

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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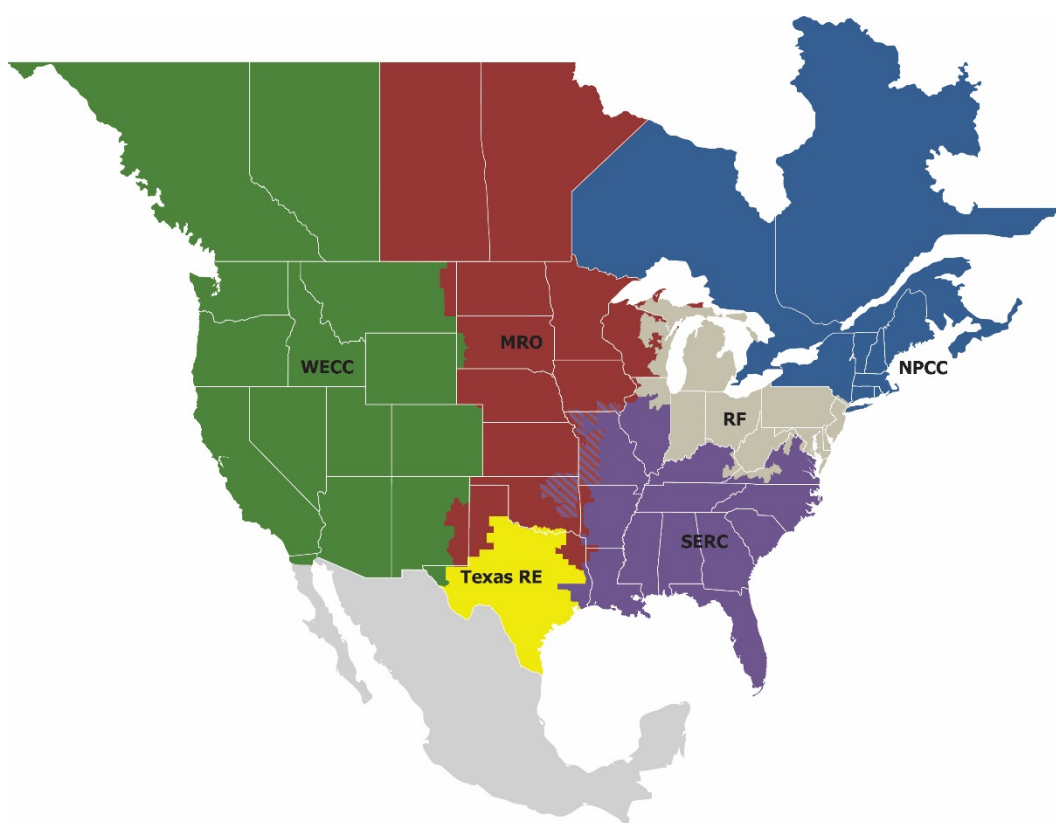
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Preface

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 provinces² and the Canada Energy Regulator in furtherance of this framework. Mexico is taking steps to implement such a framework pursuant to restructuring of Mexico's electricity industry and reforms of the country's regulatory framework enacted in 2013 and 2014. NERC works with the Mexican regulator, *Comisión Reguladora de Energía* (CRE), and the Mexican system and market operator, *CENACE*, under a MOU signed in 2017 to ensure consistency with the framework in Canada and the United States.

Membership and Governance

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 Analysis	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 Analysis	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 funds¹¹ 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.

Introduction and Executive Summary

Statement of Activities and Fixed Asset Additions						
2021 Budget & Projection, and 2022 Budget						
STATUTORY						
	2021	2021	Variance	2022	Variance	% Inc
	Budget	Projection	2021 Projection v 2021 Budget Over(Under)	Budget	v 2021 Budget Over(Under)	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	(140,644)	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.

Introduction and Executive Summary

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							
Testing Fees	\$ 7,917,385	\$ 7,979,206	\$ 61,821	0.8%	\$ 8,381,748	\$ 402,542	5.0%
Services & Software	1,756,723	1,671,250	(85,473)	-4.9%	1,783,325	112,075	6.7%
Miscellaneous	60,000	60,000	-	0.0%	60,000	-	0.0%
Interest & Investment Income	60,000	60,000	-	0.0%	60,000	-	0.0%
	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 position 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.

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

Statement of Activities and Fixed Asset Additions					
2021 Budget & Projection, and 2022 Budget					
Reliability Standards and Power Risk Issue Strategic Management					
	2021	2021	Variance	2022	Variance
	Budget	Projection	2021 Projection	Budget	2022 Budget
			v 2021 Budget		v 2021 Budget
			Over(Under)		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.

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

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.

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

Statement of Activities and Fixed Asset Additions					
2021 Budget & Projection, and 2022 Budget					
Compliance Enforcement					
	2021	2021	Variance	2022	Variance
	Budget	Projection	2021 Projection v 2021 Budget Over(Under)	Budget	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.

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

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.

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

Statement of Activities and Fixed Asset Additions					
2021 Budget & Projection, and 2022 Budget					
Situation Awareness					
	2021	2021	Variance	2022	Variance
	Budget	Projection	2021 Projection v 2021 Budget Over(Under)	Budget	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					
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.

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

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.

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

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

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

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 Budget 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

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

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.

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

Statement of Activities and Fixed Asset Additions					
2021 Budget & Projection, and 2022 Budget					
Personnel Certification and Continuing Education					
	2021	2021	Variance	2022	Variance
	Budget	Projection	2021 Projection	Budget	2022 Budget
			v 2021 Budget		v 2021 Budget
			Over(Under)		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 NERC¹² 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.

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

Statement of Activities and Fixed Asset Additions					
2021 Budget & Projection, and 2022 Budget					
Training and Education					
	2021	2021	Variance	2022	Variance
	Budget	Projection	2021 Projection	Budget	2022 Budget
			v 2021 Budget		v 2021 Budget
			Over(Under)		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 member¹³ 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 is 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-learning platform for improving soft and technical skills; (2) broad-based staff development training through real-world access via tours of and training on control centers, electric substations, and power generation plants; and (3) access to additional education, including but not limited to degree-oriented university education, pursuit of specialized certifications, and other in-house and external training that provides essential competencies and skills development. A key current and future focus includes ongoing coaching, education, and culture and leadership training with respect to the ERO Enterprise transformation discussed in the *About NERC* section at the beginning of this document, as well as a concerted focus on diversity and inclusion 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.

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

Statement of Activities and Fixed Asset Additions					
2021 Budget & Projection, and 2022 Budget					
Administrative Programs					
	2021	2021	Variance	2022	Variance
	Budget	Projection	2021 Projection v 2021 Budget Over(Under)	Budget	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					
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					

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

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

³The 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.

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 RATIC 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 designers; 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 Regulatory, 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	-
SOCCEC 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).

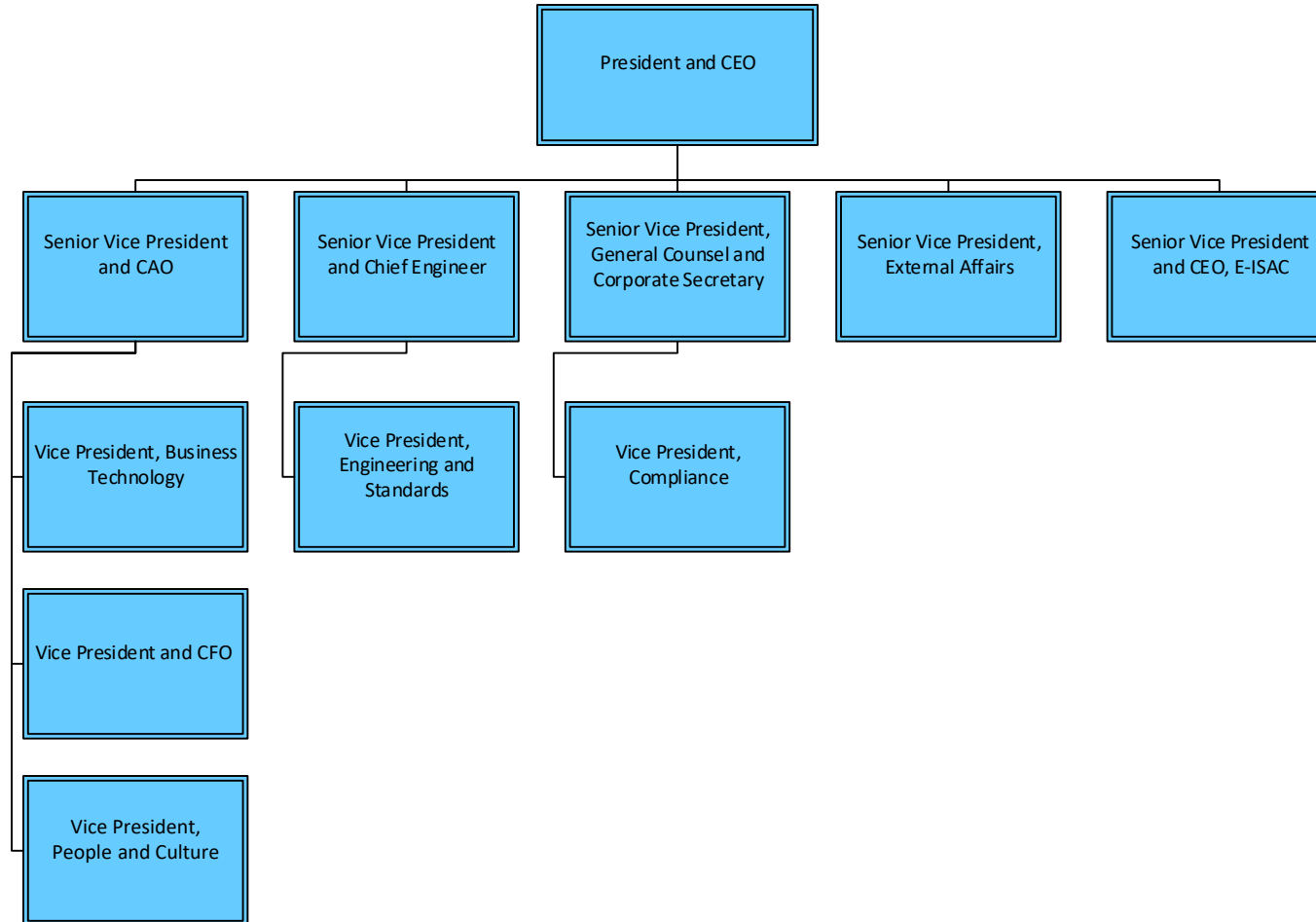
NERC financed \$2.0M for ERO Secure Evidence Locker (SEL) project costs, borrowing \$1.3M in late 2020 and is anticipating to finance the remaining \$700k in 2021. Borrowings under the credit facility for the ERO SEL are amortized over a five-year period, and can be prepaid without penalty. The interest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

