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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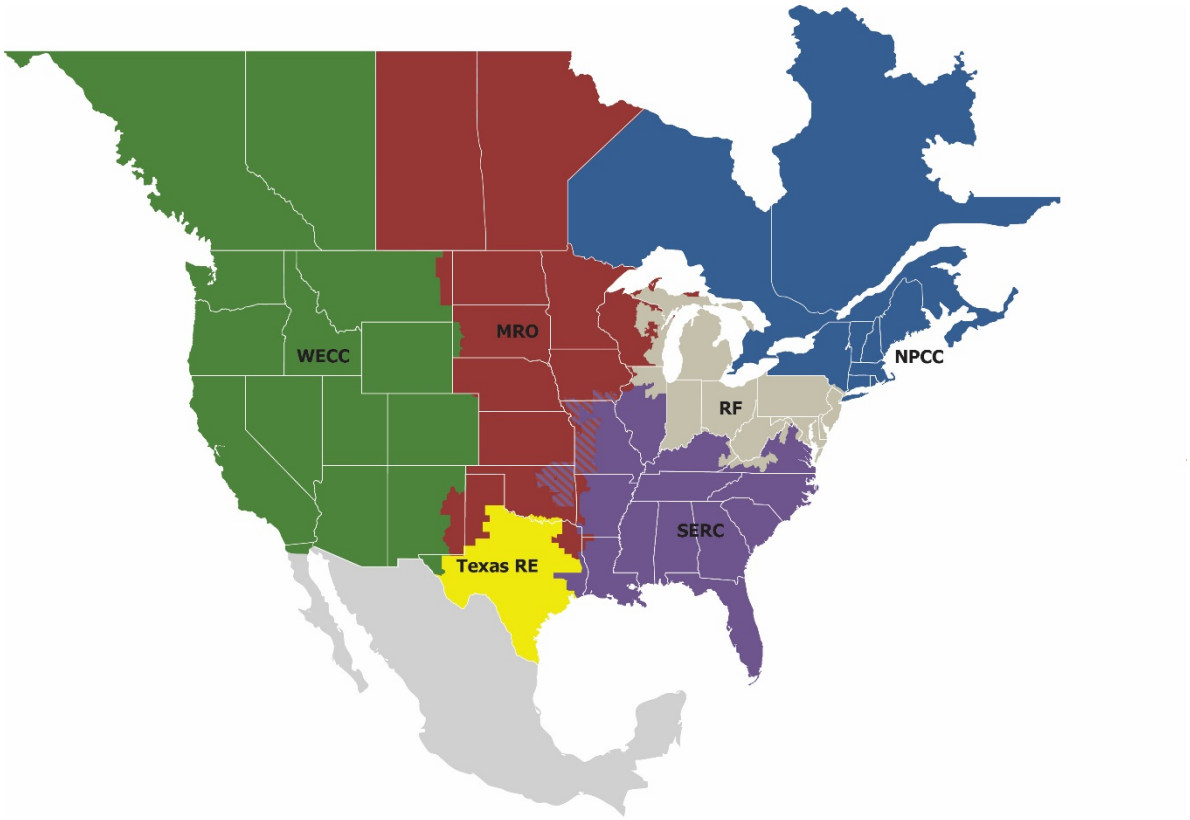
Preface

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).

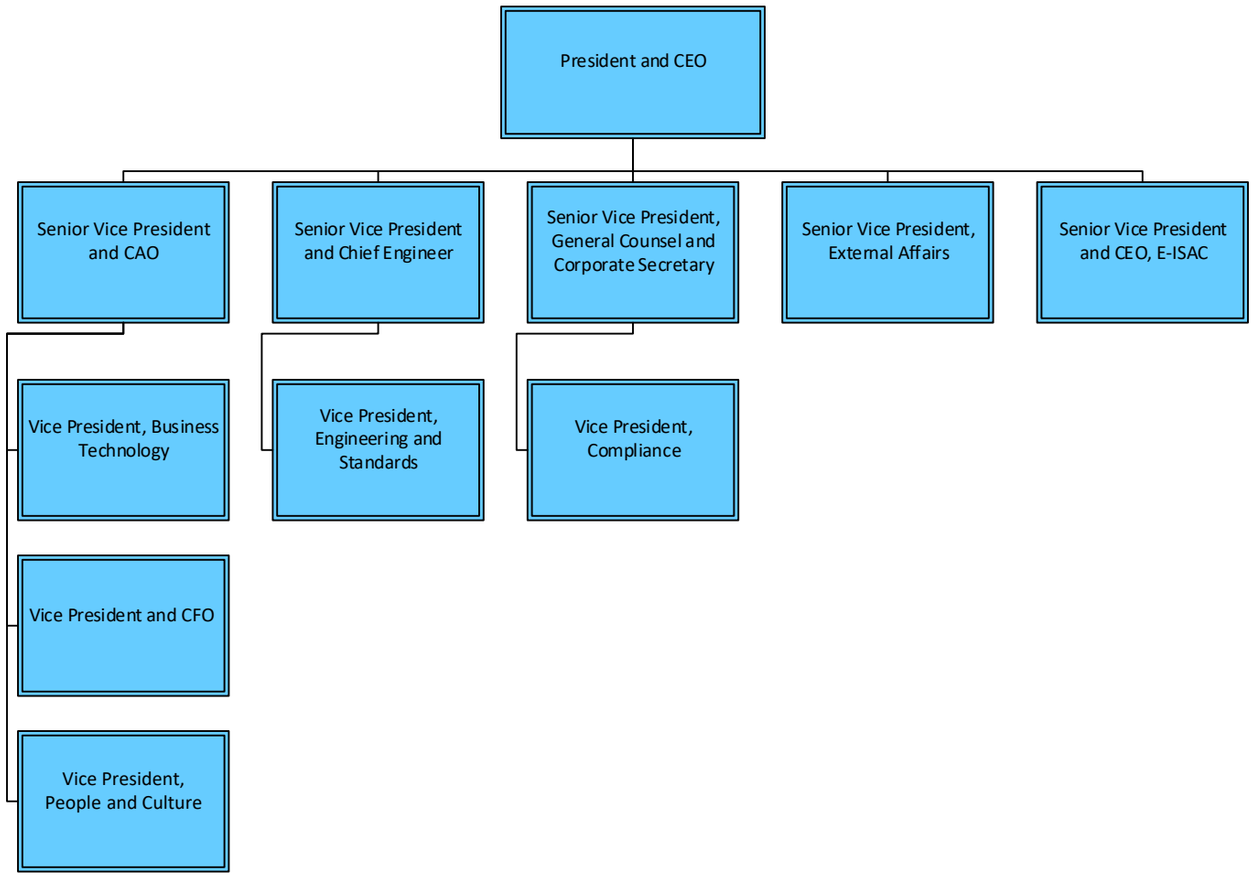
NERC financed $2.0M for ERO Secure Evidence Locker (SEL) project costs, borrowing $1.3M in late 2020 and is anticipating to finance the remaining $700k in 2021. Borrowings under the credit facility for the ERO SEL are amortized over a five-year period, and can be prepaid without penalty. The interest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

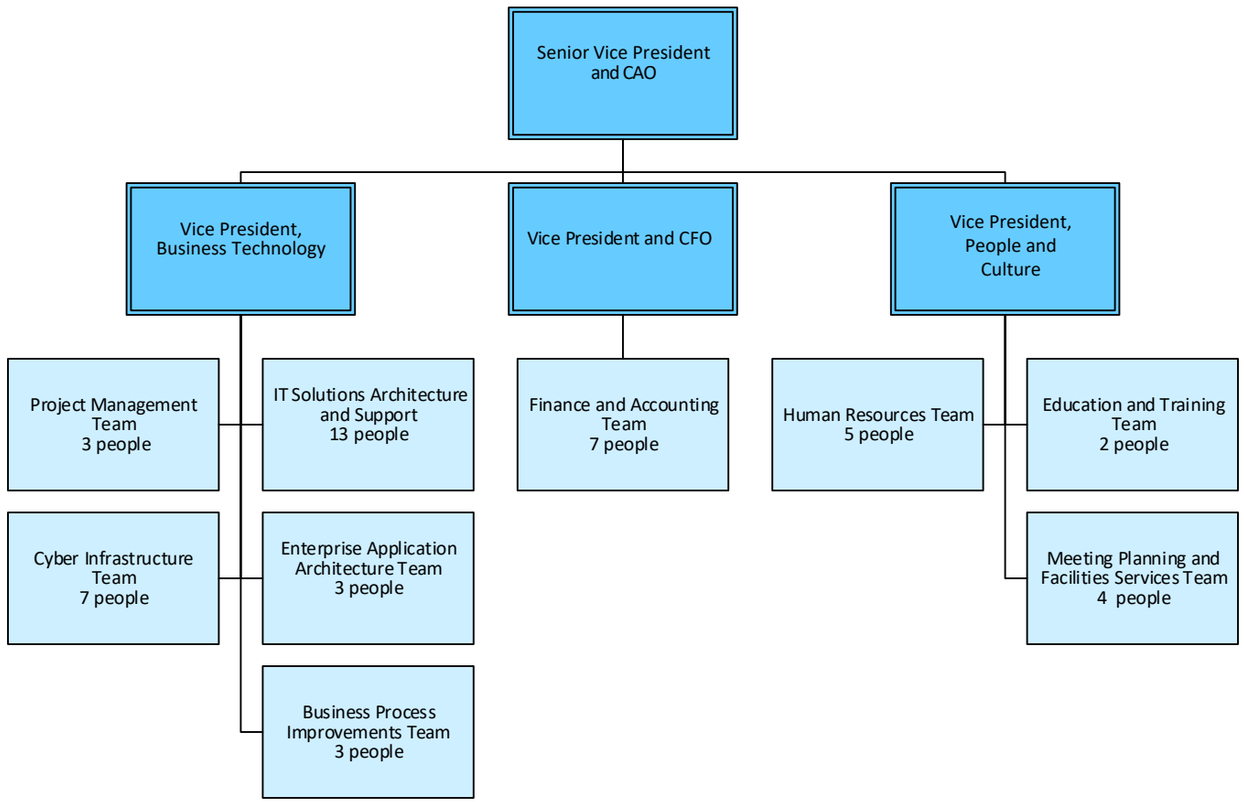
	Year-End Outstanding Debt Balance				
	Prior Years Actual	2021 Projected	2022 Budget	2023 Projected	2024 Projected
Prior Years	$ 1,291,714	$ 916,714	$ 672,964	$ 429,214	$ 185,464
2021 Projection	-	708,286	$ 577,036	$ 445,786	$ 314,536
2022 Budgeted	-	-	-	-	-
2023 Projected	-	-	-	-	-
2024 Projected	-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

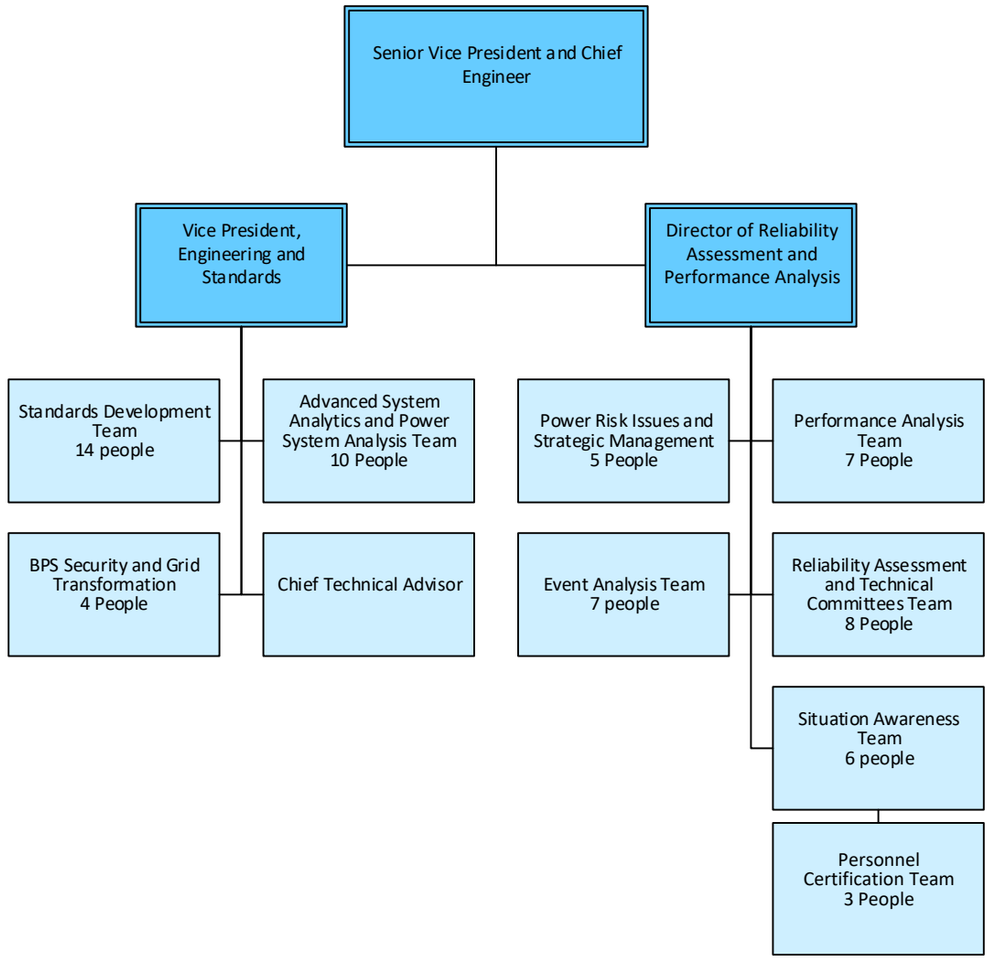
NERC Staff Organization Chart – Budget 2022



IT, Finance, HR, and Administration

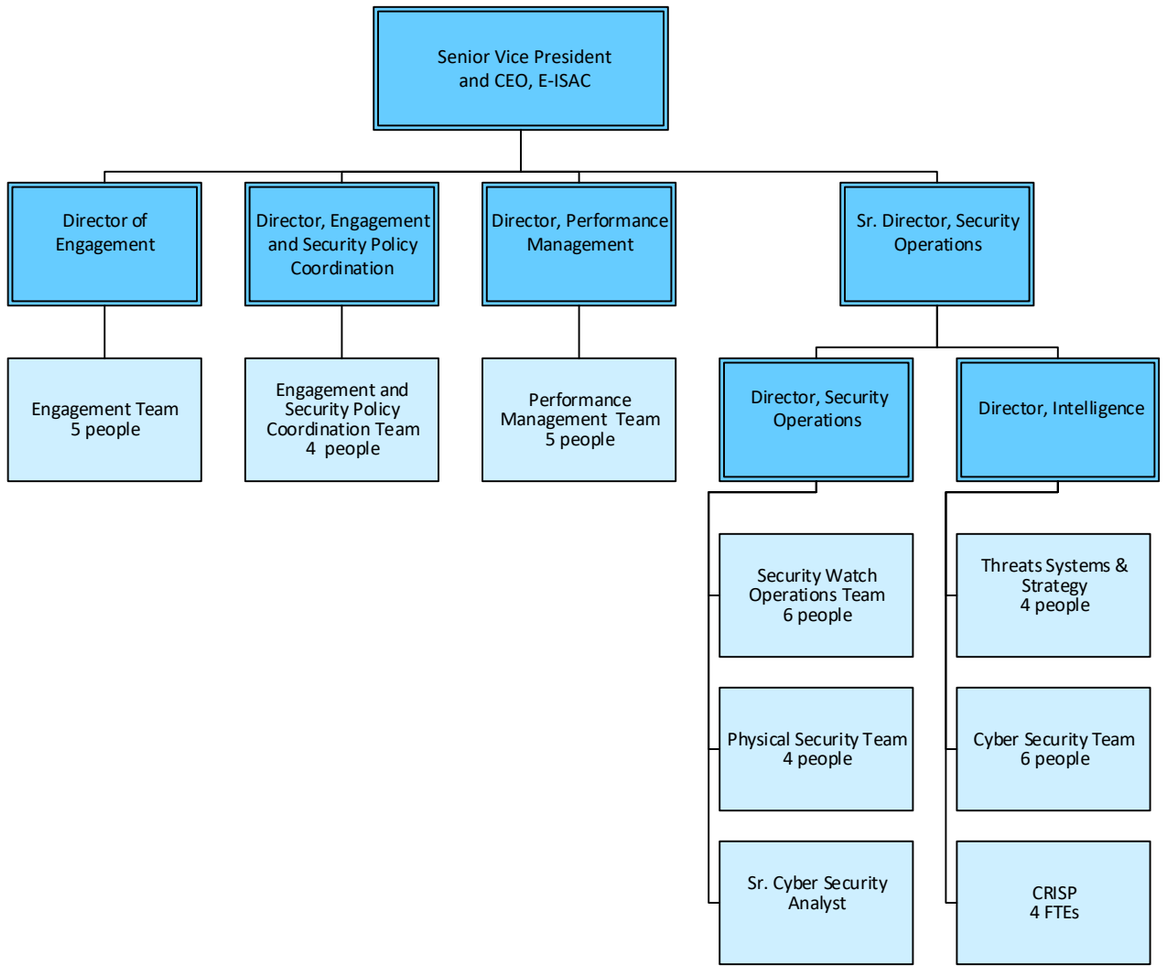


Engineering & Standards, and Reliability Risk Management



NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Electricity Information Sharing and Analysis Center



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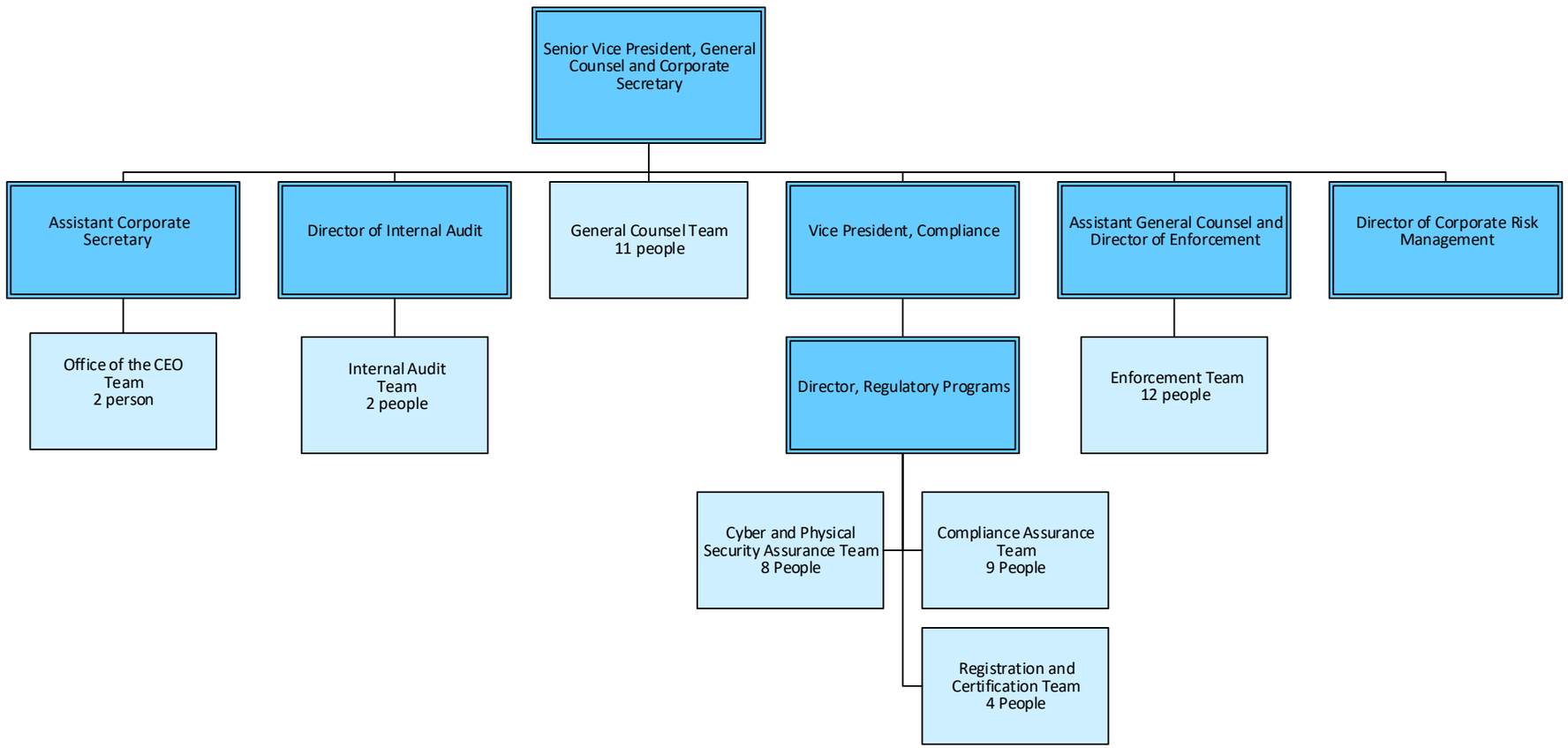
Executive, Legal and Regulatory, Internal Audit and Corporate Risk Management, and Compliance Enforcement



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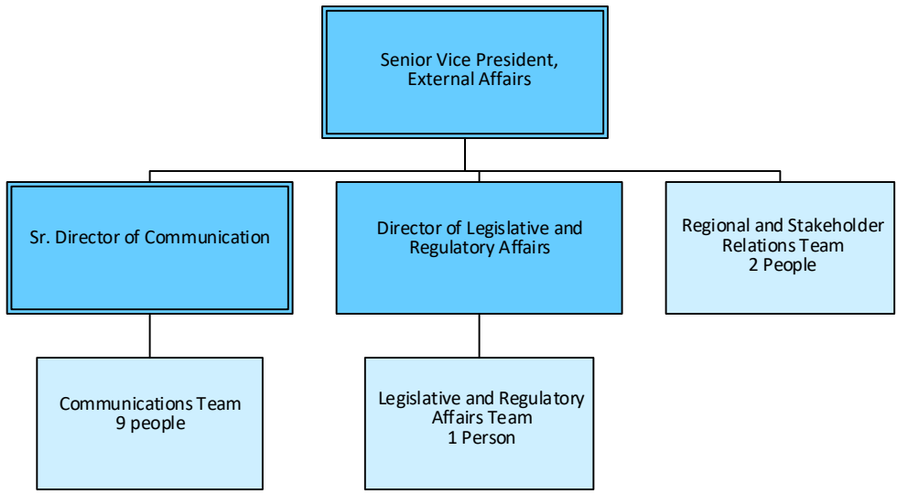
External Affairs



NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Attachment 3

Western Electricity Coordinating Council Proposed 2022 Business Plan and Budget

WECC

2022 Business Plan and Budget

Approved by: WECC Board of Directors

Date: June 16, 2021

Contents

Introduction

TOTAL RESOURCES (in whole dollars)	2022 Budget	U.S.	Canada	Mexico
Statutory FTEs*	152.5			
Non-statutory FTEs	7.0			
Total FTEs	159.5			
Statutory Expenses	$ 29,634,985			
Non-Statutory Expenses	$ 2,054,449			
Total Expenses	$ 31,689,434			
Statutory Incr(Decr) in Fixed Assets	$ 111,914			
Non-Statutory Incr(Decr) in Fixed Assets	$ 682,086			
Total Inc(Dec) in Fixed Assets	$ 794,000			
Statutory Working Capital Requirement**	$ 855,302			
Non-Statutory Working Capital Requirement***	$ (437,693)			
Total Working Capital Requirement	$ 417,609			
Total Statutory Funding Requirement	$ 30,602,201			
Total Non-Statutory Funding Requirement	$ 2,298,842			
Total Funding Requirement	$ 32,901,043			
Statutory Assessments	$ 25,000,000	21,207,153	3,251,269	541,578
Non-Statutory Fees	$ 2,298,842	2,252,865	45,977	-
NEL****	855,793,369	718,701,162	122,407,031	14,685,176
NEL%	100.0%	84.0%	14.3%	1.7%

Organizational Overview

WECC is a 501(c)(4) social welfare organization funded through Load-Serving Entity (LSE) assessments authorized by the Federal Energy Regulatory Commission (FERC) under Section 215 of the Federal Power Act. WECC's mission is to effectively and efficiently mitigate risks to the reliability and security of the Western Interconnection's bulk power system (BPS), while carrying out the responsibilities of the Regional Entity. WECC operates under a delegation agreement with the North American Electric Reliability Corporation (NERC) and according to its Bylaws. WECC executes its mission while working with a broad community consisting of industry stakeholders and two advisory bodies—the Member Advisory Committee (MAC) and the Western Interconnection Regional Advisory Body (WIRAB).

The Western Interconnection is a geographic area in which the use and generation of electricity is synchronized. This area includes all or part of 14 Western states in the United States, the Canadian provinces of British Columbia and Alberta, and a portion of Baja California Norte, Mexico.

WECC delivers on its mission through:

- Effective risk-based monitoring and enforcement of Reliability Standards through standards development, entity registration, compliance risk assessment, and audits and investigations;
- Informed actions, practices, and decisions of industry participants, regulators, and policymakers through reliability planning, performance analysis, situation awareness, and event analysis; and
- Targeted training and outreach to build a culture of reliability and security throughout the West.

WECC's business philosophy is guided by three principles:

Independence—We serve the public interest and represent what is best for reliability and security within the Western Interconnection with an impartial and unbiased voice.

Perspective—With the purview of the entire Western Interconnection, we are uniquely situated to develop comprehensive and influential work products to assess the reliability and security of the Western Interconnection.

Partnership—To reduce risks to the reliability and security of the Western Interconnection, we collaborate with a broad range of stakeholders from utilities; U.S., Canadian, and Mexican government regulators and energy policy officials; and consumer, public interest, and environmental groups.

WECC's culture enables us to deliver on our critical reliability mission and provide personal and professional fulfillment for our employees. We are transforming the organization to deliver increased value to stakeholders by:

- Increasing our relevance through leadership, proactive efforts, and technical competence and credibility;
- Building strong and constructive relationships with NERC and our regional partners, members, and stakeholders;
- Implementing risk-based concepts to provide consistency for industry, and increased flexibility within a rule-based, regulatory framework; and
- Encouraging forward-looking reliability and security by assessing and advising industry on the design and implementation of effective internal controls.

Membership and Governance

WECC has 299 members[1] divided into the following five Membership Classes:

[1] As of April 21, 2021.

1. Large Transmission Owners;
2. Small Transmission Owners;
3. Electric Line of Business Entities doing business in the Western Interconnection that do not own, control, or operate transmission or distribution lines in the Western Interconnection;
4. End users and entities that represent the interests of end users; and
5. Representatives of state and provincial governments.

WECC membership is open to any person or entity that has an interest in the reliable and secure operation of the Western Interconnection BPS. WECC membership is not required for participation in the WECC Standards Development process.[2]

WECC is governed by a Board of Directors (Board), composed of nine independent Directors elected by the WECC membership, and WECC's president and CEO as appointed by the Board. The nine Directors are compensated by WECC for their governance and oversight activities.

Four governance committees provide functional oversight of WECC operations:

- Finance and Audit Committee (FAC);
- Governance Committee (GC);
- Human Resources and Compensation Committee (HRCC); and
- Nominating Committee (NC).

Under the direction of the Board, other committees provide technical advice and policy recommendations to the Board[3]:

- Joint Guidance Committee (JGC);
- Market Interface Committee (MIC);
- Member Advisory Committee (MAC);
- Operating Committee (OC);
- Reliability Assessment Committee (RAC); and
- WECC Standards Committee (WSC).

2022 Key Assumptions and Strategic Goals

The Board recognizes the electric industry is undergoing profound changes nationally, and especially in the West, and other institutions are involved in furthering the understanding of these changes.

[2] Non-WECC members may participate in standards drafting teams and may vote on Regional Reliability Standards (RRS). See WECC's Reliability Standards Development Procedures.

[3] The Stakeholder Engagement Task Force (SETF) recommendations are expected to be brought to the Board in June 2021 and may affect the technical committee structure in 2022. Due to timing, the 2022 budget does not include any budget assumptions related to potential changes. Any technical committee structure changes will be reflected in the 2023 Business Plan and Budget.

WECC proactively addresses issues for which the impacts to the Western Interconnection's reliability and security are less understood (e.g., the risk is unique to the Western Interconnection) or for which WECC and its committees can make a significant contribution to Western BPS reliability and security.

In September 2020, the Board approved WECC's updated Long-Term Strategy (formerly called the Strategic Direction Outline). WECC's Long-Term Strategy builds on the foundation established by the Electric Reliability Organization (ERO) Enterprise Long-Term Strategy. Described more fully below, the ERO Enterprise Long-Term Strategy is representative of continent-wide risks and was vetted through a stakeholder process. WECC's Long-Term Strategy then identifies unique western long-term focus areas to address the reliability and security needs of the Western Interconnection while supporting reliability and security across North America. These two strategy documents, coupled with the ERO Enterprise-driven program areas, will guide the work of WECC in 2022 and beyond.

Additionally, the Board approved the following WECC Reliability Risk Priorities at its June 2020 meeting. These risk priorities serve as input to both committee and program area 2021–2023 work plans. Much of the work related to the WECC Reliability Risk Priorities involves staff time; examples of activities supporting these priorities are noted in the appropriate statutory program area sections of the business plan. The WECC Reliability Risk Priorities will be updated in 2022 and these updated priorities will be used to inform future business plans.

Reliability Risk Priorities

The WECC Reliability Risk Priorities approved in 2020 are further described below.

Resource Adequacy and Performance

Study interconnection-wide future resource adequacy and performance considering:

- The importance of working with resource planners and decision-makers;
- Benefits of resource diversity (geographical and resource type);
- Technology performance during various conditions (e.g., solar during extreme heat); and
- Near-term and longer-term time frames.

Changing Resource Mix

Evaluate the impacts of the changing resource mix considering:

- Large amounts of coal and nuclear plant retirements;
- High use of inverter-based resources;
- Transmission congestion and other deliverability challenges;
- Changes to capacity factors of natural gas resources;

- Market trends and market impacts;
- System stability and voltage challenges; and
- The benefits and challenges associated with energy storage and hybrid resources.

