as preparing Board materials and minutes, facilitating and conducting Board training, and ensuring that meetings of the Board of Directors and Committees adhere to the Bylaws and other relevant governing documents.

Resource Requirements

Meetings

- Reduction in meetings and travel expenses based on changes in meeting formats related to COVID-19 pandemic. It is expected that some meetings will continue to be held in virtual formats such as teleconference or webinar to allow for remote participation and greater access throughout 2022.

Professional Services

- Reduction in professional services as a result of increased utilization of in-house resources in lieu of outside counsel.

Information Technology

Program Scope and Functional Description

NPCC's Information Technology services ensure information assets and the environment in which they operate are resilient, 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 servers are unavailable.

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

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

The NERC information technology budget does not supplant NPCC's need for IT expenditures for specific Regional projects and internal Region specific IT support needs. NPCC's 2022 Business Plan and Budget assumes agreed upon ERO Enterprise applications will be available and includes only NPCC costs for Region specific support needs.

2022 Key Assumptions

- Maintain the Compliance Portal, while transitioning to the ERO Enterprise CMEP data application (Align).
- Support the migration to the new Align tool as its releases are implemented.
- Participate in the design, planning and implementation of ERO Centralized Applications to improve security posture.
- Implement and enhance security tools and measures to strengthen NPCC's security monitoring and governance activities.
- Migrate NPCC network architecture to the cloud.
- Utilize secure third-party hosting centers for the NPCC website and NPCC network.
- Use IT consulting services and support for project-based work to augment staff skill sets instead of increasing headcount for the support of NPCC's website and cloud network environments.
- Replace computer equipment on a three-year refresh cycle, servers every four years, and replace network equipment every five years.
- Support the ERO Enterprise IT Strategy and continue working collaboratively to minimize duplication of effort and investments and improve operational efficiency.
- Increase knowledge of industry best practices for security, data management, and system administration.

- One new cybersecurity specialist is added to help bolster and formalize NPCC's internal security program and posture due to the critical nature of some of NPCC's data and increasing cyber security risks.

2022 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:

- Provide IT and security support to all NPCC's operations, including: IT budget; infrastructure; service support; service design and; delivery service transition; and hardware and network security in a secure and efficient manner.
- Continue to assess NPCC's security controls and implement and align to security control frameworks.
- Enhance NPCC's Security Awareness Program that addresses, through education and training, social media, phishing, and other vulnerabilities that pose threats to NPCC systems.
- Assist business staff with enhancements requests and other IT-related project requirements and prioritize and oversee all IT or security-related projects.
- Coordinate and share best practices with other Regional Entities and NERC.
- Develop knowledge of systems through training and experience to reduce the reliance on external vendors.
- Use third-party security services to evaluate and test NPCC's security posture, while fostering maturity in NPCC's Internal Controls Program and security posture.
- Maintain the appropriate number of employees to oversee the IT Strategy, policies and procedures, service, and performance, budget and vendor management. Cross-train employees to serve as backups and mentors to each other.
- Continue collaborating with the ERO Enterprise on the configuration and implementation of the data loss prevention initiative.
- Continue to expand the utilization of the document management system throughout the company.
- Constantly review and evaluate security measures taken to reduce breach of security risks.
- Ensure all information systems are functional and secure, and that all applications running on those systems meet business requirements for performance, availability, and security.
- Provide outreach and education to NPCC members in IT best practices.
- Train and support NPCC staff on software and applications.
- Continually improve Disaster Recovery and Business Continuity policies and practices to ensure continuity and reliability of IT and business-related services.
- Upgrade various hardware and equipment.

Resource Requirements

Personnel

- Increase of 1.30 FTEs (including the re-allocation of an FTE formerly partially allocated to IT and the addition of one FTE partially allocated to SAIS) to support cybersecurity and infrastructure enhancements.

Meetings

- Reduction in meetings and travel expenses based on changes in meeting formats related to COVID-19 pandemic. It is expected that some meetings will continue to be held in virtual formats such as teleconference or webinar to allow for remote participation and greater access throughout 2022.

Office Costs

- Increase in licensing and software expenses for the identification and reduction of cyber and physical security risks and infrastructure enhancements.

Fixed Assets

- Capital expenditures planned for 2022 include computer equipment for new hires and equipment upgrades.

Human Resources

Program Scope and Functional Description

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

Resource Requirements

Meetings

- Reduction in meetings and travel expenses based on changes in meeting formats related to COVID-19 pandemic. It is expected that some meetings will continue to be held in virtual formats such as teleconference or webinar to allow for remote participation and greater access throughout 2022.

Accounting and Finance

Program Scope and Functional Description

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

2022 Goals and Key Deliverables

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

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

Resource Requirements

Meetings

- Reduction in meetings and travel expenses based on changes in meeting formats related to COVID-19 pandemic. It is expected that some meetings will continue to be held in virtual formats such as teleconference or webinar to allow for remote participation and greater access throughout 2022.

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 2020 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 2020 NEL within the Region. Non ISO/BAA Full Members will be assessed no membership fee.

NPCC Cost Allocation Methodology

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

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

As an initial step of that methodology, the NEL for each of the BAAs and their relative percentage to the NPCC total NEL is calculated for the most recent year for which data is available, the second previous year. In order to establish the RE division funding requirements for each Balancing Authority Area on a NEL basis for all programs except for Compliance, the proposed expenses and fixed assets of all other programs are calculated and the adjustment for the RE division cash reserve requirement is identified. Penalty monies received from NPCC registered entities within the U.S. are then allocated among the NPCC program areas based on their FTE ratio and between the U.S. BAAs based on their relative NELs. Consistent with each of the Canadian provincial MOUs and agreements, all penalty monies resulting from compliance actions within Canada, if any, would remain within the applicable province. The total budgeted fees for NPCC workshop participation are indicated as a credit, with the resultant addition being the RE division assessment, without the compliance program costs, calculated on a NEL basis.

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

For costs associated with the RE division compliance program, NPCC's allocation methodology has been enhanced to better stabilize assessments. NPCC applies a rolling seven-year compliance cost average to total compliance program expenses for the current budget year. For each of the seven years, costs attributed to CORC Fundamentals (CF), are allocated between the BAAs in the United States and Canada on a NEL basis.

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

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

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

Penalty monies received from NPCC registered entities within the U.S. are then allocated among the NPCC program areas based on their FTE ratio and between the U.S. BAAs based on their relative NELs, and then added to the total compliance program expenses and fixed assets to yield a total compliance program assessment.

The CORC actual vs budget variance from the most recent year for which audited financials are available is broken out from the rest of the Adjustment to Cash Reserve and assigned to the CORC program allocation of costs. Within Québec these costs are funded directly by the regulator, therefore, the assignment of program area variances needs to respect those specific circumstances.

Finally, the total RE division funding requirements and assessments by BAA are tabulated and the total funding requirements and assessments for NPCC, both the RE and CS divisions, are combined.

NPCC 2022 Regional Entity (RE) and Criteria Services (CS) Divisional Funding Information

A-1	B-1	B-1a.	C-1	C-1a.	D-1	E-1	F-1	G-1	H-1	I-1	J-1	K-1	L-1	M-1	N-1	O-1
NPCC Balancing Authorities (LSE Designees)	2020 Net Energy for Load (MWh)	2020 NPCC US NEL (MWh)	2020 NEL % of NPCC Total	2020 NEL % of NPCC U.S.	Costs Associated with U.S. Only Reliability Study[1]	2022 [2] NPCC RE Division Expenses & Fixed Assets Minus CORC and U.S. Only	Adjustment to RE Division Cash Reserve Requirement Less CORC Assigned	2022 [2] NPCC RE Division Funding Requirement Minus CORC Program	Penalty Monies Applied to RE Division Minus CORC Program	Budgeted Workshop Fees and Interest Income	2022 [2] NPCC RE Division Assessment Minus CORC *(G-1 plus H-1 plus I-1)*	2022 NPCC CS Division Expenses Minus Interest Income	2022 Adjustment to CS Division Cash Reserve Requirement	2022 NPCC CS Division Funding Requirement *(K-1 plus L-1)*	CS Division Budgeted Interest Income	2022 NPCC CS Division Member Fees *(M-1 plus N-1)*
New England	116,875,000	116,875,000	19.297%	43.761%	TBD	1,417,498	-95,489	1,322,009	-31,637	-12,006	1,278,366	182,865	-59,693	123,172	-296	122,875
New York	150,198,000	150,198,000	24.799%	56.239%	TBD	1,821,650	-122,715	1,698,936	-40,657	-15,429	1,642,849	235,002	-76,712	158,290	-381	157,909
Ontario	132,225,000		21.832%			1,603,668	-108,030	1,495,637	0	-13,583	1,482,055	206,881	-67,533	139,349	-335	139,013
Québec	181,561,000		29.978%			2,202,031	-148,339	2,053,692	0	-18,651	2,035,041	284,073	-92,731	191,342	-460	190,882
New Brunswick	13,921,000		2.299%			168,838	-11,374	157,465	0	-1,430	156,035	21,781	-7,110	14,671	-35	14,636
Nova Scotia	10,871,000		1.795%			131,847	-8,882	122,965	0	-1,117	121,848	17,009	-5,552	11,457	-28	11,429
Total	605,651,000	267,073,000	100.000%	100.000%	$0	$7,345,533	-$494,829	$6,850,704	-$72,294	-$62,215	$6,716,195	$947,611	-$309,331	$638,280	-$1,535	$636,745

A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	I-2	J-2
NPCC Balancing Authorities (LSE Designees)	7 Year Average CORC Costs Allocation[3]	2022 Total CORC Program Expenses & Fixed Assets	Penalty Monies Applied to CORC Program	Assigned CORC Progran 2020 Actual vs Budget Variance	2022 Total CORC Program Assessment *(C-2 plus D-2 plus E-2)*	2022 RE Division Total Funding Requirement *(G-1 plus C-2) plus E-2)*	2022 RE Division Total Assessment *(J-1 plus F-2)*	2022 NPCC Total Funding Requirement *(M-1 plus G-2)*	2022 NPCC Total Assessment & Member Fees *(O-1 plus H-2)*
New England	32.09%	3,246,990	-56,381	-256,763	2,933,846	4,312,236	4,212,212	4,435,408	4,335,087
New York	41.28%	4,176,912	-72,457	-335,040	3,769,415	5,540,807	5,412,264	5,699,097	5,570,174
Ontario	8.25%	834,639	0	-65,708	768,931	2,264,569	2,250,986	2,403,917	2,390,000
Québec	14.20%	1,437,044	0	-106,816	1,330,228	3,383,920	3,365,269	3,575,263	3,556,152
New Brunswick	2.61%	264,151	0	-18,617	245,534	402,999	401,569	417,670	416,204
Nova Scotia	1.58%	159,865	0	-11,701	148,164	271,129	270,012	282,586	281,442
Total	100.000%	$10,119,600	-$128,838	-$794,644	$9,196,118	$16,175,660	$15,912,313	$16,813,940	$16,549,058

1 Any sub-regional reliability assessment costs in response to U.S. only regulatory initiatives will be considered for allocation to U.S. only BAAs consistent with NERC Rules of Procedure section 1102.

2 Consistent with NERC's Policy on Allocation of Certain Compliance and Enforcement Costs, the NPCC Board approved Allocation Methodologies for Certain NPCC Compliance Program Area Costs Assessed to Non-U.S. Entities.

3 Total CORC Program Costs are allocated based on a seven-year average allocation percentage. CORC Program Fundamentals expenses are allocated each year using the Regional NEL based methodology. Audit and Investigation expenses attributable to Canadian NPCC BAA's are allocated annually utilizing an audit based methodology. The portion attributable to U.S. NPCC is allocated between the New York and New England balancing authority areas based on their respective net energy for load (NEL) as shown in Columns B-1a. and C-1a. Audit based allocation uses Compliance Registry Data registrants as of May 1, 2021. Mitigation and Enforcement expenses are allocated annually utilizing an enforcement activity based methodology for Canadian NPCC BAA's. The portion attributable to U.S. NPCC is allocated between the New York and New England balancing authority areas based on their respective net energy for load (NEL) as shown in Columns B-1a. and C-1a. The average allocation of total compliance costs over the prior seven years is then applied to the total compliance program costs for the current budget year in order to mitigate fluctuations in assessments.

Section B — Supplemental Financial Information
2022 Business Plan and Budget

Section B – Supplemental Financial Information

Table B-1 Reserve Balance

Working Capital and Operating Reserve Analysis 2021-2022
REGIONAL ENTITY DIVISION

	Total Reserve	Working Capital	Operating Reserve	Business Continuity	Assessment Stabilization
Beginning Total Reserve, December 31, 2020	6,815,904	4,013,955	1,369,999	662,881	769,069 [5]
Plus: 2021 ERO Funding (from LSEs or designees)	15,154,584	15,154,584			
Plus: 2021 Other funding sources	15,275	15,275			
Plus: Penalties collected	0				0
Approved 2021 Penalties released to offset U.S. assessments	0	201,132			(201,132)
Less: 2021 Projected expenses & capital expenditures	(16,245,328)	(15,993,808)		(251,520)	
Remaining Business Continuity Reserves released into Working Capital	0	411,361		(411,361)	
Projected Total Reserve, December 31, 2021	**5,740,435**	**3,802,499**	**1,369,999**	**0**	**567,937**
Desired Total Reserve, December 31, 2022	**4,249,830**	2,427,656 [1]	1,455,370 [2]	0 [3]	366,805
Less: Projected Total Reserve, December 31, 2021	(5,740,435)	(3,802,499)	(1,369,999)	0	(567,937)
Increase(decrease) in assessments to achieve desired Total Reserve	**(1,490,605)**	(1,374,843)	85,370	0	(201,132)

2022 Expenses and Capital Expenditures	17,465,133
Less: Penalty Sanctions (Applied to U.S. Only) [4]	(201,132)
Less: Other Funding Sources	(62,215)
Less: Release of Business Continuity Reserve Funds [3]	0
Adjustment to Operating Reserve to achieve desired Total Reserve balance [2]	85,370
Adjustment to Wokring Capital to achieve desired Total Reserve balance [1]	(1,374,843)
2022 Assessment	**15,912,314**

[1] Working Capital within a range from 8.33% to 25.00% of Budget. $2,427,656 represents 13.90% of the 2022 budget of $17,465,133
[2] Operating Reserve equal to 8.33% of Budget. $1,455,370 represents 8.33% of the 2022 budget of $17,465,133
[3] Business Continuity Reserve (BCR) established in 2017 as approved by the NPCC Board of Directors to fund Succession Planning related expenses.
[4] Represents amount applied to reduce 2022 assessments. Balance of collections July 1, 2020 through June 30, 2021 retained for assessment stabilization purposes.
[5] Assessment Stabilization Reserve balance was $604,000 at June 30, 2020. Penalty Sanctions totaling $165,069 were collected July 1, 2020 through December 31, 2020.

Table B - 1: Working Capital Reserve Analysis

Explanation of Changes in Reserve Policy from Prior Year

There was no change to the existing Working Capital and Operating Reserve Policy. NPCC maintains an Assessment Stabilization Reserve (ASR) separate from the Working Capital and Operating Reserve. The purpose of the ASR is to enable penalty monies to be released in multiple budget years in order to avoid large fluctuations in assessments. NERC Rules of Procedure (ROP) § 1107.2 specifies that penalty monies received by NPCC during the 12 months ended June 30th are to be used in the subsequent budget year to offset assessments. Pursuant to ROP § 1107.4, exceptions or alternatives to this provision are allowed if approved by NERC and FERC. Therefore, pursuant to ROP §1107.4, NERC and NPCC request that the Commission approve an exception to the requirement of ROP §1107.2 that all penalties collected during the 12 months ended the previous June 30 be used to reduce NPCC's assessments in the following year, in order to allow NPCC to (i) deposit the $165,069 of penalties collected during the 12 months ended June 30, 2021 into the ASR, and (ii) use $201,132 of the penalty funds in the ASR to reduce its 2022 assessment. In future years, NPCC will specify the amount of penalty funds to be released and the amount of penalty funds to be retained to offset assessments in future years within its Business Plan and Budget to be approved annually by NPCC's Board of Directors, NERC and FERC. A separate Business Continuity Reserve (BCR) in the amount of $1,000,000 (allocated between the Regional Entity and Criteria Services divisions) was established in 2017 as approved by the NPCC Board of Directors, upon recommendation by the Management Development and Compensation Committee and endorsement by the Finance and Audit Committee, to be drawn upon as subsequently brought before the Board of Directors for approval of release of funds in association with President & CEO search and succession related activities. CEO succession was completed during the first quarter of 2021 after which remaining BCR funds were released into Working Capital and Operating Reserves.

Breakdown by Statement of Activity Sections

The following detailed schedules are in support of the Regional Entity division Statement of Activities on page 14 of the 2022 Business Plan and Budget. All significant variances have been disclosed by program area in the preceding pages.