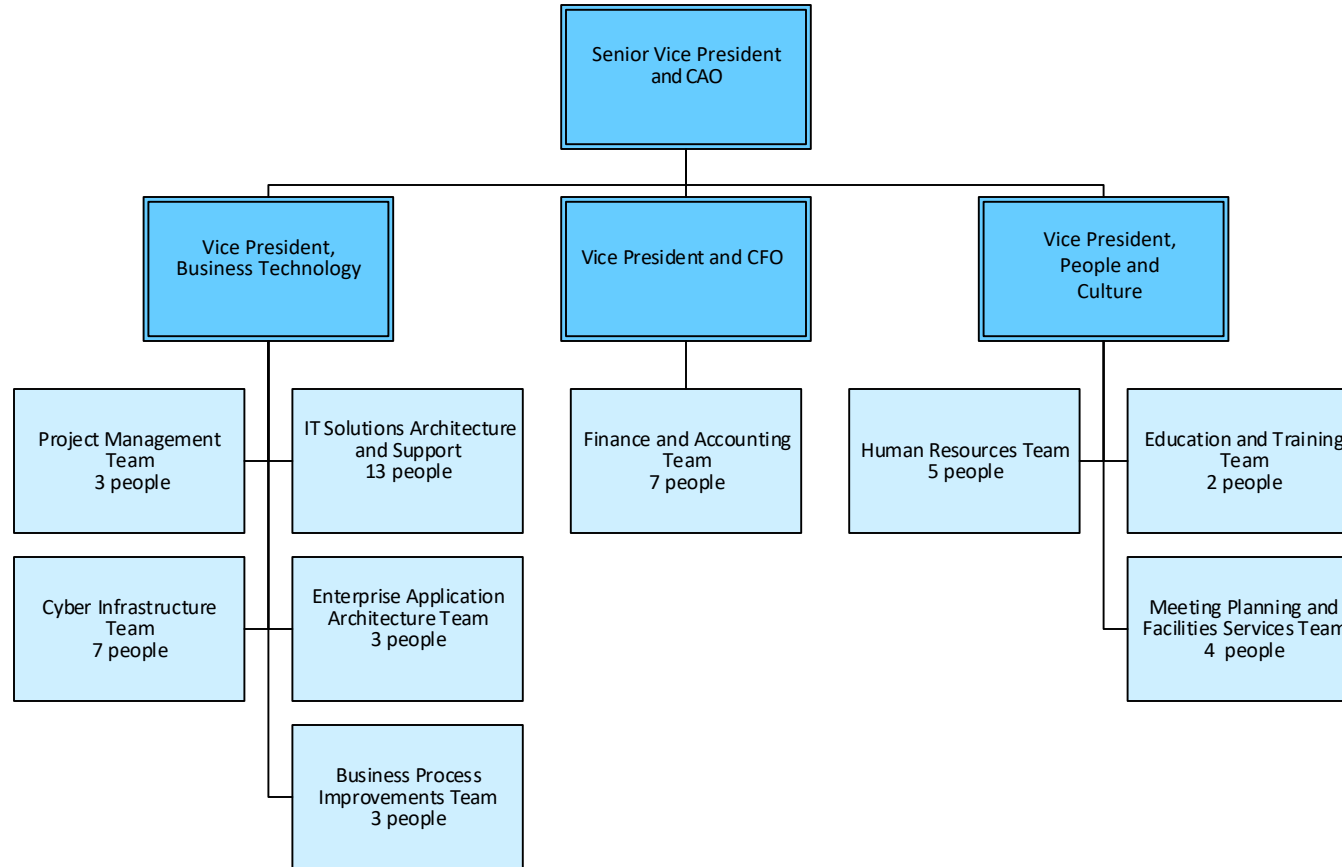
	Year-End Outstanding Debt Balance				
	Prior Years	2021	2022	2023	2024
	Actual	Projected	Budget	Projected	Projected
Prior Years	\$ 1,291,714	\$ 916,714	\$ 672,964	\$ 429,214	\$ 185,464
2021 Projection	-	708,286	\$ 577,036	\$ 445,786	\$ 314,536
2022 Budgeted	-	-	-	-	-
2023 Projected	-	-	-	-	-
2024 Projected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

	Future Annual Payments for Debt Service				
		2021	2022	2023	2024
		Projected	Budget	Projected	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

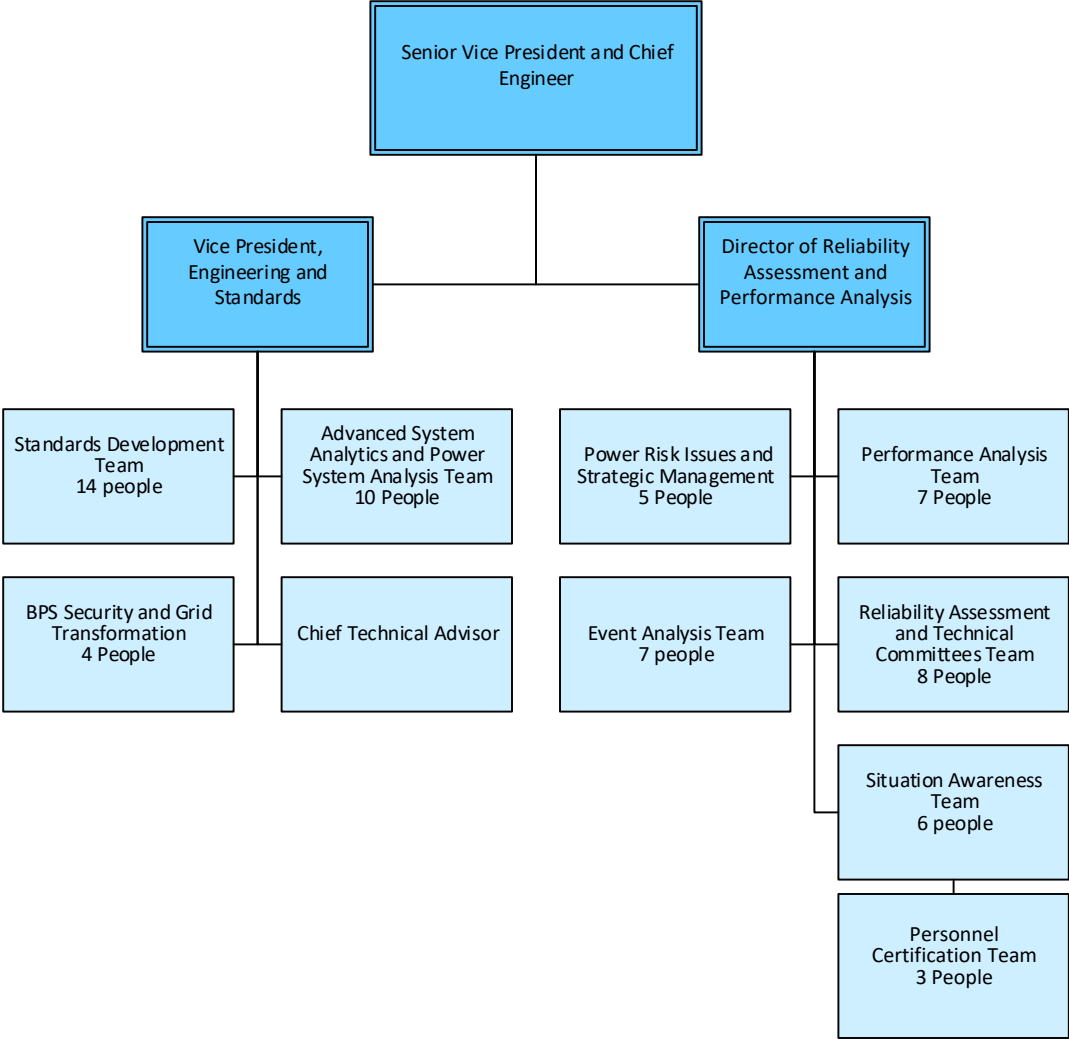
NERC Staff Organization Chart – Budget 2022