Distribution System and Customer Load Impacts on the BPS

Investigate and develop recommendations to limit the reliability risk to the BPS caused by changes to the distribution system (e.g., growth of distributed energy resources and behind-the-meter storage) and customer loads. This should include operational and planning activities.

Extreme Natural Events

Prepare for and evaluate impacts on the BPS caused by extreme natural events (e.g., wildfires, drought, heavy rain, flooding, extreme cold, pandemics, earthquakes). Share best practices and lessons learned from individual state and utility experiences across the Interconnection.

ERO Enterprise Model and Transformation

The ERO Enterprise strives for consistency when appropriate and recognizes that each Regional Entity addresses reliability in unique ways based on its own challenges and stakeholder needs. The ERO Enterprise model allows Regional Entities to address these unique reliability risks and challenges locally using innovative and distinctive approaches. As the ERO Enterprise continues to mature, it is working on a transformation initiative to further capitalize on resources, enhance communication and collaboration, and ensure grid reliability and security. 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, initiative, and the sharing of best practices across the ERO Enterprise.

NERC and the Regional Entities coordinate activities to identify, prioritize, and address risks to reliability. The Regional Entities have similar responsibilities within the ERO Enterprise model:

- Providing input to the overall development of each ERO program area;
- Providing training and development to meet ERO qualifications; and
- Ensuring delegated responsibilities are completed.

Regional Entities also have an obligation to meet professional standards of independence and objectivity and provide the best available expertise for addressing regional risks. This new way of working is encapsulated in this visual.

ERO Enterprise Long-Term Strategy

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) currently identified BPS risks. This strategy was acknowledged by the Board on December 4, 2019, as a valuable input to the WECC strategic planning process and recognizes the strategy as a fruitful collaboration by NERC and the Regional Entities. As previously noted, the ERO Long-Term Strategy served as the foundational input for the development of WECC's Long-Term Strategy.

As part of the business planning and budgeting process, NERC and the Regional Entities identify and discuss program area goals and activities to ensure alignment with the long-term strategy and harmonization of business processes and operations across the ERO Enterprise where appropriate. WECC acknowledges and supports the long-term strategy as well as deliverables specific to WECC that are described in each statutory program area in Section A.

2022 Overview of Cost Impacts

WECC's proposed 2022 statutory budget is $29,747,000, a $1,1424,000 (4.0%) increase from the 2021 statutory budget. The net increase is mainly due to:

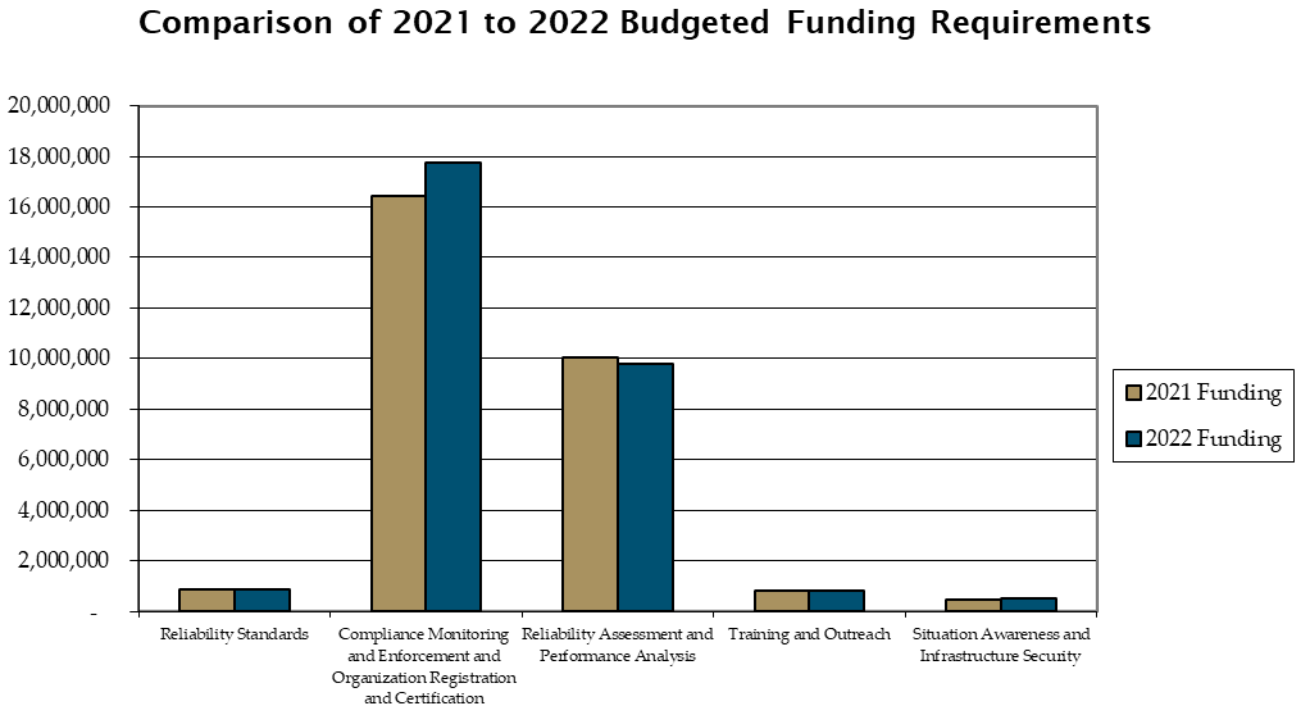
- Reductions in anticipated meeting and travel requirements due to increases in virtual meetings;
- Four new positions;
- Changes in position levels;
- A 3% merit pool;
- Labor float assumption changes based on actual turnover and vacancy rates; and
- Increased subscription-based computer licensing and enterprise security tools.

Full-time equivalents (FTE) represent the fractional allocation of a full-time position's cost to one or more functional areas. Headcount (HC) represents either vacant or filled positions. Major drivers of the change between the 2021 and 2022 statutory budgets are as follows:

- Personnel Expenses increase by $1,417,000 primarily due to four new FTEs, changes in position levels, a budgeted 3% merit pool, continued refinement of labor float percentages, and the refinement of payroll tax and benefits enrollment rates.
- Meeting Expenses decrease by $501,000 primarily due to a planned increase in virtual meetings resulting from lessons learned about effective technology use during the COVID-19 pandemic and the change of one in-person Reliability and Security Workshop to a virtual format.
- Office Costs increase by $181,000 primarily due to an increase in subscription-based computer licensing and enterprise security tools.

The following table and chart present a summary of funding requirements for WECC's primary statutory program areas:

Program	Budget 2021	Projection 2021	Budget 2022	Variance 2021 Budget v 2022 Budget	Variance %
Reliability Standards	$ 864,776	$ 862,682	$ 885,532	$ 20,756	2.4%
Compliance Monitoring and Enforcement and Organization Registration and Certification	16,427,492	16,723,361	17,730,856	1,303,364	7.9%
Reliability Assessment and Performance Analysis	10,022,797	9,830,587	9,802,354	(220,443)	(2.2%)
Training and Outreach	811,152	615,896	812,908	1,756	0.2%
Situation Awareness and Infrastructure Security	478,812	490,384	515,247	36,435	7.6%
Total By Program	**$ 28,605,029**	**$ 28,522,910**	**$ 29,746,899**	**$ 1,141,870**	**4.0%**



Peak Reliability Donation

Peak Reliability (Peak) ceased all Reliability Coordinator operations in December 2019 and dissolved as a corporate entity in December 2020. After review and approval by the Board, WECC entered into a donation holdback agreement with Peak prior to its dissolution. Per the agreement, Peak donated $4,127,000 of its remaining funds to WECC. Of the total amount, $3,827,000 will be used for projects that are focused on the reliability and security of the Western Interconnection. This portion was recorded as a statutory donation in WECC's 2020 financial results, with the understanding that FERC approval of this treatment would ultimately be required. Additionally, Peak requested WECC hold $300,000 for a period of five years to pay any Peak bills that may be presented following Peak's formal closure on December 31, 2020. This amount was recorded as a non-statutory liability in WECC's 2020 financial results. The statutory amount is currently included in WECC's reserves, which are further detailed in Table B-1.

WECC has undertaken an open and transparent process to engage the Board and stakeholders to determine how the funds will be used. All proposals are evaluated to ensure they support WECC's broad reliability and security mission. They are then discussed with the executive team and

stakeholders via targeted outreach, technical committees, and the Business Plan and Budget (BP&B) process.

To date, several projects have been developed enough to warrant inclusion in the 2022 BP&B. These are:

- The creation of a system planning data management system; and
- Improvements to the Multi-Area Variable Resource Integration Convolution (MAVRIC) resource adequacy assessment tool or procurement of an off-the-shelf probabilistic resource adequacy tool.

For 2022, WECC proposes to use $400,000 from the Peak Reliability Donation reserve to fund these projects. This process will be followed for future projects, which will be identified in future BP&Bs. For projects not anticipated in the annual BP&B and expected to total more than $500,000, WECC will seek approval from FERC via separate one-time filings.

WECC requests Commission approval to record the $3,827,000 Peak donation amount (*i.e.*, net of the $300,000 holdback for payment of potential post-termination bills) as a statutory donation, to segregate the funds in a separate Peak Reliability Donation reserve account in WECC's accounting system, and to release funds from this reserve account for specific uses as described in an annual BP&B or in a separate filing with the Commission, where appropriate.

Personnel Overview

In the 2022 budget, WECC is adding 4.0 FTEs and realigning some positions within program areas due to evolving organizational needs and priorities. One auditor position is added to the Compliance Monitoring and Enforcement Program (CMEP) to increase staff competency in Transmission Planning and Protection Systems due to reduced reliance on contractor expertise in these areas, and to increase auditor support of entity assistance engagements and other CMEP areas. One mitigation engineer position is added to CMEP, with a focus on Operations and Planning standards, to ensure timely processing of an increasing workload. One internal controls position is added to CMEP due to the increasing demands on WECC's sole internal controls subject matter expert as WECC increases focus on registered entity internal controls design, implementation, and assistance. One external affairs position is added to Legal and Regulatory as WECC continues to expand stakeholder outreach and education efforts across the West. This position will support Reliability Assessment and Performance Analysis (RAPA) staff in the timely drafting and dissemination of influential reliability and security analyses to key audiences.

One position is transferred, through the engineering development program, from RAPA to CMEP for an Entity Risk Assessment engineering position. Due to efficiencies gained and an open position in

General and Administrative (G&A), one position is redeployed to CMEP for a mitigation engineer, with a focus on Critical Infrastructure Protection (CIP) standards.

Several partial FTEs were transferred based on evolving organizational needs: 0.5 FTE is transferred from RAPA to Training and Outreach to support increased initiatives to socialize relevant work products with stakeholders; 0.5 FTE is transferred from G&A to Finance and Accounting to assist with increased financial and administrative tasks; 0.5 FTE is transferred from Legal and Regulatory to G&A due to realignment of job responsibilities.

Details of the additions, transfers, and allocations are discussed in the respective program area sections of the Business Plan and Budget.

Total FTEs by Program Area	Budget 2021	Projection 2021	Direct FTEs 2022 Budget	Shared FTEs* 2022 Budget	Total FTEs 2022 Budget	Change from 2021 Budget
STATUTORY						
Operational Programs						
Reliability Standards	3.00	3.00	3.00	-	3.00	**-**
Compliance Monitoring and Enforcement and Organization Registration and Certification	62.75	65.75	67.75	-	67.75	**5.00**
Reliability Assessment and Performance Analysis	37.30	37.30	35.80	-	35.80	**(1.50)**
Training and Outreach	1.50	1.50	2.00	-	2.00	**0.50**
Situation Awareness and Infrastructure Security	2.00	2.00	2.00	-	2.00	**-**
Total FTEs Operational Programs	**106.55**	**109.55**	**110.55**	**-**	**110.55**	**4.00**
Corporate Services						
Technical Committees and Member Forums	-	-	-	-	-	**-**
General and Administrative	18.70	16.70	17.70	-	17.70	**(1.00)**
Legal and Regulatory	7.25	7.25	7.75	-	7.75	**0.50**
Information Technology	9.00	9.00	9.00	-	9.00	**-**
Human Resources	4.00	4.00	4.00	-	4.00	**-**
Finance and Accounting	3.00	3.50	3.50	-	3.50	**0.50**
Total FTEs Corporate Services	**41.95**	**40.45**	**41.95**	**-**	**41.95**	**-**
Total FTEs	**148.50**	**150.00**	**152.50**	**-**	**152.50**	**4.00**

*A shared FTE is defined as an employee who performs both Statutory and Non-Statutory functions.

2021 Statutory Budget and Projection and 2022 Budget Comparisons

Statement of Activities, Fixed Assets Expenditures, and Change in Working Capital 2021 Budget & Projection, and 2022 Budget STATUTORY	2021 Budget	2021 Projection	Variance 2021 Budget v 2021 Projection Over(Under)	2022 Budget	Variance 2022 Budget v 2021 Budget Inc(Dec)
Revenue					
Statutory Funding					
WECC Assessments	$ 25,000,000	$ 25,000,000	$ -	$ 25,000,000	$ -
Penalties Released[1]	3,499,000	3,499,000	-	5,298,000	1,799,000
Total Statutory Funding	**$ 28,499,000**	**$ 28,499,000**	**$ -**	**$ 30,298,000**	**$ 1,799,000**
Membership Fees	$ -	$ -	$ -	$ -	$ -
Workshops & Miscellaneous	430,000	222,400	(207,600)	194,700	(235,300)
Interest	200,000	78,100	(121,900)	109,501	(90,499)
Total Revenue (A)	**$ 29,129,000**	**$ 28,799,500**	**$ (329,500)**	**$ 30,602,201**	**$ 1,473,201**
Expenses					
Personnel Expenses					
Salaries	$ 17,447,448	$ 18,066,266	$ 618,818	$ 18,411,644	$ 964,196
Payroll Taxes	1,144,116	1,238,875	94,759	1,217,683	73,567
Benefits	2,390,953	2,428,133	37,180	2,605,571	214,618
Retirement Costs	1,499,399	1,534,345	34,946	1,663,608	164,209
Total Personnel Expenses	**$ 22,481,916**	**$ 23,267,619**	**$ 785,703**	**$ 23,898,506**	**$ 1,416,590**
Meeting Expenses					
Meetings & Conference Calls	$ 585,190	$ 319,579	$ (265,611)	$ 458,044	$ (127,146)
Travel	1,146,887	201,906	(944,981)	772,654	(374,233)
Total Meeting Expenses	**$ 1,732,077**	**$ 521,485**	**$ (1,210,592)**	**$ 1,230,698**	**$ (501,379)**
Operating Expenses, excluding Depreciation					
Consultants & Contracts	$ 988,500	$ 909,018	$ (79,482)	$ 1,004,600	$ 16,100
Office Rent	1,372,346	1,343,760	(28,586)	1,306,912	(65,434)
Office Costs	1,663,299	1,835,597	172,298	1,844,335	181,036
Professional Services	955,800	1,042,332	86,532	1,045,000	89,200
Miscellaneous	-	-	-	-	-
Total Operating Expenses	**$ 4,979,945**	**$ 5,130,707**	**$ 150,762**	**$ 5,200,847**	**$ 220,902**
Total Direct Expenses	**$ 29,193,938**	**$ 28,919,811**	**$ (274,127)**	**$ 30,330,051**	**$ 1,136,113**
Indirect Expenses	**$ (687,436)**	**$ (652,114)**	**$ 35,322**	**$ (695,066)**	**$ (7,630)**
Other Non-Operating Expenses	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Total Expenses (B)	**$ 28,506,502**	**$ 28,267,697**	**$ (238,805)**	**$ 29,634,985**	**$ 1,128,483**
Change in Net Assets (=A-B)	**$ 622,498**	**$ 531,803**	**$ (90,695)**	**$ 967,216**	**$ 344,718**
Fixed Asset Additions, excluding Right of Use Assets (C)	**$ 98,527**	**$ 255,213**	**$ (156,686)**	**$ 111,914**	**$ 13,387**
TOTAL BUDGET (B+C)	**$ 28,605,029**	**$ 28,522,910**	**$ (395,491)**	**$ 29,746,899**	**$ 1,141,870**
TOTAL CHANGE IN WORKING CAPITAL (A-B-C)	**$ 523,971**	**$ 276,590**	**$ 65,991**	**$ 855,302**	**$ 331,331**
FTEs	148.5	150.0	1.5	152.5	4.0
HC	148.0	150.0	2.0	152.0	4.0

[1] Represents the amount released from working capital reserves to offset U.S. assessments as approved by the NERC Board of Trustees and FERC. Actual penalties invoiced in the current reporting year, listed on Table B-2, will be reported as income on the audited financial statements in accordance with Generally Accepted Accounting Principles (GAAP).

Section A

Statutory Programs

Section A—Statutory Programs

Reliability Standards Program

Reliability Standards Program (in whole dollars)	2021 Budget	2022 Budget	Increase (Decrease)
Total FTEs	3.0	3.0	-
Direct Expenses	$ 567,386	$ 584,610	$ 17,224
Indirect Expenses	$ 294,615	$ 297,886	$ 3,271
Other Non-Operating Expenses	$ -	$ -	$ -
Inc(Dec) in Fixed Assets	$ 2,775	$ 3,036	$ 261
Total Funding Requirement	$ 864,776	$ 885,532	$ 20,756

Program Scope and Functional Description

The Reliability Standards Program supports the NERC Reliability Standards Program and aids the development of Regional Reliability Standards (RRS), Regional Variances to NERC Reliability Standards, and Regional Criteria.

The Reliability Standards Program also conducts a five-year review of each current RRS, Regional Variance to NERC Reliability Standards, and Regional Criterion. These reviews can result in revisions to the document, retirement of the document, or a finding that no changes are necessary if the document is no longer needed for reliability.

WECC supports the development of Regional Variances to NERC Reliability Standards when it is necessary to address Western Interconnection reliability issues. The variances are necessitated by a physical difference in the BPS or instances in which Western stakeholders want more stringent performances. WECC will only develop an RRS, rather than a variance, when no NERC Reliability Standard exists to address a reliability issue.

Regional Criteria may be necessary to implement, augment, or comply with NERC Reliability Standards, but they are not Reliability Standards themselves and are not enforceable. Regional Criteria may include acceptable operating or planning parameters, guides, or other documents used to enhance BPS reliability.

As part of the business planning and budgeting process, NERC and the Regional Entities ensure alignment with the ERO Enterprise Long-Term Strategy and harmonization of business processes and operations across the ERO Enterprise where appropriate. Deliverables in this program area support both the WECC and ERO Enterprise long-term strategies.

2022 Key Budget Assumptions

- The number of RRS projects will remain low, with most focusing on potential retirement of existing RRSs, due to the subject matter being included in NERC Continent-wide Standards. It is possible, but not likely, that regulatory directives could result in RRS projects.
- Much of the work needed to develop RRSs, Regional Variances to NERC Reliability Standards, and Regional Criteria will continue to be performed by stakeholder volunteers.
- Stakeholder volunteers will continue to staff most NERC Standards drafting teams.
- WECC employees may, at times, participate as drafting team members or observers.
- Integration of renewable resources and related energy storage devices may require new or modified NERC Reliability Standards, RRSs, or Regional Variances to NERC Reliability Standards.
- WECC supports, and will participate in, the enhanced periodic reviews of NERC Reliability Standards and the NERC Standards Grading effort, when appropriate.
- Increases in virtual meetings will decrease travel expenses.

2022 Goals and Deliverables

- Represent the perspective of the Western Interconnection in NERC Continent-wide Reliability Standards or, if necessary, through the development of Regional Variances or RRSs if a NERC Continent-wide Standard addressing a Western Interconnection reliability issue does not exist.
- Ensure the RRSs and Regional Criteria developed using the WECC Reliability Standards Development Procedures meet the needs of the Western stakeholders.
- Ensure development of RRSs and Regional Criteria is performed according to the most recent WECC Reliability Standards Development Procedures.
- Actively participate in the communication of NERC Standards drafting teams' activities to the Western stakeholders.
- Continue to review existing RRSs to determine whether any are candidates for incorporation as a Regional Variance to a NERC Continent-wide Reliability Standard and, if so, coordinate with NERC to address the incorporation during NERC's next enhanced periodic review of the NERC Reliability Standard(s).
- Conduct periodic reviews of existing RRSs and Regional Criteria to improve their content and quality.
- Evaluate information from audit and enforcement experiences and information learned through event analysis to determine whether any new RRSs or revisions to existing RRSs are necessary.

Resource Requirements/Explanation of Significant Changes

Personnel Expenses

- Personnel Expenses increase by a net of $22,000 primarily due to a budgeted 3% merit pool, continued refinement of labor float percentages, and the refinement of payroll tax and benefits rates.

Meeting Expenses

- No significant changes.

Operating Expenses

- No significant changes.

Fixed Assets

- No significant changes.

See Section B—Supplemental Financial Information for explanations of other variances between the 2021 and 2022 budgets.

Reliability Standards Program Funding Sources and Expenditures

Statement of Activities, Fixed Assets Expenditures, and Change in Working Capital 2021 Budget & Projection, and 2022 Budget RELIABILITY STANDARDS	2021 Budget	2021 Projection	Variance 2021 Budget v 2021 Projection Over(Under)	2022 Budget	Variance 2022 Budget v 2021 Budget Inc(Dec)
Revenue					
Statutory Funding					
WECC Assessments	$ 776,468	$ 776,468	$ -	$ 764,248	$ (12,220)
Penalties Released	98,517	98,517	-	143,772	45,255
Total Statutory Funding	**$ 874,985**	**$ 874,985**	**$ -**	**$ 908,020**	**$ 33,035**
Membership Fees	$ -	$ -	$ -	$ -	$ -
Workshops & Miscellaneous	-	-	-	-	-
Interest	5,631	2,139	(3,492)	2,972	(2,659)
Total Revenue (A)	**$ 880,616**	**$ 877,124**	**$ (3,492)**	**$ 910,992**	**$ 30,376**
Expenses					
Personnel Expenses					
Salaries	$ 438,520	$ 446,083	$ 7,563	$ 454,624	$ 16,104
Payroll Taxes	27,803	28,234	431	30,150	2,347
Benefits	41,062	54,605	13,543	42,770	1,708
Retirement Costs	38,151	39,988	1,837	40,461	2,310
Total Personnel Expenses	**$ 545,536**	**$ 568,910**	**$ 23,374**	**$ 568,005**	**$ 22,469**
Meeting Expenses					
Meetings & Conference Calls	$ -	$ -	$ -	$ -	$ -
Travel	17,550	3,921	(13,629)	13,065	(4,485)
Total Meeting Expenses	**$ 17,550**	**$ 3,921**	**$ (13,629)**	**$ 13,065**	**$ (4,485)**
Operating Expenses, excluding Depreciation					
Consultants & Contracts	$ -	$ -	$ -	$ -	$ -
Office Rent	-	-	-	-	-
Office Costs	4,300	3,384	(916)	3,540	(760)
Professional Services	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Total Operating Expenses	**$ 4,300**	**$ 3,384**	**$ (916)**	**$ 3,540**	**$ (760)**
Total Direct Expenses	**$ 567,386**	**$ 576,215**	**$ 8,829**	**$ 584,610**	**$ 17,224**
Indirect Expenses	**$ 294,615**	**$ 279,478**	**$ (15,137)**	**$ 297,886**	**$ 3,271**
Other Non-Operating Expenses	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Total Expenses (B)	**$ 862,001**	**$ 855,693**	**$ (6,308)**	**$ 882,496**	**$ 20,495**
Change in Net Assets (=A-B)	**$ 18,615**	**$ 21,431**	**$ 2,816**	**$ 28,496**	**$ 9,881**
Fixed Assets, excluding Right of Use Assets (C)	**$ 2,775**	**$ 6,989**	**$ 4,214**	**$ 3,036**	**$ 261**
TOTAL BUDGET (B+C)	**$ 864,776**	**$ 862,682**	**$ (2,094)**	**$ 885,532**	**$ 20,756**
TOTAL CHANGE IN WORKING CAPITAL (A-B-C)	**$ 15,840**	**$ 14,442**	**$ (1,398)**	**$ 25,460**	**$ 9,620**
FTEs	3.0	3.0	-	3.0	-
HC	3.0	3.0	-	3.0	-

Compliance Monitoring and Enforcement and Organization Registration and Certification Program

Compliance Monitoring and Enforcement and Organization Registration and Certification Program (in whole dollars)	2021 Budget	2022 Budget	Increase (Decrease)
Total FTEs	62.8	67.8	5.0
Direct Expenses	$ 10,207,096	$ 10,935,018	$ 727,922
Indirect Expenses	$ 6,162,371	$ 6,727,252	$ 564,881
Other Non-Operating Expenses	$ -	$ -	$ -
Inc(Dec) in Fixed Assets	$ 58,025	$ 68,586	$ 10,561
Total Funding Requirement	$ 16,427,492	$ 17,730,856	$ 1,303,364

Program Scope and Functional Description

The CMEP is implemented by Reliability and Security Oversight staff, who are independent of all users, owners, and operators of the BPS.

To accomplish its objectives, staff is divided into five main areas:

- Organization Registration[4];
- Entity Risk Assessment;
- Entity Monitoring;
- Enforcement and Mitigation; and
- Program Analysis and Administration.

WECC will continue to conduct its monitoring and enforcement activities according to the Board-endorsed Regulatory Philosophy, the key tenets of which are:

- Be an informed regulator;
- Identify top risks to reliability and security;
- Exercise discretion responsibly; and
- Enforce fairly.

Staff monitors and enforces the FERC-approved NERC Reliability Standards across 398[5] registered owners, operators, and users of the BPS through a variety of risk-based activities.

[4] At WECC, certification activities are performed in the RAPA program area.
[5] As of April 21, 2021.

Staff will support ERO Enterprise-level initiatives, which include the following activities:

- Regional Risk Assessments;
- Compliance Oversight Plan (COP) and Inherent Risk Assessments (IRA);
- Organization Registration;
- Mitigation plan reviews, acceptance, approvals, and verification;
- Review of potential noncompliance to assess root cause and risk to BPS;
- Processing and disposition of self-logged, minimal-risk issues;
- Enforcement activities according to established risk-based approaches;
- Review and validation of periodic data submittals;
- Internal compliance program assessments;
- Internal Controls Program reviews;
- Compliance monitoring activities, such as audits, spot-checks, self-certifications, investigations, and assessments of complaints; and
- Bulk Electric System (BES) Exception Requests.

As part of the business planning and budgeting process, NERC and the Regional Entities ensure alignment with the ERO Enterprise Long-Term Strategy and harmonization of business processes and operations across the ERO Enterprise where appropriate. Deliverables in this program area support both the WECC and ERO Enterprise long-term strategies.

Compliance in Alberta, British Columbia, and Mexico

Alberta and British Columbia, Canada, and a portion of Baja California Norte, Mexico, are all part of the Western Interconnection and have adopted or are adopting mandatory Reliability Standards based on FERC-approved Standards. WECC has entered into agreements with the Alberta Market Surveillance Administrator (MSA), the British Columbia Utilities Commission (BCUC), and Mexico's Comisión Reguladora de Energía (CRE), under which WECC performs various compliance monitoring and enforcement activities to help ensure reliability across international borders within the Western Interconnection.

2022 Key Budget Assumptions

- Address known and future reliability risks by monitoring the FERC-approved NERC Reliability Standards for applicable entities through audits, investigations, self-certifications, or spot-checks. Apply a risk-based approach that covers and ensures all audit, on-site and off-site, and post-audit activities are completed according to the NERC Rules of Procedure and the CMEP within the United States. With respect to non-U.S. jurisdictions, monitor compliance according to the approved agreements and applicable compliance monitoring programs with Canadian and Mexican authorities.

- Develop and implement compliance oversight plans for registered entities. The plans focus on relevant risks, including consideration of IRAs, entity performance history, other operational risks based on performance considerations, and the maturity of internal controls.
- Continue working in consultation with the international compliance enforcement authorities to determine which elements of the risk-based CMEP should be incorporated in the respective programs for international entities. Currently, WECC does not conduct IRAs or develop COPs for international entities.
- Resource allocation will continue for activities associated with registration. Participate in NERC-led, centralized review panel sessions as part of the application process for materiality tests of the risk-based registration process outlined in Appendix 5A of the NERC Rules of Procedure. Continue to review, assess, validate, and submit registration recommendations to NERC for new registrations, partial deactivations, transfer of access, and full deregistration changes affecting the NERC Compliance Registry (NCR).
- Fully support ERO Enterprise efforts and activities to evaluate business practices, tools, consistency, implementation, and guidance within the risk-based CMEP. Provide feedback to the ERO Enterprise on emerging and existing risks, with an emphasis on standards development, standards modification, audit and monitoring approaches, and potential gaps.
- Use the results of the Regional Risk Assessment (RRA) to provide input in building areas of focus in the ERO CMEP Implementation Plan.
- Any costs related to a hearing that may arise will be funded through working capital reserves.
- WECC does not foresee any new or revised Standards in 2022 that would require increased resources.
- The Align tool will be used for audits starting in May 2022.
- One new auditor position is added, to address skills gaps and emerging risks, due to decreased reliance on contract labor.
- One new mitigation engineer position is added, with a focus on Operations and Planning standards to ensure timely processing of an increasing workload.
- One new internal controls position is added due to the increasing demands on WECC's sole internal controls subject matter expert, as WECC increases focus on registered entity internal controls design, implementation, and assistance.
- One position is transferred from G&A for a mitigation engineer position with a focus on Critical Infrastructure Protection (CIP) standards.
- One position is transferred, via the engineering development program, from RAPA for an Entity Risk Assessment engineering position.
- Increases in virtual meetings and changes in audit logistics will decrease travel expenses.