Penalty Sanctions

NPCC maintains an Assessment Stabilization Reserve (ASR). The purpose of the ASR is to enable penalty monies to be released in multiple budget years in order to avoid large fluctuations in assessments. NERC Rules of Procedure (ROP) § 1107.2 specifies that penalty monies received by NPCC during the 12 months ended June 30th are to be used in the subsequent budget year to offset assessments. Pursuant to ROP §1107.4, exceptions or alternatives to this provision are allowed if approved by NERC and FERC. Therefore, pursuant to ROP §1107.4, NERC and NPCC request that the Commission approve an exception to the requirement of ROP §1107.2 that all penalties collected during the 12 months ended the previous June 30 be used to reduce NPCC's assessments in the following year, in order to allow NPCC to (i) deposit the $165,069 of penalties collected during the 12 months ended June 30, 2021 into the ASR, and (ii) use $201,132 of the penalty funds in the ASR to reduce its 2022 assessment. In future years, NPCC will specify the amount of penalty funds to be released and the amount of penalty funds to be retained to offset assessments in future years within Table B-1 Reserve Balance of its Business Plan and Budget, approved annually by NPCC's Board of Directors, NERC and FERC. Penalty sanctions collected during the 12 months ended June 30, 2021 are detailed below. Penalty monies released to offset assessments in 2022 and amounts retained to offset future assessments are detailed in the Assessment Stabilization column of Table B-1 Reserve Balance on the preceding page.

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

Table B-2 Penalty Sanctions

Penalty Sanctions Received Prior to June 30, 2021	Date Received	Amount Received
	8/17/2020	$ 120,000
	8/18/2020	$ 45,069
Total Penalties Received		**$ 165,069**

Table B - 2: Penalty Sanctions Received

Table B-3 Supplemental Funding

Outside Funding Breakdown By Program (excluding ERO Assessments & Penalty Sanctions)	Budget 2021	Projection 2021	Budget 2022	Variance 2022 Budget v 2021 Budget
Reliability Standards				
Total	$ -	$ -	$ -	$ -
Compliance Monitoring, Enforcement & Org. Registration				
	$ -	$ -	$ -	$ -
	-	-	-	-
Total	$ -	$ -	$ -	$ -
Reliability Assessment and Performance Analysis				
	$ -	$ -	$ -	$ -
	-	-	-	-
Total	$ -	$ -	$ -	$ -
Training and Education				
Workshops	$ 67,500	$ -	$ 33,750	$ (33,750)
Total	$ 67,500	$ -	$ 33,750	$ (33,750)
Situation Awareness and Infrastructure Security				
	$ -	$ -	$ -	$ -
Total	$ -	$ -	$ -	$ -
Technical Committees and Member Forums				
	$ -	$ -	$ -	$ -
Total	$ -	$ -	$ -	$ -
Administrative Services Programs				
Interest & Investment Income	$ 56,264	$ 15,275	$ 28,465	$ (27,799)
Total	$ 56,264	$ 15,275	$ 28,465	$ (27,799)
Total Outside Funding	$ 123,764	$ 15,275	$ 62,215	$ (61,549)

Table B - 3: Supplemental Funding

Explanation of Significant Variances

- NPCC began holding virtual Standards and Compliance Workshops during 2020 due to the COVID-19 pandemic. Based on high levels of participation and positive feedback on the virtual workshop format, NPCC plans to hold two virtual workshops and one in-person workshop in 2022.
- NPCC estimates interest & investment income of $28,465 in 2022 from investment of reserves in a 100% U.S. Treasury Securities money market fund, which will offset 2022 assessments.

Table B-4 Personnel Expenses

Personnel Expenses	Budget 2021	Projection 2021	Budget 2022	Variance 2022 Budget v 2021 Budget	Variance %
Salaries					
Salary	$ 7,794,119	$ 8,265,656	$ 9,032,408	$ 1,238,289	15.9%
Employment Agency Fees	$ 170,000	$ 22,000	$ 22,000	$ (148,000)	-87.1%
Temporary Office Services	$ 18,000	$ 10,000	$ 18,000	$ -	0.0%
Total Salaries	$ 7,982,119	$ 8,297,656	$ 9,072,408	$ 1,090,289	13.7%
Total Payroll Taxes	$ 485,768	$ 546,254	$ 595,815	$ 110,048	22.7%
Benefits					
Education Reimbursement	$ 16,000	$ 20,000	$ 20,000	$ 4,000	25.0%
Training and Seminars	$ 80,614	$ 56,280	$ 99,800	$ 19,186	23.8%
Medical Insurance	$ 1,293,060	$ 1,343,477	$ 1,349,590	$ 56,530	4.4%
Life-LTD-STD Insurance	$ 109,106	$ 90,340	$ 102,012	$ (7,093)	-6.5%
Worker's Compensation	$ 27,400	$ 27,400	$ 43,000	$ 15,600	56.9%
Vacation	$ 495,063	$ 654,978	$ 620,335	$ 125,272	25.3%
Relocation	$ -	$ -	$ -	$ -	-
Total Benefits	$ 2,021,243	$ 2,192,475	$ 2,234,738	$ 213,494	10.6%
Retirement					
Pension Contribution	$ -	$ -	$ -	$ -	-
Employee Savings Plan	$ 797,832	$ 796,567	$ 929,405	$ 131,573	16.5%
Savings Admin	$ 36,000	$ 36,000	$ 36,000	$ -	0.0%
Deferred Compensation	$ 76,000	$ 76,000	$ 76,000	$ -	0.0%
Total Retirement	$ 909,832	$ 908,567	$ 1,041,405	$ 131,573	14.5%
Total Personnel Costs	**$ 11,398,962**	**$ 11,944,952**	**$ 12,944,366**	**$ 1,545,404**	**13.6%**
FTEs	42.11	46.11	49.90	7.79	8.2%
Cost per FTE					
Salaries	$ 189,554	$ 189,554	$ 181,812	$ (7,742)	-4.1%
Payroll Taxes	$ 11,536	$ 11,536	$ 11,940	$ 404	3.5%
Benefits	$ 47,999	$ 47,999	$ 44,784	$ (3,215)	-6.7%
Retirement	$ 21,606	$ 21,606	$ 20,870	$ (736)	-3.4%
Total Cost per FTE	**$ 270,695**	**$ 270,695**	**$ 259,406**	**$ (11,289)**	**-4.2%**

Table B - 4: Personnel Expenses

Explanation of Significant Variances

- Increase of 7.79 FTEs in 2022.
- Staff vacancy rate decreased from 6% in 2021 to 4% in 2022.
- Decrease in employment agency fees due to no executive search efforts planned for 2022.
- Medical insurance increase reflects a premium increase of 6%.
- Consolidation of benefits carriers resulted in lower Life-LTD-STD insurance premiums.

Table B-5 Meeting Expense

Meeting Expenses	Budget 2021	Projection 2021	Budget 2022	Variance 2022 Budget v 2021 Budget	Variance %
Meetings	$ 325,400	$ 64,200	$ 221,100	$ (104,300)	-32.1%
Travel	$ 727,920	$ 327,960	$ 505,572	$ (222,348)	-30.5%
Conference Calls	$ 9,000	$ 9,000	$ 9,500	$ 500	5.6%
Total Meeting Expenses	**$ 1,062,320**	**$ 401,160**	**$ 736,172**	**$ (326,148)**	**-30.7%**

Table B - 5: Meeting Expense

Explanation of Significant Variances

- Reduction in meetings and travel expenses based on changes in meeting formats related to COVID-19 pandemic. It is expected that some meetings will continue to be held in virtual formats such as teleconference or webinar to allow for remote participation and greater access throughout 2022.

Table B-6 Consultants and Contracts

Consultants	Budget 2021	Projection 2021	Budget 2022	Variance 2022 Budget v 2021 Budget	Variance %
Consultants					
Reliability Standards	$ -	$ -	$ -	$ -	-
Compliance Enforcement and Organization Registration and Certification	$ -	$ -	$ -	$ -	-
Reliability Assessment and Performance Analysis	$ -	$ -	$ -	$ -	-
Training and Education	$ -	$ -	$ -	$ -	-
Situation Awareness and Infrastructure Security	$ -	$ -	$ -	$ -	-
Member Forums	$ -	$ -	$ -	$ -	-
General and Administrative	$ -	$ -	$ -	$ -	-
Legal and Regulatory	$ -	$ -	$ -	$ -	-
Information Technology	$ -	$ -	$ -	$ -	-
Human Resources	$ -	$ -	$ -	$ -	-
Accounting and Finance	$ -	$ -	$ -	$ -	-
Consultants Total	**$ -**	**$ -**	**$ -**	**$ -**	**-**

Contracts	Budget 2021	Projection 2021	Budget 2022	Variance 2022 Budget v 2021 Budget	Variance %
Reliability Standards	$ 20,000	$ 20,000	$ 20,000	$ -	0.0%
Compliance Enforcement and Organization Registration and Certification	$ 707,150	$ 381,000	$ 32,000	$ (675,150)	-95.5%
Reliability Assessment and Performance Analysis	$ 647,000	$ 647,000	$ 692,000	$ 45,000	7.0%
Training and Education	$ -	$ -	$ -	$ -	-
Situation Awareness and Infrastructure Security	$ 50,000	$ 30,000	$ 30,000	$ (20,000)	-40.0%
Member Forums	$ -	$ -	$ -	$ -	-
General and Administrative	$ 80,000	$ 80,000	$ 60,000	$ (20,000)	-25.0%
Legal and Regulatory	$ -	$ -	$ -	$ -	-
Information Technology	$ -	$ -	$ -	$ -	-
Human Resources	$ -	$ -	$ -	$ -	-
Accounting and Finance	$ 5,650	$ 5,650	$ 5,650	$ -	0.0%
Contracts Total	**$ 1,509,800**	**$ 1,163,650**	**$ 839,650**	**$ (670,150)**	**-44.4%**
Total Consultants and Contracts	**$ 1,509,800**	**$ 1,163,650**	**$ 839,650**	**$ (670,150)**	**-44.4%**

Table B - 6: Consultants and Contracts

Explanation of Significant Variances

- Decrease in CORC consultants and contracts is a result of adding five FTEs to increase in-house expertise.
- Ongoing effort to decrease the use of consultants and contractors when possible, as reflected in particular in the Situation Analysis and Infrastructure Security and General and Administrative budgets.

Table B-7 Office Rent

Office Rent	Budget 2021	Projection 2021	Budget 2022	Variance 2022 Budget v 2021 Budget	Variance %
Office Rent	$ 650,000	$ 650,000	$ 650,000	$ -	0.0%
Utilities	$ 47,000	$ 47,000	$ 33,000	$ (14,000)	-29.8%
Maintenance	$ 45,000	$ 45,000	$ 45,000	$ -	0.0%
Security	$ 3,141	$ 3,141	$ 3,141	$ -	0.0%
Real Estate Taxes	$ 125,000	$ 125,000	$ 175,000	$ 50,000	40.0%
Total Office Rent	**$ 870,141**	**$ 870,141**	**$ 906,141**	**$ 36,000**	**4.1%**

Table B - 7: Office Rent

Explanation of Significant Variances

- Decrease in utilities based on recent actual expenses.
- Increase in real estate taxes based on historical actual expenses.

Table B-8 Office Costs

Office Costs	Budget 2021	Projection 2021	Budget 2022	Variance 2022 Budget v 2021 Budget	Variance %
Telephone	$ 88,720	$ 88,720	$ 100,200	$ 11,480	12.9%
Internet Expense	$ 70,500	$ 70,500	$ 85,351	$ 14,851	21.1%
Office Supplies	$ 28,000	$ 28,000	$ 15,000	$ (13,000)	-46.4%
Computer Supplies and Maintenance	$ 576,000	$ 820,000	$ 945,000	$ 369,000	64.1%
Subscriptions & Publications	$ 20,000	$ 20,000	$ 25,650	$ 5,650	28.3%
Dues	$ 9,000	$ 9,000	$ 11,070	$ 2,070	23.0%
Postage	$ 1,200	$ 1,200	$ 800	$ (400)	-33.3%
Express Shipping	$ 6,000	$ 6,000	$ 4,000	$ (2,000)	-33.3%
Copying	$ 24,000	$ 24,000	$ 25,000	$ 1,000	4.2%
Reports	$ 2,000	$ 2,000	$ 2,000	$ -	0.0%
Stationary and Office Forms	$ 2,000	$ 2,000	$ 2,000	$ -	0.0%
Equipment Repair/Service Contracts	$ -	$ -	$ -	$ -	-
Bank Charges	$ 10,000	$ 10,000	$ 2,000	$ (8,000)	-80.0%
Sales and Use Tax	$ -	$ -	$ -	$ -	-
Merchant Credit Card Fees	$ -	$ -	$ -	$ -	-
Presentation and Publicity	$ -	$ -	$ -	$ -	-
Total Office Costs	**$ 837,420**	**$ 1,081,420**	**$ 1,218,071**	**$ 380,651**	**45.5%**

Table B - 8: Office Costs

Explanation of Significant Variances

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

Table B-9 Professional Services

Professional Services	Budget 2021	Projection 2021	Budget 2022	Variance 2022 Budget v 2021 Budget	Variance %
BOT Fee	$ 300,000	$ 300,000	$ 300,000	$ -	0.0%
BOT Search Fee	$ -	$ -	$ -	$ -	-
Legal - Reorganization	$ -	$ -	$ -	$ -	-
Accounting & Auditing Fees	$ 370,000	$ 370,000	$ 402,000	$ 32,000	8.6%
Legal Fees - Other	$ 260,000	$ 260,000	$ 250,000	$ (10,000)	-3.8%
Insurance - Commercial	$ 75,000	$ 75,000	$ 65,000	$ (10,000)	-13.3%
Total Services	**$ 1,005,000**	**$ 1,005,000**	**$ 1,017,000**	**$ 12,000**	**1.2%**

Table B - 9: Professional Services

Table B-10 Miscellaneous

Miscellaneous Expense	Budget 2021	Projection 2021	Budget 2022	Variance 2022 Budget v 2021 Budget	Variance %
Miscellaneous Expense	$ 51,000	$ 51,000	$ 51,000	$ -	0.0%
Total Miscellaneous Expense	**$ 51,000**	**$ 51,000**	**$ 51,000**	**$ -**	**0.0%**

Table B - 10 :Miscellaneous

Table B-11 Other Non-Operating Expenses

Other Non-Operating Expenses	Budget 2021	Projection 2021	Budget 2022	Variance 2022 Budget v 2021 Budget	Variance %
Interest Expense	$ -	$ -	$ -	$ -	-
Office Relocation	$ -	$ -	$ -	$ -	-
Total Non-Operating Expenses	**$ -**	**$ -**	**$ -**	**$ -**	**-**

Table B - 11: Other Non-Operating Expenses

Table B-12 Fixed Assets

Fixed Asset Additions	Budget 2021	Projection 2021	Budget 2022	Variance 2022 Budget v 2021 Budget	Variance %
Equipment CapEx	$ -	$ -	$ -	$ -	-
Computer & Software CapEx	$ 65,800	$ 87,800	$ 73,150	$ 7,350	11.2%
Furniture & Fixtures CapEx	$ 14,100	$ 14,100	$ 19,000	$ 4,900	34.8%
Leasehold Improvements	$ 14,100	$ 14,100	$ 19,000	$ 4,900	34.8%
Allocation of Fixed Assets	$ -	$ -	$ -	$ -	-
Total Fixed Asset Additions	**$ 94,000**	**$ 116,000**	**$ 111,150**	**$ 17,150**	**18.2%**

Table B - 12: Fixed Assets

Explanation of Significant Variances

- Computer and software capital expenditures include computer equipment for new hires and equipment upgrades.
- Other planned capital expenditures include reconfigurations of office space.