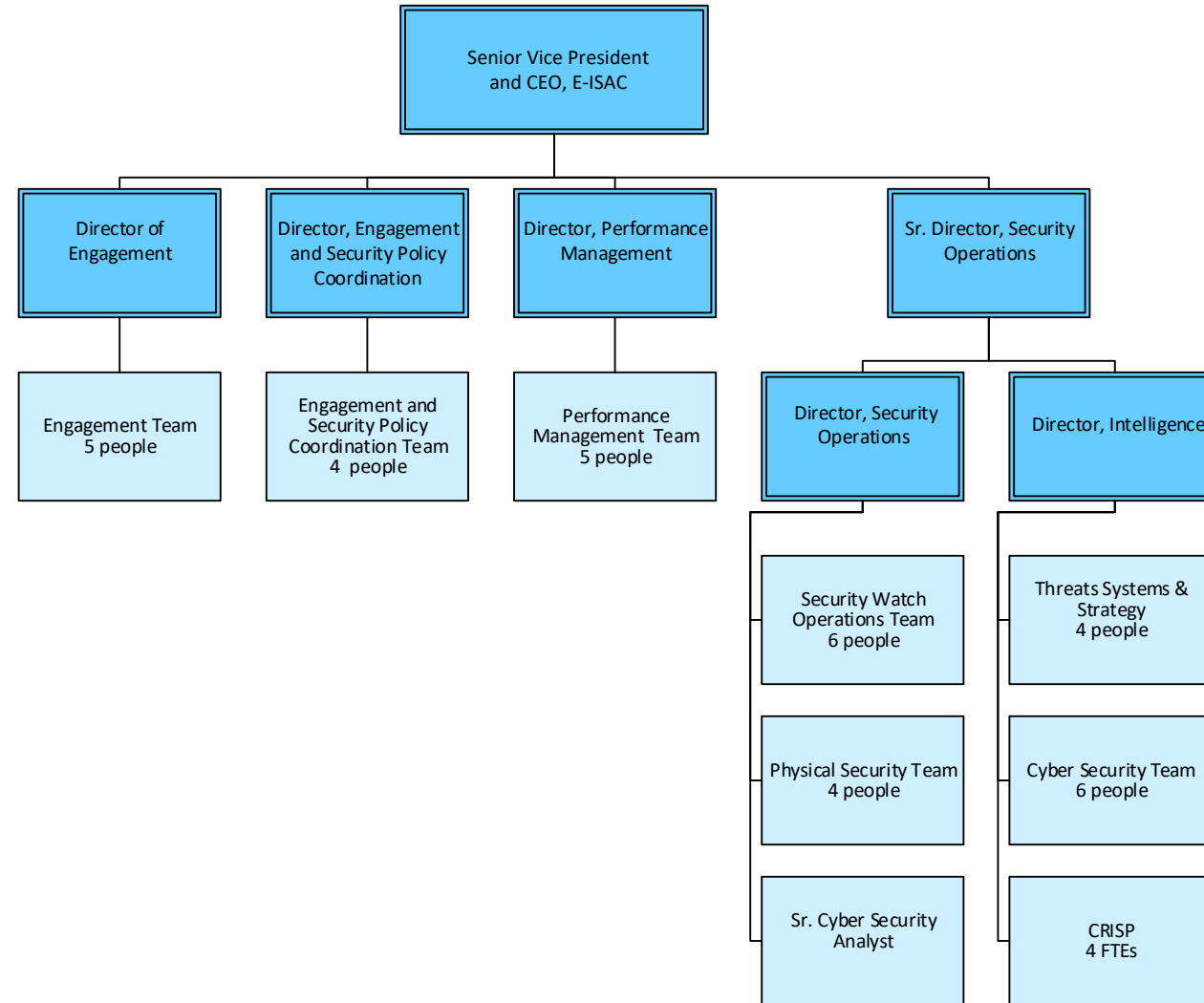
IT, Finance, HR, and Administration



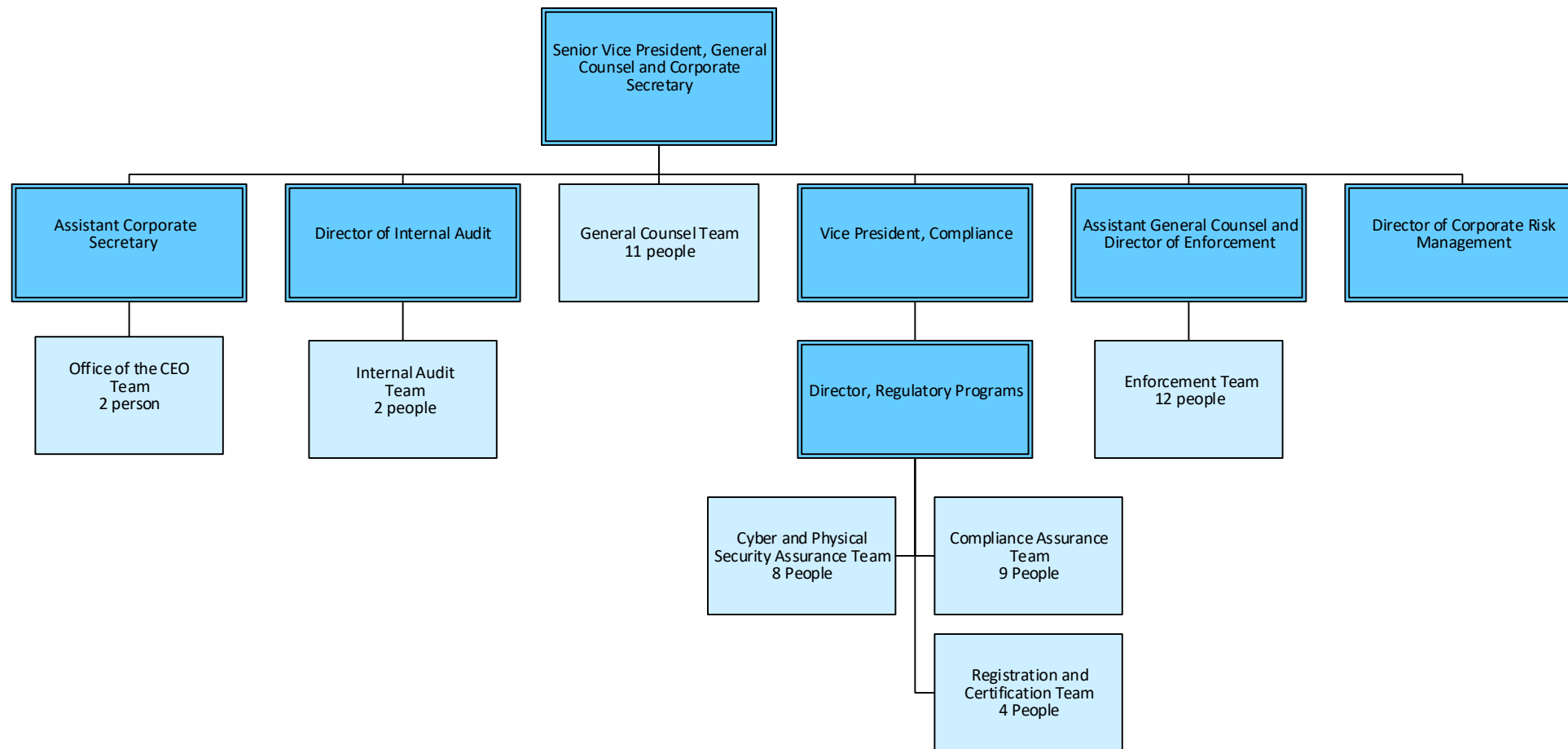
Engineering & Standards, and Reliability Risk Management



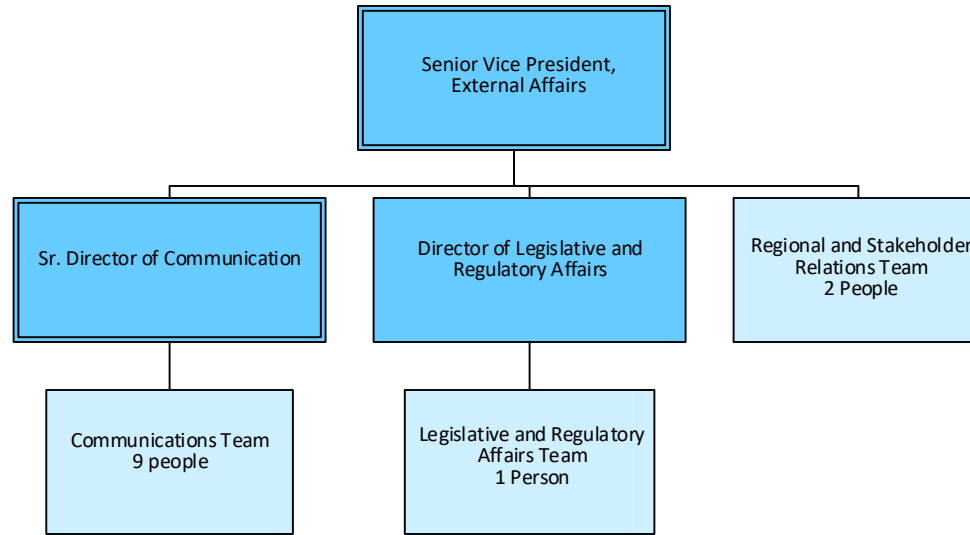
Electricity Information Sharing and Analysis Center



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



External Affairs



Attachment 3

Midwest Reliability Organization Proposed 2022 Business Plan and Budget



Midwest Reliability Organization

2022 Business Plan and Budget

Approved by MRO Board of Directors: June 24, 2021

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Introduction

The following table summarizes the 2022 Midwest Reliability Organization (MRO) budget.