2022 Goals and Deliverables

- Continue to support the transition to the Align tool by providing outreach and training to staff and registered entities.
- Process and complete organization registration request reviews, validations, and recommendations to NERC according to risk-based registration activities and initiatives.
- Process all BES Exception submittals according to Appendix 5C.
- Participate in ERO Enterprise collaboration groups to ensure consistency in processing registration requests according to the NERC Rules of Procedure outlined in Appendix 5B (Statement of Compliance Registry Criteria).
- Monitor and enforce compliance with mandatory standards according to the WECC-NERC Delegation Agreement, including the Rules of Procedure and the CMEP within the U.S. Monitor compliance according to the approved agreements with respect to non-U.S. jurisdictions, and applicable compliance monitoring programs with Canadian and Mexican authorities.
- Complete 19 audits with an on-site component, as required by the NERC Rules of Procedure and agreements with Canadian jurisdictions. Additional monitoring activities (e.g., audits, spot-checks, self-certifications with supporting evidence) will be scheduled based on risk to the BES.
- Complete initial IRAs and COPs for all new registrations in 2022 and refresh IRAs and COPs as needed for changes in the entity risk profile.
- Participate in ERO Enterprise collaboration groups to build consistency in long-term planning and risk-based monitoring.
- Gather and review risk reports and operations information to update WECC's RRA of the Western Interconnection.
- Work with registered entities in the Western Interconnection to promote a strong culture of reliability and security by focusing on known and future risks.
- Promote the benefits of internal controls programs and their impact on BPS reliability with registered entities.
- Represent the Western Interconnection in the development of NERC and regional initiatives.
- Conduct industry outreach in various forums—webinars, conferences, and entity-specific engagements—to support ERO Enterprise activities and priorities.
- Monitor and manage enforcement measures and metrics in support of the ERO Enterprise Long-Term Strategy, including caseload index, violation aging, and mitigation plan aging; and collaborate with the ERO Enterprise to develop better measures of program effectiveness.
- Continue working with NERC and the other Regional Entities to shape and refine the ERO Enterprise enforcement philosophy that supports uniform, repeatable, transparent, and reliability-focused approaches.

- Conduct initial evaluation of any new noncompliance, and the resulting resolution of enforcement actions, in a timely manner using a reliability risk-based focus. Ensure enforcement discretion is consistent with NERC directives and FERC Orders, rules, and regulations.

Resource Requirements/Explanation of Significant Changes

Personnel Expenses

- Personnel Expenses increase by a net of $1,125,000 primarily due to three new positions, two positions transferred in from other program areas, a budgeted 3% merit pool, continued refinement of labor float percentages, changes in position levels, and the refinement of payroll tax and benefits rates.

Meeting Expenses

- Travel decreases by $297,000 primarily due to planned reductions in travel requirements for audit teams and support staff and a planned increase in virtual meetings.

Operating Expenses

- Office Costs decrease by a net of $97,000 primarily due to the implementation of the Align tool and the resulting decrease in webCDMS licensing fees.

Fixed Assets

- Fixed Assets increase by a net of $11,000 primarily due to fixed asset additions in Corporate Services. Corporate Services expenses are allocated to statutory and non-statutory program areas based on FTEs.

See Section B—Supplemental Financial Information for explanations of other variances between the 2021 and 2022 budgets.

Compliance Monitoring and Enforcement and Organization Registration and Certification Program Funding Sources and Expenditures

Statement of Activities, Fixed Assets Expenditures, and Change in Working Capital 2021 Budget & Projection, and 2022 Budget COMPLIANCE MONITORING AND ENFORCEMENT AND ORGANIZATION REGISTRATION AND CERTIFICATION	2021 Budget	2021 Projection	Variance 2021 Budget v 2021 Projection Over(Under)	2022 Budget	Variance 2022 Budget v 2021 Budget Inc(Dec)
Revenue					
Statutory Funding					
WECC Assessments	$ 14,549,967	$ 14,549,967	$ -	$ 14,926,708	$ 376,741
Penalties Released	2,060,650	2,060,650	-	3,246,852	1,186,202
Total Statutory Funding	**$ 16,610,617**	**$ 16,610,617**	**$ -**	**$ 18,173,560**	**$ 1,562,943**
Membership Fees	$ -	$ -	$ -	$ -	$ -
Workshops & Miscellaneous	-	-	-	-	-
Interest	117,785	46,874	(70,911)	67,107	(50,678)
Total Revenue (A)	**$ 16,728,402**	**$ 16,657,491**	**$ (70,911)**	**$ 18,240,667**	**$ 1,512,265**
Expenses					
Personnel Expenses					
Salaries	$ 7,314,902	$ 8,005,509	$ 690,607	$ 8,152,114	$ 837,212
Payroll Taxes	504,576	583,722	79,146	550,760	46,184
Benefits	807,824	776,872	(30,952)	953,931	146,107
Retirement Costs	629,057	694,631	65,574	724,861	95,804
Total Personnel Expenses	**$ 9,256,359**	**$ 10,060,734**	**$ 804,375**	**$ 10,381,666**	**$ 1,125,307**
Meeting Expenses					
Meetings & Conference Calls	$ 3,380	$ 1,100	$ (2,280)	$ -	$ (3,380)
Travel	654,743	32,640	(622,103)	357,990	(296,753)
Total Meeting Expenses	**$ 658,123**	**$ 33,740**	**$ (624,383)**	**$ 357,990**	**$ (300,133)**
Operating Expenses, excluding Depreciation					
Consultants & Contracts	$ -	$ 42,000	$ 42,000	$ -	$ -
Office Rent	-	-	-	-	-
Office Costs	292,614	298,582	5,968	195,362	(97,252)
Professional Services	-	9,913	9,913	-	-
Miscellaneous	-	-	-	-	-
Total Operating Expenses	**$ 292,614**	**$ 350,495**	**$ 57,881**	**$ 195,362**	**$ (97,252)**
Total Direct Expenses	**$ 10,207,096**	**$ 10,444,969**	**$ 237,873**	**$ 10,935,018**	**$ 727,922**
Indirect Expenses	**$ 6,162,371**	**$ 6,125,217**	**$ (37,154)**	**$ 6,727,252**	**$ 564,881**
Other Non-Operating Expenses	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Total Expenses (B)	**$ 16,369,467**	**$ 16,570,186**	**$ 200,719**	**$ 17,662,270**	**$ 1,292,803**
Change in Net Assets (=A-B)	**$ 358,935**	**$ 87,305**	**$ (271,630)**	**$ 578,397**	**$ 219,462**
Fixed Assets, excluding Right of Use Assets (C)	**$ 58,025**	**$ 153,175**	**$ 95,150**	**$ 68,586**	**$ 10,561**
TOTAL BUDGET (B+C)	**$ 16,427,492**	**$ 16,723,361**	**$ 295,869**	**$ 17,730,856**	**$ 1,303,364**
TOTAL CHANGE IN WORKING CAPITAL (A-B-C)	**$ 300,910**	**$ 300,910**	**$ (366,780)**	**$ 509,811**	**$ 208,901**
FTEs	62.8	65.8	3.0	67.8	5.0
HC	62.0	65.0	3.0	67.0	5.0

Reliability Assessment and Performance Analysis

Reliability Assessment and Performance Analysis (in whole dollars)	2021 Budget	2022 Budget	Increase (Decrease)
Total FTEs	37.3	35.8	(1.5)
Direct Expenses	$ 6,325,255	$ 6,211,343	$ (113,912)
Indirect Expenses	$ 3,663,051	$ 3,554,769	$ (108,282)
Other Non-Operating Expenses	$ -	$ -	$ -
Inc(Dec) in Fixed Assets	$ 34,491	$ 36,242	$ 1,751
Total Funding Requirement	$ 10,022,797	$ 9,802,354	$ (220,443)

Program Scope and Functional Description

RAPA staff conducts a variety of assessments, analyses, and studies essential to the reliable planning and operation of the BPS in the Western Interconnection. Staff also compiles and distributes data and information used by stakeholders to help with regional and local planning studies. These integrated assessment and planning efforts enhance WECC's overall ability to assess potential reliability risks in the Western Interconnection.

The RAPA Program is organized into three departments:

1. The **Performance Analysis and Resource Adequacy Department** analyzes the historical operation and performance of the Western Interconnection. The analyses are the building blocks to assess interconnection-wide risks and vulnerabilities. The information produced helps to identify best practices and mitigate potential risk. The department also conducts forward-looking resource adequacy assessments using deterministic and probabilistic methods.
2. The **Events Analysis Department** analyzes system conditions and events that affect or may affect the reliable operation of the BPS. The department's activities ensure that stakeholders, NERC, and FERC are well-informed of system events, emerging trends, lessons learned, and expected actions affecting BPS reliability.

3. The **Reliability Planning Department** develops and maintains WECC's integrated capability to study Western Interconnection reliability issues for the near- and long-term planning horizon. The group is the NERC-designated, interconnection-wide model builder under the MOD-032 Reliability Standard. The department develops the planning tools and datasets that support transmission planning and performs special studies on priority reliability issues as they are identified. The studies, performed in close collaboration with the technical committees, consider both system adequacy and system stability.

The RAPA Program also supports the development of NERC's RAPA activities through targeted data gathering and participation in the Summer, Winter, Long-Term Reliability, and Special assessments.

As part of the business planning and budgeting process, NERC and the Regional Entities ensure alignment with the ERO Enterprise Long-Term Strategy and harmonization of business processes and operations across the ERO Enterprise where appropriate. Deliverables in this program area support both the WECC and ERO Enterprise long-term strategies.

2022 Key Budget Assumptions

- Staff and technical committees continue to focus on assessment activities that address the WECC Reliability Risk Priorities approved by the Board in June 2020 and any updates to be approved in 2022.
- Staff will be responsive to unanticipated emerging reliability risks and will work with stakeholders to develop timely and accurate reliability analyses.
- WECC will implement the recommendations from the Stakeholder Engagement Task Force (SETF), which will increase the engagement of stakeholder subject matter experts in technical committees and in assessments led by staff.
- The SETF recommendations are expected to be brought to the Board in June 2021 and may affect the technical committee structure in 2022. Due to the timing, the 2022 budget does not include any budget assumptions related to potential changes. Any technical committee structure changes will be reflected in the 2023 Business Plan and Budget.
- Building on the NERC RISC Report, staff and stakeholders will continue to play a leadership role in identifying reliability challenges specific to the Western Interconnection.
- New grid technologies and power system changes will create a need for modeling enhancements and data collection.
- One position is transferred, via the engineering development program, to CMEP for an Entity Risk Assessment engineering position.
- 0.5 FTE is transferred to Training and Outreach to support increased initiatives to socialize relevant work products with stakeholders.
- An increase in virtual meetings will decrease travel and meeting expenses.

2022 Goals and Deliverables

- Continue the three-year planning cycle with the JGC to align staff and technical committee work plans in support of the WECC Reliability Risk Priorities.
- Coordinate with stakeholders and NERC to ensure unanticipated emerging reliability challenges are identified and addressed.
- Prepare interconnection-wide power flow and stability base cases.
- Identify and apply lessons learned from the 2030 Anchor Data Set (ADS) development and develop the 2032 ADS.
- Facilitate dynamic model and power flow tool development, focusing on new technology resources and concepts like energy storage and dynamic line ratings, respectively.
- Continue to develop and maintain databases for production cost, resource adequacy, and other models.
- Collect and make short-circuit models available for industry coordination.
- Create and model alternate plausible futures for the Western Interconnection, considering technical, economic, policy, and other drivers.
- Explore and implement technology solutions for enhanced data collection, validation, and storage.
- Provide technical leadership, insight, and guidance to analyze the effects of the changing resource mix and load characteristics. Recommend suggestions to minimize reliability risks or improve tools and modeling capabilities.
- Conduct reliability assessments that evaluate the adequacy and stability of the BPS in the planning horizon, including WECC's Western Assessment of Resource Adequacy and support the NERC Long-Term Reliability Assessment and incorporated probabilistic assessment, Summer Reliability Assessment, and Winter Reliability Assessment.
- Conduct Special Reliability Assessments as needed for high-impact, low-frequency events like geomagnetic disturbances or prolonged droughts.
- Assess the effectiveness of the Western Interconnection Under-Frequency Load Shedding Plan.
- Use data from actual system disturbances to validate power flow and stability base case models.
- Publish transmission maps of the Western Interconnection.
- Facilitate the Project Coordination, Path Rating, and Progress Report processes.
- Verify and submit NERC Transmission Availability Data System (TADS), Generator Availability Data System (GADS), Demand-Response Availability Data System (DADS), and Misoperation Information Data Analysis System (MIDAS) filings.
- Assess entity performance through site visits or short surveys regarding key operational or planning practices to identify and share best practices and potential risks to reliability.
- Evaluate historical system performance trends to identify reliability risk metrics, key indicators, and potential improvement strategies. Publish results in reports like the State of the

Interconnection and work with technical committees to engage in proactive reliability improvement activities.
- Identify key vulnerability issues and work with stakeholders to address them; for example: physical and cybersecurity, situation awareness and coordination across neighboring systems, human performance, and equipment misoperations or failures.
- Complete event analysis reports and develop and educate stakeholders on lessons learned to minimize the possibility and reoccurrence of significant events.
- Develop reliability guidelines, technical white papers and reports, and reference documents to address emerging issues, operational risks, and industry concerns related to system operations.
- Ensure the Western Interconnection is represented in reliability matters by participating in regional and national stakeholder forums.

Resource Requirements/Explanation of Significant Changes

Personnel Expenses

- Personnel Expenses increase by a net of $100,000 primarily due to the net of one FTE transferred to CMEP, 0.5 FTE transferred to Training and Outreach, a budgeted 3% merit pool, continued refinement of labor float percentages, changes in position levels, and the refinement of payroll tax and benefits rates.

Meeting Expenses

- Meetings & Conference Calls decrease by a net of $16,000 primarily due to planned increases in virtual meetings.
- Travel decreases by a net of $62,000 primarily due to planned increases in virtual meetings.

Operating Expenses

- Consultants & Contracts decrease by a net of $142,000 primarily due to the completion of one-time 2021 study work and the addition of MAVRIC probabilistic tool updates.

Fixed Assets

- No significant changes.

See Section B—Supplemental Financial Information for explanations of other variances between the 2021 and 2022 budgets.

Reliability Assessment and Performance Analysis Program Funding Sources and Expenditures

Statement of Activities, Fixed Assets Expenditures, and Change in Working Capital 2021 Budget & Projection, and 2022 Budget RELIABILITY ASSESSMENT AND PERFORMANCE ANALYSIS	2021 Budget	2021 Projection	Variance 2021 Budget v 2021 Projection Over(Under)	2022 Budget	Variance 2022 Budget v 2021 Budget Inc(Dec)
Revenue					
Statutory Funding					
WECC Assessments	$ 8,911,479	$ 8,911,479	$ -	$ 8,333,059	$ (578,420)
Penalties Released	1,224,896	1,224,896	-	1,715,680	490,784
Total Statutory Funding	**$ 10,136,375**	**$ 10,136,375**	**$ -**	**$ 10,048,739**	**$ (87,636)**
Membership Fees	$ -	$ -	$ -	$ -	$ -
Workshops & Miscellaneous	-	-	-	-	-
Interest	70,014	26,592	(43,422)	35,460	(34,554)
Total Revenue (A)	**$ 10,206,389**	**$ 10,162,967**	**$ (43,422)**	**$ 10,084,199**	**$ (122,190)**
Expenses					
Personnel Expenses					
Salaries	$ 4,314,753	$ 4,382,744	$ 67,991	$ 4,381,226	$ 66,473
Payroll Taxes	295,396	317,896	22,500	292,557	(2,839)
Benefits	491,141	552,418	61,277	512,784	21,643
Retirement Costs	374,735	399,431	24,696	389,613	14,878
Total Personnel Expenses	**$ 5,476,025**	**$ 5,652,489**	**$ 176,464**	**$ 5,576,180**	**$ 100,155**
Meeting Expenses					
Meetings & Conference Calls	$ 45,180	$ 13,955	$ (31,225)	$ 29,476	$ (15,704)
Travel	210,070	56,810	(153,260)	148,062	(62,008)
Total Meeting Expenses	**$ 255,250**	**$ 70,765**	**$ (184,485)**	**$ 177,538**	**$ (77,712)**
Operating Expenses, excluding Depreciation					
Consultants & Contracts	$ 350,000	$ 285,663	$ (64,337)	$ 208,100	$ (141,900)
Office Rent	-	-	-	-	-
Office Costs	243,980	259,936	15,956	249,525	5,545
Professional Services	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Total Operating Expenses	**$ 593,980**	**$ 545,599**	**$ (48,381)**	**$ 457,625**	**$ (136,355)**
Total Direct Expenses	**$ 6,325,255**	**$ 6,268,853**	**$ (56,402)**	**$ 6,211,343**	**$ (113,912)**
Indirect Expenses	**$ 3,663,051**	**$ 3,474,838**	**(188,213)**	**$ 3,554,769**	**$ (108,282)**
Other Non-Operating Expenses	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Total Expenses (B)	**$ 9,988,306**	**$ 9,743,691**	**$ (244,615)**	**$ 9,766,112**	**$ (222,194)**
Change in Net Assets (=A-B)	**$ 218,083**	**$ 419,276**	**$ 201,193**	**$ 318,087**	**$ 100,004**
Fixed Assets, excluding Right of Use Assets (C)	**$ 34,491**	**$ 86,896**	**$ 52,405**	**$ 36,242**	**$ 1,751**
TOTAL BUDGET (B+C)	**$ 10,022,797**	**$ 9,830,587**	**$ (192,210)**	**$ 9,802,354**	**$ (220,443)**
TOTAL CHANGE IN WORKING CAPITAL (A-B-C)	**$ 183,592**	**$ 332,380**	**$ 148,788**	**$ 281,845**	**$ 98,253**
FTEs	37.3	37.3	-	35.8	(1.5)
HC	38.0	38.0	-	36.0	(2.0)

Training and Outreach

Training and Outreach (in whole dollars)	2021 Budget	2022 Budget	Increase (Decrease)
Total FTEs	1.5	2.0	0.5
Direct Expenses	$ 662,457	$ 612,293	$ (50,164)
Indirect Expenses	$ 147,308	$ 198,590	$ 51,282
Other Non-Operating Expenses	$ -	$ -	$ -
Inc(Dec) in Fixed Assets	$ 1,387	$ 2,025	$ 638
Total Funding Requirement	$ 811,152	$ 812,908	$ 1,756

Program Scope and Functional Description

The Training and Outreach Program provides outreach, education, and training on Reliability Standards, compliance topics, improvement of compliance programs, reliability planning and performance analysis, grid operations and security, and human performance.

As part of the business planning and budgeting process, NERC and the Regional Entities ensure alignment with the ERO Enterprise Long-Term Strategy and harmonization of business processes and operations across the ERO Enterprise where appropriate. Deliverables in this program area support both the WECC and ERO Enterprise long-term strategies.

2022 Key Budget Assumptions

- WECC will host a similar number of training and outreach events as in prior years.
- Virtual Training and Outreach formats will be used where appropriate.
- WECC will continue to use partnerships and collaboration with the ERO Enterprise where appropriate to decrease costs.
- 0.5 FTE is transferred from RAPA to support increased training initiatives to socialize relevant work products with stakeholders.

2022 Goals and Deliverables

- Deliver monthly Compliance Open Webinars to educate stakeholders on various oversight activities.
- Conduct webinars and workshops to expand awareness of reliability planning tools, modeling capabilities, and study results.

- Deliver quarterly Grid Fundamentals Workshops to teach people who are new to the industry how the electric power system works, how it is managed, and how to better understand reliability issues.
- Deliver two Reliability and Security Workshops to provide targeted and in-depth, risk-based outreach to address and mitigate key risks to reliability and security in the Western Interconnection. One of the Reliability and Security Workshops will be held virtually to retain the increased engagement seen during the pandemic. Specific topics include:
    - Lessons learned and process improvement for implementation of risk-based concepts in the CMEP;
    - Enforcement trends and statistics; and
    - Information on audit approach for upcoming standards changes and transitions.
- Deliver one Human Performance conference, co-hosted with NERC.
- Deliver educational webinars and workshops to further enhance the reliability of the Western Interconnection. Topics include:
    - Internal Controls Practices Group trainings;
    - Reliability planning tools and modeling capabilities, including base case and production cost model studies;
    - Contingency studies and analyses;
    - Scenario planning and regulatory issues and trends; and
    - Event analysis.

Resource Requirements/Explanation of Significant Changes

Personnel Expenses

- Personnel Expenses increase by a net of $104,000 primarily due to the net of 0.5 FTE transferred from RAPA, a budgeted 3% merit pool, continued refinement of labor float percentages, changes in position levels, and the refinement of payroll tax and benefits rates.

Meeting Expenses

- Meetings & Conference Calls decrease by $134,000 primarily due to holding one Reliability and Security Workshop virtually, to increase engagement and to accommodate circumstances related to the pandemic.

Operating Expenses

- Office Costs decrease by $15,000 primarily due to the conversion of one Reliability and Security Workshop to a virtual format and the resulting reduction of merchant credit card and third-party processing fees.

Fixed Assets

- No significant changes.

See Section B—Supplemental Financial Information for explanations of other variances between the 2021 and 2022 budgets.

Training and Outreach Program Funding Sources and Expenditures

Statement of Activities, Fixed Assets Expenditures, and Change in Working Capital 2021 Budget & Projection, and 2022 Budget TRAINING AND OUTREACH	2021 Budget	2021 Projection	Variance 2021 Budget v 2021 Projection Over(Under)	2022 Budget	Variance 2022 Budget v 2021 Budget Inc(Dec)
Revenue					
Statutory Funding					
WECC Assessments	$ 343,935	$ 343,935	$ -	$ 543,752	$ 199,817
Penalties Released	49,259	49,259	-	95,848	46,589
Total Statutory Funding	**$ 393,194**	**$ 393,194**	**$ -**	**$ 639,600**	**$ 246,406**
Membership Fees	$ -	$ -	$ -	$ -	$ -
Workshops & Miscellaneous	430,000	222,400	(207,600)	194,700	(235,300)
Interest	2,816	1,069	(1,747)	1,981	(835)
Total Revenue (A)	**$ 826,010**	**$ 616,663**	**$ (209,347)**	**$ 836,281**	**$ 10,271**
Expenses					
Personnel Expenses					
Salaries	$ 154,906	$ 182,063	$ 27,157	$ 235,668	$ 80,762
Payroll Taxes	11,233	12,510	1,277	15,911	4,678
Benefits	19,387	17,011	(2,376)	30,201	10,814
Retirement Costs	13,463	14,575	1,112	20,974	7,511
Total Personnel Expenses	**$ 198,989**	**$ 226,159**	**$ 27,170**	**$ 302,754**	**$ 103,765**
Meeting Expenses					
Meetings & Conference Calls	$ 410,980	$ 206,740	$ (204,240)	$ 277,146	$ (133,834)
Travel	11,720	8,900	(2,820)	6,995	(4,725)
Total Meeting Expenses	**$ 422,700**	**$ 215,640**	**$ (207,060)**	**$ 284,141**	**$ (138,559)**
Operating Expenses, excluding Depreciation					
Consultants & Contracts	$ -	$ -	$ -	$ -	$ -
Office Rent	-	-	-	-	-
Office Costs	40,768	30,864	(9,904)	25,398	(15,370)
Professional Services	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Total Operating Expenses	**$ 40,768**	**$ 30,864**	**$ (9,904)**	**$ 25,398**	**$ (15,370)**
Total Direct Expenses	**$ 662,457**	**$ 472,663**	**$ (189,794)**	**$ 612,293**	**$ (50,164)**
Indirect Expenses	**$ 147,308**	**$ 139,739**	**$ (7,569)**	**$ 198,590**	**$ 51,282**
Other Non-Operating Expenses	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Total Expenses (B)	**$ 809,765**	**$ 612,402**	**$ (197,363)**	**$ 810,883**	**$ 1,118**
Change in Net Assets (=A-B)	**$ 16,245**	**$ 4,261**	**$ (11,984)**	**$ 25,398**	**$ 9,153**
Fixed Assets, excluding Right of Use Assets (C)	**$ 1,387**	**$ 3,494**	**$ 2,107**	**$ 2,025**	**$ 638**
TOTAL BUDGET (B+C)	**$ 811,152**	**$ 615,896**	**$ (195,256)**	**$ 812,908**	**$ 1,756**
TOTAL CHANGE IN WORKING CAPITAL (A-B-C)	**$ 14,858**	**$ 767**	**$ (14,091)**	**$ 23,373**	**$ 8,515**
FTEs	1.5	1.5	-	2.0	0.5
HC	1.0	1.0	-	1.0	-

Situation Awareness and Infrastructure Security

Situation Awareness and Infrastructure Security (in whole dollars)	2021 Budget	2022 Budget	Increase (Decrease)
Total FTEs	2.0	2.0	-
Direct Expenses	$ 280,553	$ 314,631	$ 34,078
Indirect Expenses	$ 196,410	$ 198,591	$ 2,181
Other Non-Operating Expenses	$ -	$ -	$ -
Inc(Dec) in Fixed Assets	$ 1,849	$ 2,025	$ 176
Total Funding Requirement	$ 478,812	$ 515,247	$ 36,435

Program Scope and Functional Description

The Situation Awareness and Infrastructure Security (SAIS) Program maintains near-real-time awareness about the conditions and significant occurrences on the BPS in the Western Interconnection, with the objective of recognizing conditions and situations that could impact the reliability and security of the BPS. WECC has access to limited near-real-time data through the Situation Awareness for FERC, NERC, and the Regions (SAFNR) tool, and the University of Tennessee Frequency Monitoring NETwork (FNET).

The SAIS Program is part of WECC's delegation-related activities and does not duplicate the real-time situation awareness and operating coordination provided by other entities within the Western Interconnection. WECC's role is to understand system issues when they emerge and coordinate with relevant parties (typically NERC and FERC) about the conditions of the BPS. Through this coordination, WECC identifies patterns and trends that will help build a stronger and more resilient system. Staff respond to events by providing coordination, assistance, and communication with the Reliability Coordinators, stakeholders, and NERC SAIS personnel. SAIS work also feeds into event analysis capabilities.

As part of the business planning and budgeting process, NERC and the Regional Entities ensure alignment with the ERO Enterprise Long-Term Strategy and harmonization of business processes and operations across the ERO Enterprise where appropriate. Deliverables in this program area support both the WECC and ERO Enterprise long-term strategies.

2022 Key Budget Assumptions

- Cybersecurity and physical security threats will continue to increase as the grid evolves. WECC will work with stakeholders and support the ERO Enterprise Security Initiative and E-ISAC to focus on security outreach and education.

- The SAFNR tool and other SAIS tools will be used to provide situation awareness capabilities.
- WECC will support NERC and FERC's efforts for situation awareness of current system conditions.
- WECC will maximize sharing of reliability and security data, within agreed parameters, and insights from Events Analysis, including near-misses, to enhance understanding of reliability and security issues, promote operational excellence, promptly share best practices and lessons learned, and engage third-party experts to expand capabilities and resources applied to critical reliability and security issues.
- Technical stakeholder groups will support the development of lessons learned and recommendations from events and identified reliability and security risks.

2022 Goals and Deliverables

- Monitor system events, collect information, and coordinate prompt distribution of updates on system events to industry stakeholders and NERC SAIS personnel.
- Work with NERC to monitor system data, weather, and technological developments to understand trends that affect reliability for the near- and long-term horizons.
- Participate in daily NERC SAIS calls to coordinate the communication of critical information.
- Support efforts and work to develop and enhance ways to improve the use of SAFNR and other tools to further support SAIS.
- Represent the Western Interconnection in reliability and security matters by participating in various NERC committees and industry forums.
- Participate, as appropriate, in periodic wide-area security exercises (e.g., GridEx, Monitoring and Situation Awareness Workshop, NERC Alerts).
- Promote rapid and appropriate sharing of situation awareness information to support critical infrastructure security.
- Enhance engagement with Western stakeholders to improve the coordination and sharing of security information.
- Work with stakeholders, government agencies, NERC, and the E-ISAC to ensure appropriate reliability and security event information is promptly disseminated to industry entities.

Resource Requirements/Explanation of Significant Changes

Personnel Expenses

- Personnel Expenses increase by a net of $24,000 primarily due to a budgeted 3% merit pool, continued refinement of labor float percentages, and the refinement of payroll tax and benefits rates.

Meeting Expenses

- No significant changes.

Operating Expenses

- No significant changes.

Fixed Assets

- No significant changes.

See Section B—Supplemental Financial Information for explanations of other variances between the 2021 and 2022 budgets.