Table B-13

Statement of Activities and Capital Expenditures
2022 Budget & Projected 2023 and 2024 Budgets

	2022 Budget	2023 Projection	$ Change 22 v 23	% Change 22 v 23	2024 Projection	$ Change 23 v 24	% Change 23 v 24
Funding							
ERO Funding							
ERO Assessments	$ 15,912,313	$ 16,947,897	$ 1,035,584	6.5%	$ 18,036,875	$ 1,088,978	6.0%
Penalties Released	201,132	201,132	-	0.0%	201,132	-	0.0%
Total ERO Funding	**$ 16,113,445**	**$ 17,149,029**	**$ 1,035,584**	**6.4%**	**$ 18,238,007**	**$ 1,088,978**	**6.0%**
Membership Dues	-	-	-		-	-	
Testing Fees	-	-	-		-	-	
Services & Software	-	-	-		-	-	
Workshops & Miscellaneous	33,750	33,750	-	0.0%	33,750	-	0.0%
Interest & Investment Income	28,465	28,500	35	0.1%	28,500	-	0.0%
Total Funding (A)	**$ 16,175,660**	**$ 17,211,279**	**$ 1,035,619**	**6.4%**	**$ 18,300,257**	**$ 1,088,978**	**6.3%**
Expenses							
Personnel Expenses							
Salaries	$ 9,072,408	$ 9,863,347	$ 790,939	8.7%	$ 10,691,856	$ 828,509	8.4%
Payroll Taxes	595,815	648,200	52,385	8.8%	702,026	53,826	8.3%
Benefits	2,234,738	2,421,780	187,042	8.4%	2,614,433	192,653	8.0%
Retirement Costs	1,041,405	1,118,044	76,639	7.4%	1,196,790	78,746	7.0%
Total Personnel Expenses	**$ 12,944,366**	**$ 14,051,371**	**$ 1,107,005**	**8.6%**	**$ 15,205,105**	**$ 1,153,734**	**8.2%**
Meeting Expenses							
Meetings	$ 221,100	$ 275,522	$ 54,422	24.6%	$ 230,032	$ (45,490)	-16.5%
Travel	505,572	515,683	10,111	2.0%	525,997	10,314	2.0%
Conference Calls	9,500	9,500	-	0.0%	9,500	-	0.0%
Total Meeting Expenses	**$ 736,172**	**$ 800,705**	**$ 64,533**	**8.8%**	**$ 765,530**	**$ (35,176)**	**-4.4%**
Operating Expenses							
Consultants & Contracts	$ 839,650	$ 839,650	-	0.0%	$ 839,650	$ -	0.0%
Office Rent	906,141	915,202	9,061	1.0%	924,354	9,152	1.0%
Office Costs	1,218,071	1,242,432	24,361	2.0%	1,267,281	24,849	2.0%
Professional Services	1,017,000	967,000	(50,000)	-4.9%	967,000	-	0.0%
Miscellaneous	51,000	51,000	-	0.0%	51,000	-	0.0%
Total Operating Expenses	**$ 4,031,862**	**$ 4,015,285**	**$ (16,577)**	**-0.4%**	**$ 4,049,285**	**$ 34,001**	**0.8%**
Total Direct Expenses	**$ 17,712,400**	**$ 18,867,361**	**$ 1,154,961**	**6.5%**	**$ 20,019,920**	**$ 1,152,559**	**6.1%**
Indirect Expenses	**$ (358,417)**	**$ (365,585)**	**$ (7,168)**	**2.0%**	**$ (372,897)**	**$ (7,312)**	**2.0%**
Other Non-Operating Expenses	**$ -**	**$ -**	**$ -**		**$ -**	**$ -**	
Total Expenses (B)	**$ 17,353,983**	**$ 18,501,776**	**$ 1,147,793**	**6.6%**	**$ 19,647,023**	**$ 1,145,247**	**6.2%**
Change in Assets	**$ (1,178,323)**	**$ (1,290,497)**	**$ (112,174)**	**9.5%**	**$ (1,346,766)**	**$ (56,269)**	**4.4%**
Fixed Assets Additions (C)	**$ 111,150**	**$ 100,000**	**$ (11,150)**	**-10.0%**	**$ 150,000**	**$ 50,000**	**50.0%**
TOTAL BUDGET (=B+C)	**$ 17,465,133**	**$ 18,601,776**	**$ 1,136,643**	**6.5%**	**$ 19,797,023**	**$ 1,195,247**	**6.4%**
TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)	**$ (1,289,473)**	**$ (1,390,497)**	**$ (101,024)**	**7.8%**	**$ (1,496,766)**	**$ (106,269)**	**0.0%**
FTEs	49.90	52.90	3	6.0%	55.90	3	5.7%

Table B - 13: Three-Year Projections

Assumptions

2023

- Increase of 3 FTEs in Compliance program area
- NPCC co-hosts GridSecCon in 2023

2024

- Increase of 3 FTEs in Compliance program area
- Fixed asset additions include equipment refresh of laptops

Section C — Criteria Services Division Activities
2022 Business Plan and Budget

Section C – Criteria Services Division Activities

Criteria Services Division (in whole dollars)	2021 Budget	2022 Budget	Increase (Decrease)
Total FTEs	2.14	2.10	-0.04
Total Direct Expenses	$605,718	$583,344	($22,374)
Total Indirect Expenses	$387,995	$358,417	($29,578)
Other Non-Operating Expenses	$0	$0	$0
Working Capital and Operating Reserves Requirement	($324,222)	($309,331)	$14,891
Fixed Asset Additions	$6,000	$5,850	($150)
Funding Requirement	$675,491	$638,280	($37,211)

Table C - 1: Criteria Services Division Business Plan and Budget

NPCC Regionally-Specific Criteria Services Background

NPCC Criteria Services division activities are based on the development, maintenance (including retirement when no longer needed), and promulgation of new or revised Regionally-specific, more stringent reliability criteria and supporting guideline or procedural documents. The requirements in NPCC Reliability Criteria apply only to those facilities defined as NPCC Bulk Power System elements through the performance-based methodology identified in the NPCC Document A-10, "Classification of Bulk Power System Elements."

In accordance with the NERC Rules of Procedure (RoP) Section 313, Regional Entities may develop Regional Criteria necessary to implement, augment, or facilitate compliance with NERC Reliability Standards. NPCC's Directories contain Regional Criteria which consists of requirements which provide an increased level of reliability to the NPCC defined bulk power system. The criteria impose more stringent requirements than those which appear in the NERC reliability standards. The Regional Criteria may also be utilized to address issues not within the scope or jurisdiction of FERC as outlined in Section 215 of the Federal Power Act, such as resource adequacy. Regional Criteria may also address Canadian Provincial reliability issues, and may include specific operating or planning parameters, guides, agreements, protocols or other documents used to enhance the reliability of the Bulk Power System in the Region. These documents typically provide benefits by promoting more consistent implementation of the NERC Reliability Standards within the Region. These documents are not NERC Reliability Standards, Regional Reliability Standards, or Regional Variances, and therefore are not enforceable under the authority delegated by NERC pursuant to delegation agreements.

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

For 2022 and beyond, the potential reliability impacts of increased penetration of Distributed Energy Resources (DER, e.g. solar and wind), and large amounts of Variable Energy Resources (VER) e.g. offshore wind along with the associated changing fuel mixes within NPCC, warrant further consideration. The Criteria Services Division staff, in conjunction with the NPCC Task Forces and Working Groups have a unique opportunity to conduct reviews of these issues and develop criteria, guideline, and procedural documents for DER which may be outside of the jurisdiction of FERC and NERC Reliability Standards. Participation of the entities responsible for development of DER and VER renewable resources to develop reliability documents will become increasingly important over time. Outreach, collaboration, and coordination of topics related to DER and VER will enable NPCC to develop guidance allowing more effective integration of these resources.

Increasing resilience of the BPS through alternative approaches to standards development using potential NPCC criteria, guidelines, and whitepapers will also be continually reviewed by NPCC's body of subject matter experts.

NPCC Criteria Services also will be continually prioritizing the revision of its reliability criteria based on potential emerging risks associated with increased deployment of decarbonized resources.

Membership and Governance

Full members, in accordance with NPCC's Amended and Restated Bylaws, are subject to compliance with Regionally-specific criteria and receive criteria-related services from the Criteria Services division.

Full Members, aside from those who perform the Balancing Authority function, are not assessed an annual membership fee. Those that perform Balancing Authority functions are assessed and remit a proportional net energy for load share of expenses for Criteria Services. NPCC would also directly assign Criteria Service division costs to a Balancing Authority Area or entity, where significant costs are incurred for that Balancing Authority Area. The funding for NPCC's Criteria Services division is approved by the NPCC Board of Directors.

Under Criteria Services NPCC will identify for membership, those entities involved in emerging technologies to assure that those entities which have an impact on Bulk Electric System reliability are included in appropriate NPCC activities.

Criteria Services Division Functional Scope

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

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

2022 Key Assumptions

The Criteria Services division activities are expected to remain stable or slightly increase throughout 2022 depending on reliability need.

- The Criteria Compliance and 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.
- Noncompliance under the CCEP follows the due process stated in the CCEP-1 process document for assessment by the CC followed by a recommendation to the RC to ensure that proper resolution/mitigation/enforcement actions are taken.

2022 Primary Goals and Objectives

- Continue with the development and maintenance of a set of NPCC Directories which augment or add specificity to the NERC Reliability Standards, and which clearly delineate the more stringent NPCC criteria requirements. The combination of North American and more stringent NPCC Regional criteria provide for consistency and operational clarity while providing more robust defense in–depth, results based, criteria requirements to ensure NPCC BPS reliability.
- Continually review the criteria found in the NPCC Directories and the ERO standards to ensure no redundancies or inconsistencies exist.
- Retire Directories and/or Criteria which have been overtaken by improved NERC standards.
- Identify opportunities to develop criteria, procedures or guideline documents to address emerging risks associated with DER VER and energy storage.
- Identify opportunities to address improvements in BES resilience with NPCC processes and documentation.
- Continually review the need to file revised and updated more stringent requirements with the New York State Department of Public Service and Canadian Provinces as applicable.
- Review, maintain, and revise the NPCC Regional Reliability Directories to facilitate compliance assessments and ensure the Criteria portions of the Directories augment and are not duplicative of, the approved and effective NERC Standards.
- The Criteria Services division and CCEP Working Group (reporting to the Compliance Committee) will work with the various Task Forces to develop Criteria Compliance Reporting Forms for any additional NPCC Directories to ensure that the more stringent or Regionally-specific Criteria is being met.
- The Criteria Services division and CCEP Working Group will work with TFCO, TFCP, TFSS, and TFSP to review criteria and measures within each specific NPCC Directory to identify and develop them into specific reporting forms for approval.
- Continually review impact of Bulk Electric System definition on Directory and Criteria content and compliance reporting.
- Continually review potential impacts of Sector or NPCC organizational changes on the Directories and Criteria by performing a review of enforcement and arbitration processes as needed.
- Assist Legal with preparation of revised Directories for Regulatory filings with the individual Provinces in accordance with their respective Memorandum of Understandings (MOUs) as well as the State of New York Public Service Commission.
- Facilitate any requested clarifications for NPCC Criteria with the necessary subject matter experts and also identify any other potential opportunities for clarifications of the Criteria.

NPCC Reliability Directory Maintenance and Development

The NPCC Regional Reliability Directories were developed to demonstrate that the NPCC more stringent criteria augment, add specificity, or address issues not covered in the NERC Reliability Standards as mandated by the NERC Rules of Procedure. The conversion of NPCC's reliability criteria into Directories was undertaken to remove any redundancies with the NERC or NPCC Regional Reliability Standards and to clearly delineate the more stringent NPCC criteria

requirements, assign Functional Model designations to those responsible for compliance and create measurable compliance criteria. Subsequent to the initial establishment of the Directories, which also organized functionally related B Guidelines and C Procedures into a single Directory, the Directories were further reviewed to translate existing criteria language into requirements and a "standards type" format. The development of the criteria into NERC style requirements facilitates the NPCC Region's CCEP and also ensures the delineation of the more stringent and more specific Regional criteria from the latest approved and effective set of NERC ERO standards.

In 2022, work will continue with the maintenance, revision, or potential retirement of individual Directories to address any actual or anticipated redundancies with new or modified NERC or NPCC Reliability Standards. The ongoing review and maintenance of the Directories will require Task Force and Criteria Services staff to support this effort and to serve as subject matter experts. In addition to the ongoing review of the criteria within the Directories for potential duplicity with the NERC standards, any Directories that have not had the criteria translated into NERC style requirements will also be reviewed in order to achieve criteria "requirements" which are clear, concise and measurable. Also, a standards style template will continue to be applied to the existing Directories to make them more consistent with the format of NERC standards. As NERC standards improve, the need for NPCC Directories and the amount of criteria contained therein may decrease over time, however in the interim, significant review is necessary to ensure the criteria remain consistent with the NERC standards as outlined in the NERC Rules of Procedure. NPCC will conduct internal reviews of all draft standards against Regional criteria and utilize subject matter experts to identify reliability and compliance related concerns. NPCC will file the revised NPCC Directories and notifications of retirements of Directories with the Canadian governmental and/or provincial Regulatory authorities within the NPCC "footprint", on an as needed basis, in accordance with established provincial procedures and agreements executed with NPCC.

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

NPCC Operations and Planning Directories

The following Directories are envisioned to remain active for 2022.

Directory #1, *Design and Operation of the Bulk Power System*.
This Directory documents NPCC's Regionally-specific, more stringent criteria, and demonstrates coordination and consistency with all the existing NERC TPL, BAL, IRO, INT, MOD, TOP, PRC and VAR standards. The NPCC TFCP and TFCO completed a review of the Directory#1 criteria in 2019, during which the criteria was translated into NERC style requirements and revisions were enacted to ensure consistency with recent changes to the TPL and TOP standards. A review to revise this Directory was again initiated in 2021 to also incorporate potential revisions due to DER and VER and other emerging risks.

Directory #2, *Emergency Operations*
This Directory documents NPCC's Regionally-specific, more stringent criteria, and demonstrates coordination and consistency with all the existing NERC EOP and TOP standards. The NPCC Task Force on Coordination of Operation reviewed this Directory in 2019.

Directory #4, *System Protection Criteria*
This Directory documents NPCC's Regionally-specific, more stringent criteria, and demonstrates coordination and consistency with certain applicable NERC PRC standards. The NPCC Task Force on System Protection will lead this next review and revision. A review was initiated in 2021 and will continue into 2022 to address any emerging risks due to DER, VER and decarbonization of resources.

Directory #5, *Reserve*
This Directory documents NPCC's Regionally-specific, more stringent criteria, and demonstrates coordination and consistency with all the existing applicable NERC BAL, INT, and IRO standards. The NPCC Task Force on Coordination of Operation will lead this review and revision and ensure consistency with the BAL standards under revision in 2020.

Directory #7, *Special Protection Systems*
This Directory documents NPCC's Regionally-specific, more stringent criteria for application and approval of RAS. The NPCC Task Force on System Protection reviewed and revised the document in 2020 to ensure consistency with the Remedial Action Scheme PRC-012 standard.

Directory #8, *System Restoration*
This Directory documents NPCC's Regionally-specific, more stringent criteria with which each applicable entity must plan for and perform power system restoration following a major or a total blackout, and demonstrates coordination and consistency with applicable NERC EOP standards. The NPCC Task Force on Coordination of Operation initiated the review and revision of this Directory in 2021. As DER continues to displace conventional resources used for system restoration, this Directory will continue to consider how to effectively use DER to contribute to restoration.

Directory #11, *Disturbance Monitoring Equipment*,
This Directory documents NPCC's Regionally-specific, more stringent criteria, and demonstrates coordination and consistency with certain existing NERC PRC standards. The NPCC Task Force on System Protection developed Directory #11 in order to facilitate the retirement of the NPCC Regional Standard PRC -002-NPCC-1.

NPCC Criteria Compliance and Enforcement Program (CCEP)

The NPCC Criteria Services division supports the reliable operation of the NPCC Bulk Power System (BPS) through implementation of the NPCC Criteria and Compliance Program (CCEP). This program monitors, assesses, and enforces compliance on a subset of the regionally specific, more stringent NPCC Criteria that are unique to the NPCC BPS and are not duplicative of the NERC Reliability Standards. The physical characteristics and topology of the transmission system within the Region require that certain aspects of criteria be monitored for compliance.

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

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

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

The CCEP-1 document:

1. Provides a comprehensive CCEP Process Flow Diagram showing the process of evaluating and approving Criteria Certification submittals, and additional processes and responsibilities in the event that non-compliances, disputes, and sanctions arise;
2. Describes the roles and responsibilities of Reporting Members, the CC, the NPCC Reliability Coordinating Committee, and the Enforcement Panel in the compliance review and enforcement process
3. Describes non-monetary Sanctions, the Lateness Policy, and the Arbitration/Dispute Resolution process
4. Addresses the development of Mitigation Plans for any violations under the enforcement process

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

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

Compliance to the NPCC Criteria is a responsibility of the NPCC Members and is codified in the *Amended and Restated Bylaws of Northeast Power Coordinating Council, Inc.* Implementation of the CCEP is also consistent with the current Memorandum of Understating that NPCC has with its Canadian Members.

Resource Requirements

Meetings

- Reduction in meetings and travel expenses based on changes in meeting formats related to COVID-19 pandemic. It is expected that some meetings will continue to be held in virtual formats such as teleconference or webinar to allow for remote participation and greater access throughout 2022.