	TOTAL RESOURCES (in whole dollars)			
	2022 Budget	U.S.	Canada	Mexico
Statutory FTEs	71.00			
Non-statutory FTEs				
Total FTEs	71.00			
Statutory Expenses	\$ 19,909,361			
Non-Statutory Expenses	\$ -			
Total Expenses	\$ 19,909,361			
Statutory Inc(Dec) in Fixed Assets	\$ 125,000			
Non-Statutory Inc(Dec) in Fixed Assets	\$ -			
Total Inc(Dec) in Fixed Assets	\$ 125,000			
Assessment Stabilization Adjustment	\$ (2,201,948)			
Non-Statutory Stabilization Adjustment				
Total Assessment Stabilization Adjustment	\$ (2,201,948)			
Total Statutory Funding Requirement	\$ 17,832,414			
Total Non-Statutory Funding Requirement	\$ -			
Total Funding Requirement	\$ 17,832,414			
Statutory Funding Assessments	\$ 17,832,414	\$ 15,937,255	\$ 1,895,159	-
Non-Statutory Fees				
NEL	479,196,453	429,545,253	49,651,200	-
NEL%	100.00%	89.64%	10.36%	0.00%

Table 1. MRO 2022 Budget

Organizational Overview

MRO is a Delaware nonprofit¹ corporation that is a cross-border Regional Entity² operating under a delegation agreement (Delegation Agreement) with the North American Electric Reliability Corporation (NERC)³ and in accordance with the MRO Bylaws. The MRO Region

¹ MRO is tax exempt under Internal Revenue Service Section 501(c)(3) and under applicable State of Minnesota provisions.

² 16 U.S.C. § 824o(a)(7)

³ The Commission certified NERC as the Electric Reliability Organization (ERO) in accordance with Section 215 of the Federal Power Act on July 20, 2006. *N. Am. Elec. Reliability Corp.*, 116 FERC ¶ 61, 062 (2006) (“ERO Certification Order”), *order on reh’g and compliance*, 117 FERC ¶ 61, 126 (2006), *aff’d sub nom. Alcoa Inc. v. FERC*, 564 F.3d 342 (D.C. Cir. 2009).

covers central North America and includes all or portions of 16 states within the United States,⁴ and the Canadian provinces of Saskatchewan and Manitoba. MRO's current Delegation Agreement was approved by the Federal Energy Regulatory Commission (FERC)⁵ pursuant to FERC's authority under the Federal Power Act (FPA)⁶ and is effective through December 31, 2025.

MRO's vision is:

"A highly reliable and secure North American bulk power system."

MRO's mission is:

"To identify, prioritize and assure effective and efficient mitigation of risks to the reliability and security of the North American bulk power system by promoting Highly Effective Reliability Organizations® (HEROs)."

MRO's vision and mission align with, and support, the Electric Reliability Organization (ERO) Enterprise's⁷ vision and mission.⁸

Further, MRO supports the ERO Enterprise Long-Term Strategy.⁹ Working closely with registered entities and subject matter experts in the MRO Region, MRO continually identifies and assesses risks to reliability of the regional bulk power system. Region-specific activities to support the direction of the ERO Enterprise and address regional risks are reflected in MRO's Strategic Plan, Operating Objectives and Supporting Activities (MRO Strategic Plan).

In the MRO Strategic Plan, MRO adopted the ERO Enterprise Core Principles¹⁰ to guide its conduct and behaviors.

MRO Core Principles

We are accountable for results, providing clarity and assurance of procedures, processes and controls to improve the reliability of the bulk power system. The following core principles guide our conduct and behavior:

- **Accountability**
 - *Maintain the public trust in fulfilling responsibilities and use our funding wisely.*
 - *Act in a timely manner on the basis of facts to address issues related to events, emerging reliability risks, the needs of stakeholders, and the public interest.*

⁴ The MRO Region covers the states of Iowa, Kansas, Nebraska, Minnesota, North Dakota, and Oklahoma; and portions of Arkansas, Illinois, Louisiana, Michigan, Missouri, Montana, New Mexico, South Dakota, Texas, and Wisconsin.

⁵ *Order Conditionally Approving Revised Pro Forma Delegation Agreement and Revised Delegation Agreements with Regional Entities*, 173 FERC ¶61,277 (December 2020).

⁶ 16 U.S.C. 824 o (e)(4)

⁷ The ERO Enterprise refers to NERC and the Regional Entities collectively.

⁸ MRO expands upon the ERO Enterprise mission statement *"To assure the effective and efficient reduction of risks to the reliability and security of the grid"* adding the concepts of identifying and prioritizing mitigation of risks and to include the High Reliability Organization (HRO) theory and principles, which MRO brands as "HERO." Although this is not explicitly included in the ERO Enterprise mission statement, NERC also promotes the HRO theory.

⁹ ERO Enterprise Long-Term Strategy as approved by the NERC Board of Trustees December 12, 2019.

¹⁰ MRO made three additions in keeping with the ERO Enterprise Core Principles: 1) the addition of accountability for clarity, assurance, and results; 2) an addition to articulate using funding wisely; and 3) a description of how to strive for operational excellence.

- **Independence**
 - *Be impartial, objective, fair, and intellectually honest.*
 - *Ensure governance practices that provide both regulatory independence and inclusion of stakeholder expertise to address reliability and security matters.*
- **Inclusiveness and Transparency**
 - *Create opportunities for stakeholder engagement.*
 - *Consider and balance the diverse interests of all stakeholders, including costs imposed to the consumer.*
 - *Leverage industry expertise and avoid unnecessary duplication.*
- **Innovation**
 - *Assess emerging risks and adapt to change.*
 - *Encourage new ideas and prioritize efforts that contribute to improving productivity and reliable operations.*
- **Excellence**
 - *Strive for operational excellence by being rigorous, accurate, and exacting.*
 - *Promote the active participation of the best technical experts.*
 - *Make informed decisions regarding efficient use and allocation of resources.*
- **Integrity**
 - *Maintain the highest levels of ethical conduct.*
 - *Maintain respectful relationships.*
 - *Protect the security of confidential information.*

Membership and Governance

MRO membership¹¹ consists of members and adjunct members. As of April 2021, MRO had 83 members, seven of which are non-voting, adjunct members. Each voting member organization belongs to one of seven industry sectors:

- Transmission System Operator
- Generator and/or Power Marketer
- Investor Owned Utility
- Cooperative
- Municipal Utility
- Federal Power Marketing Agency
- Canadian Utility

MRO's Board of Directors is a hybrid board consisting of a combination of independent and balanced stakeholder board members. The MRO Board consists of 17 stakeholder directors elected by members from the seven industry sectors, plus 4 independent directors and 2 regional directors elected by all members. Pursuant to MRO's Bylaws, no two industry sectors can control a vote. In addition, the board has adopted procedures to ensure it carries out its responsibilities free of conflicts of interest.

The board has three committees that provide functional oversight of MRO's operations:

- Finance and Audit Committee (FAC)
- Governance and Personnel Committee (GPC)
- Organizational Group Oversight Committee (OGOC)

¹¹ Membership is voluntary and provides members with voting rights. There is no fee for membership.

The board has established three advisory councils comprised of stakeholder members:

- Compliance Monitoring and Enforcement Program Advisory Council (CMEPAC)
- Reliability Advisory Council (RAC)
- Security Advisory Council (SAC)

The advisory councils are comprised of industry subject matter experts from MRO member companies tasked with identifying risks to the reliability and security of the regional bulk power system, developing mitigation strategies, and expanding outreach efforts to help registered entities become more aware of and reduce risk to their individual systems. In addition to producing educational material for the region in the form of newsletter articles and webinars, each of the advisory councils is responsible for one major outreach conference annually. The advisory councils also contribute to MRO's annual Regional Risk Assessment.

Each advisory council may have subgroups that it oversees. All organizational group charters are published on MRO's website. Board-approved *Policy and Procedure 3: Establishment, Responsibilities, and Procedures of Organizational Groups and MRO Sponsored Representatives on NERC Organizational Groups* sets out the processes for the organizational groups and MRO sponsored NERC Representatives. The three most active groups are the NERC Standards Review Forum (NSRF) which meets weekly to discuss ongoing NERC Standards projects, the Protective Relay Subgroup (PRS) which focuses on protection system misoperations and reviews power system events in the Region, and the Security Advisory Council Threat Forum (SACTF), which meets weekly in a trusted forum with E-ISAC staff to discuss timely threat information for the power industry. During 2020 and 2021, the SACTF conducted a second weekly call for MRO members to share best practices related to COVID-19 impacts on the reliable and secure operation of the BPS.

The advisory councils also work with MRO staff and the MRO Board's OGOC to interface with NERC technical committees to ensure awareness and avoid duplication of efforts. MRO sponsors staff from member companies to participate in NERC technical committee meetings that are focused on risks most material to the MRO region. MRO reimburses the travel cost for those sponsored representatives, and the representatives report back in to one of MRO's advisory councils. Each sponsored representative is also assigned an MRO staff member to assist with these efforts. MRO also reimburses travel costs associated with participation on these MRO organizational groups.

Business Plan and Budget Development

Each year, MRO prepares a Business Plan and Budget for the following calendar year. The Business Plan and Budget takes into account the ERO Enterprise Long-Term Strategy and the MRO Strategic Plan. MRO staff develops the Business Plan and Budget with board and stakeholder input. The Business Plan and Budget process is a coordinated effort with NERC and the other Regional Entities.