Situation Awareness and Infrastructure Security Program Funding Sources and Expenditures

Statement of Activities, Fixed Assets Expenditures, and Change in Working Capital 2021 Budget & Projection, and 2022 Budget SITUATION AWARENESS AND INFRASTRUCTURE SECURITY	2021 Budget	2021 Projection	Variance 2021 Budget v 2021 Projection Over(Under)	2022 Budget	Variance 2022 Budget v 2021 Budget Inc(Dec)
Revenue					
Statutory Funding					
WECC Assessments	$ 418,151	$ 418,151	$ -	$ 432,233	$ 14,082
Penalties Released	65,678	65,678	-	95,848	30,170
Total Statutory Funding	**$ 483,829**	**$ 483,829**	**$ -**	**$ 528,081**	**$ 44,252**
Membership Fees	$ -	$ -	$ -	$ -	$ -
Workshops & Miscellaneous	-	-	-	-	-
Interest	3,754	1,426	(2,328)	1,981	(1,773)
Total Revenue (A)	**$ 487,583**	**$ 485,255**	**$ (2,328)**	**$ 530,062**	**$ 42,479**
Expenses					
Personnel Expenses					
Salaries	$ 218,004	$ 229,164	$ 11,160	$ 238,519	$ 20,515
Payroll Taxes	16,347	17,089	742	16,482	135
Benefits	27,236	32,058	4,822	28,447	1,211
Retirement Costs	18,966	20,445	1,479	21,228	2,262
Total Personnel Expenses	**$ 280,553**	**$ 298,756**	**$ 18,203**	**$ 304,676**	**$ 24,123**
Meeting Expenses					
Meetings & Conference Calls	$ -	$ -	$ -	$ -	$ -
Travel	-	-	-	7,120	7,120
Total Meeting Expenses	**$ -**	**$ -**	**$ -**	**$ 7,120**	**$ 7,120**
Operating Expenses, excluding Depreciation					
Consultants & Contracts	$ -	$ -	$ -	$ -	$ -
Office Rent	-	-	-	-	-
Office Costs	-	651	651	2,835	2,835
Professional Services	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Total Operating Expenses	**$ -**	**$ 651**	**$ 651**	**$ 2,835**	**$ 2,835**
Total Direct Expenses	**$ 280,553**	**$ 299,407**	**$ 18,854**	**$ 314,631**	**$ 34,078**
Indirect Expenses	**$ 196,410**	**$ 186,318**	**$ (10,092)**	**$ 198,591**	**$ 2,181**
Other Non-Operating Expenses	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Total Expenses (B)	**$ 476,963**	**$ 485,725**	**$ 8,762**	**$ 513,222**	**$ 36,259**
Change in Net Assets (=A-B)	**$ 10,620**	**$ (470)**	**$ (11,090)**	**$ 16,840**	**$ 6,220**
Fixed Assets, excluding Right of Use Assets (C)	**$ 1,849**	**$ 4,659**	**$ 2,810**	**$ 2,025**	**$ 176**
TOTAL BUDGET (B+C)	**$ 478,812**	**$ 490,384**	**$ 11,572**	**$ 515,247**	**$ 36,435**
TOTAL CHANGE IN WORKING CAPITAL (A-B-C)	**$ 8,771**	**$ (5,129)**	**$ (13,900)**	**$ 14,815**	**$ 6,044**
FTEs	2.0	2.0	-	2.0	-
HC	1.0	1.0	-	2.0	1.0

Corporate Services

Corporate Services (in whole dollars) Direct Expenses and Fixed Assets	2021 Budget	2022 Budget	Increase (Decrease)	FTEs 2021 Budget	FTEs 2022 Budget	Increase (Decrease)
Committee and Member Forums	$ 7,300	$ 47,380	$ 40,080	-	-	-
General and Administrative	$ 5,857,427	$ 5,429,771	$ (427,656)	18.70	17.70	(1.00)
Legal and Regulatory	$ 1,405,140	$ 1,665,035	$ 259,895	7.25	7.75	0.50
Information Technology	$ 2,209,527	$ 2,827,948	$ 618,421	9.00	9.00	-
Human Resources	$ 1,235,141	$ 1,232,199	$ (2,942)	4.00	4.00	-
Accounting and Finance	$ 541,656	$ 588,821	$ 47,165	3.00	3.50	0.50
Total Corporate Services*	$ 11,256,191	$ 11,791,155	$ 534,964	41.95	41.95	-

*WECC's 2022 Corporate Services budget (expenses plus fixed assets) is $11,791,155, of which $702,152 is allocated to non-statutory activities. As a result of the allocation to the non-statutory function, the Corporate Services expenses included in the 2022 statutory budget are $11,089,002, which is a $526,720 increase from the 2021 budget.

Program Scope and Functional Description

Corporate Services encompasses the following program areas and includes all business and administrative functions of the organization:

- Technical Committees and Member Forums;
- General and Administrative;
- Legal and Regulatory;
- Information Technology;
- Human Resources; and
- Finance and Accounting.

These functions are necessary for the existence and operation of the organization and support the performance of statutory activities. This area provides executive leadership; communications and external affairs; and administrative support for staff, committees, and members.

As part of the business planning and budgeting process, NERC and the Regional Entities ensure alignment with the ERO Enterprise Long-Term Strategy and harmonization of business processes and operations across the ERO Enterprise where appropriate. Deliverables in this program area support both the WECC and ERO Enterprise long-term strategies.

Method for Allocation of Corporate Services Expenses to Programs

Corporate Services expenses are allocated to statutory and non-statutory program areas based on FTEs.

Technical Committees and Member Forums

Program Scope and Functional Description

The Standing Committees (OC, MIC, and RAC) and the JGC provide forums for members and other interested stakeholders to identify, assess, and mitigate reliability risks and operating concerns.

2022 Key Budget Assumptions

- The Standing Committees meet three times each year. The Standing Committees meet off site once every other year, in even years. In 2022, two meetings will be hosted in Salt Lake City and one will be hosted off site.
- The SETF recommendations are expected to be brought to the Board in June 2021 and may affect the technical committee structure in 2022. Due to timing, the 2022 budget does not include any budget assumptions related to potential changes. Any technical committee structure changes will be reflected in the 2023 Business Plan and Budget.

2022 Goals and Deliverables

- Support and coordinate the meeting logistics for the Standing Committees.

Resource Requirements/Explanation of Significant Changes

Personnel Expenses

- No significant changes.

Meeting Expenses

- Meetings & Conference Calls increase by $38,000 due to one Standing Committee meeting being held off-site.

Operating Expenses

- No significant changes.

Fixed Assets

- No significant changes.

General and Administrative

Program Scope and Functional Description

The G&A Program provides executive leadership; enterprise security; enterprise risk management; communications; and administrative support for staff, committees, and members; as well as logistics support for the office and meeting facilities. In addition, indirect costs like Office Rent that benefit multiple functional areas are accounted for in this program.

2022 Key Budget Assumptions

- WECC staff will provide the same level of meetings and meeting support as last year for the Board of Directors and Board Committees.
- The Board approved Lake Las Vegas, NV, as the location for the 2022 Annual Meeting.
- Board Directors will be compensated according to the 2022 Board compensation structure.
- The Vancouver office closed in 2021 and the lease was terminated due to an offer from an adjacent tenant.
- One position, vacant due to efficiencies gained, is redeployed to CMEP for a mitigation engineer with a focus on CIP standards.
- 0.5 FTE is transferred to Finance to assist with increased financial and administrative tasks.
- 0.5 FTE is transferred from Legal and Regulatory due to realignment of job responsibilities.

2022 Goals and Deliverables

- Provide strong executive leadership and strategic guidance for WECC's activities, and ensure WECC supports the ERO Enterprise Long-Term Strategy and meets the expectations of the Regional Delegation Agreement.
- Provide excellent support and logistics coordination for the Board and Board committees.
- Continue to enhance the meetings team and stakeholder services groups by identifying efficiencies and opportunities to increase effectiveness.
- Continue to enhance internal and external communications.
- Continue to improve WECC's security posture and programs.

Resource Requirements/Explanation of Significant Changes

Personnel Expenses

- Personnel Expenses decrease by a net of $269,000 primarily due to a net of one position transferred to CMEP, 0.5 FTE transferred to Finance, 0.5 FTE transferred from Legal and Regulatory, a budgeted 3% merit pool, continued refinement of labor float percentages, and the refinement of payroll tax and benefits rates.

Meeting Expenses

- Meetings & Conference Calls decrease by a net of $14,000 primarily to align the Board meeting expense budget with historical spending.
- Travel decreases by a net of $37,000 primarily due to a planned increase in virtual meetings and to align the budget with historical spending for in-person meetings.

Operating Expenses

- Consultants & Contracts decrease by a net of $134,000 primarily due to the elimination of a Board Director search.
- Office Rent decreases by a net of $65,000 primarily due to the closure of the Vancouver office in 2021 and termination of that lease.
- Office Costs increase by a net of $10,000 primarily due to the replacement of aging office furniture.
- Professional Services increase by a net of $83,000 primarily due to an increase in Board Director retainers.

Fixed Assets

- No significant changes.

Legal and Regulatory

Program Scope and Functional Description

The Legal and Regulatory Program provides coordinated legal services and subject matter expertise to the Board, committees, and staff, in addition to consistent legal interpretations of relevant statutes, regulations, court opinions, and regulatory decisions. On occasion, major efforts may be outsourced to select law firms, but the responsibility for all legal matters remains with the Legal and Regulatory Program. WECC's broad scope of activities requires significant legal support and review. Arranging for legal support is complicated by the technical nature of this developing area of law, and there are many potential areas of conflict prohibiting the use of law firms with energy practices.

The Legal and Regulatory program area also includes the External Affairs department, created in 2020. The External Affairs department, along with the Communications and Training and Outreach departments, form the Strategic Engagement group. The Strategic Engagement group is overseen by the Vice President of Strategic Engagement and Deputy General Counsel and focuses on increasing WECC's visibility, relevance, and effectiveness of engagement with stakeholders at all levels—such as, WECC members, industry, advisory bodies, NGOs, consumer advocates, regulators, policymakers, and legislators across the Western Interconnection. Strategic Engagement is also focused on the timely production and dissemination of high-quality analyses addressing reliability and security topics of interest and the importance to decision-makers throughout the Western Interconnection.

2022 Key Budget Assumptions

- The scope of current operations will be maintained.
- One external affairs position is added to Legal and Regulatory as WECC continues to expand stakeholder outreach and education efforts across the West.
- 0.5 FTE is transferred to G&A due to realignment of job responsibilities.
- An increase in virtual meetings will decrease travel expenses.

2022 Goals and Deliverables

- Provide efficient, cost-effective legal support to the Board, committees, and staff through a combination of in-house and outside resources.
- Advise staff on legal matters.
- Coordinate with the ERO Enterprise legal group to identify and share best practices.

- Bolster and expand External Affairs activities to:
  - Appropriately inform executive leadership about key national and Western policy and legislative initiatives;
  - Increase engagement with stakeholders across the West; and
  - Ensure analytical work products are shared in a targeted manner with appropriate audiences.

Resource Requirements/Explanation of Significant Changes

Personnel Expenses

- Personnel Expenses increase by a net of $224,000 primarily due to a new external affairs position, 0.5 FTE transferred to G&A, a budgeted 3% merit pool, continued refinement of labor float percentages, changes in position levels, and the refinement of payroll tax and benefits rates.

Meeting Expenses

- Travel increases by a net of $28,000 primarily due to state and provincial outreach visits by the new Vice President of Strategic Engagement and Deputy General Counsel.

Operating Expenses

- Office Costs increase by a net of $10,000 primarily due to the PolicyStat software subscription, which was implemented in 2021 to increase the effectiveness of policy review, updates, and employee acknowledgements.

Fixed Assets

- No significant changes.

Information Technology

Program Scope and Functional Description

The Information Technology (IT) Program provides systems and security support and expertise. This includes physical security and cybersecurity risk mitigation, as well as support for hardware, software, data, system administration, data center operations, email, and telephony. IT implements new technology solutions using staff and external service providers to improve the security, effectiveness, and efficiency of business processes and operations. IT provides resources and tools to enable the organization to meet evolving requirements in support of its mission and delegated responsibilities.

2022 Key Budget Assumptions

- WECC will increase security capabilities with more authentication controls and enhanced threat monitoring, detection, and reporting tools due to the ever-changing cybersecurity landscape.
- Consultants will be used for project-based work to augment staff skill sets instead of increasing headcount.
- IT will continue to drive long-term levelized costs by obtaining subscription services for software and infrastructure when practical.
- To retain vendor support and to reduce unplanned outages, desktop computer equipment will be replaced every four years, servers every five years, and network equipment every seven to 10 years.
- In support of the ERO Enterprise IT Strategy, IT will continue to work collaboratively to use knowledge across the ERO Enterprise, minimize duplication of effort and investments, and improve operational efficiency.
- Some of the Peak Reliability donation will be used for content management tools to improve data portals, collection, and management.

2022 Goals and Deliverables

- Upgrade and refresh wecc.org.
- Provide enterprise data management and reporting tools, enhanced telephony, and communication capabilities.
- Migrate customer relationship management software to the cloud.
- Create centralized databases, automated processes, and tools to organize a growing volume of electronic data.
- Enhance the capabilities and security controls for mobile devices and remote workers.
- Continuously improve WECC's security program and posture due to the critical nature of some of WECC's data and evolving cybersecurity risks.

Resource Requirements/Explanation of Significant Changes

Personnel Expenses

- Personnel Expenses increase by a net of $48,000 primarily due to a budgeted 3% merit pool, changes in position levels, continued refinement of labor float percentages, and the refinement of payroll tax and benefits rates.

Meeting Expenses

- No significant changes.

Operating Expenses

- Consultants & Contracts increase by a net of $276,000 primarily due to data submission and portal projects, to be funded with the Peak Reliability donation.
- Office Costs increase by a net of $277,000 primarily due to increased subscription-based computer licensing and new enterprise security tools.

Fixed Assets

- Computer & Software CapEx increases by a net of $50,000 primarily due to refreshes of storage drives and blade servers.

Human Resources

Program Scope and Functional Description

The Human Resources (HR) Program is responsible for the delivery of all HR functions, including recruitment, staffing, compensation, benefits, safety, health and wellness, employee relations, career and performance development, succession planning, knowledge transfer, and leadership and employee training. HR maintains and supports employee-related systems and ensures compliance with all federal and state requirements.

2022 Key Budget Assumptions

- Total WECC headcount increases by four FTEs in 2022.
- WECC's current benefit levels are maintained with minimal premium increases.
- Employee skills gaps are minimized through targeted training, development, and hiring practices.
- Targeted recruiting services will be provided to hiring managers to attract and retain high-quality talent.
- Employee engagement and leadership development will continue to be prioritized.

2022 Goals and Deliverables

- Increase the effectiveness of performance management processes through manager training and development.
- Conduct harassment prevention and diversity and inclusion training for all employees and managers.
- Enhance the scope of succession planning and knowledge transfer, which are vital to maintaining a highly skilled, qualified, and diverse workforce.
- Deliver an attractive benefits package to retain current employees and attract potential employees.
- Manage benefits package costs and minimize premium increases.
- Expand recruiting efforts through college campus outreach, social media platforms, and employee referral programs.
- Offer one technical writing course.
- Develop learning plans for employee training using computer-based training modules and classroom training in the NERC Learning Management System.

Resource Requirements/Explanation of Significant Changes

Personnel Expenses

- Personnel Expenses decrease by a net of $11,000 primarily due to adjusted health reimbursement account assumptions, a budgeted 3% merit pool, continued refinement of labor float percentages, and the refinement of payroll tax and benefits enrollment rates.

Meeting Expenses

- No significant changes.

Operating Expenses

- Consultants & Contracts increase by a net of $16,000 primarily due to an employee engagement survey.
- Office Costs decrease by $13,000 primarily to align recruiting costs with current recruiting efforts.

Fixed Assets

- No significant changes.

Finance and Accounting

Program Scope and Functional Description

The Finance and Accounting Program provides accounting and financial analysis support. The program is responsible for payroll, accounts payable, accounts receivable, budgeting, fixed assets management, banking, cash management, tax filings, and financial reporting.

2022 Key Budget Assumptions

- Interest rates remain flat.
- 0.5 FTE is transferred from G&A to assist with financial and administrative tasks.

2022 Goals and Deliverables

- Help departments efficiently and effectively manage resources and operate within approved budgets.
- Identify and implement efficiencies in financial processes.
- Ensure WECC has effective financial controls.
- Provide quality reporting and financial analysis to managers, the FAC, and the Board.
- Maintain secure and reliable cloud-based software.

Resource Requirements/Explanation of Significant Changes

Personnel Expenses

- Personnel Expenses increase by a net of $48,000 primarily due to a 0.5 FTE transferred from G&A, a budgeted 3% merit pool, continued refinement of labor float percentages, and the refinement of payroll tax and benefits rates.

Meeting Expenses

- No significant changes.

Operating Expenses

- No significant changes.

Fixed Assets

- No significant changes.

Corporate Services Funding Sources and Expenditures

Statement of Activities, Fixed Assets Expenditures, and Change in Working Capital 2021 Budget & Projection, and 2022 Budget CORPORATE SERVICES	2021 Budget	2021 Projection	Variance 2021 Budget v 2021 Projection Over(Under)	2022 Budget	Variance 2022 Budget v 2021 Budget Inc(Dec)
Revenue					
Statutory Funding					
WECC Assessments	$ -	$ -	$ -	$ -	$ -
Penalties Released	-	-	-	-	-
Total Statutory Funding	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Membership Fees	$ -	$ -	$ -	$ -	$ -
Workshops & Miscellaneous	-	-	-	-	-
Interest	-	-	-	-	-
Total Revenue (A)	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Expenses					
Personnel Expenses					
Salaries	$ 5,006,363	$ 4,820,703	$ (185,660)	$ 4,949,493	$ (56,870)
Payroll Taxes	288,761	279,424	(9,337)	311,823	23,062
Benefits	1,004,303	995,169	(9,134)	1,037,438	33,135
Retirement Costs	425,027	365,275	(59,752)	466,470	41,443
Total Personnel Expenses	**$ 6,724,454**	**$ 6,460,571**	**$ (263,883)**	**$ 6,765,224**	**$ 40,770**
Meeting Expenses					
Meetings & Conference Calls	$ 125,650	$ 97,784	$ (27,866)	$ 151,422	$ 25,772
Travel	252,804	99,635	(153,169)	239,422	(13,382)
Total Meeting Expenses	**$ 378,454**	**$ 197,419**	**$ (181,035)**	**$ 390,844**	**$ 12,390**
Operating Expenses, excluding Depreciation					
Consultants & Contracts	$ 638,500	$ 581,355	$ (57,145)	$ 796,500	$ 158,000
Office Rent	1,372,346	1,343,760	(28,586)	1,306,912	(65,434)
Office Costs	1,081,637	1,242,180	160,543	1,367,675	286,038
Professional Services	955,800	1,032,419	76,619	1,045,000	89,200
Miscellaneous	-	-	-	-	-
Total Operating Expenses	**$ 4,048,283**	**$ 4,199,714**	**$ 151,431**	**$ 4,516,087**	**$ 467,804**
Total Direct Expenses	**$ 11,151,191**	**$ 10,857,704**	**$ (293,487)**	**$ 11,672,155**	**$ 520,964**
Indirect Expenses	**$ (11,151,191)**	**$ (10,857,704)**	**$ 293,487**	**$ (11,672,155)**	**$ (520,964)**
Other Non-Operating Expenses	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Total Expenses (B)	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Change in Net Assets (=A-B)	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Fixed Assets, excluding Right of Use Assets (C)	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
TOTAL BUDGET (B+C)	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
TOTAL CHANGE IN WORKING CAPITAL (A-B-C)	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
FTEs	42.0	40.5	(1.5)	42.0	-
HC	43.0	42.0	(1.0)	43.0	-

Section B

Supplemental Financial Information

Section B—Supplemental Financial Information

Reserve Analysis

Table B-1

Working Capital Reserve Analysis 2021-2022
STATUTORY

	Total	Working Capital Reserve	Unreleased Penalties	Peak Reliability Donation
Beginning Reserve, January 1, 2021	$ 18,303,226	$ 8,133,832	$ 6,342,000	$ 3,827,394
Plus: 2021 Funding (from Load-Serving Entities (LSE) or designees)	25,000,000	25,000,000	-	-
Plus: Penalties released	-	3,499,000	(3,499,000)	-
Plus: Penalties received	2,455,000	-	2,455,000	-
Plus: 2021 Other funding sources	300,500	300,500	-	-
Less: 2021 Projected expenses & capital expenditures	(28,522,910)	(28,522,910)	-	-
Projected Reserve (Deficit), December 31, 2021	**$ 17,535,816**	**$ 8,410,422**	**$ 5,298,000**	**$ 3,827,394**
Plus: 2022 Funding (from Load-Serving Entities (LSE) or designees)	25,000,000	25,000,000	-	-
Plus: Penalties released	-	5,298,000	(5,298,000)	-
Plus: 2022 Other funding sources	304,201	304,201	-	-
Less: 2022 Projected expenses & capital expenditures	(29,746,899)	(29,346,899)	-	(400,000)
2022 Increase(Decrease) in Reserve	**$ (4,442,698)**	**$ 1,255,302**	**$ (5,298,000)**	**$ (400,000)**
Projected Reserve, December 31, 2022	**$ 13,093,118**	**$ 9,665,724**	**$ -**	**$ 3,427,394**
2022 Expenses and Capital Expenditures	$ 29,746,899			
Less: Penalties Released	(5,298,000)			
Less: Other Funding Sources	(304,201)			
Change to Working Capital & Peak Reliability Donation Reserves	855,302			
2022 WECC Assessment	**$ 25,000,000**			

WECC's Board has approved a Working Capital Reserve balance equal to one to three months of Personnel, Meeting, and Operating Expenses per its Reserve Policy, approved by the FAC on June 16, 2020.

Breakdown of Statement of Activities

The following detailed schedules are in support of the Statutory Statement of Activities and Capital Expenditures on page 12.

Monetary Penalties

As documented in the NERC Policy *Accounting, Financial Statement and Budgetary Treatment of Penalties Imposed and Received for Violations of Reliability Standards*, penalty monies received on or before June 30, 2021, will be used to offset assessments in the 2022 WECC budget.

All penalty monies received on or before June 30, 2021, are listed in Table B-2, including the amount and the date received.

Allocation Method: Penalty monies received have been allocated to the following Statutory Programs to reduce assessments:

- Reliability Standards;
- Compliance Monitoring and Enforcement and Organization Registration and Certification;
- Reliability Assessment and Performance Analysis;
- Training and Outreach; and
- Situation Awareness and Infrastructure Security.

Penalty monies are allocated based on the number of FTEs in the functional areas divided by the aggregate total FTEs in the programs receiving the allocation.

Penalty Sanctions

Table B-2

Penalty Information				Recognized in Financial Statements (Year)		
Date Invoiced	Amount Invoiced	Date Received	Amount Received	2019	2020	2021
10/1/2019	2,180,000	8/27/2020	2,180,000	2,180,000		
7/2/2020	112,000	8/6/2020	112,000		112,000	
1/21/2021	450,000	2/19/2021	450,000		450,000	
1/21/2021	53,000	2/23/2021	53,000		53,000	
1/21/2021	22,000	2/24/2021	22,000		22,000	
1/21/2021	26,000	3/18/2021	26,000		26,000	
4/19/2021	205,000	5/19/2021	205,000			205,000
6/7/2021	50,000	6/24/2021	50,000			50,000
6/30/2021	2,200,000	6/30/2021	2,200,000			2,200,000
	5,298,000		5,298,000	2,180,000	663,000	2,455,000

Total Penalties Received between July 1, 2020 and June 30, 2021 to offset 2022 Assessments **5,298,000**

Supplemental Funding

Table B-3

Supplemental Revenue Breakdown By Program (Excludes Assessments & Penalty Sanctions)	Budget 2021	Projection 2021	Budget 2022	Variance 2021 Budget v 2022 Budget
Reliability Standards				
Interest	$ 5,631	$ 2,139	$ 2,972	$ (2,659)
Total	$ 5,631	$ 2,139	$ 2,972	$ (2,659)
Compliance Monitoring, Enforcement & Org. Registration				
Interest	$ 117,785	$ 46,874	$ 67,107	$ (50,678)
Total	$ 117,785	$ 46,874	$ 67,107	$ (50,678)
Reliability Assessment and Performance Analysis				
Interest	$ 70,014	$ 26,592	$ 35,460	$ (34,554)
Total	$ 70,014	$ 26,592	$ 35,460	$ (34,554)
Training and Outreach				
Workshops & Miscellaneous	$ 430,000	$ 222,400	$ 194,700	$ (235,300)
Interest	2,816	1,069	1,981	(835)
Total	$ 432,816	$ 223,469	$ 196,681	$ (236,135)
Situation Awareness and Infrastructure Security				
Interest	$ 3,754	$ 1,426	$ 1,981	$ (1,773)
Total	$ 3,754	$ 1,426	$ 1,981	$ (1,773)
Corporate Services				
Interest	$ -	$ -	$ -	$ -
Total	$ -	$ -	$ -	$ -
Total Supplemental Funding	**$ 630,000**	**$ 300,500**	**$ 304,201**	**$ (325,799)**

Explanation of Significant Variances—2022 Budget versus 2021 Budget

WECC anticipates its investments will earn interest of approximately $110,000 in 2022. This revenue is allocated to the Statutory Programs based on FTEs.

Reliability Standards

- No significant changes.

Compliance Monitoring and Enforcement and Organization Registration and Certification

- No significant changes.

Reliability Assessment and Performance Analysis

- No significant changes.

Training and Outreach

- Workshops & Miscellaneous decreases by a net of $235,000 primarily due to the conversion of one Reliability and Security Workshop to a virtual format.

Situation Awareness and Infrastructure Security

- No significant changes.

Corporate Services

- No significant changes.

Personnel Expenses

Table B-4

Personnel Expenses	Budget 2021	Projection 2021	Budget 2022	Variance 2021 Budget v 2022 Budget	Variance %
Salaries					
Salaries	$ 17,424,448	$ 18,054,768	$ 18,388,644	$ 964,196	5.5%
Employment Agency Fees	23,000	11,500	23,000	-	100.0%
Temporary Office Services	-	-	-	-	
Total Salaries	$ 17,447,448	$ 18,066,268	$ 18,411,644	$ 964,196	5.5%
Total Payroll Taxes	$ 1,144,116	$ 1,238,873	$ 1,217,683	$ 73,567	6.4%
Benefits					
Workers Compensation	$ 17,904	$ 13,896	$ 16,000	$ (1,904)	(10.6%)
Medical Insurance	2,072,704	2,129,705	2,298,657	225,953	10.9%
Life-LTD-STD Insurance	105,761	83,675	98,165	(7,596)	(7.2%)
Education	172,439	179,452	173,249	810	0.5%
Relocation	-	-	-	-	
Other	22,145	21,405	19,500	(2,645)	(11.9%)
Total Benefits	$ 2,390,953	$ 2,428,133	$ 2,605,571	$ 214,618	9.0%
Retirement					
Discretionary 401(k) Contribution	$ 1,499,399	$ 1,533,345	$ 1,633,608	$ 134,209	9.0%
Retirement Administration Fees	-	1,000	30,000	30,000	100.0%
Total Retirement	$ 1,499,399	$ 1,534,345	$ 1,663,608	$ 164,209	11.0%
Total Personnel Costs	$ 22,481,916	$ 23,267,619	$ 23,898,506	$ 1,416,590	6.3%
FTEs	148.5	148.5	152.5	4.0	2.7%
Cost per FTE					
Salaries	$ 117,491	$ 121,658	$ 120,732	$ 3,241	2.8%
Payroll Taxes	7,704	8,343	7,985	280	3.6%
Benefits	16,101	16,351	17,086	985	6.1%
Retirement	10,097	10,332	10,909	812	8.0%
Total Cost per FTE	**$ 151,393**	**$ 156,684**	**$ 156,712**	**$ 5,318**	**3.5%**

Explanation of Significant Variances—2022 Budget versus 2021 Budget

Salaries

- Salaries increase by a net of $964,000 primarily due to 4.0 additional FTEs, a budgeted 3% merit pool, continued refinement of labor float percentages, and changes in position levels.

Payroll Taxes

- Payroll Taxes increase by a net of $74,000 primarily due to increases in salaries.

Benefits

- Medical Insurance increases by a net of $226,000 primarily due to additional FTEs and changes in participation levels.

Retirement

- Discretionary 401(k) Contribution increases by a net of $134,000 primarily due to increases in salaries.
- Retirement Administration Fees increase by $30,000 due to the exhaustion of the 401(k) plan's forfeiture account, which was historically used to cover administration fees.

Meeting Expenses

Table B-5

Meeting & Conference Call Expense	Budget 2021	Projection 2021	Budget 2022	Variance 2021 Budget v 2022 Budget	Variance %
Reliability Standards	$ -	$ -	$ -	$ -	
Compliance Monitoring and Enforcement and Organization Registration and Certification	3,380	1,100	-	(3,380)	(100.0%)
Reliability Assessment and Performance Analysis	45,180	13,955	29,476	(15,704)	(34.8%)
Training and Outreach	410,980	206,740	277,146	(133,834)	(32.6%)
Situation Awareness and Infrastructure Security	-	-	-	-	
Corporate Services	125,650	97,784	151,422	25,772	20.5%
Total Meeting Expenses	**$ 585,190**	**$ 319,579**	**$ 458,044**	**$ (127,146)**	**(21.7%)**

Travel Expense	Budget 2021	Projection 2021	Budget 2022	Variance 2021 Budget v 2022 Budget	Variance %
Reliability Standards	$ 17,550	$ 3,921	$ 13,065	$ (4,485)	(25.6%)
Compliance Monitoring and Enforcement and Organization Registration and Certification	654,743	32,640	357,990	(296,753)	(45.3%)
Reliability Assessment and Performance Analysis	210,070	56,810	148,062	(62,008)	(29.5%)
Training and Outreach	11,720	8,900	6,995	(4,725)	(40.3%)
Situation Awareness and Infrastructure Security	-	-	7,120	7,120	100.0%
Corporate Services	252,804	99,635	239,422	(13,382)	(5.3%)
Total Travel Expenses	**$ 1,146,887**	**$ 201,906**	**$ 772,654**	**$ (374,233)**	**(32.6%)**

Explanation of Significant Variances—2022 Budget versus 2021 Budget

Meeting & Conference Call Expense

- Reliability Assessment and Performance Analysis decreases by $16,000 primarily due to planned increases in virtual meetings.
- Training and Outreach decreases by $134,000 primarily due to the conversion of one Reliability and Security Workshop to a virtual format.
- Corporate Services increases by a net of $26,000 primarily due to one set of Standing Committee meetings being held off site.

Travel Expense

- CMEP decreases by a net of $297,000 primarily due to planned reductions in travel requirements for audit teams and support staff and a planned increase in virtual meetings.
- RAPA decreases by a net of $62,000 primarily due to a planned increase in virtual meetings.

- Corporate Services decreases by a net of $13,000 primarily due to one set of Standing Committee meetings being off-site, a planned increase in virtual meetings, and to align the budget with historical spending.

Consultants and Contracts

Table B-6

Consultants	Budget 2021	Projection 2021	Budget 2022	Variance 2021 Budget v 2022 Budget	Variance %
Consultants					
Reliability Standards	$ -	$ -	$ -	$ -	
Compliance Monitoring and Enforcement and Organization Registration and Certification	-	42,000	-	-	
Reliability Assessment and Performance Analysis	350,000	285,663	208,100	(141,900)	(40.5%)
Training and Outreach	-	-	-	-	
Situation Awareness and Infrastructure Security	-	-	-	-	
Corporate Services	638,500	578,267	796,500	158,000	24.7%
Consultants Total	$ 988,500	$ 905,930	$ 1,004,600	$ 16,100	1.6%

Contracts	Budget 2021	Projection 2021	Budget 2022	Variance 2021 Budget v 2022 Budget	Variance %
Contracts					
Reliability Standards	$ -	$ -	$ -	$ -	
Compliance Monitoring and Enforcement and Organization Registration and Certification	-	-	-	-	
Reliability Assessment and Performance Analysis	-	-	-	-	
Training and Outreach	-	-	-	-	
Situation Awareness and Infrastructure Security	-	-	-	-	
Corporate Services	-	3,088	-	-	
Contracts Total	$ -	$ 3,088	$ -	$ -	
Total Consulting and Contracts	**$ 988,500**	**$ 909,018**	**$ 1,004,600**	**$ 16,100**	1.6%

Explanation of Significant Variances—2022 Budget versus 2021 Budget

Consultants

- RAPA decreases by a net of $142,000 primarily due to the completion of one-time 2021 study work and the addition of MAVRIC probabilistic tool updates.
- Corporate Services increases by a net of $158,000 primarily due to the addition of content management tools to enhance data portals, collection, and management to be funded with the Peak Reliability donation.