2020 Budget and Projection and 2022 Budget Comparisons

Statement of Activities and Capital Expenditures 2021 Budget & Projection, and 2022 Budget CRITERIA SERVICES DIVISION						
	2021 Budget	2021 Projection	Variance 2021 Projection v 2021 Budget Over(Under)	2022 Budget	Variance 2022 Budget v 2021 Budget Over(Under)
Funding					
ERO Funding					
ERO Assessments	$ -	$ -	$ -	$ -	$ -
Penalty Sanctions	-	-	-	-	-
Total ERO Funding	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Membership Dues	671,755	671,755	-	636,745	(35,010)
Testing Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Workshops & Misc Revenue	-	-	-	-	-
Interest & Investment Income	3,736	975	(2,761)	1,535	(2,201)
Total Funding (A)	**$ 675,491**	**$ 672,730**	**$ (2,761)**	**$ 638,280**	**$ (37,211)**
Expenses					
Personnel Expenses					
Salaries	$ 336,972	$ 357,510	$ 20,539	$ 349,040	$ 12,069
Payroll Taxes	23,317	25,985	2,668	25,056	1,739
Benefits	86,435	66,623	(19,812)	66,252	(20,183)
Retirement Costs	36,654	38,949	2,295	37,526	872
Total Personnel Expenses	**$ 483,378**	**$ 489,067**	**$ 5,689**	**$ 477,875**	**$ (5,503)**
Meeting Expenses					
Meetings	$ 11,200	$ 5,600	$ (5,600)	$ 8,400	$ (2,800)
Travel	45,440	22,720	(22,720)	34,080	(11,360)
Total Meeting Expenses	**$ 56,640**	**$ 28,320**	**$ (28,320)**	**$ 42,480**	**$ (14,160)**
Operating Expenses, excluding Depreciation					
Consultants & Contracts	$ 57,700	$ 57,700	$ -	$ 56,000	$ (1,700)
Office Rent	-	-	-	-	-
Office Costs	4,000	4,000	-	2,989	(1,011)
Professional Services	-	-	-	-	-
Computer & Equipment Leases	-	-	-	-	-
Miscellaneous	4,000	4,000	-	4,000	-
Total Operating Expenses, excluding Depreciation	**$ 65,700**	**$ 65,700**	**$ -**	**$ 62,989**	**$ (2,711)**
Total Direct Expenses	**$ 605,718**	**$ 583,087**	**$ (22,631)**	**$ 583,344**	**$ (22,374)**
Indirect Expenses	**$ 387,995**	**$ 387,995**	**$ -**	**$ 358,417**	**$ (29,578)**
Other Non-Operating Expenses	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Total Expenses (B)	**$ 993,713**	**$ 971,082**	**$ (22,631)**	**$ 941,761**	**$ (51,952)**
Change in Net Assets (=A-B)	**$ (318,222)**	**$ (298,352)**	**$ 19,870**	**$ (303,481)**	**$ 14,741**
Fixed Asset Additions, excluding Right of Use Assets (C)	**$ 6,000**	**$ 6,000**	**$ -**	**$ 5,850**	**$ (150)**
TOTAL BUDGET (=B+C)	**$ 999,713**	**$ 977,082**	**$ (22,631)**	**$ 947,611**	**$ (52,102)**
TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)	**$ (324,222)**	**$ (304,352)**	**$ 19,870**	**$ (309,331)**	**$ 14,891**

Table C - 2: Budget and Current Year Projection Comparison

Personnel Analysis

Total FTE's by Program Area	Budget 2021	Projection 2021	Direct FTEs 2022 Budget	Shared FTEs1 2022 Budget	Total FTEs 2022 Budget	Change from 2021 Budget
CRITERIA SERVICES DIVISION						
Operational Programs						
Reliability Standards	1.07	1.07	1.00	0.05	1.05	-0.02
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	0.05	1.05	-0.02
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**	**0.10**	**2.10**	**-0.04**
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**	**0.10**	**2.10**	**-0.04**

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

Table C - 3: Criteria Services Personnel Analysis

Reserve Analysis

Working Capital and Operating Reserve Analysis 2021-2022
CRITERIA SERVICES DIVISION

	Total Reserve	Working Capital	Operating Reserve	Business Continuity
Beginning Total Reserve, December 31, 2020	884,967	757,070	88,755	39,142
2021 Non-Statutory Funding (from members)	671,755	671,755		
Plus: 2021 Other funding sources	975	975		
Less: 2021 Projected expenses & fixed asset additions	(977,082)	(966,602)		(10,480)
Remaining Business Continuity Reserves released into Working Capital	0	28,662		(28,662)
Projected Total Reserve, December 31, 2021	**580,615**	**491,860**	**88,755**	**0**
Desired Total Reserve, December 31, 2022	**271,284**	192,319 [1]	78,964 [2]	0 [3]
Less: Projected Total Reserve, December 31, 2021	(580,615)	(491,860)	(88,755)	0
Increase(decrease) in assessments to achieve desired Total Reserve	**(309,331)**	(299,541)	(9,791)	0

2022 Funding requirement for expenses and fixed asset additions	947,611
Less: Other Funding Sources	(1,535)
Less: Release of Business Continuity Reserve Funds [3]	0
Adjustment to Operating Reserve to achieve desired Total Reserve balance [2]	(9,791)
Adjustment to Wokring Capital to achieve desired Total Reserve balance [1]	(299,541)
2021 Funding and reserve requirement	636,745

[1] Working Capital must be within a range from 8.33% to 25.00% of Budget. $192,319 represents 20.30% of the 2022 budget of $947,611.
[2] Operating Reserve must equal 8.33% of Budget. $78,964 represents 8.33% of the 2022 budget of $947,611.
[3] Business Continuity Reserve (BCR) established in 2017 as approved by the NPCC Board of Directors to fund Succession Planning related expenses.

Table C - 4: Reserve Analysis

Explanation of Changes in Reserve Policy from Prior Year

There was no change to the existing Working Capital and Operating Reserve Policy.

A separate Business Continuity Reserve (BCR) in the amount of $1,000,000 (allocated between the Regional Entity and Criteria Services divisions) was established in 2017 as approved by the NPCC Board of Directors, upon recommendation by the Management Development and Compensation Committee and endorsement by the Finance and Audit Committee, to be drawn upon as subsequently brought before the Board of Directors for approval of release of funds in association with President & CEO search and succession related activities. CEO succession was completed during the first quarter of 2021 after which remaining BCR funds were released into Working Capital and Operating Reserves.

Section D — Additional Consolidated Financial Statements

2022 Business Plan and Budget

Section D — Additional Financial Statements

Statement of Financial Position

Statement of Financial Position 2020 Audited, 2021 Projection, and 2022 Budget Regional Entity and Criteria Services Division			
	Audited	**Projected**	**Budget**
	31-Dec-20	**31-Dec-21**	**31-Dec-22**
ASSETS			
Cash	$ 3,371,323	$ 2,100,000	$ 2,100,000
Restricted cash	919,159	718,000	517,000
Temporary cash investments	6,241,778	5,802,000	4,105,000
Prepaid expenses	479,177	479,000	479,000
Other assets	308,257	26,000	44,000
Equipment and leasehold improvements, net	553,791	443,000	364,000
Total Assets	**$ 11,873,485**	**$ 9,568,000**	**$ 7,609,000**
LIABILITIES AND NET ASSETS			
Liabilities			
Accrued expenses and other liabilities	$ 2,965,155	$ 2,674,000	$ 2,695,000
Deferred revenue	314,881	-	-
Deferred rent	338,787	237,000	136,000
Total Liabilities	**3,618,823**	**2,911,000**	**2,831,000**
Net Assets - Without Donor Restrictions			
Available for operations	7,552,639	6,171,000	4,778,000
Board designated for future use	702,023	486,000	-
Total Net Assets Without Donor Restrictions	8,254,662	6,657,000	4,778,000
Total Liabilities and Net Assets	**$ 11,873,485**	**$ 9,568,000**	**$ 7,609,000**

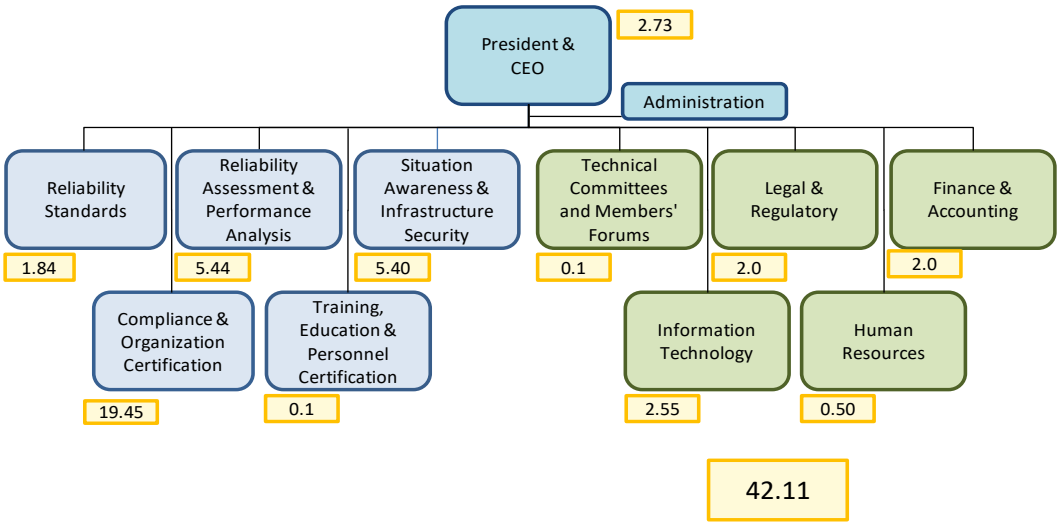
Table D - 1: Statement of Financial Position, Three-Year Comparison

NPCC Statement of Activities 2022 Budget	RE Division Total	Reliability Standards (Section 300)	Compliance Monitoring and Enforcement and Organization Registration and Certification (Section 400 & 500)	Reliability Assessment and Performance Analysis (Section 800)	Training, Education, and Operator Certification (Section 900)	Situation Awareness and Infrastructure Security (Section 1000)	Technical Committees and Member Forums	Administrative Services
Funding								
ERO Funding								
ERO Assessments	15,912,313	957,270	9,196,118	3,710,864	138,664	2,432,690	-	(523,294)
Penalty Sanctions	201,132	9,553	128,838	33,307	516	28,918		
Total ERO Funding	**16,113,445**	**966,823**	**9,324,956**	**3,744,171**	**139,181**	**2,461,608**	**-**	**(523,294)**
Membership Dues	-	-	-	-	-	-	-	-
Testing Fees	-	-	-	-	-	-	-	-
Services & Software	-	-	-	-	-	-	-	-
Workshops & Misc Revenue	33,750	-	-	-	33,750	-	-	-
Interest & Investment Income	28,465	-	-	-	-	-	-	28,465
Total Funding (A)	**16,175,660**	**966,823**	**9,324,956**	**3,744,171**	**172,931**	**2,461,608**	**-**	**(494,829)**
Expenses								
Personnel Expenses								
Salaries	9,072,408	398,873	3,863,613	1,232,794	23,642	1,009,298	26,868	2,544,187
Payroll Taxes	595,815	23,836	286,998	79,765	1,471	68,007	1,395	135,739
Benefits	2,234,738	100,793	1,001,839	332,187	6,283	202,785	5,889	590,851
Retirement Costs	1,041,405	42,512	422,710	133,166	2,434	110,066	2,813	330,517
Total Personnel Expenses	12,944,366	566,014	5,575,160	1,777,913	33,830	1,390,155	36,964	3,601,294
Meeting Expenses								
Meetings	221,100	3,000	4,000	17,250	112,400	4,800	4,050	79,650
Travel	505,572	54,540	161,472	129,720	9,000	56,580	2,460	94,260
Conference Calls	9,500	-	-	-	-	-	-	9,500
Total Meeting Expenses	736,172	57,540	165,472	146,970	121,400	61,380	6,510	183,410
Operating Expenses, excluding Depreciation								
Consultants & Contracts	839,650	20,000	32,000	692,000	-	30,000	-	65,650
Office Rent	906,141	-	-	-	-	-	-	906,141
Office Costs	1,218,071	2,242	17,434	8,030	348	8,313	-	1,181,703
Professional Services	1,017,000	-	-	-	-	-	-	1,017,000
Miscellaneous	51,000	-	-	-	-	-	-	51,000
Total Operating Expenses, excluding Depreciation	4,031,862	22,242	49,434	700,030	348	38,313	-	3,221,494
Total Direct Expenses	**17,712,400**	**645,796**	**5,790,066**	**2,624,913**	**155,578**	**1,489,849**	**43,474**	**7,006,199**
Indirect Expenses	**(358,417)**	315,748	4,258,335	1,100,852	17,067	955,779	(43,474)	(7,006,199)
Other Non-Operating Expenses	-	-	-	-	-	-	-	-
Total Expenses (B)	**17,353,983**	**961,544**	**10,048,401**	**3,725,765**	**172,645**	**2,445,627**	**-**	**-**
Change in Net Assets (=A-B)	**(1,178,323)**	**5,279**	**(723,445)**	**18,406**	**285**	**15,980**	**-**	**(494,829)**
Fixed Asset Additions								
Computer & Software CapEx	73,150	-	-	-	-	-	-	73,150
Furniture & Fixtures CapEx	19,000	-	-	-	-	-	-	19,000
Equipment CapEx	-	-	-	-	-	-	-	-
Leasehold Improvements	19,000	-	-	-	-	-	-	19,000
Allocation of Fixed Asset Additions	**-**	**5,279**	**71,199**	**18,406**	**285**	**15,980**	**-**	**(111,150)**
Fixed Asset Additions , excluding Right of Use Assets (C)	**111,150**	**5,279**	**71,199**	**18,406**	**285**	**15,980**	**-**	**-**
TOTAL BUDGET (=B + C)	**17,465,133**	**966,823**	**10,119,600**	**3,744,171**	**172,931**	**2,461,608**	**-**	**-**
TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)	**(1,289,473)**	**0**	**(794,644)**	**0**	**(0)**	**-**	**-**	**(494,829)**
FTEs	**49.90**	**1.85**	**24.95**	**6.45**	**0.10**	**5.60**	**0.10**	**10.95**

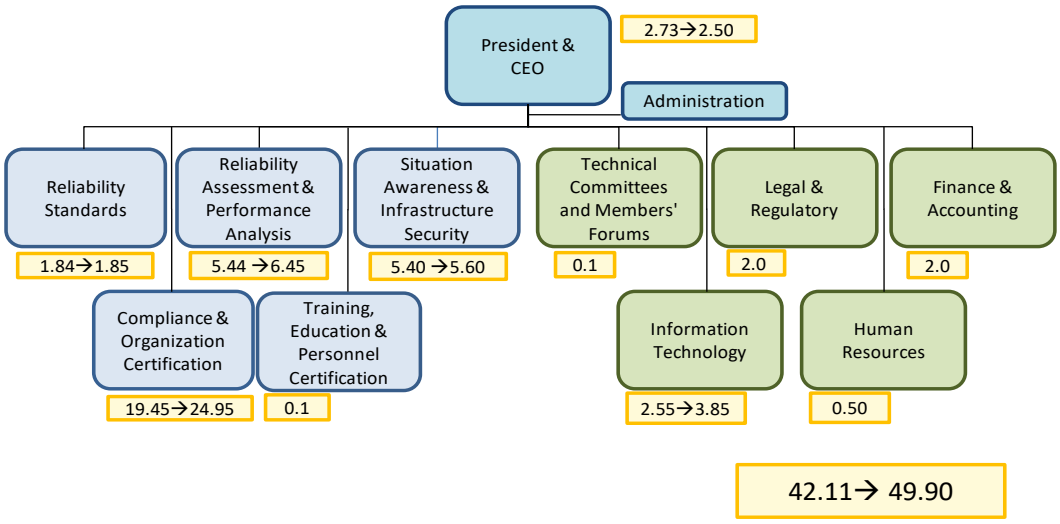
NPCC Statement of Activities 2022 Budget	Criteria Services Total	Criteria Development	Criteria Assessment	General and Administrative
Funding				
ERO Funding				
ERO Assessments	-			
Penalty Sanctions	-			
Total ERO Funding	**-**	**-**	**-**	**-**
Membership Dues	636,745	495,010	452,602	(310,866)
Testing Fees	-	-	-	-
Services & Software	-	-	-	-
Workshops & Misc Revenue	-	-	-	-
Interest & Investment Income	1,535	-	-	1,535
Total Funding (A)	**638,280**	**495,010**	**452,602**	**(309,331)**
Expenses				
Personnel Expenses				
Salaries	349,040	195,611	153,429	-
Payroll Taxes	25,056	12,823	12,233	-
Benefits	66,252	32,312	33,940	-
Retirement Costs	37,526	20,910	16,617	-
Total Personnel Expenses	477,875	261,656	216,220	-
Meeting Expenses				
Meetings	8,400	900	7,500	-
Travel	34,080	16,920	17,160	-
Conference Calls	-	-	-	-
Total Meeting Expenses	42,480	17,820	24,660	-
Operating Expenses, excluding Depreciation				
Consultants & Contracts	56,000	30,000	26,000	-
Office Rent	-	-	-	-
Office Costs	2,989	1,401	1,589	-
Professional Services	-	-	-	-
Miscellaneous	4,000	2,000	2,000	-
Total Operating Expenses, excluding Depreciation	62,989	33,401	29,589	-
Total Direct Expenses	**583,344**	**312,876**	**270,468**	**-**
Indirect Expenses	358,417	179,208.49	179,208.49	-
Other Non-Operating Expenses	-	-	-	-
Total Expenses (B)	**941,761**	**492,085**	**449,677**	**-**
Change in Net Assets (=A-B)	**(303,481)**	**2,925**	**2,925**	**(309,331)**
Fixed Asset Additions				
Computer & Software CapEx	3,850	1,925	1,925	-
Furniture & Fixtures CapEx	1,000	500	500	-
Equipment CapEx	-	-	-	-
Leasehold Improvements	1,000	500	500	-
Allocation of Fixed Asset Additions	**-**	**-**	**-**	**-**
Fixed Asset Additions , excluding Right of Use Assets (C)	**5,850**	**2,925**	**2,925**	**-**
TOTAL BUDGET (=B + C)	**947,611**	**495,010**	**452,602**	**-**
TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)	**(309,331)**	**-**	**-**	**(309,331)**
FTEs	**2.10**	**1.05**	**1.05**	**0**

Appendix A Staff Allocations

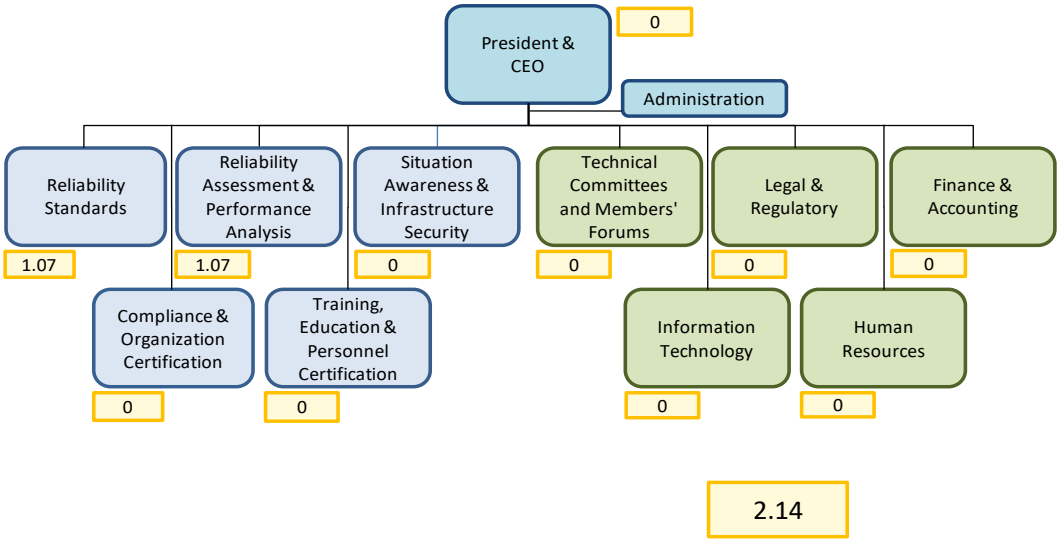
2021 Budget Staff Allocations - RE Division