NERC and the Regional Entities implement revisions to the Statement of Activities (SOA) report from time-to-time to address compliance with changing accounting standards in accordance with GAAP. The report is also presented in a fashion that improves the effectiveness of the report to the reader and to provide a total budget amount that more closely reflects the amount of annual revenues required from assessments and other funding sources.

The draft Business Plan and Budget is reviewed by the MRO FAC and the board, and is subsequently posted for stakeholder comment. After consideration of stakeholder comments, but prior to obtaining final approval from its board of directors, MRO seeks NERC input. The MRO Board considers the final version of the Business Plan and Budget at its second quarter meeting, and upon approval, staff submits it to NERC for approval by NERC's Board of Trustees. Upon approval of NERC's Business Plan and Budget and all six Regional Entities' Business Plans and Budgets, a filing is submitted to FERC for approval, which is typically obtained in October or November of the year preceding the budget year.

Financial Policies and Controls

MRO adheres to internal financial controls and policies that govern its financial stewardship and guide its financial practices. MRO's board-approved policy and procedure 12: General Finance is used to guide prudent and sound judgement in managing the financial and physical resources of MRO.

In addition to its operating expenses, MRO's budget includes a cash reserve as specified in *Policy and Procedure 13: Reserves Policy*.

Accounting and Recordkeeping

MRO uses Generally Accepted Accounting Principles (GAAP) to consistently record its financial transactions, and uses a Chart of Accounts based on NERC's System of Accounts, as required in the Delegation Agreement. Additionally, MRO maintains an accounting manual to provide instructions to accounting staff on accounting transactions and functions. MRO maintains its books on an accrual basis with monthly closings, recognizing revenues when earned and expenses when incurred. The majority of MRO expenses are labor and benefit costs. General and Administrative costs are allocated to each MRO program area based on the number of full-time equivalents (FTEs) in each program area.

Organizational Structure and Staffing

MRO has five statutory departments, each of which is dedicated to one or more statutory functions or program areas, and five general and administrative departments. Each of the statutory departments also contribute to the Training and Education program, which provides outreach to MRO registered entities and stakeholders through MRO's newsletter and publications, workshops, webinars and conferences, as well as presentation opportunities at other industry events.

Statutory Programs and Departments

- The Reliability Standards Program is responsible for monitoring NERC Reliability Standards projects, supporting the NERC Standards Review Forum, coordinating SME teams as necessary, and providing MRO representation in the balloting of standards. The oversight of this program is performed under the Risk Assessment and Mitigation Department.
- The Compliance Monitoring Department encompasses MRO's oversight activities (including the development of Compliance Oversight Plans (COPs)) and conducts oversight activities such as audits, spot checks, and self-certifications. This department is managed by a director who reports to the Senior Vice President and Chief Operating Officer.
- MRO's Risk Assessment and Mitigation (RAM) Department is responsible for providing an independent review of all identified potential noncompliances in the MRO Region.

RAM assesses the risk that potential noncompliances pose to the Bulk Electric System (BES) and ensures that mitigation activities not only address the immediate issue, but also prevent recurrence. The RAM Department is managed by a director who reports to the Senior Vice President and Chief Operating Officer.

- The Enforcement Department is responsible for the disposition and enforcement of noncompliance with Reliability Standards and is managed by a director who reports to the Vice President, General Counsel and Corporate Secretary.
- The Reliability Analysis Department is responsible for reliability assessments, performance analysis, event analysis, situational awareness, and organization registration and certification. This department is managed by a director who reports to the Senior Vice President and Chief Operating Officer.
- The Security Department focuses on activities to promote identification, assessment, mitigation, and communication of cyber, physical, and operational security risks to the North American bulk power system. This department is managed by a director who reports to the Senior Vice President and Chief Operating Officer.

General and Administrative Departments

- The Information Technology (IT) Department is responsible for providing a secure network infrastructure and information technology systems that support the users. Systems include IT, cyber, and physical security. This department is managed by a director who reports to the Vice President and Engineer for Strategy, Innovation, and Finance.
- The Legal Department is responsible for providing advice to MRO on legal and regulatory matters. The department is led by the Vice President, General Counsel and Corporate Secretary who, along with the Assistant Corporate Secretary and Senior Counsel, provides legal advice to MRO. Internal and external MRO communications matters are also overseen by a director who reports to the Vice President, General Counsel and Corporate Secretary.
- The Human Resource Department performs all employee-related functions, including benefits administration, recruitment, retention, and talent management. This department includes a director who reports to the Vice President and Engineer for Strategy, Innovation, and Finance.
- The Finance and Accounting Department performs accounting, finance, budget, event planning, facilities management, and treasury functions and reports to the Vice President and Engineer for Strategy, Innovation, and Finance, who is also the Corporate Compliance Officer.
- The General and Administrative Department reports to MRO's President and CEO and performs normal administrative functions for the President and CEO and the Vice President, General Counsel and Corporate Secretary.

2022 Strategic Priorities

The MRO President and CEO has established three strategic priorities for MRO staff in 2022:

- *Execute* NERC delegated functions; and
- *Align* our efforts with others across the ERO Enterprise; and
- *Enhance* our focus on risk.

Execute NERC delegated functions. MRO will identify, prioritize, and ensure effective and efficient mitigation of risks to the reliability and security of the North American bulk power

system across our geographical footprint. MRO must continue to execute its delegated functions with a high degree of accuracy pursuant to its principles for all MRO registered entities, including Compliance Monitoring and Enforcement Program (CMEP) activities, event analysis, performance analysis, and reliability assessments.

Align our efforts with others across the ERO Enterprise. MRO will remain aligned with the ERO Enterprise and will continue to provide support to ERO Enterprise goals and the ERO Enterprise Long-Term Strategy. This alignment is critical to sustaining effective and efficient operations and producing optimal results.

Enhance our focus on risk. MRO will develop and deliver innovative and risk-based programs and tools. MRO will continue to deliver risk-based outreach and CMEP activities, as well as continue to mature its internal approach to identifying, prioritizing, and managing corporate risks.

2022 Key Strategic Goals and Supporting Activities

ERO Enterprise Model and Transformation

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

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

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

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

- Support innovation, initiatives, and the sharing of best-practices across the ERO Enterprise.

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



ERO Enterprise Strategic and Operational Planning

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

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

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

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

Since risks to reliability and security are fluid and can be impacted by recent events, NERC and each Regional Entity may also create annual work plan priorities that summarize the most critical goals and objectives for the year. In many cases, these work plan priorities are also used for individual, departmental, and company performance measurement.¹²

MRO supports the ERO Enterprise's Long-Term Strategy through the execution of MRO's strategic goals:

Goal 1: Risk-Responsive Reliability Standards

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

Goal 3: Reduction of Known Reliability Risks

Goal 4: Identification and Assessment of Emerging Reliability Risks

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

Goal 6: Improving ERO Enterprise Efficiency and Effectiveness

MRO annually develops objectives and supporting activities in support of these strategic goals.

2022 Overview of Cost Impacts

In developing MRO's 2022 Business Plan and Budget (2022 BP&B), MRO used shared assumptions, in developing this 2022 BP&B. Prior to obtaining final approval from its board of directors, MRO seeks NERC input and review of its annual Regional Entity BP&B, including coordination of program requirements and any related key initiatives for the ERO Enterprise.

Overall, the MRO 2022 statutory expenses (\$20.0M) increased by 8.8 percent from the 2021 statutory expenses (\$18.4M). The 2022 statutory assessment (\$17.8M) represents a 5 percent increase from the 2021 assessment. A key factor of the assessment determination was the consideration towards the state of the economy within a pandemic environment. MRO proposes to use its reserves to manage the variance between the budgeted expenses and the assessments.

¹² 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.

Other significant statutory expense changes (including capital expenditures) in the 2022 BP&B compared to its 2021 budget include:

- **Increase in FTEs.** MRO's personnel resources were evaluated for additional personnel needs. The evaluation determined a need for five additional staff to sustain and enhance strategic activities in the upcoming year. Based on actual headcount, two staff persons will be added to support administrative programs in the area of human resources and information technology. Three staff persons will be added to the operational programs to address CMEP and infrastructure security initiatives. Total FTEs increase from 66 to 71 in the 2022 BP&B. The allocation of FTEs are represented on page 14. An explanation of the FTE variances are included in the Resource Requirements section in each program area in Section A.
- **Increase in Salaries.** MRO completed a comprehensive review of all of its positions in 2019, to remain competitive with the job market. Current competitive salaries were increased by three percent.
- **Increase in Benefits.** MRO measured the average cost in its health premiums per employee based on premium cost assumptions, which are higher than budgeted in 2021. A proposed increase to FTEs also result in benefit costs being higher than in the 2021 budget. The per-employee cost is applied to each department based on FTEs.
- **Decrease in Meetings and Travel.**¹³ MRO will host the majority of its in-person educational events to support mitigation and outreach strategies for addressing identified risks at its Saint Paul office. There is one off-site workshop planned in the southern area of the MRO Region. Increased usage of virtual platforms for meetings and events aid in the reduction of travel. Historic cost trends and emerging trends in use of virtual technology were used to adjust travel cost estimates in 2022.
- **Increase in Consultant and Contract Support.** The majority of MRO's consultants and contracts are in IT and Compliance. These programs utilize additional technical support to maintain MRO's IT infrastructure and support newly implemented ERO-wide applications and tools.
- **Decrease in Office Rent.** Office rent is adjusted as a result of improved cost assumptions based on actual expenses.
- **Other Operating Expenses.** Other operating expenses are decreasing to reflect a reduction in the use of external support in some administrative service areas and reduced cost in office supplies.