Contracts

- No significant changes.

Office Rent

Table B-7

Office Rent	Budget 2021	Projection 2021	Budget 2022	Variance 2021 Budget v 2022 Budget	Variance %
Office Rent	$ 1,352,640	$ 1,329,070	$ 1,293,336	$ (59,304)	(4.4%)
Utilities	-	-	-	-	
Maintenance	19,706	14,690	13,576	(6,130)	(31.1%)
Security	-	-	-	-	
Total Office Rent	**$ 1,372,346**	**$ 1,343,760**	**$ 1,306,912**	**$ (65,434)**	**(4.8%)**

Explanation of Significant Variances—2022 Budget versus 2021 Budget

- Office Rent decreases by $59,000 due to the closure of the Vancouver office in 2021 and the resulting lease termination.

Office Costs

Table B-8

Office Costs	Budget 2021	Projection 2021	Budget 2022	Variance 2021 Budget v 2022 Budget	Variance %
Telephone	$ 80,200	$ 75,674	$ 91,100	$ 10,900	13.6%
Internet	69,198	77,651	82,992	13,794	19.9%
Office Supplies	91,036	72,046	75,613	(15,423)	(16.9%)
Computer Supplies and Maintenance	951,395	1,171,948	1,092,854	141,459	14.9%
Publications & Subscriptions	55,589	77,201	61,314	5,725	10.3%
Dues and Fees	282,905	230,234	312,699	29,794	10.5%
Postage	1,500	1,047	1,500	-	0.0%
Express Shipping	6,725	6,728	5,722	(1,003)	(14.9%)
Copying	19,826	13,587	18,316	(1,510)	(7.6%)
Bank Charges	55,725	53,200	51,225	(4,500)	(8.1%)
Taxes	49,200	56,281	51,000	1,800	3.7%
Total Office Costs	**$ 1,663,299**	**$ 1,835,597**	**$ 1,844,335**	**$ 181,036**	**10.9%**

Explanation of Significant Variances—2022 Budget versus 2021 Budget

- Telephone increases by a net of $11,000 primarily due to the realignment of budgeted amounts with current line usage and activity.
- Internet increases by $14,000 primarily due to increased bandwidth requirements for cloud-based applications and remote access to WECC's systems.
- Office Supplies decrease by $15,000 primarily due to the realignment of budgeted office expenses with historical spending and the elimination of the Vancouver copier lease due to the office closure.
- Computer Supplies and Maintenance increases by a net of $141,000 primarily due to the increase in subscription-based security tools and software and a reduction in webCDMS licensing fees due to the implementation of the Align tool.
- Dues and Fees increase by $30,000 primarily due to increased enterprise security costs and internal and external network penetration tests.

Professional Services

Table B-9

Professional Services	Budget 2021	Projection 2021	Budget 2022	Variance 2021 Budget v 2022 Budget	Variance %
Board Director Fees	$ 828,000	$ 884,000	$ 911,000	$ 83,000	10.0%
Outside Legal	-	25,405	-	-	
Accounting & Auditing Fees	32,800	31,500	41,000	8,200	25.0%
Insurance Commercial	95,000	101,427	93,000	(2,000)	(2.1%)
Total Services	**$ 955,800**	**$ 1,042,332**	**$ 1,045,000**	**$ 89,200**	**9.3%**

Explanation of Significant Variances—2022 Budget versus 2021 Budget

- Board Director Fees increase by a net of $83,000 primarily due to increases in Board Director retainers.

Miscellaneous Expenses

Table B-10

Miscellaneous Expenses	Budget 2021	Projection 2021	Budget 2022	Variance 2021 Budget v 2022 Budget	Variance %
Miscellaneous	$ -	$ -	$ -	$ -	
Total Micellaneous Expenses	**$ -**	**$ -**	**$ -**	**$ -**	

Explanation of Significant Variances—2022 Budget versus 2021 Budget

- Not applicable.

Other Non-Operating

Table B-11

Other Non-Operating Expenses	Budget 2021	Projection 2021	Budget 2022	Variance 2021 Budget v 2022 Budget	Variance %
Interest Expense	$ -	$ -	$ -	$ -	
Line of Credit Payment	-	-	-	-	
Office Relocation	-	-	-	-	
Total Non-Operating Expenses	**$ -**	**$ -**	**$ -**	**$ -**	

Explanation of Significant Variances—2022 Budget versus 2021 Budget

- Not applicable.

Fixed Assets

Table B-12

Fixed Assets	Budget 2021	Projection 2021	Budget 2022	Variance 2021 Budget v 2022 Budget	Variance %
Computer & Software CapEx	$ 55,000	$ -	$ -	$ (55,000)	(100.0%)
Furniture & Fixtures CapEx	-	-	-	-	
Equipment CapEx	50,000	115,588	119,000	69,000	138.0%
Leasehold Improvements	-	139,625	-	-	
	$ 105,000	**$ 255,213**	**$ 119,000**	**$ 14,000**	**13.3%**

Explanation of Significant Variances—2022 Budget versus 2021 Budget

- Computer & Software CapEx decreases by a net of $55,000 primarily due to completed planned 2021 equipment refreshes.
- Equipment CapEx increases by a net of $69,000 primarily due to refreshes of storage arrays, drives, and blade servers.

Section C

Non-Statutory Program

Section C—Non-Statutory Program

Western Renewable Energy Generation Information System (in whole dollars)	2021 Budget	2022 Budget	Increase (Decrease)
Total FTEs	7.0	7.0	-
Direct Expenses	$ 1,334,685	$ 1,359,383	$ 24,698
Indirect Expenses	$ 687,436	$ 695,066	$ 7,630
Inc(Dec) in Fixed Assets	$ 6,473	$ 682,086	$ 675,613
Total Funding Requirement	$ 599,238	$ (437,693)	$ (1,036,931)

WREGIS

The Western Renewable Energy Generation Information System (WREGIS) is an independent, renewable energy database for the Western Interconnection. WREGIS creates renewable energy certificates (REC) for verifiable renewable generation from units that are registered in the database.

WREGIS was developed by the Western Governors' Association, the Western Regional Air Partnership, and the California Energy Commission (CEC). This development was further guided by stakeholder input from more than 400 participants for more than three years.

The program was integrated into WECC on March 31, 2012, following the expiration of the contract between WECC and the CEC that provided for backstop funding. WREGIS is advised by two committees: 1) the Stakeholder Advisory Committee, which is open to all interested participants, and 2) the WREGIS Committee, which is open to members and various stakeholder groups.

WREGIS costs fall outside Section 215 of the Federal Power Act. Participants fund WREGIS through registration and transaction fees. To avoid any crossover of Section 215 dollars, a portion of WECC's overhead costs are allocated to the program based on a formula implemented following a FERC audit.

WREGIS consists of two parts: 1) the information system software, and 2) administrative operations. Staff coordinates with the software contractor and performs all the administrative tasks, including:

- Registering account holders and generation units;
- Training users;
- Providing customer service and help desk services;
- Supporting participating programs by facilitating cooperation and research into ongoing issues and sharing documentation with participants;
- Auditing generation and other data; and
- Managing the budgeting, billing, and financial reporting.

2022 Key Budget Assumptions

WREGIS is funded entirely by user fees and is not subsidized by Section 215 funding. There are several types of user fees. Annual fees are paid by all users and are based on size (generation capacity) and user type. Usage fees are paid by all but micro, small, and medium generation owners. WREGIS also charges ad hoc reporting fees.

- User fees are based on size (generation capacity) and user type.
  - Approximately 4% of revenues are based on annual fees.
  - Approximately 92% of revenues are based on usage fees, which can depend on factors like weather (wind and solar generation levels) and state regulatory policies (retirement, transfers, etc.).
  - Approximately 4% of revenues are attributable to fees for specific, requested functions like tracking e-Tags.
- Revenues can vary greatly from year to year; therefore, large WREGIS reserves are held to allow for normal operations during years in which fee levels are low and to fund large, non-recurring expenditures like major software upgrades.
- The software will undergo a major upgrade to improve functionality and performance of the WREGIS software.
- Account holder training sessions will be changed to a virtual format.

2022 Goals and Key Deliverables

- Maintain compliance with the participating state and provincial programs, and voluntary programs.
- Register program participants.
- Perform a major upgrade to the WREGIS software.
- Refine and improve data collection to ensure high-quality data.
- Perform six tabletop account holder audits split between Qualified Reporting Entities and Small Scale Aggregate customers.
- Deliver two virtual account holder training series and one virtual Qualified Reporting Entity training session.

Resource Requirements/Explanation of Significant Changes

Funding Sources

- Membership Fees decrease by a net of $278,000 primarily due to an anticipated increase in program participation and the alignment of the budget with historical activity-based revenues.
- Interest decreases by $51,000 primarily due to low rates of return on investments.

Personnel Expenses

- Personnel Expenses increase by a net of $18,000 primarily due to a budgeted 3% merit pool, continued refinement of labor float percentages, and the refinement of payroll tax and benefits rates.

Meeting Expenses

- No significant changes.

Operating Expenses

- Office Costs increase by $17,000 primarily due to increased maintenance expenses for the WREGIS software.

Indirect Expenses

- Indirect Expenses increase by a net of $9,000 primarily due to an increase in Corporate Services expenses. Corporate Services expenses are allocated to statutory and non-statutory program areas based on FTEs.

Fixed Assets

- Fixed Assets increase by a net of $676,000 primarily due to a major software upgrade to the WREGIS software and fixed asset additions in Corporate Services. Corporate Services expenses are allocated to statutory and non-statutory program areas based on FTEs.

Other Non-Operating Expenses

- No significant changes.

WREGIS Program Funding Sources and Expenditures

Statement of Activities, Fixed Assets Expenditures, and Change in Working Capital 2021 Budget & Projection, and 2022 Budget NON-STATUTORY	2021 Budget	2021 Projection	Variance 2021 Budget v 2021 Projection Over(Under)	2022 Budget	Variance 2022 Budget v 2021 Budget Inc(Dec)
Revenue					
Statutory Funding					
WECC Assessments	$ -	$ -	$ -	$ -	$ -
Penalties Released	-	-	-	-	-
Total Statutory Funding	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Membership Fees	$ 2,505,324	$ 2,537,231	$ 31,907	2,226,842	$ (278,482)
Workshops & Miscellaneous	-	-	-	-	-
Interest	122,508	13,049	(109,459)	72,000	(50,508)
Total Revenue (A)	**$ 2,627,832**	**$ 2,550,280**	**$ (77,552)**	**$ 2,298,842**	**$ (328,990)**
Expenses					
Personnel Expenses					
Salaries	$ 565,316	$ 577,501	$ 12,185	$ 575,261	$ 9,945
Payroll Taxes	39,506	39,671	165	38,580	(926)
Benefits	87,467	82,319	(5,148)	94,874	7,407
Retirement Costs	49,109	49,889	780	51,123	2,014
Total Personnel Expenses	**$ 741,398**	**$ 749,380**	**$ 7,982**	**$ 759,838**	**$ 18,440**
Meeting Expenses					
Meetings & Conference Calls	$ 4,620	$ 2,310	$ (2,310)	$ 1,485	$ (3,135)
Travel	17,160	880	(16,280)	9,975	(7,185)
Total Meeting Expenses	**$ 21,780**	**$ 3,190**	**$ (18,590)**	**$ 11,460**	**$ (10,320)**
Operating Expenses, excluding Depreciation					
Consultants & Contracts	$ -	$ 1,350	$ 1,350	$ -	$ -
Office Rent	-	-	-	-	-
Office Costs	571,507	558,923	(12,584)	588,085	16,578
Professional Services	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Total Operating Expenses	**$ 571,507**	**$ 560,273**	**$ (11,234)**	**$ 588,085**	**$ 16,578**
Total Direct Expenses	**$ 1,334,685**	**$ 1,312,843**	**$ (21,842)**	**$ 1,359,383**	**$ 24,698**
Indirect Expenses	**$ 687,436**	**$ 652,113**	**$ (35,323)**	**$ 695,066**	**$ 7,630**
Other Non-Operating Expenses	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Total Expenses (B)	**$ 2,022,121**	**$ 1,964,956**	**$ (57,165)**	**$ 2,054,449**	**$ 32,328**
Change in Net Assets (=A-B)	**$ 605,711**	**$ 585,324**	**$ (20,387)**	**$ 244,393**	**$ (361,318)**
Fixed Assets, excluding Right of Use Assets (C)	**$ 6,473**	**$ 16,308**	**$ 9,835**	**$ 682,086**	**$ 675,613**
TOTAL BUDGET (=B+C)	**$ 2,028,594**	**$ 1,981,264**	**$ (47,330)**	**$ 2,736,535**	**$ 707,941**
TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)	**$ 599,238**	**$ 569,016**	**$ (30,222)**	**$ (437,693)**	**$ (1,036,931)**
FTEs	7.0	7.0	-	7.0	-
HC	7.0	7.0	-	7.0	-

Personnel Analysis

FTEs are defined as full-time equivalent employees only. Fractional FTEs reflect part-time employees or employees who worked in fewer than all four quarters of the year.

Total FTEs by Program Area	Budget 2021	Projection 2021	Direct FTEs 2022 Budget	Shared FTEs* 2022 Budget	Total FTEs 2022 Budget	Change from 2021 Budget
NON-STATUTORY						
Operational Programs						
Total FTEs Operational Programs	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Administrative Programs						
WREGIS	7.0	7.0	7.0	0.0	7.0	0.0
Total FTEs Administrative Programs	**7.0**	**7.0**	**7.0**	**0.0**	**7.0**	**0.0**
Total FTEs	**7.0**	**7.0**	**7.0**	**0.0**	**7.0**	**0.0**

*A shared FTE is defined as an employee who performs both Statutory and Non-Statutory functions.

Reserve Analysis

Working Capital Reserve Analysis

NON-STATUTORY

		Total
Beginning Reserve (Deficit), January 1, 2021	$	8,221,755
Plus: 2021 Funding		2,550,280
Less: 2021 Projected expenses & capital expenditures		(1,981,264)
Projected Working Capital Reserve (Deficit), December 31, 2021	**$**	**8,790,771**
Plus: 2022 Funding		2,298,842
Less: 2022 Projected expenses & capital expenditures		(2,736,535)
Projected Working Capital Reserve, December 31, 2022	**$**	**8,353,078**

Section D

Additional Financial Information

Section D—Additional Financial Information

2022 Consolidated Statement of Activities by Program, Statutory, and Non-Statutory

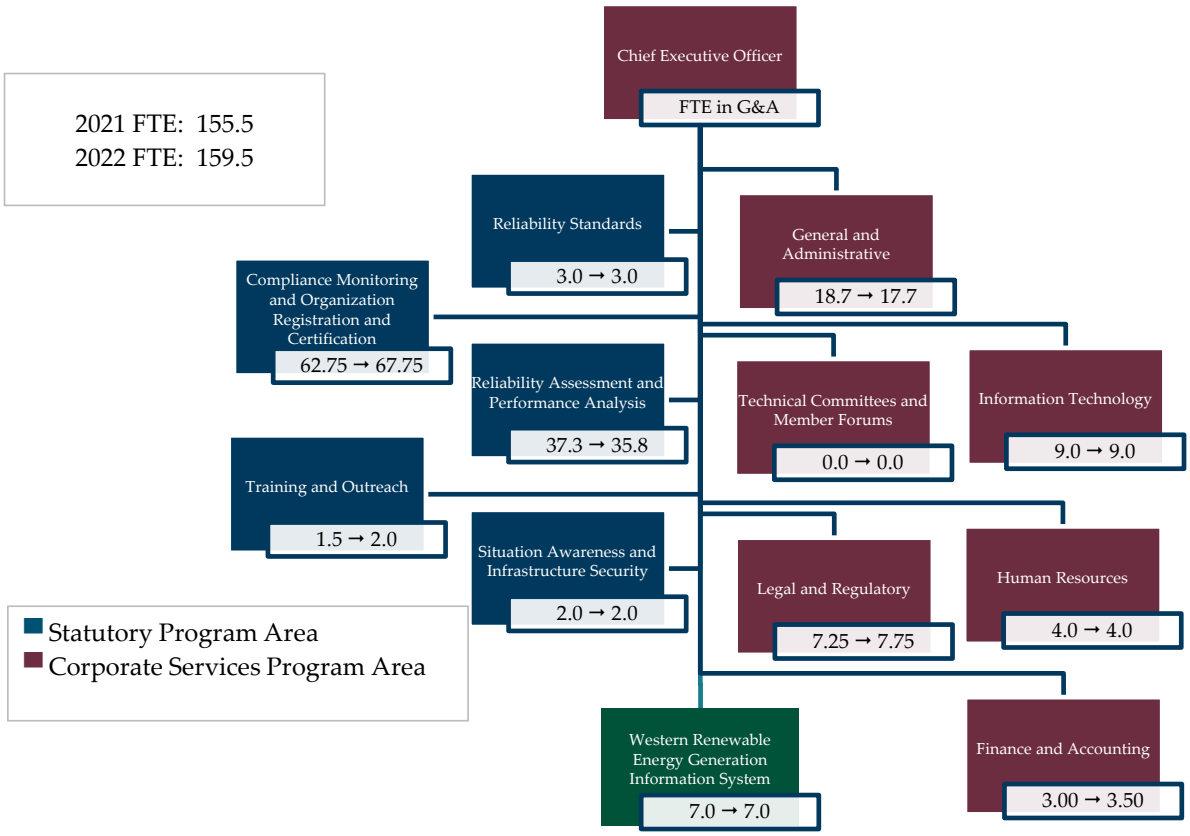
				Statutory Functions							Non-Statutory Functions	
Statement of Activities and Capital Expenditures by Program	Total	Statutory Total	Non-Statutory Total	Statutory Total	Reliability Standards	Compliance and Organization Registration and Certification	Reliability Assessment and Performance Analysis	Training and Outreach	Situation Awareness and Infrastructure Security	Corporate Services	Non-Statutory Total	WREGIS
Revenue												
Statutory Funding												
WECC Assessments	$ 25,000,000	$ 25,000,000	$ -	$ 25,000,000	$ 764,248	$ 14,926,708	$ 8,333,059	$ 543,752	$ 432,233	$ -	$ -	$ -
Penalties Released	5,298,000	5,298,000	-	5,298,000	143,772	3,246,852	1,715,680	95,848	95,848	-	-	-
Total Statutory Funding	**$ 30,298,000**	**$ 30,298,000**	**$ -**	**$ 30,298,000**	**$ 908,020**	**$ 18,173,560**	**$ 10,048,739**	**$ 639,600**	**$ 528,081**	**$ -**	**$ -**	**$ -**
Non-statutory Funding	$ 2,226,842	$ -	$ 2,226,842	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,226,842	$ 2,226,842
Workshops & Miscellaneous	194,700	194,700	-	194,700	-	-	-	194,700	-	-	-	-
Interest	181,501	109,501	72,000	109,501	2,972	67,107	35,460	1,981	1,981	-	72,000	72,000
Total Revenue (A)	**$ 32,901,043**	**$ 30,602,201**	**$ 2,298,842**	**$ 30,602,201**	**$ 910,992**	**$ 18,240,667**	**$ 10,084,199**	**$ 836,281**	**$ 530,062**	**$ -**	**$ 2,298,842**	**$ 2,298,842**
Expenses												
Personnel Expenses												
Salaries	$ 18,986,905	$ 18,411,644	$ 575,261	$ 18,411,644	$ 454,624	$ 8,152,114	$ 4,381,226	$ 235,668	$ 238,519	$ 4,949,493	$ 575,261	$ 575,261
Payroll Taxes	1,256,263	1,217,683	38,580	1,217,683	30,150	550,760	292,557	15,911	16,482	311,823	38,580	38,580
Benefits	2,700,445	2,605,571	94,874	2,605,571	42,770	953,931	512,784	30,201	28,447	1,037,438	94,874	94,874
Retirement Costs	1,714,731	1,663,608	51,123	1,663,608	40,461	724,861	389,613	20,974	21,228	466,470	51,123	51,123
Total Personnel Expenses	$ 24,658,344	$ 23,898,506	$ 759,838	$ 23,898,506	$ 568,005	$ 10,381,666	$ 5,576,180	$ 302,754	$ 304,676	$ 6,765,224	$ 759,838	$ 759,838
Meeting Expenses												
Meetings & Conference Calls	$ 459,529	$ 458,044	$ 1,485	$ 458,044	$ -	$ -	$ 29,476	$ 277,146	$ -	$ 151,422	$ 1,485	$ 1,485
Travel	782,629	772,654	9,975	772,654	13,065	357,990	148,062	6,995	7,120	239,422	9,975	9,975
Total Meeting Expenses	$ 1,242,158	$ 1,230,698	$ 11,460	$ 1,230,698	$ 13,065	$ 357,990	$ 177,538	$ 284,141	$ 7,120	$ 390,844	$ 11,460	$ 11,460
Operating Expenses, excluding Depreciation												
Consultants & Contracts	$ 1,004,600	$ 1,004,600	$ -	$ 1,004,600	$ -	$ -	$ 208,100	$ -	$ -	$ 796,500	$ -	$ -
Office Rent	1,306,912	1,306,912	-	1,306,912	-	-	-	-	-	1,306,912	-	-
Office Costs	2,432,420	1,844,335	588,085	1,844,335	3,540	195,362	249,525	25,398	2,835	1,367,675	588,085	588,085
Professional Services	1,045,000	1,045,000	-	1,045,000	-	-	-	-	-	1,045,000	-	-
Miscellaneous	-	-	-	-	-	-	-	-	-	-	-	
Total Operating Expenses	$ 5,788,932	$ 5,200,847	$ 588,085	$ 5,200,847	$ 3,540	$ 195,362	$ 457,625	$ 25,398	$ 2,835	$ 4,516,087	$ 588,085	$ 588,085
Total Direct Expenses	**$ 31,689,434**	**$ 30,330,051**	**$ 1,359,383**	**$ 30,330,051**	**$ 584,610**	**$ 10,935,018**	**$ 6,211,343**	**$ 612,293**	**$ 314,631**	**$ 11,672,155**	**$ 1,359,383**	**$ 1,359,383**
Indirect Expenses	$ -	$ (695,066)	$ 695,066	$ (695,066)	$ 297,886	$ 6,727,252	$ 3,554,769	$ 198,590	$ 198,591	$ (11,672,155)	$ 695,066	$ 695,066
Other Non-Operating Expenses	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Expenses (B)	**$ 31,689,434**	**$ 29,634,985**	**$ 2,054,449**	**$ 29,634,985**	**$ 882,496**	**$ 17,662,270**	**$ 9,766,112**	**$ 810,883**	**$ 513,222**	**$ -**	**$ 2,054,449**	**$ 2,054,449**
Change in Net Assets (=A-B)	**$ 1,211,609**	**$ 967,216**	**$ 244,393**	**$ 967,217**	**$ 28,496**	**$ 578,397**	**$ 318,087**	**$ 25,398**	**$ 16,840**	**$ -**	**$ 244,393**	**$ 244,393**
Fixed Assets, excluding Right of Use Assets (C)	**$ 794,000**	**$ 111,914**	**$ 682,086**	**$ 111,914**	**$ 3,036**	**$ 68,586**	**$ 36,242**	**$ 2,025**	**$ 2,025**	**$ -**	**$ 682,086**	**$ 682,086**
TOTAL BUDGET (B+C)	**$ 32,483,434**	**$ 29,746,899**	**$ 2,736,535**	**$ 29,746,899**	**$ 885,532**	**$ 17,730,856**	**$ 9,802,354**	**$ 812,908**	**$ 515,247**	**$ -**	**$ 2,736,535**	**$ 2,736,535**
TOTAL CHANGE IN WORKING CAPITAL (A-B-C)	**$ 417,609**	**$ 855,303**	**$ (437,693)**	**$ 855,303**	**$ 25,460**	**$ 509,811**	**$ 281,845**	**$ 23,373**	**$ 14,815**	**$ -**	**$ (437,693)**	**$ (437,693)**
FTEs	**159.5**	**152.5**	**7.0**	**152.5**	**3.0**	**67.8**	**35.8**	**2.0**	**2.0**	**42.0**	**7.0**	**7.0**
HC	**159.0**	**152.0**	**7.0**	**152.0**	**3.0**	**67.0**	**36.0**	**1.0**	**2.0**	**43.0**	**7.0**	**7.0**

Statement of Financial Position

Statement of Financial Position 2020 Audited, 2021 Projection, and 2022 Budget STATUTORY and NON-STATUTORY	(Per Audit) 31-Dec-20	Projected 31-Dec-21	Budget 31-Dec-22
ASSETS			
Cash and cash equivalents	$ 30,392,777	$ 35,767,672	$ 34,773,672
Investments	9,553,088	8,400,000	8,817,609
Accounts receivable, net	6,181,743	1,250,000	1,250,000
Prepaid expenses and other assets	815,130	500,000	500,000
Property and equipment, net	726,752	846,046	1,640,046
Total Assets	**$ 47,669,490**	**$ 46,763,718**	**$ 46,981,327**
LIABILITIES AND NET ASSETS			
Liabilities			
Accounts payable	$ 5,030,966	$ 1,250,000	$ 1,250,000
Accrued expenses	3,414,901	1,750,000	1,750,000
Deferred revenue	11,945,326	15,400,000	15,400,000
Other liabilities	660,185	900,000	700,000
Total Liabilities	**$ 21,051,378**	**$ 19,300,000**	**$ 19,100,000**
Unrestricted net assets	26,618,112	27,463,718	27,881,327
Total Liabilities and Net Assets	**$ 47,669,490**	**$ 46,763,718**	**$ 46,981,327**

Appendix A—Organizational Chart

Changes in Budgeted FTE by Program Area



Appendix B—2022 Budget & Projected 2023 and 2024 Budgets

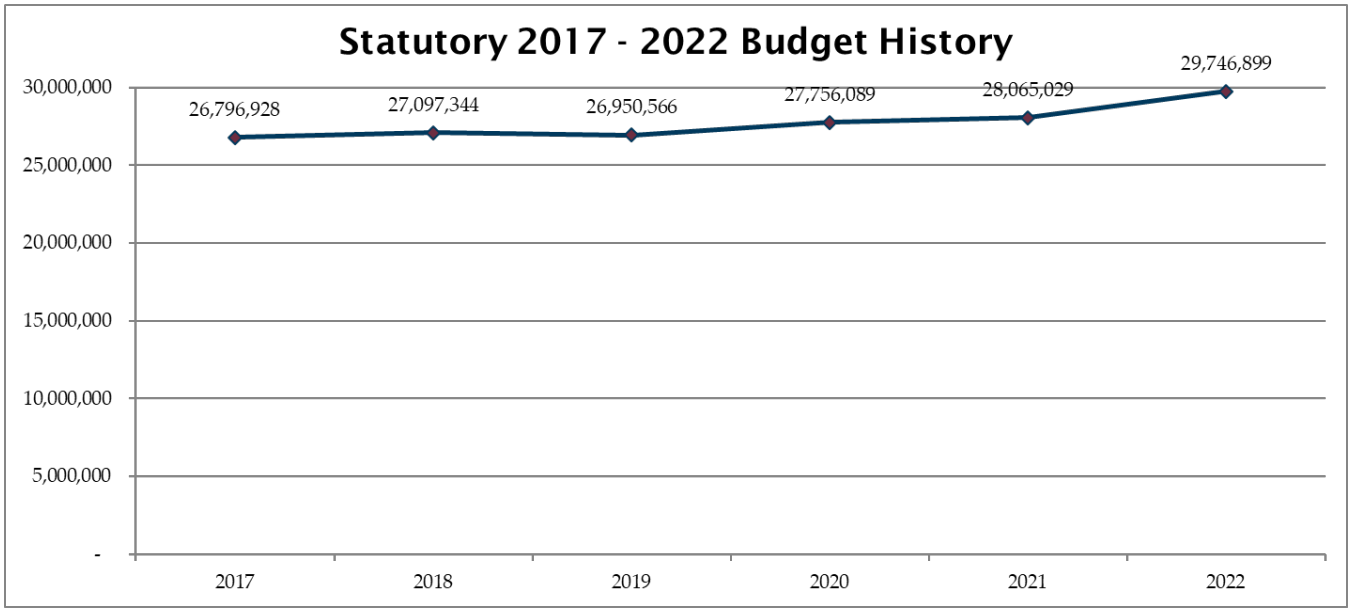
Statement of Activities and Capital Expenditures
2022 Budget & Projected 2023 and 2024 Budgets
Statutory