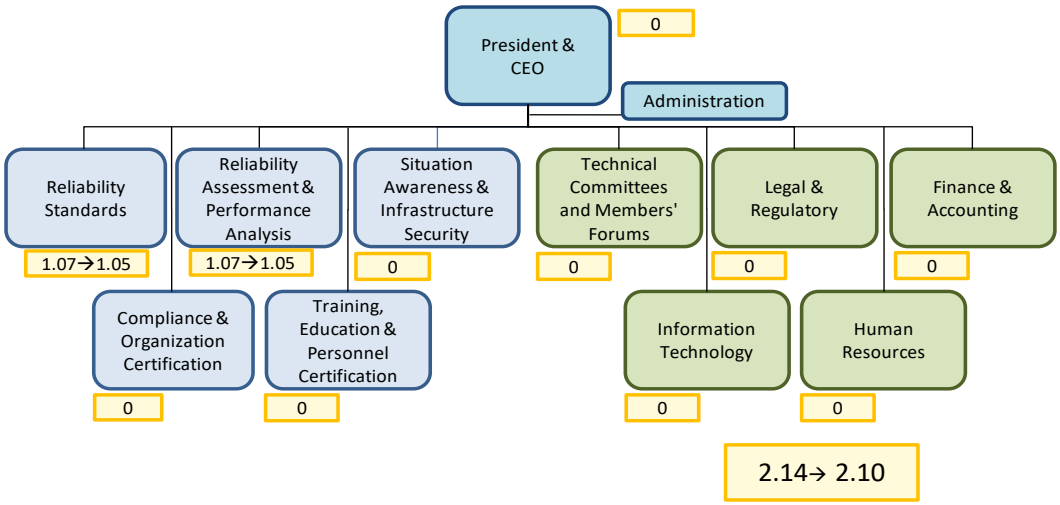
2022 Budget Staff Allocations - RE Division



2021 Budget Staff Allocations - CS Division



2022 Budget Staff Allocations - CS Division



Appendix B Acronyms

This section lists acronyms used in this document.

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

Acronym	Definition
NCCIC	National Cybersecurity and Communications Integration Center
NEL	Net Energy for Load
NERC	North American Electric Reliability Corporation
NLH	Newfoundland and Labrador Hydro
NOI	Notice of Inquiry
NOPR	Notice of Proposed Rulemaking
NPCC	Northeast Power Coordinating Council, Inc.
NSPI	Nova Scotia Power Incorporated
NSUARB	Nova Scotia Utility and Review Board
OEB	Ontario Energy Board
OLT	Operations Leadership Team
ORCG	Organization Registration and Certification Group
PAS	Performance Analysis Subcommittee
PAWG	Probabilistic Assessment Working Group
PC	Pension Committee
PJM	Pennsylvania-Jersey-Maryland Interconnection LLC., Regional Transmission Organization
PPMVTF	Power Plant Model Verification Task Force
PSWG	Physical Security Working Group
QCMEP	Québec Reliability Standards Compliance Monitoring and Enforcement Program
RAPA	Reliability Assessment and Performance Analysis
RAPA-SG	ERO RAPA Steering Group
RAS	Reliability Assessment Subcommittee
RAS	Remedial Action Scheme
RC	Reliability Coordinator
RCC	Reliability Coordinating Committee
RISC	Reliability Issues Steering Committee
RSC	Regional Standards Committee
RSTC	Reliability and Security Technical Committee
RTWG	Reliability Training Working Group
RTO	Regional Transmission Organization
SAFNR	Situational Awareness-FERC, NERC, Regions
SAIS	Situation Awareness and Infrastructure Security
SAMS	System Analysis and Modeling Subcommittee
SAR	Standards Authorization Request
SCPS	Standards Committee Process Subcommittee
SDT	Standards Drafting Team
SEL	Sequre Evidence Locker
SITES	Security Integration and Technology Enablement Subcommittee
SPCWG	System Protection and Control Working Group
SMWG	Synchronized Measurement Working Group
SPIDERWG	System Planning Impacts from Distributed Energy Resources Working Group
SPS	Special Protection Systems
TADSUG	Transmission Availability Data System User Group
TFCO	Task Force on Coordination of Operation
TFCP	Task Force on Coordination of Planning
TFE	Technical Feasibility Exception
TFIST	Task Force on Infrastructure Security and Technology
TFSP	Task Force on System Protection
TFSS	Task Force on System Studies
UFLS	Underfrequency Load Shedding
VER	Variable Energy Resources

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NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Attachment 4

NERC Management's Responses to Stakeholder Comments Submitted on Draft of NERC's 2022 Business Plan and Budget

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Andy Sharp
Vice President and Chief Financial Officer

Re: Management Response to 2022 Business Plan and Budget (BP&B) Draft 1 Comments

Date: July 15, 2021

The deadline for comments on the first draft of NERC's 2022 BP&B ended on June 18, 2021. Six comment submissions were received, which are posted on NERC's website. Generally speaking, comments acknowledged NERC's budgetary emphasis on addressing priority bulk power system (BPS) reliability and security risks while also expressing concerns with the 2022 budget and assessment increases in light of the current fiscal environment and realities facing the industry.

NERC remains sensitive to the economic uncertainties facing the sector as we navigate and eventually emerge from the COVID-19 pandemic but also underscores the extraordinary costs to nearly 400 million North American citizens if adequate and preventive measures are not taken in response to recent risks threatening BPS reliability and security. From supply chain compromise to several cyber breaches and cold and record heat weather-related events, there are immediate needs to continue to reliably and securely support the BPS. NERC and the Regional Entities, in our role as the Electric Reliability Organization (ERO), are accountable for assuring this mission, and continue to thoughtfully balance fiscal concerns with the very real evolution of BPS risk into different arenas. Below is a summary of the individual comments and NERC management's responses.

American Public Power Association (APPA), Edison Electric Institute (EEI), and Large Public Power Council (LPPC)
Joint comments submitted by APPA, EEI, and LPPC emphasized that NERC should (1) identify and measure savings projected from tools or process improvements, including Align and the ERO Secure Evidence Locker (SEL), and create metrics around investments to show their value in enhancing reliability; (2) ensure BP&B activities align with priorities established by the Reliability Issues Steering Committee (RISC), and defer or eliminate those that do not; and (3) leverage and share resources across the ERO Enterprise and consider shared purchasing. APPA, EEI, and LPPC also questioned the need for NERC to conduct real-time situation awareness, including situation awareness efforts related to natural gas, requested more detailed support for the proposed increase of full-time equivalents (FTEs) in the Reliability Standards and Electricity Information Sharing and Analysis Center (E-ISAC) areas, and expressed that meeting and travel costs should remain flat or be reduced.

NERC Management Response
NERC appreciates and has given due consideration to the comments submitted by APPA, EEI, and LPPC. NERC offers the following responses to the remarks and recommendations summarized above.

- NERC has an internal Information Technology (IT) investment review and scoring process, which measures and validates if a technology project achieved the value identified in the business case. This process will apply to the Align and ERO SEL projects. NERC would however note that, while the implementation of Align will replace the individual Compliance Monitoring and Enforcement Program (CMEP) applications across the ERO Enterprise and reduce the historical costs for these legacy systems, these modest cost savings were not the primary justification for the project. The benefit of both Align and the ERO SEL is the improvement

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in the consistency and quality of CMEP processes and data protection, which promotes both effectiveness and efficiency. In addition, the security features of the ERO SEL are requiring the Regional Entities to significantly modify their work practices in reviewing registered entity evidence, which is driving the upward pressure on the Regional Entity CMEP staff in the near term. Also, until Align is fully deployed, the Regional Entities are unable to retire their legacy systems. Finally, it should be noted that NERC's investment in Align and the ERO SEL also represents an untold savings over the "avoided cost" for each ERO organization to rebuild its own individual applications, which would inevitably have been incurred over time, especially with the heightened security requirements on registered entity evidence handling.

- NERC is exploring options for how to meaningfully measure the efficiencies gained and/or impact to enhancing reliability from its investments in resources and tools, and welcomes input from industry in developing these metrics.
- NERC's BP&B is guided by the *ERO Enterprise Long-Term Strategy*, which is aligned with BPS risks identified by the RISC and reviewed annually by ERO Enterprise leadership to confirm the continued harmonization with the RISC's work and the highest priorities for the ERO Enterprise.
- NERC and the Regional Entities continue to work on sharing and leveraging resources across the ERO Enterprise. The ERO Enterprise has collaboration groups focused on both the individual program areas and shared services, which are centers for knowledge and best practice sharing as well as identifying ERO-wide efficiencies, including training and joint purchasing opportunities. NERC has also been leading ERO-wide efforts to help improve cyber and data security. This includes the development and implementation of Align and the ERO SEL, a dedicated and focused resource to lead overall ERO security, and IT security audits for the ERO Enterprise. These efforts do not always result in a categorical financial return, particularly with respect to the inclusion of funding for ERO-wide initiatives in NERC's budget; rather, these efforts promote consistency and quality, replace funding for these strategies at the Regional Entities, and support the ERO Enterprise's strategic focus area of capturing effectiveness, efficiency, and continuous improvement opportunities.
- NERC is required to maintain real-time situation awareness under Section 1001 of the Rules of Procedure, and to provide leadership coordination, technical expertise, and assistance to the industry in responding to events as necessary. The 2022 budget also does not include consulting expenses for enhancing natural gas situation awareness; the language in question will be clarified in the second BP&B draft.
- In response to the comment related to what additional activities in Reliability Standards warrant an increase in FTEs, NERC notes that it is requesting to add one standards developer and one standards administrator due to increased activity related to (1) changes to operations and planning standards identified by the Reliability and Security Technical Committee (RSTC); (2) additional changes to critical infrastructure protection (CIP) standards necessitated by the escalating threat environment and recent supply chain compromises; and (3) the overall rapid transformation of the grid, especially in the areas of renewable resources and extreme events.

  Also, NERC would like to clarify that the E-ISAC is not adding dedicated resources to support the downstream natural gas sector. Rather, the intent was to cite the E-ISAC's work related to coordination with the sector and the Downstream Natural Gas ISAC as one of many initiatives in support of the E-ISAC's long-term strategy that contribute to the overall need for additional resources. Clarifications related to FTE additions in Reliability Standards and E-ISAC will be addressed in the second draft of the BP&B.

- The 2022 budget for meeting and travel expenses has been increased from the 2021 budget, which assumed continued pandemic conditions for a portion of the year. However, the proposed 2022 budget amount remains 22% below the pre-pandemic 2020 budget amounts. Future in-person meetings will be guided by committee and stakeholder engagement requirements, and web meeting technologies will continue to be utilized when possible.

Canadian Electricity Association (CEA)
CEA recognized that the majority of increases in the NERC 2022 budget are aimed at addressing the highly challenging and evolving reliability and security environment. CEA encouraged NERC to examine (1) how its program structure can be more adaptable to effectively address challenges as they evolve and (2) the efficiency and value of program investments, and to provide better evidence that investments are providing tangible results and corresponding value. With respect to the E-ISAC, CEA recognized the increases in the context of the recent major security disruptions and evolutions. CEA encouraged NERC to continue engaging with stakeholders to ensure the full value of the E-ISAC is realized and to leverage capabilities available from other agencies and partners.

NERC Management Response
NERC appreciates CEA's comments and support for the 2022 BP&B's focus on priority BPS risks. With respect to CEA's constructive comments related to program and investment examination and a "continuous questioning and improvement culture," NERC offers the following responses, which are similarly noted in its responses to APPA, EEI, and LPPC above:

- Current practices NERC has in place to examine the results of its program investments include an internal IT investment review and scoring process, which measures and validates if a technology project achieved the value identified in the business case.
- NERC is exploring options for how to meaningfully measure the efficiencies gained and/or impact to enhancing reliability from its investments in resources and tools, and welcomes input from industry in developing these metrics.
- NERC's BP&B is guided by the *ERO Enterprise Long-Term Strategy*, which includes a strategic focus area to continuously capture effectiveness, efficiency, and continuous improvement opportunities. NERC does this in collaboration with stakeholders, and agrees that its ongoing touchpoints with the Member Representatives Committee (MRC) BP&B Input Group is a valuable mechanism for industry participation and feedback on these opportunities.
- Over time NERC is capturing program maturity benefits and efficiencies, as highlighted by the two FTE positions that are being redeploying from the Compliance Assurance area that are no longer needed.

Regarding the comments related to E-ISAC, NERC appreciates and remains strongly committed to continued engagement with stakeholders on furthering the value proposition of the E-ISAC in Canada while respecting and leveraging the similar work and capabilities from Canadian agencies.

Independent Electricity System Operator (IESO)
IESO expressed support for NERC's reliability and security activities, CEA's comments, the established assessment credit policy for certain Canadian entities, and IESO's partnership with the E-ISAC. IESO strongly encouraged NERC to reduce the budget and assessment increases shown in the first draft, recommending that NERC pursue reductions in office lease costs, reassess in-person meeting assumptions, and expand the use of capital financing and make use of available reserves to fund one-time expenses.

NERC Management Response
NERC appreciates IESO's comments and support, and directs IESO to NERC's responses to CEA's comments above. NERC has also given due consideration to IESO's recommendations to lower the 7.0% budget and 9.9% assessment increase shown in the first draft of the 2022 BP&B. After careful review, the second draft of NERC's BP&B includes the same meeting and travel expense assumptions as the first draft (see NERC's response to APPA, EEI, and LPPC related to this subject above). The second draft also does not reflect the use of reserves or additional capital financing in order to avoid (1) the rebound effect on 2023 assessments if reserves are used in 2022 (due to the relatively low amount of "one-time" costs in the budget) and (2) the impact of debt service on future year budget increases. However, NERC is pleased to report that the budget and assessment increases have been lowered in the second draft of its 2022 BP&B to a 6.2% budget and 8.9% assessment increase as a result of additional refining of expenses and revised assumptions for DC office lease costs. NERC is continuing to explore lease options for its Atlanta office facility, and believes it would be prudent to maintain adequate reserve levels to accommodate potential one-time costs associated with any Atlanta office lease change decisions.

Independent System Operator (ISO) Regional Transmission Organization (RTO) Council (IRC) Standards Review Committee (SRC)
The IRC SRC expressed strong support for NERC's 2022 budgetary emphasis on priority BPS risks and encouraged that, since a large portion of NERC's 2022 budget increase is in the E-ISAC, NERC publish the metrics provided in the *E-ISAC Long-Term Strategic Plan* at least annually.

NERC Management Response
NERC very much appreciates the IRC SRC's comments and support for its 2022 BP&B. The E-ISAC metrics are currently shared and reviewed with the Electricity Subsector Coordinating Council (ESCC) Member Executive Committee. The E-ISAC will consider opportunities for metric information sharing with a broader audience while maintaining security of sensitive information.

Midcontinent Independent System Operator (MISO)
MISO supported the comments filed by the IRC SRC.

NERC Management Response
NERC appreciates MISO's support for its 2022 BP&B and refers MISO to the responses provided for IRC SRC above.

National Rural Electric Cooperative Association (NRECA) on behalf of the Cooperative Sector
NRECA expressed support for the transparent ERO budget process. Comments on the 2022 BP&B encouraged NERC and/or the ERO Enterprise to (1) ensure E-ISAC metrics are evaluated and modified as needed to demonstrate the value of information sharing to E-ISAC members, and to consider how FTE increases for E-ISAC and the Cybersecurity Information Sharing Program (CRISP) might offset per-member cost reductions realized due to expansion of the program; (2) provide better justification for ERO FTE increases to support the CMEP and standards development efforts; and (3) consider evaluating a more consistent approach to operating reserves and their use across the ERO.

NERC Management Response
NERC appreciates the comments provided by NRECA. With respect to remarks related to the E-ISAC, NERC agrees with ongoing examination of the E-ISAC metrics to ensure they best demonstrate the E-ISAC's value, and recently created a performance management group to ensure, among other things, that the E-ISAC's metrics support the improvement of the quality, timeliness, and value of information sharing, data management, and analysis. NERC

also understands the concern regarding how FTE increases in the E-ISAC and CRISP areas could be offsetting CRISP per-member cost reductions that result from members being added to the program; however, NERC believes that any offset would be nominal given that the cost of these FTE increases is spread across all North American load-serving entities.