¹³ The extent to which COVID-19 assumptions impact meetings and travel in 2022 is based on current trends in travel and use of virtual technology. Meetings and travel are not presumed to return to pre-COVID-19 levels in 2022.

Comparison of 2022 and 2021 Statutory Budgets

The following table and figure summarize and illustrate MRO’s 2022 BP&B by program area.

Base Operating Budget	Budget	Projection	Budget	Variance	
	2021	2021	2022	2022 Budget v 2021 Budget	Variance %
Reliability Standards	559,677	559,677	158,553	(401,124)	-71.7%
Compliance Enforcement	13,056,084	13,056,084	14,238,948	1,182,864	9.1%
Reliability Analysis and Organization Registration	3,193,130	3,193,130	3,692,737	499,607	15.6%
Training, Education and Operator Certification	857,332	857,332	858,992	1,660	0.2%
Situation Awareness and Infrastructure Security	745,980	745,980	1,085,132	339,152	45.5%
Total	18,412,202	18,412,202	20,034,361	1,622,159	8.8%

This table combines Compliance Monitoring, Risk Assessment and Mitigation, and Enforcement.

Table 2. Budget by Program Area

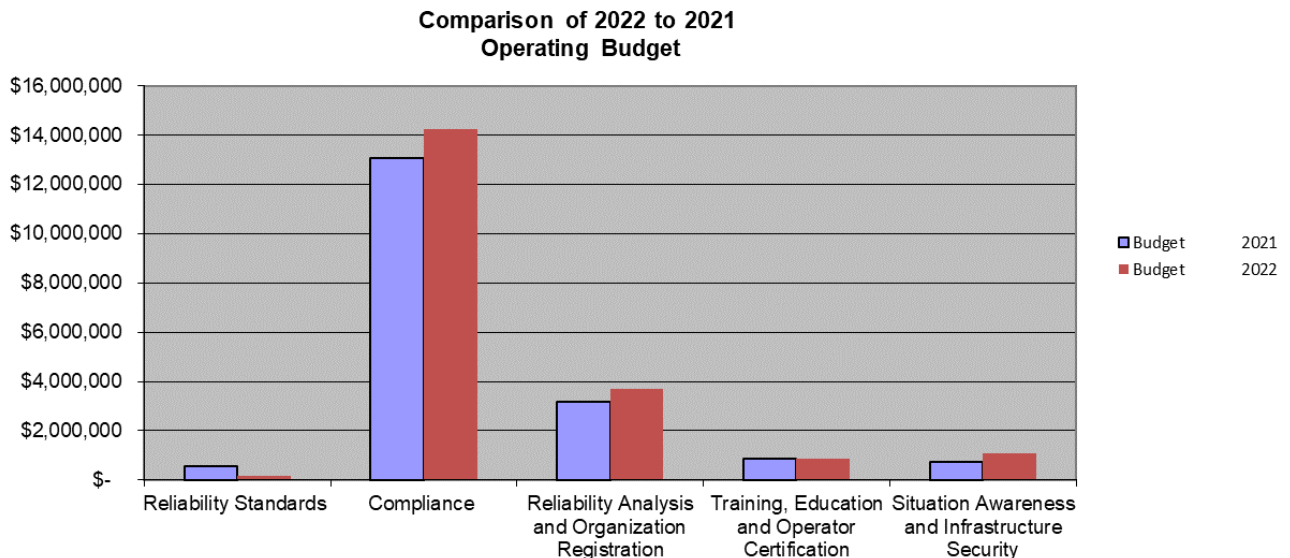


Figure 1. Budget by Program Area Chart

The following table displays total FTEs by program area.

Total FTEs by Program Area	Budget 2021	Budget 2022	Variance from 2021 Budget
STATUTORY			
Operational Programs			
Reliability Standards	1.50	0.45	(1.05)
Compliance	18.00	19.01	1.01
Compliance Risk Assessment and Mitigation	16.00	15.68	(0.32)
Compliance Enforcement	2.00	1.87	(0.13)
Training and Education	2.16	1.89	(0.27)
Reliability Analysis and Organization and Certification	8.34	9.13	0.79
Situation Awareness and Infrastructure Security	2.00	2.95	0.95
Total FTEs Operational Programs	50.00	50.98	0.98
Administrative Programs			
Technical Committees and Member Forums	-	-	-
General and Administrative	3.36	2.75	(0.61)
Legal	1.55	2.79	1.24
Information Technology	6.00	7.98	1.98
Human Resources	1.29	2.15	0.86
Finance and Accounting	3.80	4.35	0.55
Total FTEs Administrative Programs	16.00	20.02	4.02
Total FTEs	66.00	71.00	5.00

Table 3. Total FTEs by Program Area

For an explanation of the variances, refer to the Resource Requirements section in each program area in Section A.

2021 Budget and Projection and 2022 Budget Comparisons

The following table lists the 2021 budget and projection compared to the 2022 budget.

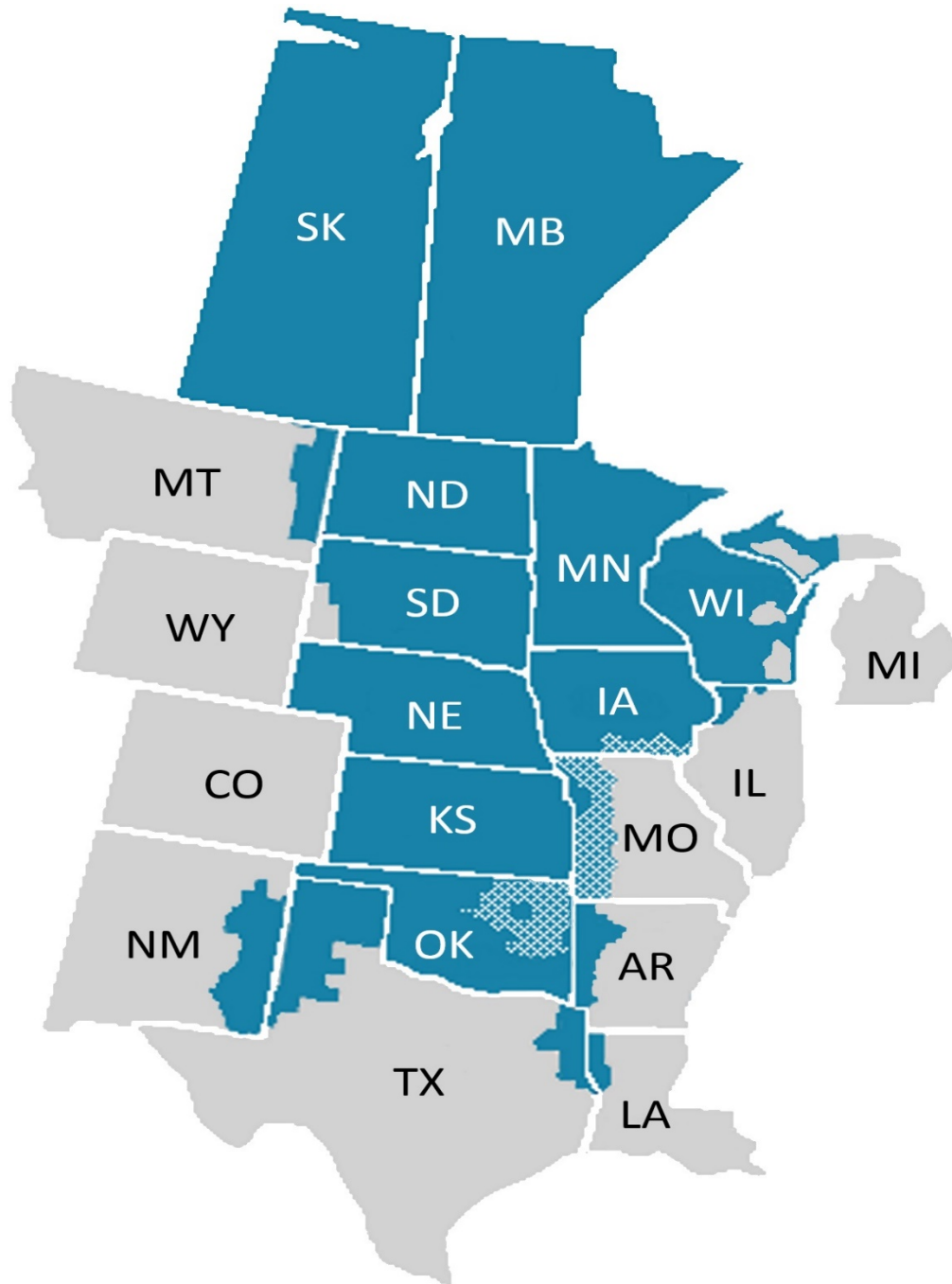
Statement of Activities, Fixed Assets Expenditures and Change in Working Capital					
2021 Budget & Projection, and 2022 Budget					
STATUTORY					
	2021 Budget	2021 Projection	Variance 2021 Projection v 2021 Budget Over(Under)	2022 Budget	Variance 2022 Budget v 2021 Budget Over(Under)
Funding					
ERO Funding					
NERC Assessments	\$ 16,983,251	\$ 16,983,251	\$ -	\$ 17,832,414	\$ 849,162
Penalties Released*	360,504	360,504	-	458,250	97,746
Total Funding (A)	\$ 17,343,755	\$ 17,343,755	\$ -	\$ 18,290,664	\$ 946,908
Expenses					
Personnel Expenses					
Salaries	\$ 10,059,263	\$ 10,059,263	\$ -	\$ 11,416,562	\$ 1,357,299
Payroll Taxes	\$ 631,891	\$ 631,891	-	744,165	112,275
Benefits	\$ 1,064,375	\$ 1,064,375	-	1,193,996	129,621
Retirement Costs	\$ 1,528,209	\$ 1,528,209	-	1,922,258	394,048
Total Personnel Expenses	\$ 13,283,737	\$ 13,283,737	\$ -	\$ 15,276,980	\$ 1,993,243
Meeting Expenses					
Meetings & Conference Calls	\$ 204,900	\$ 204,900	\$ -	\$ 178,877	\$ (26,023)
Travel	\$ 739,967	\$ 739,967	-	581,670	(158,297)
Total Meeting Expenses	\$ 944,867	\$ 944,867	\$ -	\$ 760,547	\$ (184,320)
Operating Expenses, excluding Depreciation					
Consultants & Contracts	\$ 1,339,701	\$ 1,339,701	\$ -	\$ 1,204,800	\$ (134,901)
Office Rent	\$ 1,168,700	\$ 1,168,700	-	1,132,100	(36,600)
Office Costs	\$ 905,697	\$ 905,697	-	967,934	62,237
Professional Services	\$ 519,500	\$ 519,500	-	567,000	47,500
Miscellaneous	-	-	-	-	-
Total Operating Expenses	\$ 3,933,598	\$ 3,933,598	\$ -	\$ 3,871,834	\$ (61,764)
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Indirect Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses (B)	\$ 18,162,202	\$ 18,162,202	\$ -	\$ 19,909,361	\$ 1,747,159
Change in Net Assets (=A - B)	\$ (818,447)	\$ (818,447)	\$ -	\$ (1,618,698)	\$ (800,251)
Fixed Asset Additions, excluding Right of Use Assets (C)	250,000	250,000	-	125,000	(125,000)
TOTAL BUDGET (Total Expenses plus Fixed Asset Additions =B + C)	\$ 18,412,202	\$ 18,412,202	\$ -	\$ 20,034,361	\$ 1,622,159
TOTAL CHANGE IN RESERVES (=A-B-C)	\$ (1,068,447)	\$ (1,068,447)	\$ -	\$ (1,743,698)	\$ (675,251)
FTEs	66.00	66.00	-	71.00	5.00