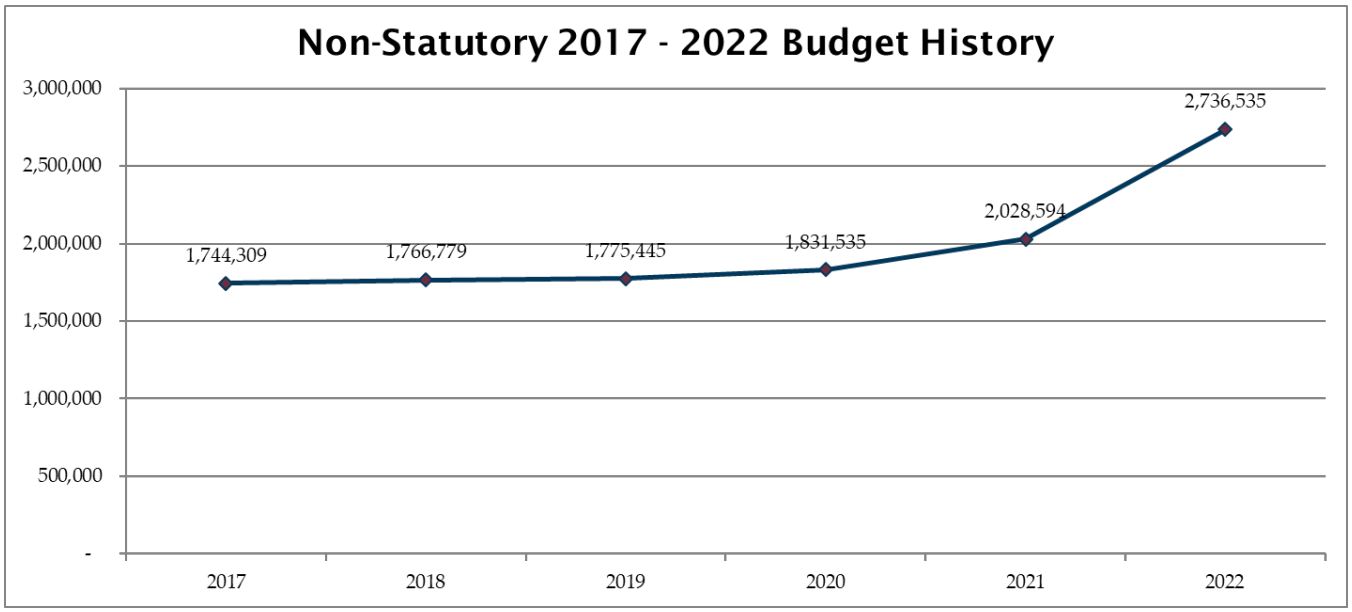
	2022 Budget	2023 Projection	$ Change 21 v 22	% Change 21 v 22	2024 Projection	$ Change 22 v 23	% Change 22 v 23
Revenue							
Statutory Funding							
WECC Assessments	$ 25,000,000	$ 25,500,000	$ 500,000	2.0%	$ 26,010,000	$ 510,000	2.0%
Penalties Released	5,298,000	-	(5,298,000)	(100.0%)	-	-	
Total Statutory Funding	**$ 30,298,000**	**$ 25,500,000**	**$ (4,798,000)**	**(15.8%)**	**$ 26,010,000**	**$ 510,000**	**2.0%**
Membership Fees	$ -	$ -	$ -		$ -	$ -	
Workshops & Miscellaneous	194,700	194,700	-	0.0%	194,700	-	0.0%
Interest	109,501	109,501	-	0.0%	109,501	-	0.0%
Total Revenue (A)	**$ 30,602,201**	**$ 25,804,201**	**$ (4,798,000)**	**(15.7%)**	**$ 26,314,201**	**$ 510,000**	**2.0%**
Expenses							
Personnel Expenses							
Salaries	$ 18,411,644	$ 18,963,993	$ 552,349	3.0%	$ 19,532,913	$ 568,920	3.0%
Payroll Taxes	1,217,683	1,254,213	36,530	3.0%	1,291,840	37,626	3.0%
Benefits	2,605,571	2,683,738	78,167	3.0%	2,764,250	80,512	3.0%
Retirement Costs	1,663,608	1,713,516	49,908	3.0%	1,764,922	51,405	3.0%
Total Personnel Expenses	**$ 23,898,506**	**$ 24,615,461**	**$ 716,955**	**3.0%**	**$ 25,353,925**	**$ 738,464**	**3.0%**
Meeting Expenses							
Meetings & Conference Calls	$ 458,044	$ 420,044	$ (38,000)	(8.3%)	$ 458,044	$ 38,000	9.0%
Travel	772,654	772,654	-	0.0%	772,654	-	0.0%
Total Meeting Expenses	**$ 1,230,698**	**$ 1,192,698**	**$ (38,000)**	**(3.1%)**	**$ 1,230,698**	**$ 38,000**	**3.2%**
Operating Expenses, excluding Depreciation							
Consultants & Contracts	$ 1,004,600	$ 674,600	$ (330,000)	(32.8%)	$ 679,600	$ 5,000	0.7%
Office Rent	1,306,912	1,306,912	-	0.0%	1,306,912	-	0.0%
Office Costs	1,844,335	1,892,778	48,443	2.6%	1,951,706	58,928	3.1%
Professional Services	1,045,000	1,076,350	31,350	3.0%	1,108,641	32,291	3.0%
Miscellaneous	-	-	-		-	-	
Total Operating Expenses	**$ 5,200,847**	**$ 4,950,640**	**$ (250,207)**	**(4.8%)**	**$ 5,046,859**	**$ 96,218**	**1.9%**
Total Direct Expenses	**$ 30,330,051**	**$ 30,758,800**	**$ 428,749**	**1.4%**	**$ 31,631,482**	**$ 872,682**	**2.8%**
Indirect Expenses	**$ (695,066)**	**$ (707,603)**	**$ (12,537)**	**1.8%**	**$ (724,585)**	**$ (16,982.00)**	**2.4%**
Other Non-Operating Expenses	**$ -**	**$ -**	**$ -**		**$ -**	**$ -**	
Total Expenses (B)	**$ 29,634,985**	**$ 30,051,197**	**$ 416,212**	**1.4%**	**$ 30,906,897**	**$ 855,700**	**2.8%**
Change in Assets	**$ 967,216**	**$ (4,246,996)**	**$ (5,214,212)**	**(539.1%)**	**$ (4,592,696)**	**$ (345,700)**	**8.1%**
Incr(Dec) in Fixed Assets (C)	**$ 111,914**	**$ 111,914**	**$ -**	**0.0%**	**$ 111,914**	**$ -**	**0.0%**
TOTAL BUDGET (B+C)	**$ 29,746,899**	**$ 30,163,111**	**$ 416,212**	**1.4%**	**$ 31,018,811**	**$ 855,700**	**2.8%**
TOTAL CHANGE IN WORKING CAPITAL (A-B-C)	**$ 855,302**	**$ (4,358,910)**	**$ (5,214,212)**	**(609.6%)**	**$ (4,704,610)**	**$ (345,700)**	**7.9%**
FTEs	**152.5**	**152.5**	**-**	**0.0%**	**152.5**	**-**	**0.0%**
HC	**152.0**	**152.0**	**-**	**0.0%**	**152.0**	**-**	**0.0%**

Appendix C—Adjustment to the Alberta Electric System Operator (AESO) Assessment

Adjustment to the AESO Assessments Credit for WECC Compliance Costs		2021 Compliance Budget AESO NEL Allocation		2022 Compliance Budget AESO NEL Allocation
WECC Compliance Costs				
Direct Costs less Direct Revenue	$	10,089,311	$	10,867,911
Indirect Costs		6,162,371		6,727,252
Fixed Asset Expenditures		58,025		68,586
Total Net Costs, including Fixed Assets	**$**	**16,309,707**	**$**	**17,663,749**
Net total to be allocated	**$**	**16,309,707**	**$**	**17,663,749**
AESO NEL Share (2019 and 2020)		7.128%		7.021%
AESO Proportional Share of Compliance Costs, including Fixed Assets	**$**	**1,162,632**	**$**	**1,240,172**
% Credit (59.00 of 62.75 FTE for 2021; 64.15 of 67.75 FTE for 2022)		94.02%		94.69%
AESO Credit for Compliance Costs	**$**	**1,093,152**	**$**	**1,174,344**

Appendix D—Statutory and Non-Statutory Budget History Charts





NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Attachment 4

Western Interconnection Regional Advisory Body Proposed 2022 Business Plan and Budget

Western Interconnection Regional Advisory Body

2022 Business Plan and Budget

June 25, 2021

Approved by

Appointed Members of the

Western Interconnection Regional Advisory Body

1600 Broadway, Suite 1720
Denver, Colorado 80202
720-897-4600

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Introduction

The Western Interconnection Regional Advisory Body (WIRAB) proposed budget for 2022 is $918,900. This amount is $286,600 (23.8%) lower than the amount in WIRAB's approved 2021 budget. Total proposed full-time equivalents (FTEs) for 2022 have decreased from 4.75 to 3.0. WIRAB's total funding requirement is $699,700. As shown in Table 1 below, this amount represents the total statutory expenses of $918,900 less $219,200 in statutory working capital requirement. WIRAB's proposed funding assessment is $698,700, a decrease of $287,600 from the 2021 funding assessment. WIRAB proposes to allocate the funding assessment as follows: $586,773 (84%) to the U.S. portion; $99,937 (14.3%) to the Canadian portion; and $11,990 (1.7%) to the Mexican portion of the Western Interconnection. The following table summarizes the WIRAB proposed budget for 2022.

Table 1. WIRAB Budget for 2022

WIRAB - Total Resources (in whole dollars)	2022 Budget	U.S.	Canada	Mexico
Statutory FTEs	3.00			
Non-statutory FTEs				
Total FTEs	3.00			
Statutory Expenses	$ 918,900			
Non-Statutory Expenses				
Total Expenses	$ 918,900			
Statutory Inc(Dec) in Fixed Assets				
Non-Statutory Inc(Dec) in Fixed Assets				
Total Inc(Dec) in Fixed Assets	$ -			
Statutory Working Capital Requirement	$ (219,200)			
Non-Statutory Working Capital Requirement	0			
Total Working Capital Requirement	$ (219,200)			
Total Statutory Funding Requirement	$ 699,700			
Total Non-Statutory Funding Requirement	$ -			
Total Funding Requirement	$ 699,700			
Statutory Funding Assessments	$ 698,700	$ 586,773	$ 99,937	$ 11,990
Non-Statutory Fees				
NEL	855,793,369	718,701,162	122,407,031	14,685,176
NEL%	100.00%	84.0%	14.3%	1.7%

Organizational Overview

The Federal Energy Regulatory Commission (FERC or Commission) created WIRAB in April 2006, upon petition of ten Western Governors and in accordance with Section 215(j) of the Federal Power Act (FPA). The Governors invited all U.S. states, Canadian provinces, and Mexican jurisdictions with territory in the Western Interconnection to join WIRAB and to participate in WIRAB's activities as a regional advisory body charged with advising the FERC, the North American Electric Reliability Corporation (NERC) and the Regional Entity (i.e., the Western Electricity Coordinating Council or WECC) on matters of electric grid reliability.

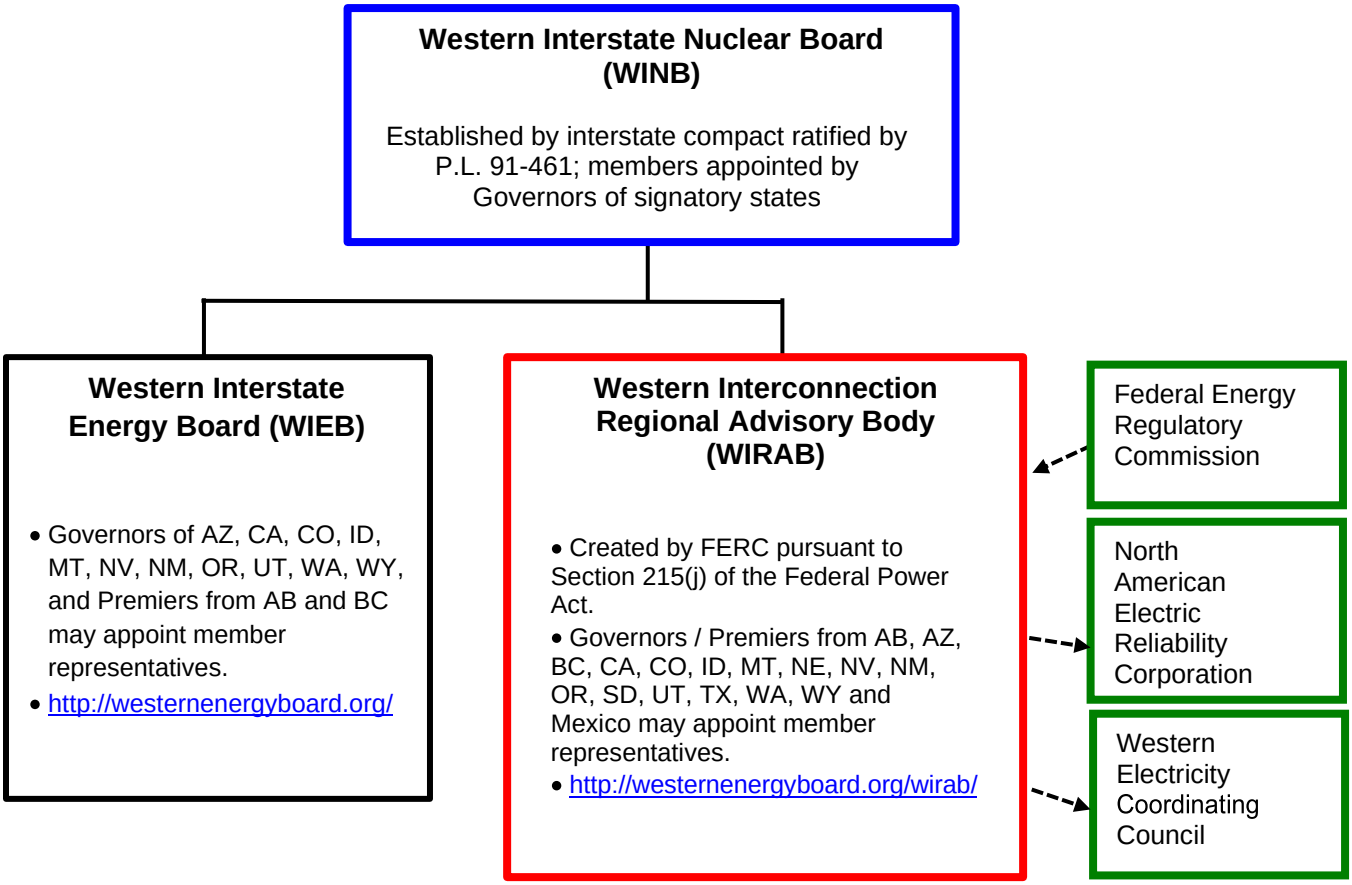
In July 2006, the FERC issued an order granting the Governors' petition to establish WIRAB.[1] In its order, the FERC determined that WIRAB should receive funding for its Section 215(j) activities and directed WIRAB to annually develop a budget and related information for submittal through the Electric Reliability Organization (ERO) budget approval process. The Commission instructed WIRAB to develop a budget in a form similar to that specified for regional entities as set forth in Order 672.[2] The FERC also required WIRAB to identify the portion of its funding to be received from Canada and Mexico.

The Governors created WIRAB as a standing advisory committee to the Western Interstate Nuclear Board (WINB), which was formed pursuant to the Western Interstate Nuclear Compact, P.L. 91-461. WIRAB has the same status under the compact as the Western Interstate Energy Board (WIEB). Below is a chart that illustrates these organizational relationships.

1 Order on Petition to Establish a Regional Advisory Body for the Western Interconnection, 116 FERC ¶ 61,061, Docket No. RR06-2-000, July 20, 2006.

2 Rules Concerning Certification of the Electric Reliability Organization; and Procedures for the Establishment, Approval, and Enforcement of Reliability Standards, Order 672, Docket RM05-30-000, Feb. 3, 2006, P. 228. "Each Regional Entity must submit its complete business plan, entire budget and organizational chart to the ERO for it to submit to the Commission. The complete business plan and the entire budget will provide the Commission with necessary information about any non-statutory activities, the source of their funding, and whether the pursuit of such activities presents a conflict of interest for the Regional Entity. For a Cross-Border Regional Entity, this information will also inform the Commission as to what portion of the budget is expended upon activities within the United States."

Figure 1. Organizational Relationships



Membership and Governance

All U.S. states with territory in the Western Interconnection (AZ, CA, CO, ID, MT, NE, NV, NM, OR, SD, TX, UT, WA, WY), the Canadian provinces of Alberta and British Columbia, and the Mexican state of Baja California are eligible to appoint members to WIRAB. Member representatives of WIRAB are appointees of the respective Governors and Premiers, or representative-designated alternates. Below is the list of current WIRAB member representatives:

Figure 2. WIRAB Membership List

WIRAB Member Representatives		
Alberta	Andrew Buffin	Executive Director, Generation, Transmission and Markets Policy, Alberta Energy
Arizona	Lea Márquez Peterson	Chairwoman, Arizona Corporation Commission
British Columbia	Amy Sopinka	Director, Transmission and Interjurisdictional Branch Ministry of Energy, Mines and Low Carbon Innovation
California	Andrew McAllister	Commissioner, California Energy Commission
Colorado	Vacant	-
Idaho	Kristine Raper	Commissioner, Idaho Public Utilities Commission
Montana	Michael Freeman	Natural Resources Policy Advisor, Montana Office of the Governor
Nebraska	Tim Texel	Executive Director, Nebraska Power Review Board
Nevada	David Bobzien	Director, Nevada Governor's Office of Energy
New Mexico	Cynthia Hall	Commissioner, New Mexico Public Regulation Commission
Oregon	Megan Decker	Chair, Oregon Public Utility Commission
South Dakota	Greg Rislov	Commission Advisor, South Dakota Public Utility Commission
Utah	Thom Carter	Executive Director, Utah Governor's Office of Energy Development
Washington	Elizabeth Osborne	Senior Energy Policy Analyst, Washington State Energy Office
Wyoming	Mary Throne	Commissioner, Wyoming Public Utilities Commission

WIRAB holds two in-person meetings each year, usually in April and October. These meetings are open to the public. WIRAB also holds monthly conference calls to discuss current and emerging issues and hosts periodic webinars with presentations from subject matter experts on key electric grid reliability topics.

Statutory Functional Scope

The FERC established WIRAB as a Regional Advisory Body under section 215(j) of the FPA. The language in Section 215(j) specifically provides for WIRAB's authority to advise the FERC, NERC, and WECC on whether reliability standards, budgets and fees, governance, compliance, assessments, strategic direction and other activities conducted pursuant to Section 215 are just, reasonable, not unduly discriminatory or preferential, and in the public interest.

WIRAB's advice to the FERC, NERC, and WECC can be grouped into four categories that

are appropriately funded under Section 215 of the FPA, including:

1. Governance and Strategic Planning;
2. Emerging Trends and System Risks;
3. Periodic Reliability Assessments; and
4. Reliability Standards and Proactive Enforcement.

WIRAB's activities in each of these categories are described in Section A – Statutory Activities.

2022 Strategic Priorities and Initiatives

The resource mix of the Western power system is rapidly changing. Environmental policy, regulatory efforts to transition to a lower carbon economy, and shifting market forces have resulted in announced retirements of coal-fired, natural gas-fired, and nuclear generating units. Utility-scale wind and solar generation is being built in many parts of the West. California and the Desert Southwest are experiencing rapid growth in the installation of distributed solar photovoltaic generation. State energy storage procurement mandates are also incentivizing a broader implementation of energy storage technologies that may support higher penetrations of asynchronous, variable energy resources (VER). New and promising carbon-free technologies like advanced nuclear reactors and green hydrogen are emerging to fill the gap created by VERs as the electric system in the West continues to decarbonize. These changes to the generation resource mix will present reliability challenges and opportunities for the Western Interconnection. Short and long-term flexibility on both the supply-side and demand-side will be needed to ensure reliability under a changing resource mix.

Reliability challenges associated with climate change are becoming more evident. Widespread heat and cold waves have made load forecasting for utility planning and operations more difficult. Wildfires and droughts have become more severe and impactful on communities and utility infrastructure. Energy policymakers and regulators are increasingly incorporating environmental and climate change factors into decisions about electricity generation and grid infrastructure. With these changes, a renewed focus on grid reliability must be front and center as the grid transforms to meet current and future needs of grid users throughout the Western

Interconnection.

Grid modernization efforts also present reliability challenges and opportunities for the Western Interconnection. Efforts to increase electrification of energy end uses, such as transportation and space and water heating, and increased reliance on distributed energy resources (DER) are creating a need for better coordination among Bulk Power System (BPS) operators and distribution system operators. Improvements to coordination will require additional research, development, and the implementation of new technologies and operational tools that can be used to improve system reliability throughout the Western Interconnection. Grid modernization also necessitates an increased focus on cyber security and physical hardening of electric grid infrastructure against human-caused and natural threats like wildfires. Physical and cyber threats to the grid will continue to impact the availability of data and the transparency of periodic reliability assessments, creating a need for better data sharing protocols to improve information sharing, coordination, and overall situational awareness.

The structure of Western power markets also continues to undergo significant change, creating additional reliability challenges and opportunities for the Western Interconnection. The California Independent System Operator (ISO) Western Energy Imbalance Market (EIM) continues to gain new participants and the ISO is working to offer day ahead market services to EIM participants (Extended Day Ahead Market, or EDAM). The Southwest Power Pool (SPP) is also offering market services, including energy imbalance market services (WEIS), to Balancing Authorities (BAs) and Transmission Operators (TOPs) within the Western Interconnection. These market reforms could result in significant changes to system operations (e.g., transmission scheduling, congestion management, and reliability coordination).

In response to these on-going changes in the Western Interconnection, WIRAB has identified four strategic initiatives that it will pursue in 2021:

Initiative 1: Advise WECC to improve regional coordination and information sharing to mitigate risks associated with wildfires and the impacts on and from the bulk electric system in the Western Interconnection.

The West experiences extreme natural events, including wildfires, drought, earthquakes, wide-spread heat, and cold temperature events that can impact utility operations. Wildfires are

unique to the West. In recent years, the wildfire season has had a devastating impact on utilities and their communities. With climate change, these events are only becoming more severe and frequent. Three states, California, Oregon, and Colorado, experienced their worst wildfire seasons on record in 2020.

Wildfire risk threatens the reliability and security of the electric grid. Society relies on the grid to perform essential functions such as heating and cooling homes, operating water delivery systems, powering telecommunications networks, and other critical services. Utility infrastructure is impacted by these events and, in some cases, is a root cause of the wildfires. Utilities in the West have initiated strategies like Public Safety Power Shutoffs (PSPS) to minimize wildfire ignition risks from utility infrastructure, diminishing end-use customer reliability in exchange for the potential benefit of increased safety from wildfires. In 2019, over 2 million customer accounts in California and about 5,000 in Oregon experienced PSPS events, which in some cases lasted multiple days and resulted in significant human and economic impacts.

WECC should explore opportunities to mitigate risks associated with wildfires and the bulk electric system in the Western Interconnection. WECC should work with its stakeholder community to encourage broader information sharing among utilities. This initiative would expand regional cooperation and increase the sharing of lessons learned in sectionalization, vegetation management, grid hardening, and PSPS practices. This initiative aligns with WECC's adopted Reliability Risk Priority to prepare for and evaluate impacts on the Bulk Power System caused by extreme natural events (e.g., wildfires) and share best practices and lessons learned from individual state and utility experiences across the Interconnection.

The goals of this initiative are to:

- Improve regional cooperation on wildfire mitigation measures for wildfires that are caused by and impact utility infrastructure.
- Create and disseminate lessons learned among Western utilities, policymakers, and stakeholders to promote best practices.
- Disseminate findings to electric utility regulators, policymakers, industry, and other stakeholders regarding the opportunities to decrease the risks associated with wildfires and the bulk electric system in the Western Interconnection.

The actions that WIRAB staff will take to achieve these goals will be to:

- Encourage WECC to open a dialog with stakeholders about adopting a WECC-wide Wildfire Mitigation Data System.
- Work with WECC and its members to identify and address implementation barriers to a wildfire mitigation data system.
- Educate state and provincial regulators and policymakers on the importance of this kind of information sharing.

Initiative 2: Advise WECC to conduct a reliability assessment, identifying the services and capabilities that long-duration energy storage could provide to support ongoing system reliability in the Western Interconnection.

Across the West, the resource mix continues to change as states, provinces, municipalities, corporations, and utilities continue to adopt clean and renewable energy policy goals aimed at decarbonizing the electric sector; many endeavoring to ultimately attain a "100 percent clean" or zero carbon electricity portfolio. These policies are driving an increase in the integration of variable energy resources (VER), such as wind and solar, and the continued retirement of traditional baseload (i.e., fossil fueled generation or nuclear) assets. These changes to the resource mix impact grid operations and create new challenges and opportunities for electric system reliability. Coal generation has traditionally been a baseload resource and natural gas generators provide baseload and flexibility services. More recently both coal and gas generators have been operated to provide more flexibility in order to integrate increasing levels of VER that are not consistently available to meet load.

As electric utilities continue to move closer to achieving long-term decarbonization objectives, new, clean technologies capable of storing energy for long periods (e.g., green hydrogen storage, pumped hydro storage, and flow batteries) may be essential to providing grid balancing services and maintaining grid reliability. Today, almost all battery storage assets in use, under development, or contracted for have a duration of four hours or less. Although these short-term energy storage resources will continue to provide important grid services, a better understanding of the characteristics of various long duration energy storage (LDES) resources and the services they are uniquely capable of providing will become increasingly important. LDES could potentially serve to reduce VER curtailments, storing and enabling the use of previously

generated clean energy at a later time (especially during multi-day weather events when renewable generation is limited), thereby providing clean, flexible, and dispatchable capacity, supporting electric system reliability, and reducing the West's reliance on traditional baseload resources to provide these services.

In 2022, WIRAB will encourage WECC to conduct a qualitative assessment of LDES and the reliability services and capabilities that LDES could provide to support ongoing electric system reliability in the Western Interconnection as the resource mix continues to change.

The goals of this initiative are to:

- Identify the reliability services and capabilities needed to support aggressive decarbonization efforts in the Western Interconnection.
- Identify the reliability services and capabilities that LDES is best or uniquely capable of providing.
- Disseminate findings to electric utility regulators, policymakers, industry, and other stakeholders in the West.

The actions that WIRAB staff will take to achieve these goals will be to:

- Encourage WECC to conduct a qualitative assessment of the reliability services and capabilities needed to support aggressive decarbonization efforts in the Western Interconnection and to identify which services and capabilities LDES may be uniquely capable of providing.
- Work with WECC and industry stakeholders to frame and scope an assessment that explores the reliability services needed in the Western Interconnection that LDES may be able to provide and identify any rules and regulations that may serve as a barrier to potential advances in the technology.
- Work with WECC to disseminate findings to electric utility regulators, policymakers, industry and other stakeholders.

Initiative 3: Advise WECC to produce a preliminary summary of grid-forming inverter technology and its potential to support the stable operation of the Western Interconnection.

The resource mix of the electric grid continues to change from primarily traditional

synchronous generation to asynchronous inverter-based resources such as wind generation, solar PV, and battery electric storage. These changes raise important questions about the reliability of the grid. Grid-forming inverters may become an important technology to ensure reliability of the electric grid of the future.

In a grid driven primarily by synchronous generation, inverter-based resources can rely on the synchronous generation to create the grid's Alternating Current (AC) frequency and use that signal to match their output with the grid. With inverter-based resources accounting for increasing shares of the overall electricity supply, the frequency signal that is essential for the coordinated operation of the electric grid may become weak in certain locations. Weak grid issues can be especially prevalent in electric systems with long distance transmission lines between generating units. Grid forming inverters are capable of providing the appropriate frequency signal on their own and can potentially support the stable operation of the electric grid.

Grid-forming inverters are an emerging research topic for the industry, academics, and government. The National Renewable Energy Laboratory (NREL) recently produced a report titled, "Research Roadmap for Grid Forming Inverters." The Energy Systems Integration Group has held a series of technical workshop sessions exploring grid-forming inverter technology and its potential application to the grid.

WECC should produce a preliminary summary document on grid forming inverter technology and the potential uses and reliability benefits of grid-forming inverters. The document should be accessible to stakeholders in the Western Interconnection, including industry, policymakers, regulators, about the potential uses and reliability benefits of grid-forming inverters. WECC should identify if grid-forming inverters may provide unique opportunities in the Western Interconnection to enhance future grid reliability and identify areas of future study.

The goals of this initiative are to:

- Produce a neutral unbiased summary of grid forming inverter technology and its potential to support the stable operation of the Western Interconnection.
- Educate and inform stakeholders in the Western Interconnection about an emerging technology that may contribute to electric grid reliability.
- Disseminate the preliminary summary of this emerging technology to a broad group of

stakeholders in the Western Interconnection.

The actions that WIRAB staff will take to achieve these goals will be to:

- Encourage WECC to engage with other entities and researchers exploring and developing grid-forming invertor technology.
- Work with WECC and industry stakeholders to frame and scope a technical brief that describes how grid-forming inverters can enhance reliability in the Western Interconnection and identify barriers to their deployment.
- Work with WECC to educate state and provincial regulators and policymakers about the potential role of grid-forming invertors to support the stability and reliability of the Western Interconnection with a changing resource mix.

Initiative 4: Advise WECC to continue to improve its "Western Assessment of Resource Adequacy" and to complement this planning work with additional education and outreach on how resource adequacy problems impact real-time system operations.

With its December 2020 publication of the "The Western Assessment of Resource Adequacy Report," WECC significantly improved its assessment of resource adequacy in the Western Interconnection. The WECC Board of Directors and WECC Executive Team considered advice from WIRAB and other stakeholders and effectively prioritized meaningful work on this issue in 2020. The outcome of this collaboration between WECC and WIRAB demonstrates the successful achievement of goals and objectives identified in WIRAB strategic initiatives on resource adequacy and included in its 2020 and 2021 Business Plan and Budget.

WECC has improved its collection and reporting of generation capacity data, now including future generation retirements and additions in its analysis and providing a robust and independent assessment of long-term resource adequacy in the Western Interconnection. Additionally, WECC has effectively conducted a series of webinars to disseminate the findings of this report to regulators, policymakers, industry, and other stakeholders in the Western Interconnection. WIRAB continues to emphasize that WECC is uniquely positioned to use its expertise to perform quality, independent, and robust assessments of resource adequacy in the six subregions of the Western Interconnection.

Even with these recent successes, resource adequacy continues to be a significant reliability risk in the Western Interconnection. The potential impacts of this reliability risk warrant keeping resource adequacy as a strategic initiative in WIRAB's 2022 Business Plan and Budget. WIRAB believes further improvement is possible in two areas. First, in the area of planning, WIRAB believes WECC can continue to improve its "Western Assessment of Resource Adequacy" by refining its analysis of dynamic planning reserve margins, its analysis of demand at risk, and its analysis of transmission congestion and regional imports and exports under extreme conditions. Second, in the area of operations, WIRAB believes WECC can provide education and clarity by producing a technical brief describing how "planning reserves" become "operating reserves" in the operational timeframe and by further describing how Balancing Authorities manage operating reserves during system contingencies. WIRAB will continue to work closely with WECC to further frame and scope these important efforts.