With respect to FTE increases in the CMEP and Reliability Standards areas, NERC first notes that it is reducing FTEs in 2022 in its compliance and enforcement programs as a result of the maturation of the program and NERC's need for resources in other areas to align with current strategic priorities. While there is increased work at the Regional Entities as a function of Align and (primarily) ERO SEL implementation and related process changes, the CMEP-related FTE adds at the Regional Entities in 2022 are (1) in some cases, budget neutral with respect to contractor conversions or repurposing of positons from other areas of the company and (2) mainly a result of increasing complexity related to the amount and nature of new standards and violations, as well as initiatives to expand risk and internal controls analysis programs. In response to the comment related to what additional activities in Reliability Standards warrant an increase in FTEs, NERC notes that it is requesting to add one standards developer and one standards administrator due to increased activity related to (1) changes to operations and planning standards identified by RSTC; (2) additional changes to CIP standards necessitated by the escalating threat environment and recent supply chain compromises; and (3) the overall rapid transformation of the grid.

Finally, NERC supports NRECA's comment on working toward a more consistent approach to operating reserves and their use across the ERO Enterprise organizations. NERC has been working with the finance leaders at the Regional Entities to standardize reporting of reserve categories and also provides feedback on their annual reserve usage and reserve levels. Similar to FTE resource planning and budgeting, the Regional Entity boards and executive teams determine their reserve policies and timing of reserve releases. However, this is an area where NERC and the Regional Entities will continue to explore areas for consistency where possible.

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

Sincerely,

Andrew G Sharp

Andy Sharp
Vice President and Chief Financial Officer

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Attachment 5

Calculation of Adjustments to the 2022 AESO NERC Assessment, IESO NERC Assessment, New Brunswick NERC Assessment and Québec NERC Assessment

2022 AESO Assessment Adjustment

Credit for NERC Compliance Costs

Includes adjustment for 2020 Actual v Budgeted Costs

	2022 NERC Budget Final	AESO NEL Share (2020) 1.344%	2022 Compliance FTEs Total	Credit	% Credit	AESO Credit	Costs Paid by AESO
NERC Compliance Program Budget							
Compliance Assurance	$ 10,595,314	$ 142,428	16.92	15.60	92.2%	$ 131,319	$ 11,109
Registration and Certification	1,968,657	26,464	3.76	3.57	95.0%	25,141	1,323
Enforcement	6,945,963	93,372	13.16	13.16	100.0%	93,372	-
Total Compliance Costs, including Fixed Assets	**$ 19,509,934**	**$ 262,264**	**33.84**	**32.33**		**$ 249,831**	**$ 12,433**
True-up 2020 Actual						27,603	
Additional Non-Compliance Costs							
SAFNR v3 support and maintenance	477,543	6,419			100.0%	6,419	
2022 Total Compliance and SAFNR	**$ 19,987,477**	**$ 268,683**	**33.84**	**32.33**		**$ 283,854**	**$ 12,433**
2021 (Excludes Event Analysis)	**$ 21,482,358**	**$ 288,937**	**35.72**	**34.02**		**$ 266,377**	**$ 13,442**
Change from 2021 (Excludes Event Analysis)	**$ (1,494,881)**	**$ (20,254)**	**(1.88)**	**(1.69)**		**$ 17,477**	**$ (1,009)**

2022 Assessment		
2022 NERC Assessment	$	769,873
2022 RE Assessment (WECC & WIRAB)		1,001,889
Total 2022 Assessment	**$**	**1,771,762**
2021 Assessment		
2021 NERC Assessment	$	702,174
2021 RE Assessment (WECC & WIRAB)		1,008,698
Total 2021 Assessment	**$**	**1,710,872**
Change in Total Assessment	**$**	**60,890**
		3.6%
Change in NERC Assessment	**$**	**67,699**
		9.6%

2022 IESO Assessment Adjustment

Credit for NERC Compliance Costs

Includes adjustment for 2020 Actual v Budgeted Costs

	2022 NERC Budget Final	IESO NEL Share (2020) 2.958%	2022 Compliance FTEs Total	Credit	% Credit	IESO Credit	Costs Paid by IESO
NERC Compliance Program Budget							
Compliance Assurance	$ 10,595,314	$ 313,439	16.92	14.08	83.2%	$ 260,781	$ 52,658
Registration and Certification	1,968,657	58,238	3.76	3.57	95.0%	55,326	2,912
Enforcement	6,945,963	205,481	13.16	13.16	100.0%	205,481	-
Total Compliance Costs, including Fixed Assets	**$ 19,509,934**	**$ 577,158**	**33.84**	**30.81**		**$ 521,589**	**$ 55,570**
True-up 2020 Actual						54,961	
Additional Non-Compliance Costs							
SAFNR v3 support and maintenance	477,543	14,127	-	-	100.0%	14,127	-
2022 Total Compliance and SAFNR	**$ 19,987,477**	**$ 591,286**	**33.84**	**30.81**		**$ 590,677**	**$ 55,570**
2021 (Excludes Event Analysis)	**$ 21,482,358**	**$ 636,353**	**35.72**	**32.33**		**$ 552,102**	**$ 59,602**
Change from 2021 (Excludes Event Analysis)	**$ (1,494,881)**	**$ (45,067)**	**(1.88)**	**(1.52)**		**$ 38,575**	**$ (4,032)**

2022 Assessment	
2022 NERC Assessment	$ 1,728,238
2022 RE Assessment	2,250,986
Total 2022 Assessment	**$ 3,979,224**
2021 Assessment	
2021 NERC Assessment	$ 1,581,026
2021 RE Assessment	2,195,924
Total 2021 Assessment	**$ 3,776,950**
Change in Total ERO Assessment	**$ 202,274**
	5.4%
Change in NERC Assessment	**$ 147,212**
	9.3%

2022 New Brunswick Assessment Adjustment

Credit for NERC Compliance Costs

Includes adjustment for 2020 Actual v Budgeted Costs

	2022 NERC Budget Final	NB NEL Share (2020) 0.311%	2022 Compliance FTEs Total	Credit	% Credit	NB Credit Budget)	Costs Paid by NB
NERC Compliance Program Budget							
Compliance Assurance	$ 10,595,314	$ 33,000	16.92	14.08	83.2%	$ 27,456	$ 5,544
Registration and Certification	1,968,657	6,131	3.76	3.57	95.0%	5,825	307
Enforcement	6,945,963	21,634	13.16	13.16	100.0%	21,634	-
Total Compliance Costs, including Fixed Assets	**$ 19,509,934**	**$ 60,765**	**33.84**	**30.81**		**$ 54,914**	**$ 5,851**
True-up 2020 Actual						5,629	
Additional Non-Compliance Costs							
SAFNR v3 support and maintenance	477,543	1,487	-	-	100.0%	1,487	-
2022 Total Compliance and SAFNR	**$ 19,987,477**	**$ 62,252**	**33.84**	**30.81**		**$ 62,031**	**$ 5,851**
2021 (Excludes Event Analysis)	**$ 21,482,358**	**$ 67,026**	**35.72**	**32.33**		**$ 58,174**	**$ 6,278**
Change from 2021 (Excludes Event Analysis)	**$ (1,494,881)**	**$ (4,774)**	**(1.88)**	**(1.52)**		**$ 3,857**	**$ (427)**

2022 Assessment	
2022 NERC Assessment	$ 182,111
2022 RE Assessment	401,569
Total 2022 Assessment	**$ 583,680**
2021 Assessment	
2021 NERC Assessment	$ 166,505
2021 RE Assessment	357,478
Total 2021 Assessment	**$ 523,983**
Change in Total Assessment	**$ 59,697**
	11.4%
Change in NERC Assessment	**$ 15,606**
	9.4%

2022 Quebec Assessment Adjustment

Credit for NERC Compliance Costs

Includes adjustment for 2020 Actual v Budget

	2022 NERC Budget Final	Quebec NEL Share (2020) 4.062%	2022 Compliance FTEs Total	Credit	% Credit	Quebec Credit	Costs Paid by Quebec	Payment Allocation Regie	Hydro Quebec
NERC Compliance Program Budget									
Compliance Assurance	$ 10,595,314	$ 430,390	16.92	8.46	50.0%	$ 215,195	$ 215,195	$ -	$ 215,195
Registration and Certification	1,968,657	79,968	3.76	3.57	95.0%	75,970	3,998	$ 1,342	2,657
Enforcement	6,945,963	282,150	13.16	13.16	100.0%	282,150	-	-	-
Total Compliance Costs, including Fixed Assets	**$ 19,509,934**	**$ 792,509**	**33.84**	**25.19**		**$ 573,315**	**$ 219,193**	**$ 1,342**	**$ 217,852**
True-up 2020 Actual						40,493			
Additional Non-Compliance Costs									
SAFNR v3 support and maintenance	477,543	19,398	-	-	100.0%	19,398	-	-	-
2022 Total Compliance and SAFNR	**$ 19,987,477**	**$ 811,907**	**33.84**	**25.19**		**$ 633,207**	**$ 219,193**	**$ 1,342**	**$ 217,852**
2021 (Excludes Event Analysis)	**$ 21,482,358**	**$ 872,184**	**35.72**	**26.09**		**$ 572,136**	**$ 233,360**	**$ 2,286**	**$ 231,074**
Change from 2021 (Excludes Event Analysis)	**$ (1,494,881)**	**$ (60,277)**	**(1.88)**	**(0.89)**		**$ 61,071**	**$ (14,167)**	**$ (944)**	**$ (13,223)**
2022 Assessment									
2022 NERC Assessment	$ 2,550,946							$ 1,342	$ 2,549,604
2022 RE Assessment	3,365,269							1,330,228	2,035,041
Total 2022 Assessment	**$ 5,916,215**							**$ 1,331,570**	**$ 4,584,645**
2021 Assessment									
2021 NERC Assessment	$ 2,351,254							$ 2,286	$ 2,348,968
2021 RE Assessment	3,195,677							1,170,266	2,025,411
Total 2021 Assessment	**$ 5,546,931**							**$ 1,172,552**	**$ 4,374,379**
Change in Total Assessment	**$ 369,284**							**$ 159,018**	**$ 210,266**
	6.7%							**13.6%**	**4.8%**
Change in NERC Assessment	**$ 199,692**								
	8.5%								

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Attachment 6

Memorandum for NERC Board of Trustees Describing NERC's Participation in Preparation of and Review of Regional Entity 2022 Business Plans and Budgets

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Andy Sharp
Vice President, Chief Financial Officer

To: NERC Board of Trustees

From: Andy Sharp

Re: NERC Review of Regional Entity 2022 Business Plans & Budgets (BP&Bs)

Date: June 25, 2021

NERC has reviewed the Regional Entity 2022 BP&Bs and believes each provides for adequate resources to meet its delegated functions. Additional details on the review process and outcomes are discussed below.

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

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

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

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

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

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

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

NERC recently completed reviews of the Regional Entity 2022 BP&Bs. The following is a summary of the review findings and outcomes:

- All Regional Entity budgets cover activities eligible for funding, consistent with the regional delegation agreements as well as section 215 criteria.
- All statutory areas for all Regional Entities have adequate resources to fulfill their delegated functions.
- All Regional Entities conform to necessary budget reporting and format requirements. NERC also worked with the Regional Entities to further alignment on reserve reporting, clarifying category definitions and overall presentation on reserve balances and penalty funds received.
- Other minor wording change suggestions.

Additionally, the ERO Finance Group continues to have ongoing discussions regarding reserve balances and policies, including long-term strategies for the use of these funds to offset future assessments.

Attachment 7

Donation Holdback Agreement between Peak Reliability and the Western Electricity Coordinating Council

DONATION HOLDBACK AGREEMENT

This Donation Holdback Agreement (this "**Agreement**") is entered into as of [12-5], 2020 by and between Peak Reliability ("**Peak**") and Western Electricity Coordinating Council ("**WECC**" and, together with Peak, the "**Parties**").

RECITALS

A. Peak is a dissolved Utah nonprofit corporation recognized as a tax-exempt 501(c)(4) mutual benefit corporation. Peak operated as an energy reliability coordinator prior to its dissolution with the Secretary of State of Utah on December 12, 2019 (the "**Dissolution Date**").

B. WECC is a Utah nonprofit corporation recognized as a tax-exempt 501(c)(4) mutual benefit corporation. WECC works to effectively mitigate risks to the reliability and security of the Western Interconnection's Bulk Power System.

C. Upon Peak's wind-down, after the payment of all liabilities and member rebates, Peak expects to hold approximately $4.1 million in excess cash (the "**Remaining Funds**"). Pursuant to Peak's non-profit governance documents and IRS rules, Peak is required to donate the Remaining Funds to another non-profit organization, and Peak intends to donate the Remaining Funds to WECC (the "**Donation**").

D. Peak does not anticipate any liabilities will arise after the completion of the Donation. However, Peak desires that, as a condition of the Donation, WECC agrees to hold back certain donated funds to cover unexpected future liabilities as set forth in this Agreement.

Accordingly, the parties agree as follows:

AGREEMENT

1. Holdback Fund. Upon acceptance of the Donation, WECC agrees to hold $[300,000] of the amount donated by Peak to WECC (the "**Holdback Fund**") in escrow, in a separate account not to be commingled with WECC's general funds, for a period of five years from date on which the Donation is made. If Peak receives notice from a third party of an outstanding liability (a "**Third Party Claim**") after the date of the Donation (other than any Excluded Claim described in Paragraph 2), then Peak shall notify WECC of such Third Party Claim, and WECC shall remit payment from the Holdback Fund directly to such third party to cover the amount of such Third Party Claim (a "**Third Party Payment**").

2. Excluded Claims. In no event shall WECC be responsible for making any Third Party Payment if the Third Party Claim (a) involves an amount in excess of the amount remaining in the Holdback Fund or (b) is in connection with a lawsuit or any other legal, administrative, arbitral, or

other proceeding (each an "**Excluded Claim**"). For avoidance of doubt, there shall be no successor-in-interest liability to either Party under any theory of successor liability.

3. Governing Law. This Donation Holdback Agreement shall be governed by and construed in accordance with the internal laws of the State of Utah, without giving effect to any choice or conflict of law provision or rule.

4. Merger and Amendment. This Agreement constitutes the sole, full and entire understanding and agreement between the Parties with respect to the subject matter contained herein, and any other written or oral agreements relating to the subject matter hereof existing between the Parties are expressly cancelled. No change, modification, or addition to this Agreement shall be valid unless in writing and signed by or on behalf of each of the Parties.

5. Counterparts and Electronic Signatures. This Agreement may be executed in counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. The Parties agree that transmission to each other of this Agreement with the transmitting party's email or other electronic signature shall suffice to bind the party signing and transmitting this Agreement in the same manner as if the Agreement with an original signature had been delivered.

[Signature Page Follows]

IN WITNESS WHEREOF, the undersigned have executed this Agreement as of the date first set forth above.

PEAK RELIABILITY

By: _____
Name: John Procario
Title: Board Chair

WESTERN ELECTRICITY COORDINATING COUNCIL

By: MFrye
Name: Melanie Frye
Title: CEO

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Attachment 8

Metrics Comparing Regional Entity Operations Based on the 2022 Budgets

2022 Metrics for Budget Submissions

	Budget Metrics	MRO	NPCC[6]	ReliabilityFirst	SERC	Texas RE	WECC
1	Number of registered entities[1]	**220**	**239**	**262**	**267**	**262**	**435**
2	Number of registered functions	**604**	**472**	**264**	**726**	**482**	**1,038**
3	Total NEL **(GWh)**	**479,196**	**605,651**	**856,672**	**1,290,440**	**381,905**	**855,793**
4	NEL (GWh) per registered entity	2,178	2,534	3,270	1,310	1,458	1,967
5	Total ERO Funding[2]	**$17,832,414**	**$ 16,113,445**	**$ 26,936,627**	**$ 26,194,934**	**$15,562,115**	**$30,298,000**
6	ERO Funding per registered entity	$ 81,056	$ 67,420	$ 102,812	$ 98,108	$ 59,397	$ 69,651
7	ERO Funding per registered function	$ 29,524	$ 34,139	$ 102,033	$ 36,081	$ 32,287	$ 29,189
8	Total Budget[3]	**$20,034,361**	**$ 17,465,133**	**$ 26,219,927**	**$ 26,708,260**	**$17,160,613**	**$29,746,899**
9	Total Budget per registered entity	$ 91,065	$ 73,076	$ 100,076	$ 100,031	$ 65,499	$ 68,384
10	Total Budget per registered function	$ 33,169	$ 37,002	$ 99,318	$ 36,788	$ 35,603	$ 28,658
11	Total Statutory FTE[4]	**71.00**	**49.90**	**67.60**	**104.00**	**66.00**	**152.50**
12	Registered entity per Statutory FTE	3.099	4.790	3.876	2.567	3.970	2.852
13	Registered function per Statutory FTE	8.507	9.459	3.905	6.981	7.303	6.807
14	Total CMEP Budget [5]	**$14,238,948**	**$ 10,119,600**	**$ 7,751,602**	**$ 19,534,883**	**$13,648,328**	**$17,730,856**
15	CMEP budget per registered entity	$ 64,722	$ 42,341	$ 29,586	$ 73,164	$ 52,093	$ 40,761
16	CMEP budget per registered function	$ 23,574	$ 21,440	$ 29,362	$ 26,908	$ 28,316	$ 17,082
17	Total CMEP FTE	**36.56**	**24.95**	**53.00**	**50.45**	**41.75**	**67.75**
18	Registered entity per CMEP FTE	6.0	9.6	4.9	5.3	6.3	6.4
19	Registered function per CMEP FTE	16.5	18.9	5.0	14.4	11.5	15.3

[1] As of June 2021.

[2] ERO Funding is the sum of Assessments and Penalty Release funds only. (Excludes funding such as Membership Dues, Testing Fees, Services & Software, Workshops, Interest, and Miscellaneous.)