Table 4. 2021 Budget and Projection and 2022 Comparisons¹⁴

¹⁴ *Penalties released in the current year reflects the designated amount of funds released from the Assessment Stabilization Reserve (ASR) to offset U.S. assessments as approved by the NERC Board of Trustees and FERC. Actual penalties invoiced in the current reporting year are shown as an increase in the ASR on the reserve summary table and will be reported as income on the audited financial statements in accordance with Generally Accepted Accounting Principles (GAAP).

Section A – Statutory Programs

2022 Business Plan and Budget



Section A – Statutory Programs

Reliability Standards Program

The following table shows funding sources and related expenses for the Reliability Standards Program.

Reliability Standards Program (in whole dollars)			
	2021 Budget	2022 Budget	Increase (Decrease)
Total FTEs	1.50	0.45	(1.05)
Direct Expenses	\$ 344,886	\$ 88,447	\$ (256,439)
Indirect Expenses	\$ 207,291	\$ 69,003	\$ (138,288)
Other Non-Operating Expenses	\$ -	\$ -	\$ -
Inc(Dec) in Fixed Assets	\$ 7,500	\$ 1,103	\$ (6,397)
Total Funding Requirement	\$ 559,677	\$ 158,553	\$ (401,125)

Table A-1. Reliability Standards Budget

Reliability Standards

Program Scope and Functional Description

MRO's efforts related to NERC Reliability Standards support NERC's stakeholder-driven processes to develop and maintain risk-responsive Reliability Standards by providing feedback into the standards process, conducting outreach during standards development, and providing clarity to industry on enforceable standards and requirements. MRO's CMEPAC and its subgroups develop Standard Application Guides (SAGs), comment on NERC Standard Authorization Requests, and participate in standards development.

MRO's Reliability Standards Program activities support the ERO Enterprise Long-Term Strategy through the execution of MRO's Strategic Goal 1.

Goal 1: Risk-Responsive Reliability Standards

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

Impact on Resource Needs

Workload and travel for Reliability Standards staff will stabilize as staff conducts the supporting activities for Goal 1. Member travel will decrease as virtual conferences and meetings become more common.

Impact on Resource Needs

Workload for Organizational Registration and Certification is stable in 2022. MRO anticipates two certification reviews in 2022.

Reliability Standards Program Resource Requirements

Overall Budget Change 2022 vs 2021 (Decrease \$400K, 71.7%)

Overall, activities in this area have decreased leading to a budget reduction in 2022. Subject matter expert teams that develop SAGs were moved under the CMEPAC, and member travel reimbursement costs for outreach support in this area is reduced for 2022.

The budget for this function had received increases in prior years to meet demands for NERC-led Review Panels and the development of a new registration tool. Completion of those initiatives has reduced the need for resources in this program.

Personnel Expenses (Decrease \$231K, 74.2%)

The average salary increase was budgeted at 3 percent. However, MRO shifted staff resources to meet priorities in other program areas. This resulted in lower allocation of labor hours to this program.

Meeting Expenses (Decrease \$18.5K, 70.1%)

There is an overall travel expense decrease for staff travel. Travel dollars for participation on ERO working groups, the Align project, and member travel for organizational group face-to-face meetings trended very low in prior years. It is anticipated that these costs will further decrease due to increased use of virtual technology.

Indirect Expenses (Decrease \$138K, 66.7%)

There is an overall decrease in administrative services expenditures that are allocated to the operational programs based on the program's FTEs. The allocation of indirect costs is lower due to the reduced FTE in this program.

Reliability Standards Budget Details

The following table shows funding sources and related expenses for the Reliability Standards Program.

Statement of Activities, Fixed Assets Expenditures and Change in Working Capital					
2021 Budget & Projection, and 2022 Budget					
STANDARDS					
	2021	2021	Variance	2022	Variance
	Budget	Projection	2021 Projection v 2021 Budget Over(Under)	Budget	2022 Budget v 2021 Budget Over(Under)
Funding					
ERO Funding					
NERC Assessments	\$ 548,862	\$ 548,862	\$ -	\$ 154,508	\$ (394,353)
Penalties Released	10,815	10,815	-	4,045	(6,770)
Total Funding (A)	\$ 559,677	\$ 559,677		\$ 158,553	\$ (401,124)
Expenses					
Personnel Expenses					
Salaries	\$ 233,737	\$ 233,737	\$ -	\$ 58,474	\$ (175,262)
Payroll Taxes	14,862	14,862	-	3,914	(10,947)
Benefits	26,129	26,129	-	7,319	(18,811)
Retirement Costs	37,175	37,175	-	10,839	(26,336)
Total Personnel Expenses	\$ 311,903	\$ 311,903	\$ -	\$ 80,547	\$ (231,356)
Meeting Expenses					
Meetings	\$ 1,400	\$ 1,400	\$ -	\$ 1,400	\$ -
Travel	25,000	25,000	-	6,500	(18,500)
Total Meeting Expenses	\$ 26,400	\$ 26,400	\$ -	\$ 7,900	\$ (18,500)
Operating Expenses					
Consultants & Contracts	\$ -	\$ -	\$ -	\$ -	\$ -
Office Rent	-	-	-	-	-
Office Costs	6,583	6,583	-	-	(6,583)
Professional Services	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Total Operating Expenses	\$ 6,583	\$ 6,583	\$ -	\$ -	\$ (6,583)
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Indirect Expenses	\$ 207,291	\$ 207,291	\$ -	\$ 69,003	\$ (138,288)
Total Expenses (B)	\$ 552,177	\$ 552,177	\$ -	\$ 157,450	\$ (394,727)
Change in Net Assets (=A - B)	\$ 7,500	\$ 7,500	\$ -	\$ 1,103	\$ (6,397)
Fixed Asset Additions, excluding Right of Use Assets (C)	7,500	7,500	-	1,103	(6,397)
TOTAL BUDGET (Total Expenses plus Fixed Asset Additions =B + C)	\$ 559,677	\$ 559,677	\$ -	\$ 158,553	\$ (401,124)
TOTAL CHANGE IN RESERVES (=A-B-C)	\$ -	\$ -	\$ -	\$ -	
FTEs	1.50	1.50	-	0.45	(1.05)

Table A-2. Reliability Standards Budget Detail

Compliance Monitoring and Enforcement Program

The following table lists the budget for the Compliance Monitoring and Enforcement Program (CMEP).

Compliance Monitoring and Enforcement Program (in whole dollars)			
	2021 Budget	2022 Budget	Increase (Decrease)
Total FTEs	36.00	36.56	0.56
Direct Expenses	\$ 7,901,109	\$ 8,543,197	\$ 642,089
Indirect Expenses	\$ 4,974,975	\$ 5,606,108	\$ 631,133
Other Non-Operating Expenses	\$ -	\$ -	\$ -
Inc(Dec) in Fixed Assets	\$ 180,000	\$ 89,643	\$ (90,357)
Total Funding Requirement	\$ 13,056,084	\$ 14,238,948	\$ 1,182,865

Table A-3. Compliance Monitoring and Enforcement Program Budget

Program Scope and Functional Description

MRO's CMEP work is performed by three departments: Compliance Monitoring, Risk Assessment and Mitigation (RAM), and Enforcement, creating an effective "check and balance" for making decisions about noncompliance and enforcement. MRO's RAM Department develops Inherent Risk Assessments (IRAs) for registered entities; Compliance Monitoring uses the IRA along with entity performance, internal controls, and other qualitative assessments to develop Compliance Oversight Plans (COPs) and conduct compliance monitoring for registered entities. In addition, RAM conducts risk assessments for registered entity noncompliances and violations, and evaluates and monitors mitigation efforts and processes and submits Compliance Exception notifications. Enforcement processes noncompliances and violations using risk-based disposition methods, including any penalty determinations.