The goals of this initiative are to:

- Improve the "Western Assessment of Resource Adequacy" by continuing to refine the analysis of dynamic planning reserve margins, the analysis of demand at risk, and the analysis of transmission congestion and regional imports and exports under extreme conditions.
- Provide education and clarity by producing a technical brief that describes how "planning reserves" become "operating reserves" in the operational timeframe and describing how Balancing Authorities manage operating reserves during system contingencies.
- Disseminate the improved analysis and information regarding operational reserves to regulators, policymakers, industry, and other stakeholders in the Western Interconnection.

The actions that WIRAB staff will take to achieve these goals will be to:

- Work with WECC and its stakeholders to continue to refine the Western Assessment of Resource Adequacy.
- Work with WECC and industry stakeholders to frame and scope a technical brief that describes how "planning reserves" become "operating reserves" in the operational timeframe and describing how Balancing Authorities manage operating reserves during system contingencies.

- Work collaboratively with WECC to disseminate key findings to regulators, policymakers, industry, and other stakeholders in the West.

2022 Budget and Assessment Impacts

The WIRAB proposed budget for 2022 is $918,900. This amount is $286,600 (23.8%) lower than the amount in WIRAB's approved budget for 2021. Total proposed FTEs for 2022 are 3.0, which reflects a decrease of 1.75 FTEs from 2021. WIRAB's total funding requirement is $699,700. WIRAB's proposed funding assessment is $698,700. This funding assessment is $287,600 lower than the 2021 funding assessment.

Personnel and Indirect Expenses

Salary expenses (exclusive of Indirect expenses) decreased from $453,300 in the 2021 Budget to $314,400 (30.6%) in the 2022 Budget due to the decrease in FTE measurement to more accurately account for actual work hours associated with WIRAB business. WIRAB uses a single rate method for indirect expenses. The indirect expenses include office expenses, medical and retirement expenses as well as holiday, vacation, and sick leave for WIRAB staff. The indirect rate is a percent of direct staff time spent on WIRAB. The indirect rate slightly decreases from 113% of direct labor costs in the 2021 Budget to 112.9% in the 2022 Budget. Table 2 shows personnel and indirect expenses per FTE for the approved 2021 Budget and the proposed 2022 Budget.

Table 2. Personnel and Indirect Expense Analysis, 2021-2022

WIRAB - Personnel and Indirect Expense Analysis 2021-2022					
STATUTORY					
	Budget 2021	Projection 2021	Budget 2022	Variance 2022 Budget v 2021 Budget	Variance %
Salary Expense	$ 453,300	$ 453,300	$ 314,400	$ (138,900)	-30.6%
FTEs	4.75	4.75	3.00	(1.75)	-36.8%
Cost per FTE	$ 95,432	$ 95,432	$ 104,800	$ 9,368	9.8%
Indirect Rate	113.0%	113.0%	112.9%		
Indirect Expense	$ 512,200	$ 512,200	$ 354,900	$ (157,300)	-30.7%
FTEs	4.75	4.75	3.00	(1.75)	-36.8%
Cost per FTE	$ 107,832	$ 107,832	$ 118,300	$ 10,468	9.7%

Meeting Expense

Meeting costs remained flat at $56,100 for the proposed 2022 Budget. WIRAB will hold two major in-person meetings per year that include participation by state/provincial agencies with electric power responsibilities in the Western Interconnection. Wherever feasible, WIRAB meetings will be coordinated with other meetings of the Western states and provinces. Webinars on topics of concern will continue to be utilized between in-person meetings. WIRAB also conducts monthly conference calls to update members on current activities and to develop positions on reliability issues in the Western Interconnection.

Travel Expense

Travel costs increased by $9,600 to $93,500 to resume anticipated and historical travel costs. A decrease in the 2021 Budget was made due to COVID-19 impacts. WIRAB members travel to biannual meetings and reliability conferences accounts for $30,200. WIRAB staff travel to attend meetings of WIRAB, WECC and NERC accounts for $63,300. Hotel and travel costs are based on experience from previous years and in consideration of pandemic conditions.

Consultants and Contracts

The budget includes $100,000 in contract funding for technical expertise on issues related to improved grid operating practices, reliability standards and compliance; the same amount as budgeted for 2022. This expertise will assist WIRAB in preparing and providing technically-sound advice to be submitted to the FERC, NERC, and WECC as authorized under Section 215(j).

Table 3. Budget Comparison 2021 to 2022

WIRAB - Statement of Activities and Change in Working Capital
2021 Budget & Projection, and 2022 Budget

STATUTORY

	2021 Budget	2021 Projection	Variance 2021 Projection v 2021 Budget Over(Under)	% Change	2022 Budget	Variance 2022 Budget v 2021 Budget Over(Under)	% Change
Funding							
WIRAB Funding							
Assessments	$ 986,300	$ 986,300	$ -	0.0%	$ 698,700	$ (287,600)	-29.2%
Penalty Sanctions	-	-	-		-	-	
Total WIRAB Funding	**$ 986,300**	**$ 986,300**	**$ -**	**0.0%**	**$ 698,700**	**$ (287,600)**	**-29.2%**
Membership Dues	-	-	-		-	-	
Testing Fees	-	-	-		-	-	
Services & Software	-	-	-		-	-	
Workshops	-	-	-		-	-	
Interest	3,000	3,000	$ -	0.0%	1,000	$ (2,000)	-66.7%
Miscellaneous	-	-	-		-	-	
Total Funding (A)	**$ 989,300**	**$ 989,300**	**$ -**	**0.0%**	**$ 699,700**	**$ (289,600)**	**-29.3%**
Expenses							
Personnel Expenses							
Salaries	453,300	453,300	-	0.0%	314,400	$ (138,900)	-30.6%
Payroll Taxes			-			-	
Benefits			-			-	
Retirement Costs			-			-	
Total Personnel Expenses	**$ 453,300**	**$ 453,300**	**$ -**	**0.0%**	**$ 314,400**	**$ (138,900)**	**-30.6%**
Meeting Expenses							
WIRAB Meetings	$ 56,100	$ 10,000	$ (46,100)	-82.2%	$ 56,100	$ -	0.0%
State Travel	30,200	-	$ (30,200)	-100.0%	30,200	$ -	0.0%
Staff Travel	53,700	-	$ (53,700)	-100.0%	63,300	$ 9,600	17.9%
		-	$ -		-	$ -	
Total Meeting Expenses	**$ 140,000**	**$ 10,000**	**$ (130,000)**	**-92.9%**	**$ 149,600**	**$ 9,600**	**6.9%**
Operating Expenses							
Consultants & Contracts	$ 100,000	$ 75,000	$ (25,000)	-25.0%	$ 100,000	$ -	0.0%
Office Rent	-	-	-	-	-	-	-
Office Costs	-	-	-	-	-	-	-
Professional Services	-	-	-	-	-	-	-
Miscellaneous	-	-	-	-	-	-	-
Depreciation	-	-	-	-	-	-	-
Total Operating Expenses	**$ 100,000**	**$ 75,000**	**$ (25,000)**	**-25.0%**	**$ 100,000**	**$ -**	**0.0%**
Total Direct Expenses	**$ 693,300**	**$ 538,300**	**$ (155,000)**	**-22.4%**	**$ 564,000**	**$ (129,300)**	**-18.6%**
Indirect Expenses	**$ 512,200**	**$ 512,200**	**$ -**	**0.0%**	**$ 354,900**	**$ (157,300)**	**-30.7%**
Other Non-Operating Expenses	**$ -**	**$ -**	**$ -**	-	**$ -**	**$ -**	-
TOTAL BUDGET (B)	**$ 1,205,500**	**$ 1,050,500**	**$ (155,000)**	**-12.9%**	**$ 918,900**	**$ (286,600)**	**-23.8%**
CHANGE IN WORKING CAPITAL (=A-B)[1]	**$ (216,200)**	**$ (61,200)**	**$ 155,000**	**-**	**$ (219,200)**	**$ (3,000)**	**-**
FTEs	4.75	4.75	-	0.0%	3.00	(1.75)	-36.8%

[1] Fixed Assest included in Indirect Expenses.

Statutory Assessments

WIRAB's proposed funding assessment of $698,700 is allocated at $586,773 (84%) to the U.S. portion; $99,937 (14.3%) to the Canadian portion; and $11,990 (1.7%) to the Mexican portion of the Western Interconnection.

Key Assumptions

The WIRAB 2022 Business Plan and Budget is based on the following assumptions:

- There will be no significant expansion of the FERC, NERC, or WECC responsibilities as a result of legislation or administrative actions.
- WIRAB will monitor reliability coordination activities at the RC West, SPP, the AESO, and BC Hydro.
- WIRAB will hold two in-person meetings in 2022.
- WIRAB will organize and sponsor webinars and workshops on key reliability issues for WIRAB members, state and provincial representatives, industry representatives, and other interested stakeholders.
- WIRAB will attend all WECC Board of Directors and Member Advisory Committee (MAC) meetings.
- WIRAB will attend selected NERC meetings and workshops on relevant topics.
- WIRAB will annually visit with the FERC in its offices.
- WIRAB will monitor all FERC business meetings.
- WIRAB will attend the FERC technical conferences on reliability issues.

Section A – Statutory Activities

2022 Business Plan and Budget

WIRAB's advice to the FERC, NERC, and WECC can be grouped into four categories that are appropriately funded under Section 215 of the FPA:

1. **Governance and Strategic Planning:** Section 215(j) of the FPA authorizes WIRAB to provide advice to the FERC on the governance, strategic direction, budget, and fees of WECC.

2. **Emerging Trends and System Risks:** WIRAB must maintain awareness of system conditions, emerging trends, and system risks in order to provide effective and technically sound advice regarding the strategic direction of the FERC, NERC, and WECC. WIRAB also uses knowledge of emerging trends and risks to provide advice to WECC on reliability readiness activities and proactive compliance efforts. These activities are appropriately funded under Section 215(j) of the FPA.

3. **Periodic Reliability Assessments:** Section 215(g) of the FPA requires NERC to conduct periodic assessments of the reliability and adequacy of the BPS. WECC assists NERC in performing this statutory activity. WIRAB works closely with WECC to improve reliability and resource adequacy assessments in the Western Interconnection.

4. **Reliability Standards and Proactive Enforcement:** Section 215(j) of the FPA authorizes WIRAB to provide advice to the FERC on whether reliability standards are just, reasonable, not unduly discriminatory, or preferential, and in the public interest. WIRAB works closely with WECC to identify emerging problems or conditions that should be considered in the course of requesting, drafting, and voting on amendments to existing standards and in developing new standards.

WIRAB's activities in each of these categories are described in the following subsections.

Governance and Strategic Planning

Section 215(j) of the FPA authorizes WIRAB to advise the FERC and the regional entity (i.e., WECC) on the governance, strategic direction, budget, and fees of WECC. The WIRAB staff engages with the WECC Board of Directors, management, WECC standing committees, and WECC's Member Advisory Committee (MAC). Through this engagement, WIRAB monitors developments related to WECC's organizational governance, strategic direction, and business plan and budget. This engagement informs WIRAB's efforts to evaluate the effectiveness and efficiency of operations at WECC and to ensure that all "activities conducted pursuant to Section 215 are just, reasonable, not unduly discriminatory or preferential, and in the public interest."

The WIRAB staff also conducts monthly meetings with WIRAB Members. During these webinar meetings, WIRAB staff provides WIRAB Members, WECC's Class 5 Representatives (i.e., representatives of state and provincial governments), and other interested stakeholders with regular updates on current and upcoming activities at WECC. These meetings provide WIRAB Members an opportunity to develop and review WIRAB's written advice and guidance to the WECC Board of Directors. During these webinars, the WIRAB staff also provides opportunities for WECC representatives to engage with and discuss governance-related activities with WIRAB Members. WIRAB provides WECC with independent expert advice on operational practices and performance, annual business plans and budgets, strategic planning, committee charters, proposed bylaw amendments, fees, and other matters. Additionally, WIRAB is deeply involved in WECC's quinquennial organizational review required by Section 4.9 of the WECC Bylaws. Once the organizational review is completed, WIRAB monitors and participates in the implementation of the recommendations that the WECC Board develops during the organizational review. WIRAB and the WIRAB staff will continue to engage with WECC and to provide advice and guidance to the organization as appropriate.

Emerging Trends and System Risks

WIRAB staff engages in the following ongoing activities in order to provide independent expert advice on emerging reliability trends and system risks:

Event Analysis and Situational Awareness:

Understanding important operational issues confronting the BPS today, as well as in the past, is key to maintaining and improving reliability in the Western Interconnection. Event analysis and situational awareness matters need to be discussed in open and transparent forums, when appropriate. These types of discussions bring together utility operators, who deal with these types of issues on a day-to-day basis, with thought leaders to provide different perspectives that can add value to tackle reliability challenges. It is important to share lessons learned and to promote best practices to ensure that system operators have access to the tools and knowledge necessary to maintain a reliable grid in real-time.

WIRAB members and the WIRAB staff engage in relevant discussions and activities by attending and participating in WECC's standing committee meetings, monitoring the western Reliability Coordinators, and monitoring reliability activities in other forums. The WIRAB staff also provides leadership by conducting periodic outreach webinars and develops panel sessions for WIRAB's in-person meetings. These outreach opportunities are designed to promote discussions among Western regulators, policymakers, and other stakeholders regarding emerging trends and risks associated with system events.

Expanding Market Operations:

Organized markets continue to expand in the Western Interconnection. The Western EIM, operated by the California ISO, began operation in 2014 and has grown to include participants from 11 Western states and the Canadian Province of British Columbia, and continues to expand participation. The California ISO, in partnership with the EIM Entities and other stakeholders, is developing an approach to extend participation in their day-ahead market to the EIM Entities. The SPP launched its Western Energy Imbalance Service (WEIS) for several entities in the eastern part of the Western Interconnection, which have announced their intention to take those services. SPP also announced the that it has received letters from several western utilities committing to evaluate full RTO membership. These market reforms could result in significant changes to system operations (e.g., transmission scheduling, congestion management) and create new reliability challenges and opportunities for the Western Interconnection.

The WIRAB staff monitors market reform efforts in the Western Interconnection and provides a forum for discussions about reliability-related issues associated with developing multiple markets in the Western Interconnection. The WIRAB staff monitors and participates in forums that are exploring these reliability issues associated with markets taking place at public utility commissions, regional TOP meetings, and ISO/RTO workshops. Additionally, the WIRAB staff engages in relevant WECC committee meetings and activities, such as those of WECC's MIC. WIRAB will continue to provide advice to WECC and to make recommendations as appropriate on reliability challenges and opportunities associated with expanding market operations in the Western Interconnection.

Essential Reliability Services:

As the resource mix continues to change, some reliability services that have traditionally been provided by synchronous generating resources may not be available to the same extent in the future as the BPS is becoming increasingly reliant on variable inverter-based resources. The electric utility industry must examine alternative opportunities to provide these essential reliability services and develop practices today that support ongoing BPS reliability under a new paradigm. Inverter-based resources, specifically solar PV generation, have historically been regarded as unable to provide the grid supporting services, such as frequency support and voltage control, traditionally provided by synchronous resources. However, new power electronic technologies available through advanced inverters and other grid-enhancing technologies now enable inverter-based generation to provide grid support similar to synchronous generators if programmed correctly. New policies and practices accounting for these emerging technologies need to continue to be developed to support grid reliability in the future.

WIRAB Members and the WIRAB staff develop expertise by attending, participating in, and monitoring WECC's standing committees, NERC's Reliability Issues Steering Committee (RISC), Reliability and Security Technical Committee (RSTC), the FERC's Reliability Technical Conferences; and other forums within the industry. WIRAB provides leadership and written advice to WECC and the FERC on policies regarding the risks associated with the provision of essential reliability services in the Western Interconnection. WIRAB staff also provides periodic outreach webinars and develops panel sessions for WIRAB's in-person meetings to discuss emerging trends. These forums provide an opportunity to inform Western policymakers and other interested

stakeholders of the emerging risks associated with the changing resource mix and the importance of maintaining essential reliability services in the Western Interconnection.

Periodic Reliability Assessments

High priority reliability topics for the Western Interconnection is the changing resource mix, including the increasing penetration of variable renewable resources, increasing retirements of baseload coal generation that would reduce inertia on the grid, and the growth of distributed energy resources that interface with the BPS. WIRAB strives for high quality resource assessments that address the reliability implications of the changing resource mix in the Western Interconnection over a 10- to 20-year timeframe. Production cost modeling can identify economic dispatch of a potential new resource mix for every hour over a future year and identify critical hours of system stress. Power flow analysis then examines these critical stress hours for traditional reliability parameters. The integrated use of production cost modeling and power flow analysis will be an essential tool for future reliability assessments of the Western Interconnection.

WIRAB monitors, advises, and participates in WECC's RAC to promote improved reliability assessments of the Western Interconnection. WIRAB will encourage and support the RAC in its efforts to integrate WECC's data and modeling capability to perform roundtrip reliability assessments that combine power flow analysis and production cost modeling. WIRAB will also monitor, engage, and communicate findings on leading research about the integration of variable energy resources into the Western Interconnection, such as the work of NERC's Inverter-Based Resource Performance Work Group. Further, WIRAB staff monitors and engages with National Laboratories, industry trade organization such as the Energy Systems Integration Group (ESIG), Registered Entities, and other researchers and organizations investigating the flexibility and reliability of the power system. WIRAB also provides outreach to Western states and provinces on the policy implications associated with new research.

Reliability Standards and Proactive Enforcement

WIRAB staff engages in the following ongoing activities in order to provide independent expert advice on the development and proactive enforcement of reliability standards:

Operations and Planning Reliability Standards:

The reliability standards were created to provide the minimum requirements for planning and operating the electric grid. The compliance and enforcement of these reliability standards ensure there is oversight and accountability of BPS owners and operators to maintain system-wide reliability. Reliability standards must be strict enough to guarantee that system reliability is maintained, but flexible enough to respond to the changing industry. It is essential to develop and review reliability standards to ensure they effectively preserve reliability while not being overly burdensome on the entities required to comply.

WIRAB staff develops WIRAB advice on the development and proactive enforcement of reliability standards by contracting with subject matter experts with direct knowledge of the efficacy of reliability standards and the burden of compliance on regulated entities. WIRAB staff attends, participates, and monitors WECC's Standing Committee meetings, WECC's Standards Committee meetings, WECC's Reliability and Security Workshop, NERC's standard development process, and other industry forums. When necessary, WIRAB provides written advice to WECC, NERC and the FERC on the implementation of specific standards within the Western Interconnection. WIRAB staff also conduct periodic outreach webinars and in-person panel discussions for WIRAB's meetings to consider emerging trends that may require changes to reliability standards in the Western Interconnection.

Physical and Cyber Security:

Physical and cyber security of the electric grid continues to represent issues of growing concern in the Western Interconnection and across the ERO. The Western Interconnection has experienced physical and cyber incidents that have had the potential to impact system reliability. Experiences from around the world demonstrate there is a greater threat to the electric grid reliability related to physical and cyber security. The Critical Infrastructure Protection (CIP) standards provide a baseline level set of requirements for registered entities to maintain the protection of critical assets of the BPS. The CIP standards must be risk-based to ensure that critical assets are protected while maintaining the flexibility to respond to the changing nature of potential threats. It is essential to develop and review the CIP standards to ensure they effectively preserve reliability while not being overly burdensome on the entities required to comply.

WIRAB stays abreast of significant incidents that have compromised both the physical and cyber security of the grid through secure briefings and updates from security experts. WIRAB works with WECC and subject matter experts to educate regulators on the steps registered entities take to maintain the physical and cyber security of the grid. WIRAB continues to monitor the development of NERC's CIP standards and will provide advice when appropriate. WIRAB continues to observe NERC's GridEx exercises, which give utilities the opportunities to demonstrate how they would respond to coordinated cyber and physical security events. WIRAB encourages entities to share lessons learned and best practices broadly across the Western Interconnection.

Section B – WIRAB Supplemental Financial Information

2022 Business Plan and Budget

Working Capital Reserve

WIRAB projects it will have a working capital reserve of $908,400 on December 31, 2021, as compared to a desired working capital reserve on December 31, 2022, of $689,200. The surplus working capital reserve results in a $219,200 reduction in WIRAB's funding requirement for 2022.

In its 2018 Business Plan and Budget, WIRAB changed its reserve policy to stabilize statutory assessments while reducing its surplus financial reserve over several budget cycles. The FERC allows WIRAB to carry a financial reserve under the proviso that any excess reserves be used to offset future assessments. WIRAB's funding assessments are calculated roughly nine months in advance of each budget year. This assessment is fixed, meaning that, once approved, it cannot be decreased or increased mid-year to match actual expenses more closely. The financial reserve allows for some budgetary flexibility.

Table B-1. Working Capital Reserve Analysis 2021 – 2022

WIRAB - Working Capital Reserve Analysis 2021-2022	
STATUTORY	
Beginning Working Capital Reserve (Deficit), December 31, 2020	969,581
Plus: 2021 Funding (from LSEs or designees)	986,300
Plus: 2021 Other funding sources	3,000
Minus: 2021 Projected expenses & capital expenditures	(1,050,500)
Projected Working Capital Reserve (Deficit), December 31, 2021	**908,400**
Desired Working Capital Reserve, December 31, 2022	689,200
Minus: Projected Working Capital Reserve, December 31, 2021	(908,400)
Increase(decrease) in funding requirement to achieve Working Capital Reserve	(219,200)
2022 Expenses and Capital Expenditures	918,900
Less: Penalty Sanctions	0
Less: Other Funding Sources	(1,000)
Adjustment: To achieve desired Working Capital Reserve	(219,200)
2022 NERC Assessment	698,700

Table B-2. 2022 Budget with 2023 & 2024 Projections

WIRAB - Statement of Activities and Change in Working Capital
2022, 2023, and 2024 Budget Projections

STATUTORY

	2022 Budget	2023 Projection	Variance 2023 Projection v 2022 Budget Over(Under)	% Change	2024 Projection	Variance 2024 v 2023 Projections Over(Under)	% Change
Funding							
WIRAB Funding							
Assessments	$ 698,700	$ 764,800	$ 66,100	9.5%	$ 841,800	$ 77,000	10.1%
Penalty Sanctions	-	-	-		-	-	
Total WIRAB Funding	**$ 698,700**	**$ 764,800**	**$ 66,100**	**9.5%**	**$ 841,800**	**$ 77,000**	**10.1%**
Membership Dues	-	-	-		-	-	
Testing Fees	-	-	-		-	-	
Services & Software	-	-	-		-	-	
Workshops	-	-	-		-	-	
Interest	1,000	1,000	$ -	0.0%	1,000	$ -	0.0%
Miscellaneous	-	-	-		-	-	
Total Funding (A)	**$ 699,700**	**$ 765,800**	**$ 66,100**	**9.4%**	**$ 842,800**	**$ 77,000**	**10.1%**
Expenses							
Personnel Expenses							
Salaries	314,400	327,000	12,600	4.0%	340,100	$ 13,100	4.0%
Payroll Taxes			-			-	
Benefits			-			-	
Retirement Costs			-			-	
Total Personnel Expenses	**$ 314,400**	**$ 327,000**	**$ 12,600**	**4.0%**	**$ 340,100**	**$ 13,100**	**4.0%**
Meeting Expenses							
WIRAB Meetings	$ 56,100	$ 57,800	$ 1,700	3.0%	$ 59,500	$ 1,700	2.9%
State Travel	$ 30,200	$ 31,100	$ 900	3.0%	$ 32,000	$ 900	2.9%
Staff Travel	$ 63,300	$ 53,700	$ (9,600)	-15.2%	$ 55,300	$ 1,600	3.0%
Total Meeting Expenses	**$ 149,600**	**$ 142,600**	**$ (7,000)**	**-4.7%**	**$ 146,800**	**$ 4,200**	**2.9%**
Operating Expenses							
Consultants & Contracts	$ 100,000	$ 100,000	$ -	0.0%	$ 100,000	$ -	0.0%
Office Rent	-	-	-	-	-	-	-
Office Costs	-	-	-	-	-	-	-
Professional Services	-	-	-	-	-	-	-
Miscellaneous	-	-	-	-	-	-	-
Depreciation	-	-	-	-	-	-	-
Total Operating Expenses	**$ 100,000**	**$ 100,000**	**$ -**	**0.0%**	**$ 100,000**	**$ -**	**0.0%**
Total Direct Expenses	**$ 564,000**	**$ 569,600**	**$ 5,600**	**1.0%**	**$ 586,900**	**$ 17,300**	**3.0%**
Indirect Expenses	**$ 354,900**	**$ 369,100**	**$ 14,200**	**4.0%**	**$ 383,900**	**$ 14,800**	**4.0%**
Other Non-Operating Expenses	**$ -**	**$ -**	**$ -**	-	**$ -**	**$ -**	-
TOTAL BUDGET (B)	**$ 918,900**	**$ 938,700**	**$ 19,800**	**2.2%**	**$ 970,800**	**$ 32,100**	**3.4%**
CHANGE IN WORKING CAPITAL (=A-B)[1]	**$ (219,200)**	**$ (172,900)**	**$ 46,300**	**-**	**$ (128,000)**	**$ 44,900**	**-**
FTEs	3.00	3.00	-	0.0%	3.00	-	0.0%

[1] Fixed Assest included in Indirect Expenses.

WIRAB projects a 2.2% increase to its annual budget in 2023 and a 3.4% increase in 2024. These increases reflect expected cost-of-living adjustments to personnel expenses for employees working in Denver, Colorado, and increased costs for meetings and travel.

Section C – Non-Statutory Activities

2022 Business Plan and Budget

WIRAB does not engage in non-statutory activities.

Section D – Additional Consolidated Financial Statements

2022 Business Plan and Budget

Statement of Financial Position

Table D-1 provides WIRAB's Statement of Financial Position as of the following dates:

- As of June 30, 2020, per audit
- As of December 31, 2021, projected
- As of December 31, 2022, as budgeted

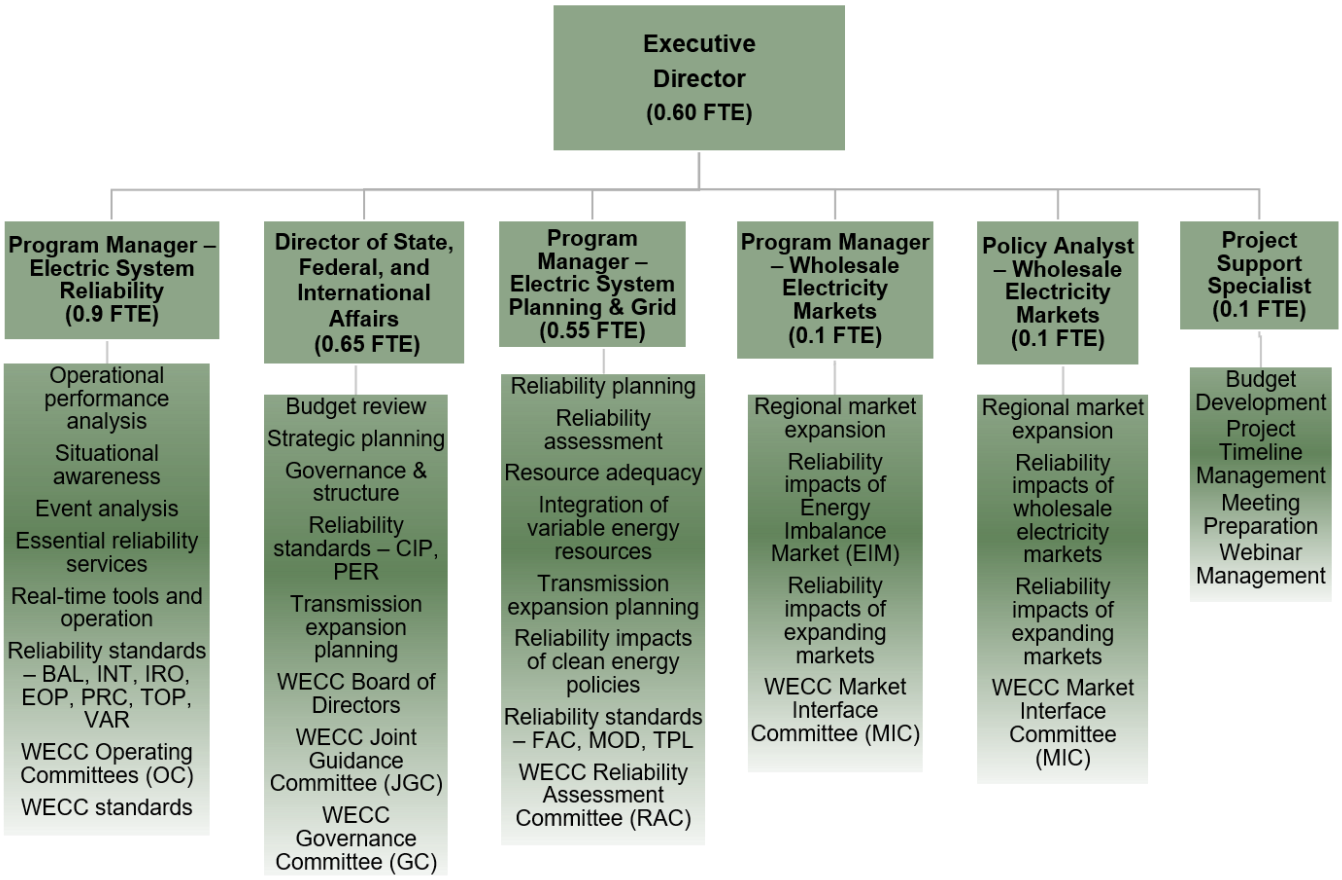
Table D-1. Statement of Financial Position, Three-Year Comparison

WIRAB - Statement of Financial Position			
STATUTORY			
	As of June 30, 2020 (Audit)	As of December 31, 2021 (Projected)	As of December 31, 2022 (Budgeted)
Assets			
Cash and Investments	$ 1,123,869	$ 908,400	$ 689,200
Total Assets	**$ 1,123,869**	**$ 908,400**	**$ 689,200**

Appendix A – Organization Chart

2022 Business Plan and Budget

The WIRAB Staff Organization Chart is shown below.



NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Attachment 5

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 6

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 7

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 8

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 9

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.)