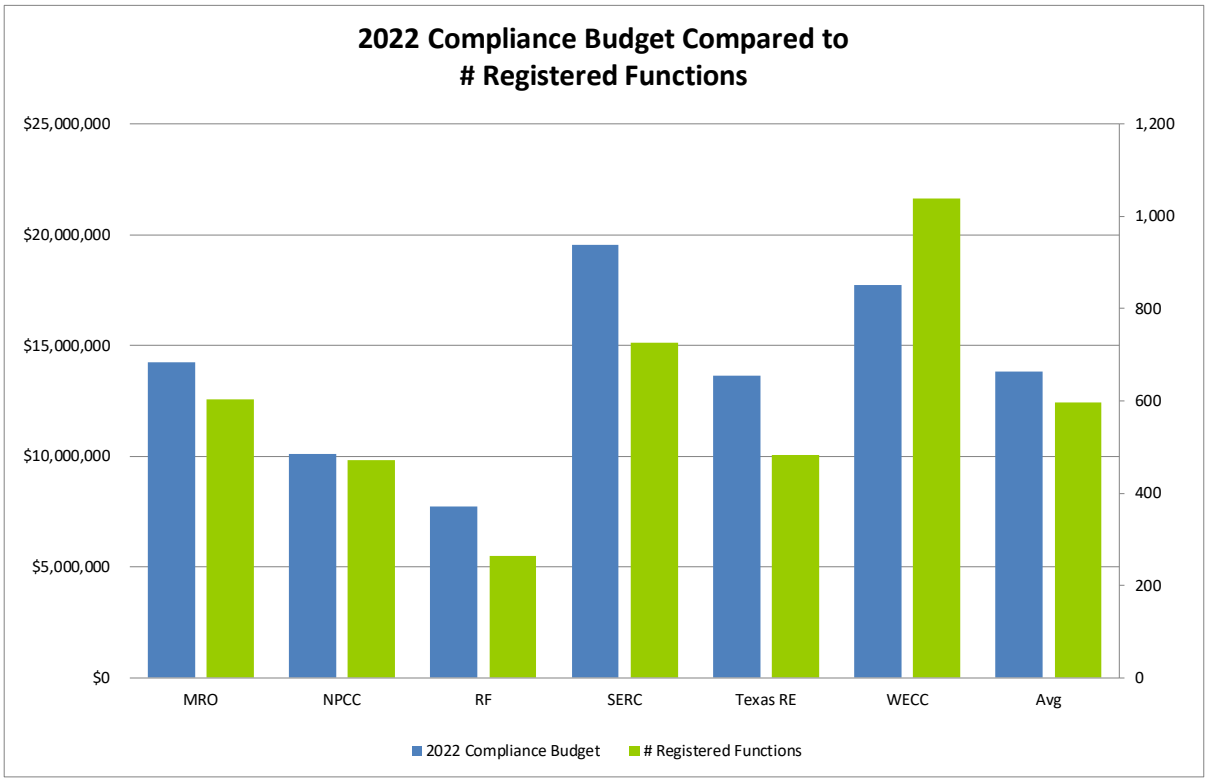
[3] Total Budget is the sum of Total Expenses and Fixed Asset Expenditures.

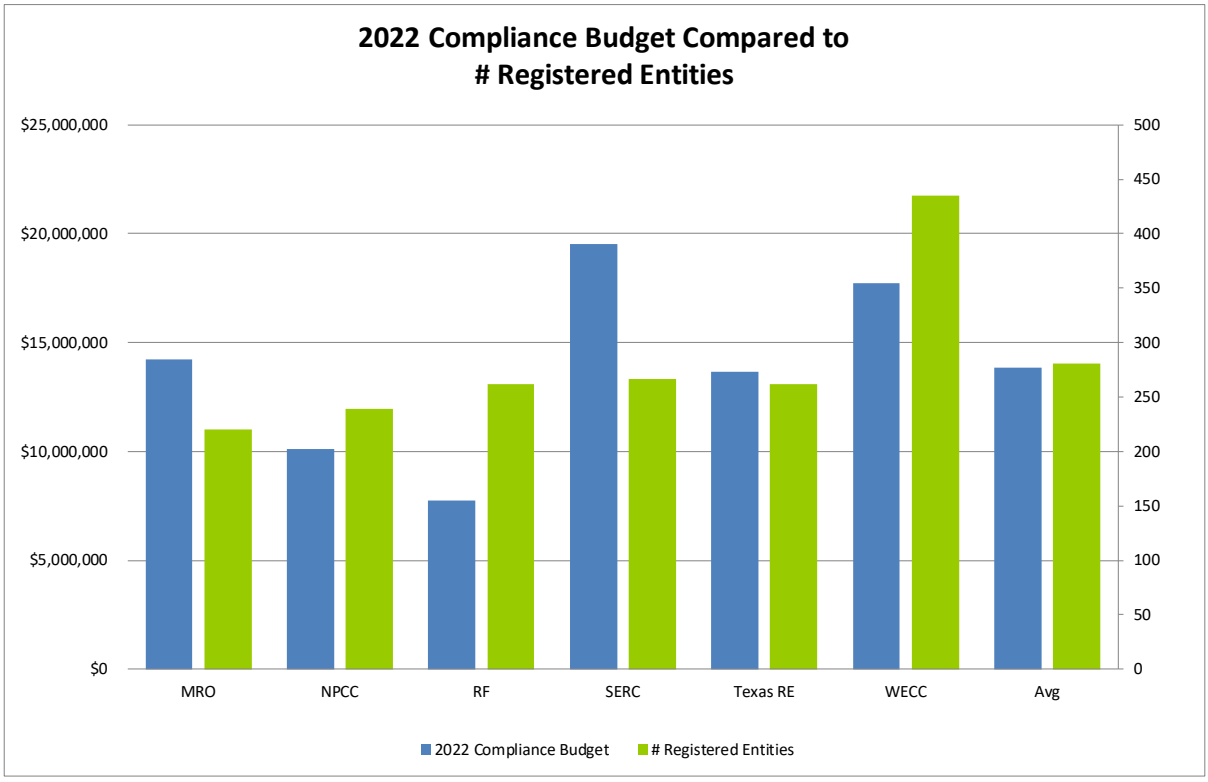
[4] Each FTE that works 2,080 hours per year is counted as one FTE. An FTE working less than the 2,080 hours per year is counted as a fractional FTE.

[5] Total CMEP (Compliance, Enforcement, & Organization Registration and Certification) Budget is a sum of Direct Expenses, Indirect Expenses, and Fixed Asset Expenditures.

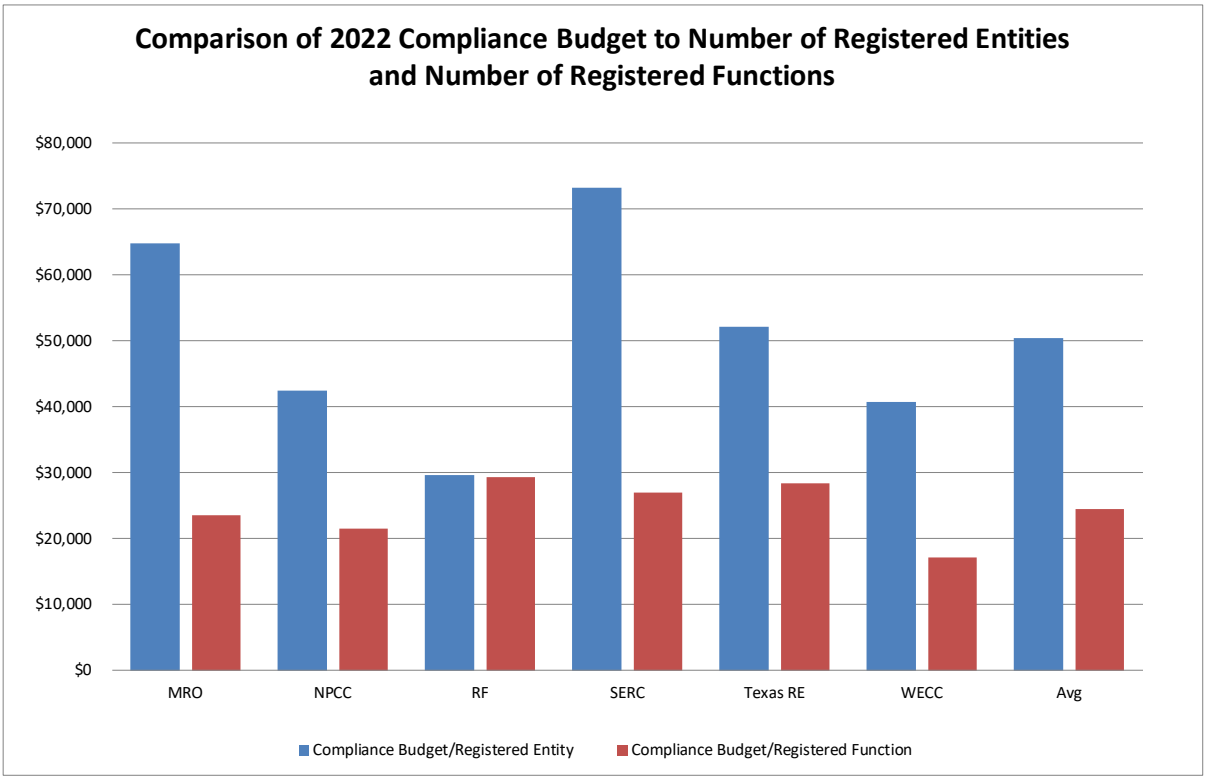
[6] Due to the specifics of the compliance program included in the individual provincial MOUs for cross-border regional entities, some of these metrics are not directly comparable.

	MRO	NPCC	RF	SERC	Texas RE	WECC	Avg
2022 Compliance Budget	$14,238,948	$10,119,600	$7,751,602	$19,534,883	$13,648,328	$17,730,856	$13,837,370
# Registered Entities	220	239	262	267	262	435	281
# Registered Functions	604	472	264	726	482	1,038	598

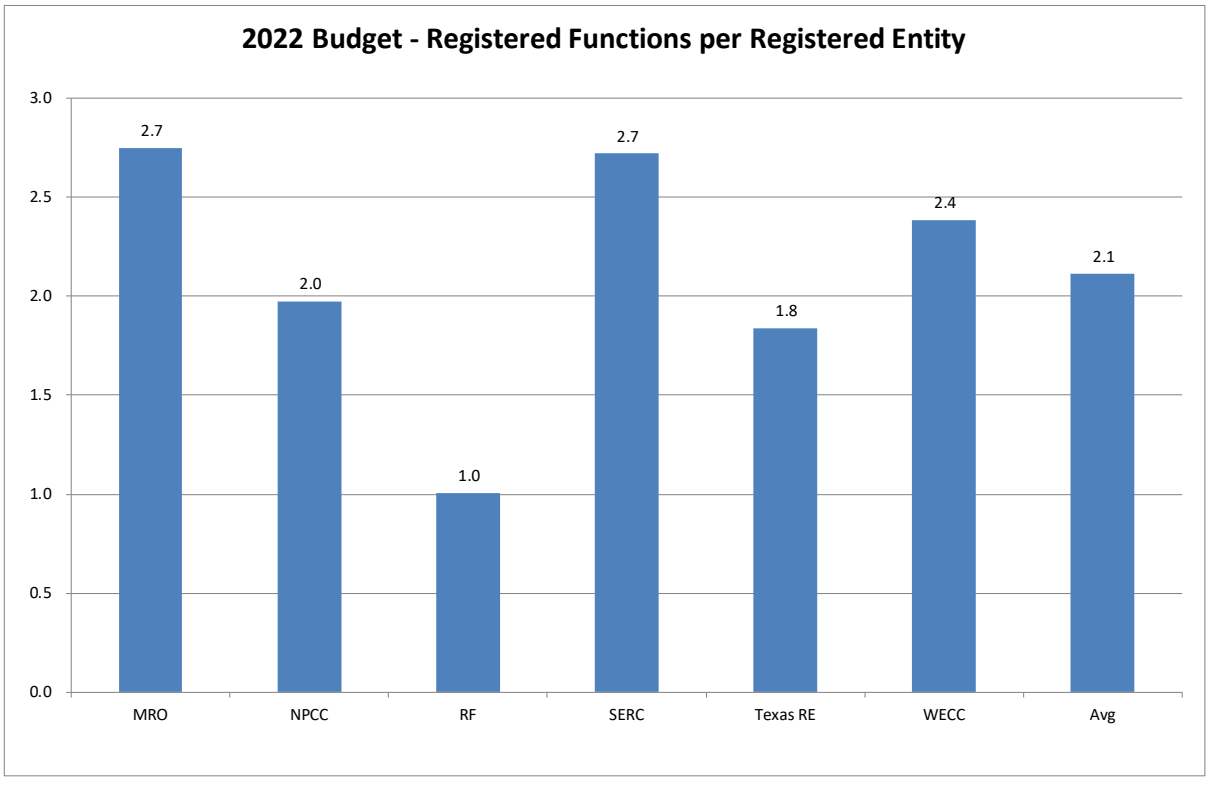


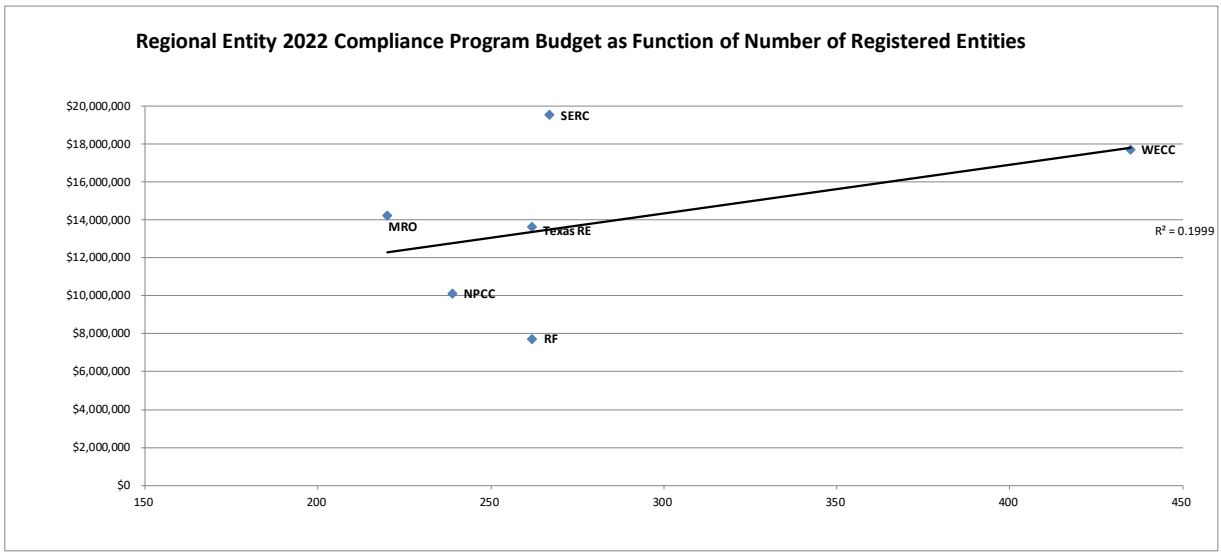


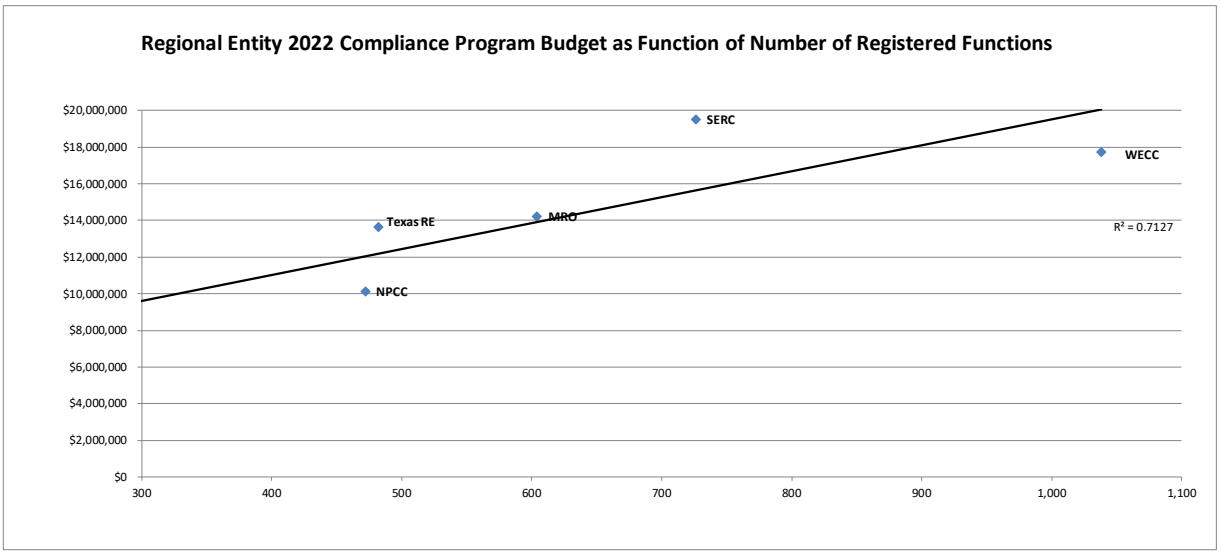
	MRO	NPCC	RF	SERC	Texas RE	WECC	Avg
Compliance Budget/Registered Entity	$64,722	$42,341	$29,586	$73,164	$52,093	$40,761	$50,445
Compliance Budget/Registered Function	$23,574	$21,440	$29,362	$26,908	$28,316	$17,082	$24,447



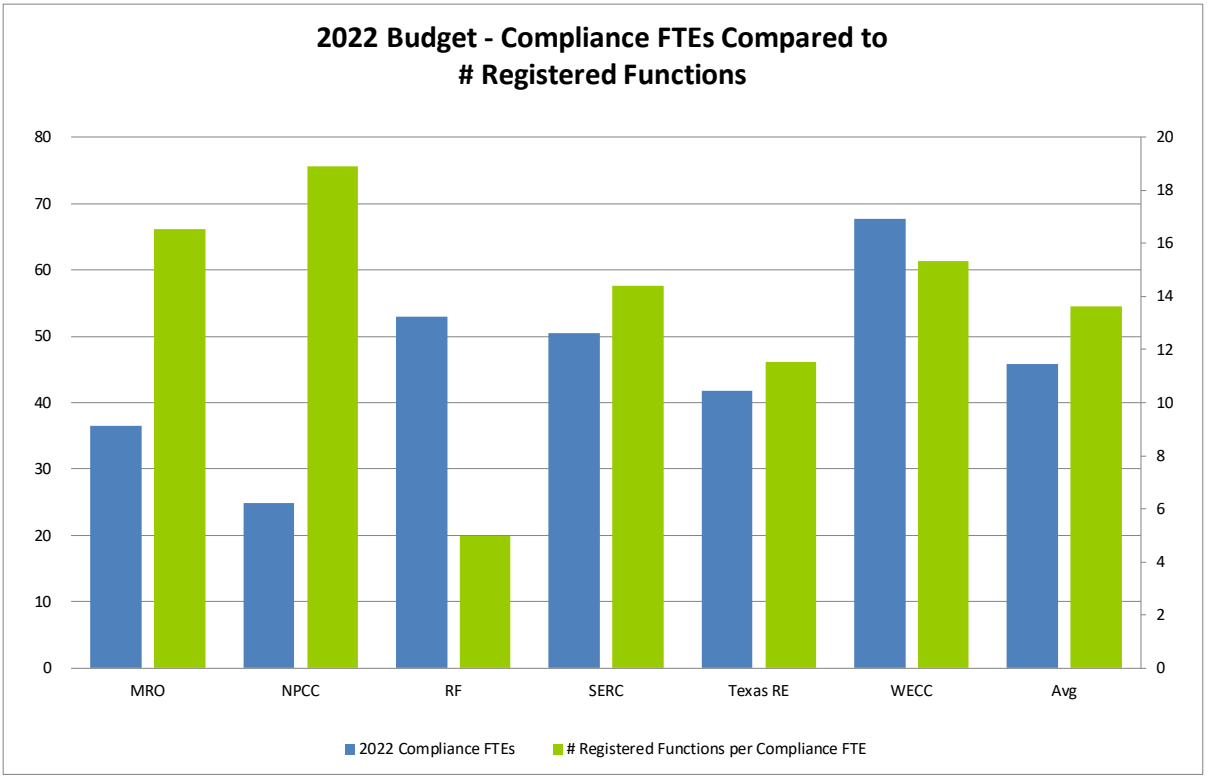
	MRO	NPCC	RF	SERC	Texas RE	WECC	Avg
Registered Functions per Registered Entity 2022 Budget	2.7	2.0	1.0	2.7	1.8	2.4	2.1

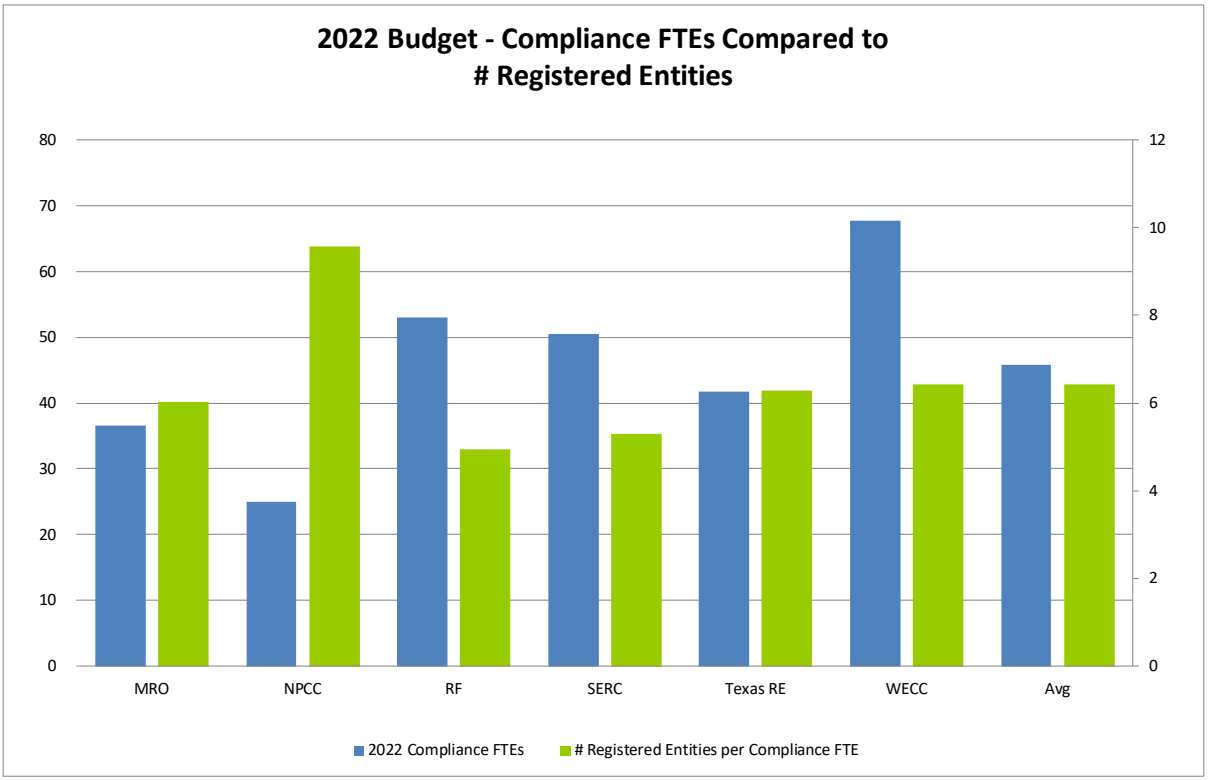



Regional Entity 2022 Compliance Program Budget as Function of Number of Registered Entities
$20,000,000
$18,000,000
$16,000,000
$14,000,000
$12,000,000
$10,000,000
$8,000,000
$6,000,000
$4,000,000
$2,000,000
$0
150
200
250
300
350
400
450
SERC
WECC
MRO
Texas RE
NPCC
RF
R² = 0.1999

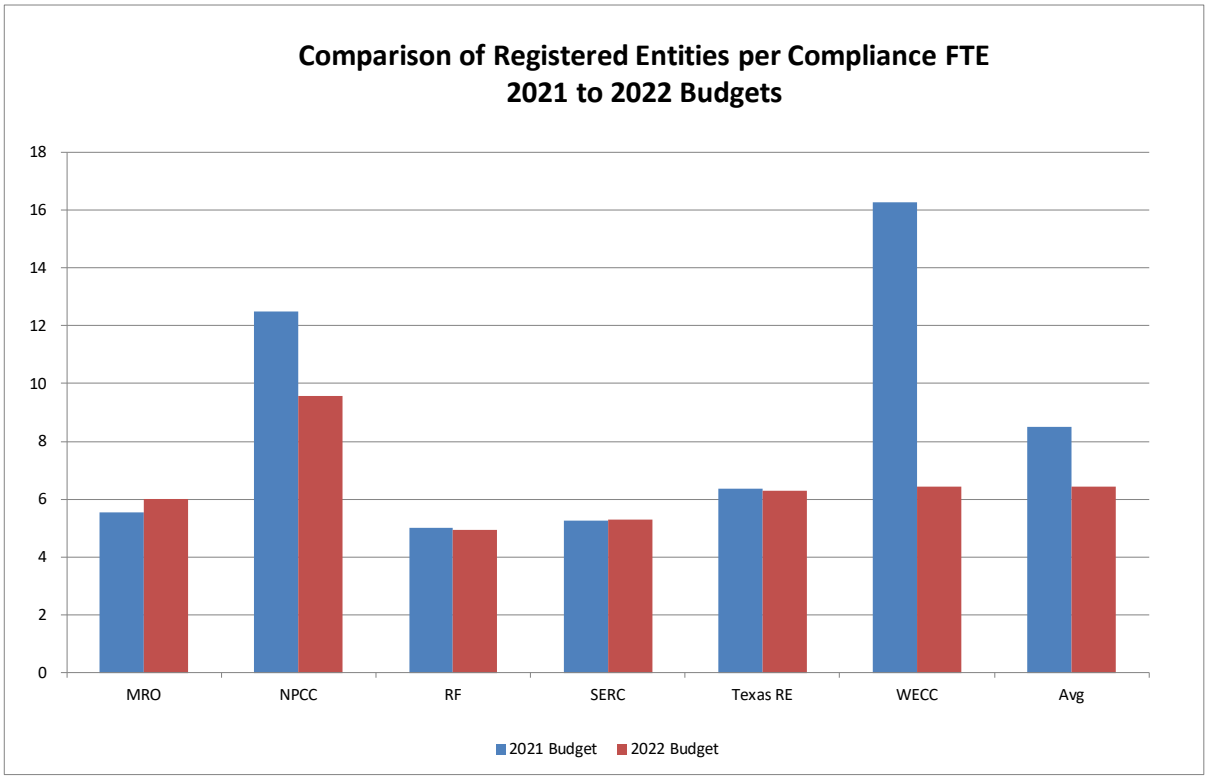

Regional Entity 2022 Compliance Program Budget as Function of Number of Registered Functions
$20,000,000
$18,000,000
$16,000,000
$14,000,000
$12,000,000
$10,000,000
$8,000,000
$6,000,000
$4,000,000
$2,000,000
$0
300
400
500
600
700
800
900
1,000
1,100
SERC
WECC
Texas RE
MRO
NPCC
R² = 0.7127

	MRO	NPCC	RF	SERC	Texas RE	WECC	Avg
2022 Compliance FTEs	36.56	24.95	53.00	50.45	41.75	67.75	45.74
# Registered Entities per Compliance FTE	6.0	9.6	4.9	5.3	6.3	6.4	6.4
# Registered Functions per Compliance FTE	16.5	18.9	5.0	14.4	11.5	15.3	13.6

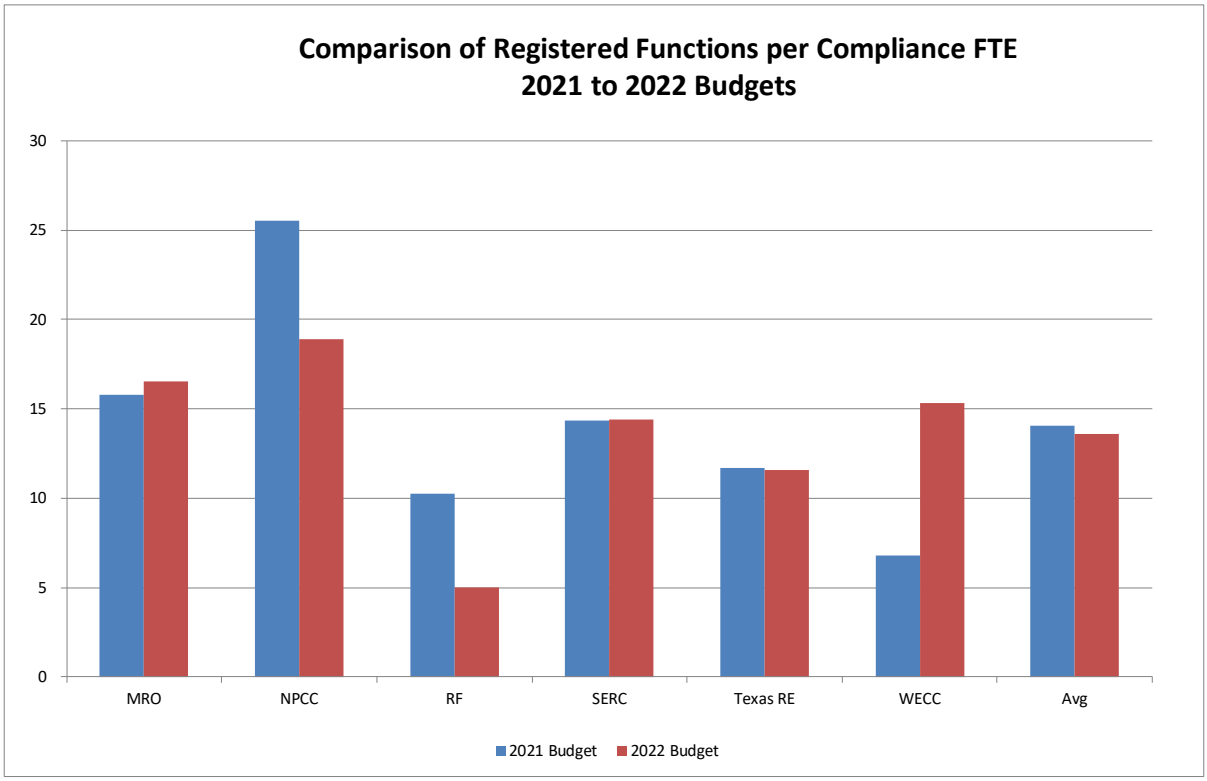




	MRO	NPCC	RF	SERC	Texas RE	WECC	Avg
2021 Budget	5.6	12.5	5.0	5.3	6.4	16.3	8.5
2022 Budget	6.0	9.6	4.9	5.3	6.3	6.4	6.4



	MRO	NPCC	RF	SERC	Texas RE	WECC	Avg
2021 Budget	15.8	25.5	10.2	14.4	11.7	6.8	14.1
2022 Budget	16.5	18.9	5.0	14.4	11.5	15.3	13.6



NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Attachment 9

Metrics on NERC and Regional Entity Administrative (Indirect) Costs Based on the 2021 and 2022 Budgets

Analysis of Indirect (Administrative Services) Costs
2022 Budget versus 2021 Budget

2021 BUDGET

Total Statutory Budget	Total Statutory Direct Budget	Total Statutory Indirect Budget	% Statutory Indirect Budget to Total Statutory Budget	Ratio of Statutory Direct Budget to Indirect Budget	
$ 82,883,240	$ 49,182,194	$ 33,701,046	40.7%	1.46	NERC
18,412,201	11,252,515	7,159,686	38.9%	1.57	MRO
16,440,649	10,025,636	6,415,013	39.0%	1.56	NPCC
24,785,492	17,694,926	7,090,566	28.6%	2.50	RF
25,829,078	14,051,451	11,777,627	45.6%	1.19	SERC
14,211,538	8,177,064	6,034,474	42.5%	1.36	Texas RE
$ 28,605,029	$ 18,042,747	$ 10,562,282	36.9%	1.71	WECC
			30.2%	1.26	AVERAGE

2022 BUDGET

Total Statutory Budget	Total Statutory Direct Budget	Total Statutory Indirect Budget	% Statutory Indirect Budget to Total Statutory Budget	Ratio of Statutory Direct Budget to Indirect Budget	
$ 88,028,283	$ 51,103,265	$ 36,925,018	41.9%	1.38	NERC
20,034,361	12,092,092	7,942,269	39.6%	1.52	MRO
17,465,133	10,706,202	6,758,931	38.7%	1.58	NPCC
26,219,927	18,457,780	7,762,147	29.6%	2.38	RF
26,708,260	14,833,574	11,874,686	44.5%	1.25	SERC
17,160,613	9,969,676	7,190,937	41.9%	1.39	Texas RE
29,746,899	18,657,895	11,089,004	37.3%	1.68	WECC
			30.4%	1.24	AVERAGE

2021 BUDGETED FTEs

Total Statutory FTEs	Total Statutory Direct FTEs	Total Statutory Indirect FTEs	Indirect FTE as % of Total FTE	# Direct to Indirect Statutory FTEs	
213.38	136.30	77.08	36.1%	1.77	NERC
66.00	50.00	16.00	24.2%	3.13	MRO
42.11	32.23	9.88	23.5%	3.26	NPCC
84.35	64.60	19.75	23.4%	3.27	RF
100.00	67.40	32.60	32.6%	2.07	SERC
63.00	48.25	14.75	23.4%	3.27	Texas RE
148.50	106.55	41.95	28.2%	2.54	WECC
			21.3%	2.14	AVERAGE

2022 BUDGETED FTEs

Total Statutory FTEs	Total Statutory Direct FTEs	Total Statutory Indirect FTEs	Indirect FTE as % of Total FTE	# Direct to Indirect Statutory FTEs	
223.73	142.65	81.08	36.2%	1.76	NERC
71.00	50.98	20.02	28.2%	2.55	MRO
49.90	38.95	10.95	21.9%	3.56	NPCC
88.60	67.60	21.00	23.7%	3.22	RF
104.00	68.25	35.75	34.4%	1.91	SERC
66.00	51.25	14.75	22.3%	3.47	Texas RE
152.50	110.55	41.95	27.5%	2.64	WECC
			21.6%	2.12	AVERAGE