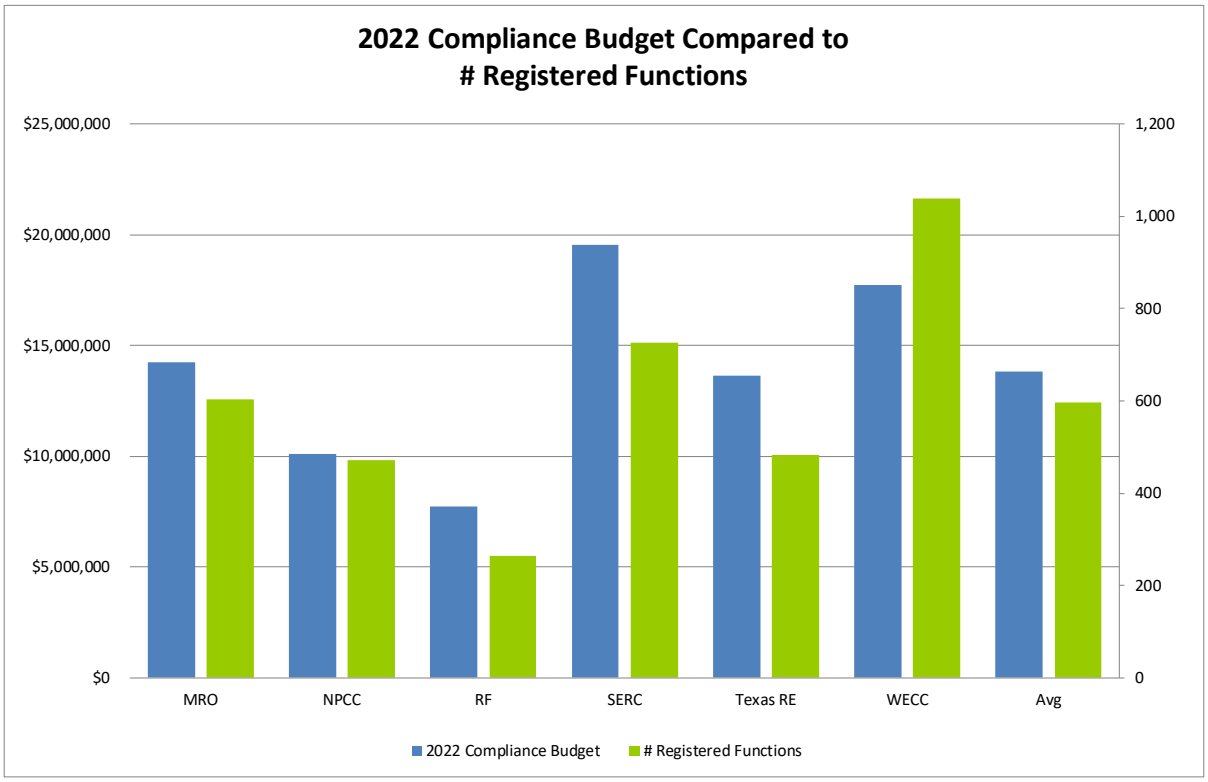
[3] Total Budget is the sum of Total Expenses and Fixed Asset Expenditures.

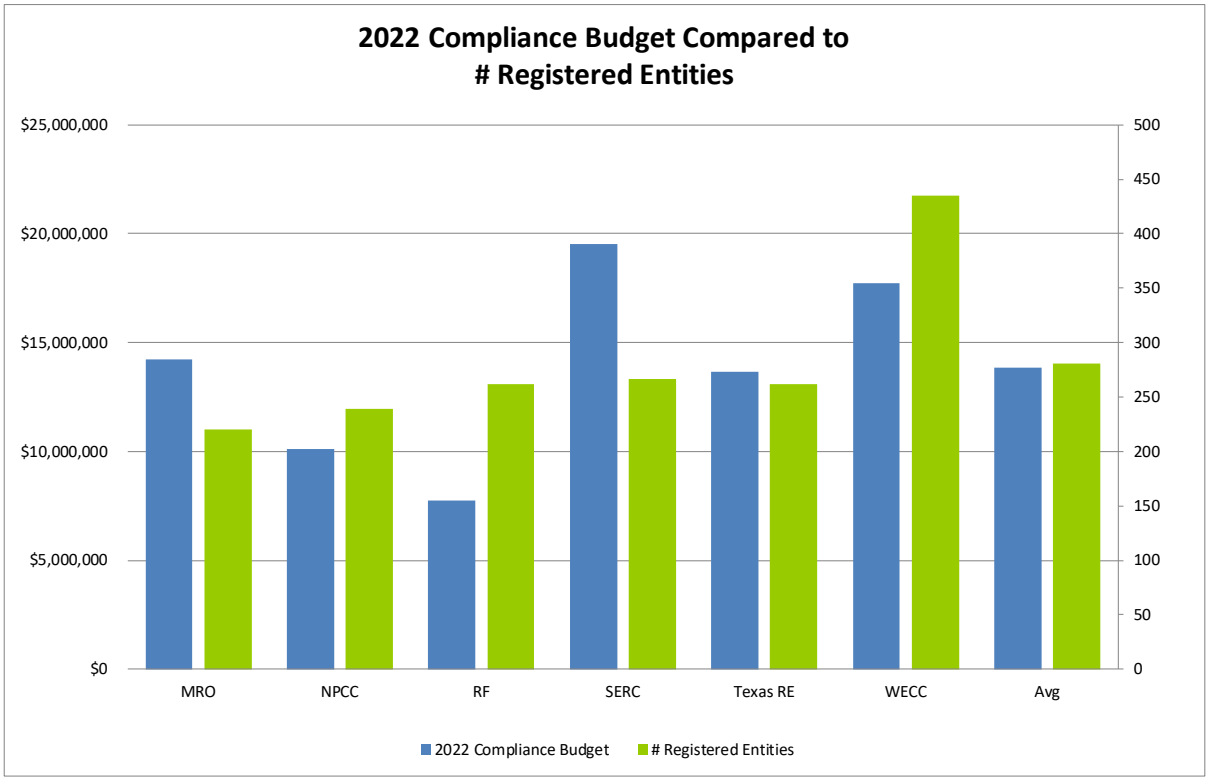
[4] Each FTE that works 2,080 hours per year is counted as one FTE. An FTE working less than the 2,080 hours per year is counted as a fractional FTE.

[5] Total CMEP (Compliance, Enforcement, & Organization Registration and Certification) Budget is a sum of Direct Expenses, Indirect Expenses, and Fixed Asset Expenditures.

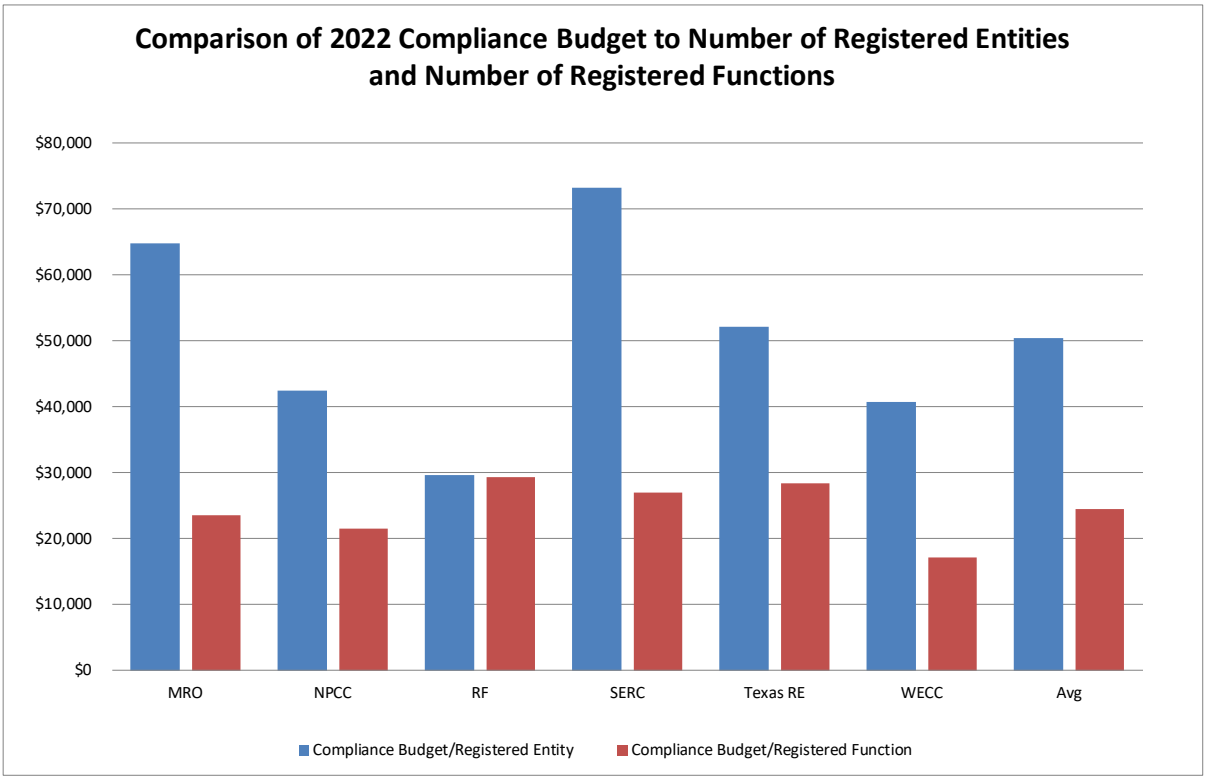
[6] Due to the specifics of the compliance program included in the individual provincial MOUs for cross-border regional entities, some of these metrics are not directly comparable.

	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

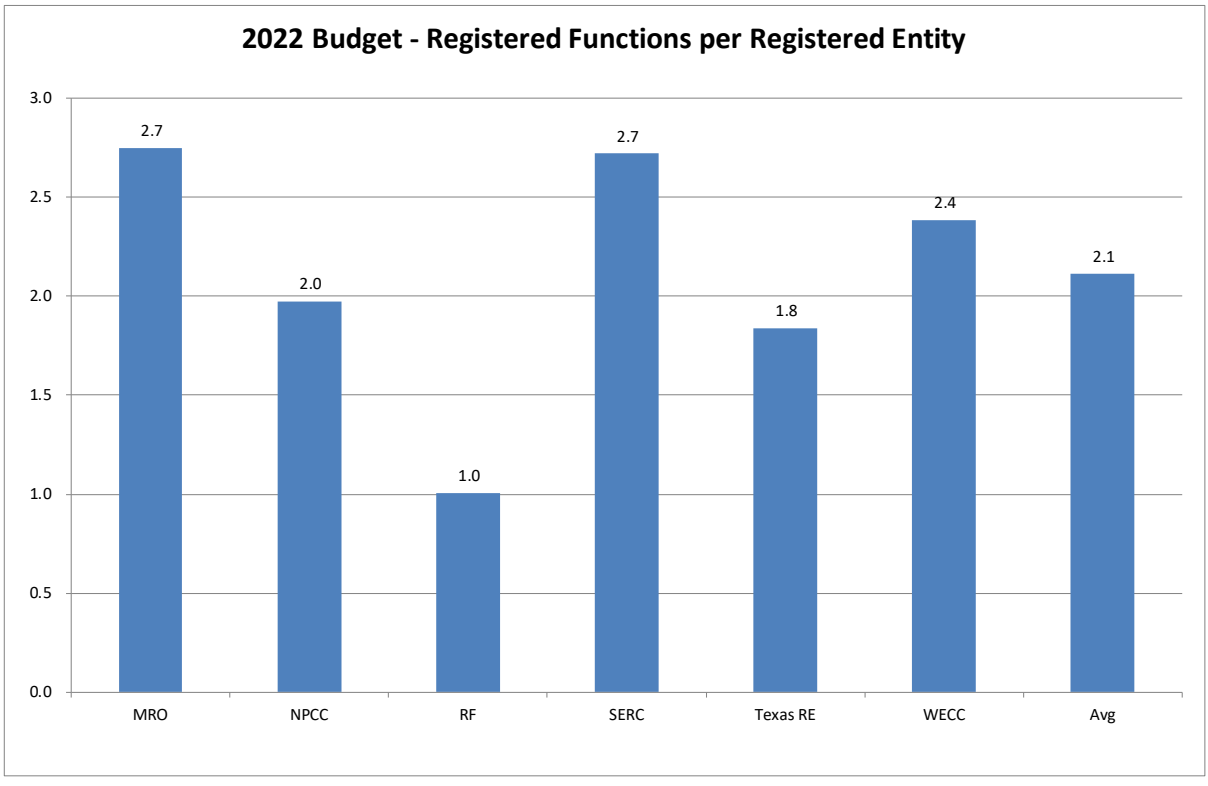


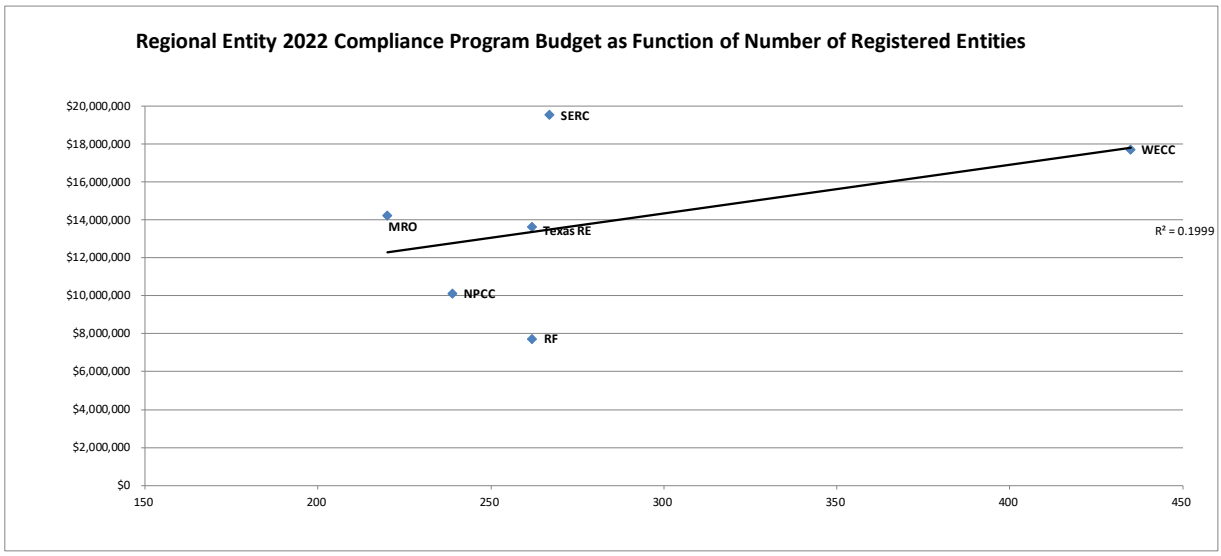


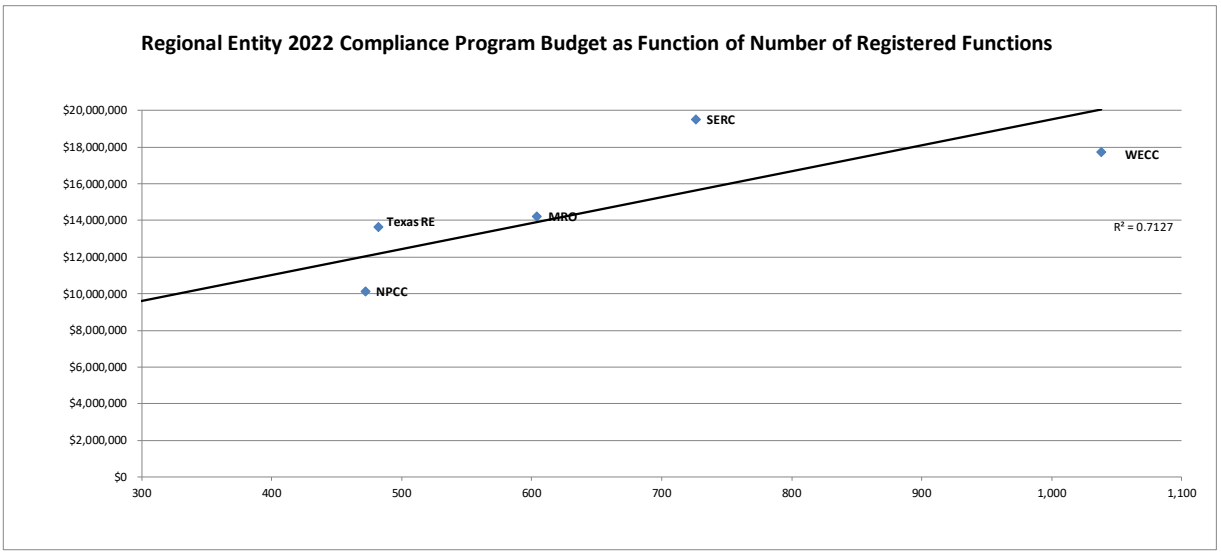
	MRO	NPCC	RF	SERC	Texas RE	WECC	Avg
Compliance Budget/Registered Entity	$64,722	$42,341	$29,586	$73,164	$52,093	$40,761	$50,445
Compliance Budget/Registered Function	$23,574	$21,440	$29,362	$26,908	$28,316	$17,082	$24,447



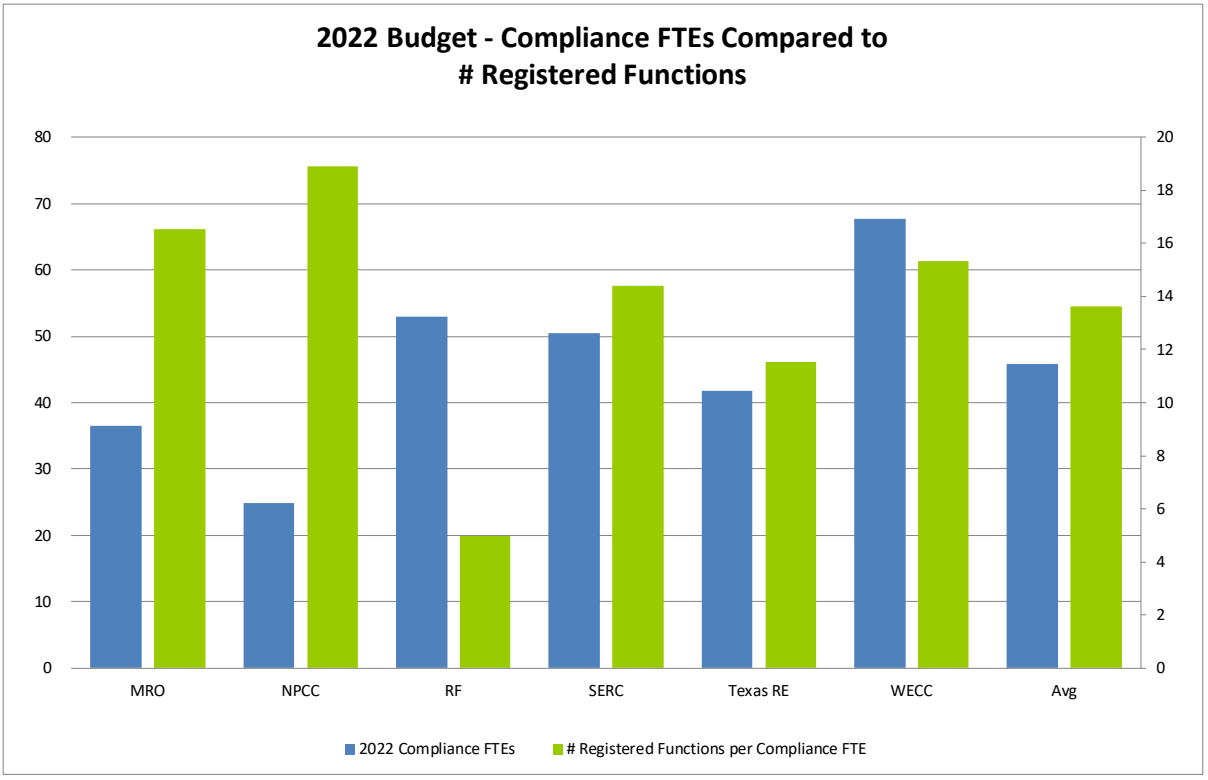
	MRO	NPCC	RF	SERC	Texas RE	WECC	Avg
Registered Functions per Registered Entity 2022 Budget	2.7	2.0	1.0	2.7	1.8	2.4	2.1

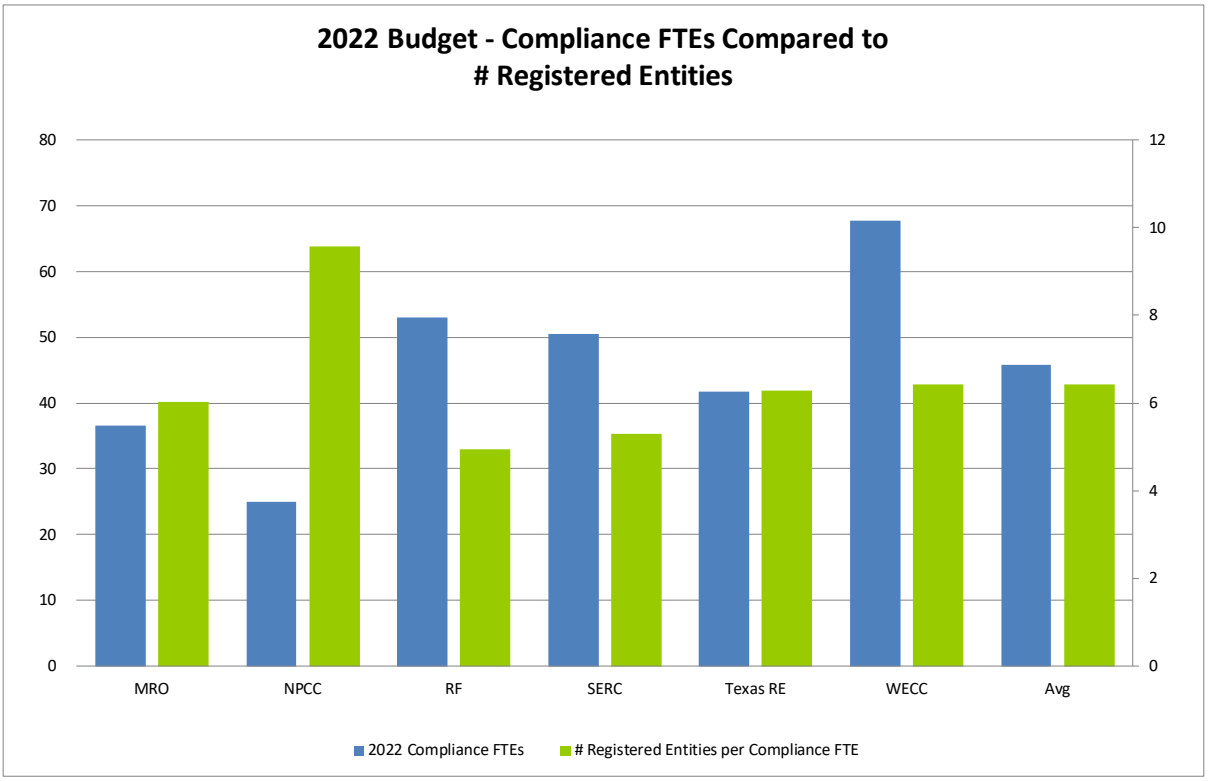



Regional Entity 2022 Compliance Program Budget as Function of Number of Registered Entities
$20,000,000
$18,000,000
$16,000,000
$14,000,000
$12,000,000
$10,000,000
$8,000,000
$6,000,000
$4,000,000
$2,000,000
$0
150
200
250
300
350
400
450
SERC
WECC
MRO
Texas RE
NPCC
RF
R² = 0.1999

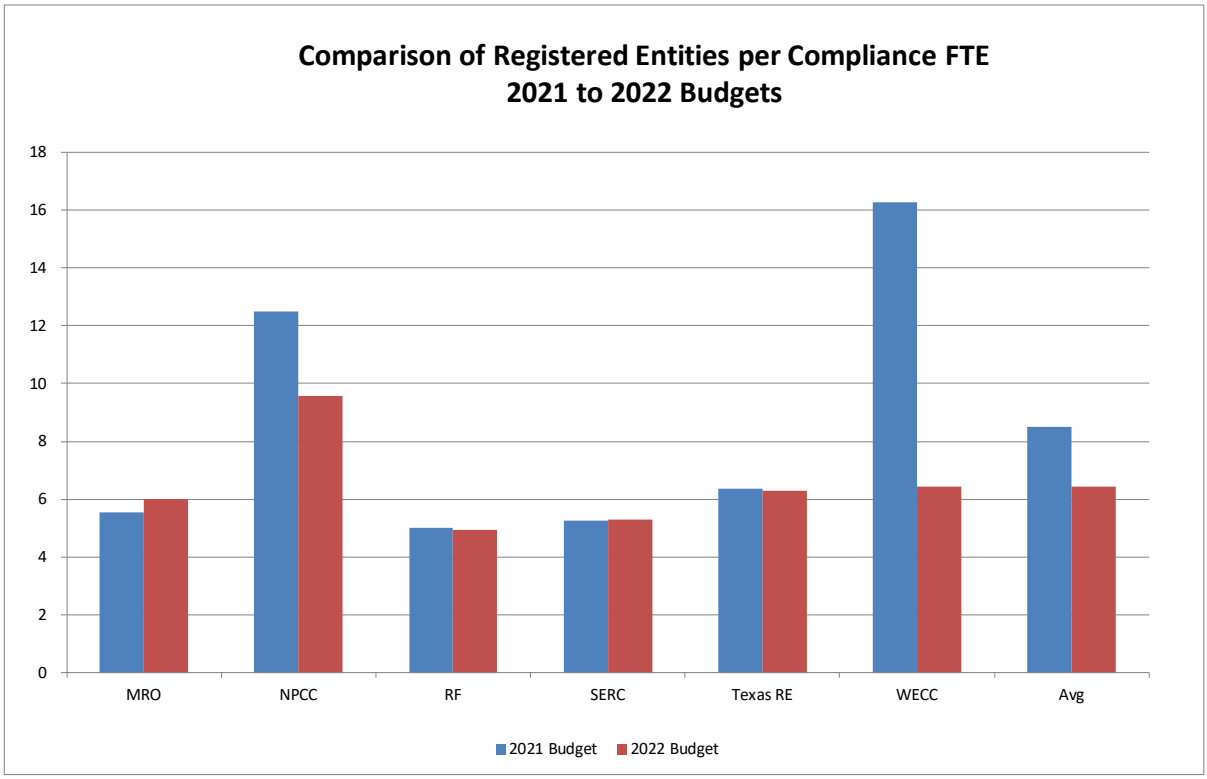

Regional Entity 2022 Compliance Program Budget as Function of Number of Registered Functions
$20,000,000
$18,000,000
$16,000,000
$14,000,000
$12,000,000
$10,000,000
$8,000,000
$6,000,000
$4,000,000
$2,000,000
$0
300
400
500
600
700
800
900
1,000
1,100
SERC
WECC
Texas RE
MRO
NPCC
R² = 0.7127

	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

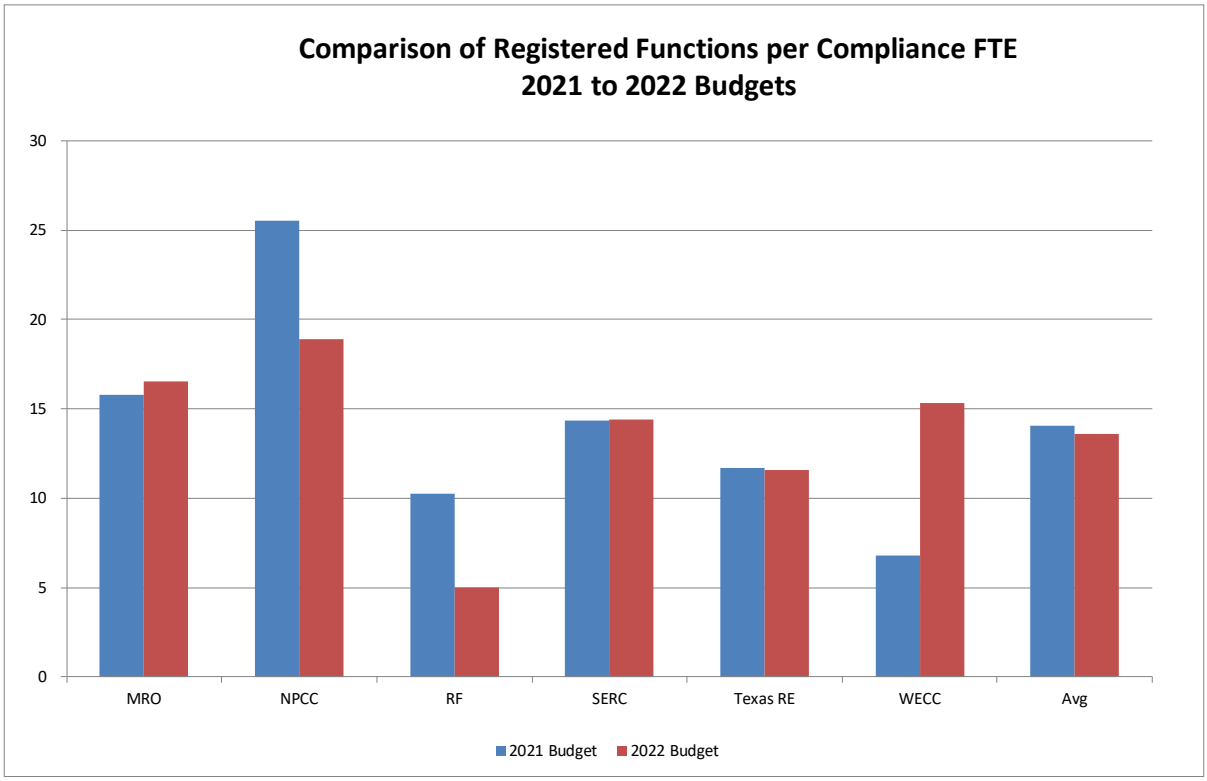




	MRO	NPCC	RF	SERC	Texas RE	WECC	Avg
2021 Budget	5.6	12.5	5.0	5.3	6.4	16.3	8.5
2022 Budget	6.0	9.6	4.9	5.3	6.3	6.4	6.4



	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



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Attachment 10

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