MRO staff will perform CMEP activities for approximately 220 registered entities in 2022. The Compliance Monitoring Department will conduct approximately 20 audits in 2022. MRO will also contribute to audits, as needed, for entities that participate in coordinated oversight where MRO is the Affected Regional Entity. The Enforcement Department will review registered entity participation in the Self-Logging Program. The CMEP also supports the MRO CMEPAC and ERO Enterprise CMEP activities.

MRO's Compliance Monitoring, RAM, and Enforcement departments support ERO Enterprise efforts to appropriately monitor and enforce compliance as outlined in the ERO Enterprise Long-Term Strategy through the execution of MRO's Strategic Goals 1-4.

Goal 1: Risk-Responsive Reliability Standards

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

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

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

Goal 3: Reduction of Known Reliability Risks

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

Goal 4: Identification and Assessment of Emerging Reliability Risks

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

Impact on Resource Needs

Staffing for these departments will increase in 2022, with one-half FTE added in Compliance Monitoring. In addition to regular oversight work, the CMEP departments will dedicate resources to support the development and implementation of the ERO Enterprise Align Project and the ERO Secure Evidence Locker, which are shared technology platforms that provide consistency and alignment of CMEP processes across NERC and the Regional Entities. The department's proposed resource additions will further the development of the Aggregated Risk program. This program will utilize Self-Certifications to monitor the risks associated with standards that have an increased likelihood of common mode failures across multiple organizations. The combination of the Aggregated Risk program and the CMEP Implementation Plan is leading to an increased use of Self-Certifications as a monitoring method. These initiatives effectively focus on assessment and mitigation of reliability and security risk to the bulk power system involving lower risk registered entities in aggregate.

Compliance Monitoring and Enforcement Program Resource Requirements

Overall Budget Change 2022 vs 2021 (Increase \$1.2M, 9.1%)

The budget increase for 2022 is due to the increase in FTEs to this program and the increase in indirect expense.

Personnel Expenses (Increase \$821K, 11.8%)

The average salary increase was budgeted at 3 percent. One-half additional FTE will be added to this program. Benefits increased due to projected increase in medical premium costs.

Meeting Expenses (Increase \$19K, 8.8%)

There is an overall travel expense increase for both staff travel and member reimbursement. This increase is primarily attributed to the expectation that on-site audits will last longer due to the ERO Enterprise's increased focus on internal controls during monitoring activities, as well as additional FTEs that will also travel. It is anticipated that the state of travel with regard to compliance monitoring will recover as the restrictions in place during the global pandemic lessen.

Indirect Expenses (Increase \$631K, 12.7%)

There is an overall increase in administrative services that are allocated to the operational programs based on the FTEs.

Compliance Monitoring and Enforcement Program Budget Detail

The following table shows funding sources and related expenses for the CMEP.

Statement of Activities, Fixed Assets Expenditures and Change in Working Capital					
2021 Budget & Projection, and 2022 Budget					
COMPLIANCE MONITORING AND ENFORCEMENT PROGRAM					
	2021 Budget	2021 Projection	Variance 2021 Projection v 2021 Budget Over(Under)	2022 Budget	Variance 2022 Budget v 2021 Budget Over(Under)
Funding					
ERO Funding					
NERC Assessments	\$ 12,796,521	\$ 12,796,521		\$ 13,910,317	\$ 1,113,795
Penalties Released	259,563	259,563		328,631	69,068
Total Funding (A)	\$ 13,056,084	\$ 13,056,084		\$ 14,238,948	\$ 1,182,864
Expenses					
Personnel Expenses					
Salaries	\$ 5,282,183	\$ 5,282,183	\$ -	\$ 5,792,149	\$ 509,966
Payroll Taxes	340,856	340,856	-	399,863	59,006
Benefits	557,406	557,406	-	613,759	56,353
Retirement Costs	791,450	791,450	-	987,129	195,679
Total Personnel Expenses	\$ 6,971,895	\$ 6,971,895	\$ -	\$ 7,792,900	\$ 821,005
Meeting Expenses					
Meetings	\$ 10,500	\$ 10,500	\$ -	\$ 11,500	\$ 1,000
Travel	206,300	206,300	-	224,470	18,170
Total Meeting Expenses	\$ 216,800	\$ 216,800	\$ -	\$ 235,970	\$ 19,170
Operating Expenses					
Consultants & Contracts	\$ 583,394	\$ 583,394	\$ -	\$ 383,382	\$ (200,012)
Office Rent	-	-	-	-	-
Office Costs	129,020	129,020	-	130,945	1,925
Professional Services	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Total Operating Expenses	\$ 712,414	\$ 712,414	\$ -	\$ 514,327	\$ (198,087)
Other Non-Operating Expenses					
	\$ -	\$ -	\$ -	\$ -	\$ -
Indirect Expenses					
	\$ 4,974,975	\$ 4,974,975	\$ -	\$ 5,606,108	\$ 631,133
Total Expenses (B)	\$ 12,876,084	\$ 12,876,084	\$ -	\$ 14,149,305	\$ 1,273,221
Change in Net Assets (=A - B)	\$ 180,000	\$ 180,000	\$ -	\$ 89,643	\$ (90,357)
Fixed Asset Additions, excluding Right of Use Assets (C)					
	\$ 180,000	180,000	-	89,643	(90,357)
TOTAL BUDGET (Total Expenses plus Fixed Asset Additions =B + C)	\$ 13,056,084	\$ 13,056,084	\$ -	\$ 14,238,948	\$ 1,182,864
TOTAL CHANGE IN RESERVES (=A-B-C)	\$ -	\$ -	\$ -	\$ -	\$ -
FTEs	36.00	36.00	-	36.56	0.56

Table A-4. Compliance Monitoring and Enforcement Program Budget Detail

Reliability Analysis and Organization Registration and Certification Program

The following table lists the budget for the Reliability Analysis program.

Reliability Analysis and Organization Registration and Certification (in whole dollars)			
	2021 Budget	2022 Budget	Increase (Decrease)
Total FTEs	8.34	9.13	0.79
Direct Expenses	\$ 1,998,894	\$ 2,270,357	\$ 271,463
Indirect Expenses	\$ 1,152,536	\$ 1,399,994	\$ 247,458
Other Non-Operating Expenses	\$ -	\$ -	\$ -
Inc(Dec) in Fixed Assets	\$ 41,700	\$ 22,386	\$ (19,314)
Total Funding Requirement	\$ 3,193,130	\$ 3,692,737	\$ 499,606

Table A-5. Reliability Analysis Department Budget

Program Scope and Functional Description

MRO's Reliability Analysis Department performs Reliability Assessments, Performance Analysis, and Event Analysis. NERC's Reliability Assessment Program includes reviewing, assessing and reporting on the adequacy and operating reliability of the interconnected bulk power system, both existing and planned. The Event Analysis Program includes analysis of large-scale outages, disturbances, and near misses to determine root causes and lessons learned. Performance Analysis involves reviewing quarterly data submissions to assess the performance and availability of electric generation equipment, electric transmission equipment, and reliable system operations through Transmission Availability Data Systems (TADS), Generating Availability Data Systems (GADS), Demand Response Availability Data Systems (DADS), and Misoperation Information Data Analysis Systems (MIDAS). This information may indicate the need to develop and implement targeted interventions. Reliability Analysis staff participate in the Eastern Interconnection Reliability Assessment Group (ERAG); this group facilitates data collection and the development of power flow and dynamics simulation models for the Eastern Interconnection. Reliability Analysis also supports the MRO RAC and ERO Enterprise RAPA activities.

In 2021, the department's responsibilities expanded to include Organization Registration and Certification. This involves appropriately registering owners, operators and users of the bulk power system. The Reliability Analysis Department ensures that organizations that apply for registration to perform the Reliability Coordinator, Balancing Authority, and Transmission Operator reliability functions meet or exceed minimum criteria demonstrating the capability to perform the incumbent tasks.

MRO's Reliability Analysis Department supports ERO Enterprise efforts to identify, provide insight into, and develop guidance for potential reliability risks to the BES as outlined in the ERO Enterprise Long-Term Strategy through the execution of MRO's strategic goals 3 and 4:

Goal 3: Reduction of Known Reliability Risks

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

Goal 4: Identification and Assessment of Emerging Reliability Risks

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

Impact on Resource Needs

Staffing for this program will increase by an FTE of 0.79 due to a shift of resources and activity for the certification/registration of MRO entities.

Reliability Analysis Organization Registration and Certification Resource Requirements**Overall Budget Change 2022 vs 2021 (Increase \$500K, 15.6%)**

The budget increase for 2022 is higher due to adding registration/certification activity in this program and an indirect expense increase.

Personnel Expenses (Increase \$310K, 17.9%)

The average salary increase was budgeted at 3 percent. Staff resources in this area increased as functional activities were expanded. Benefits increased due to projected increase in medical premium costs.

Meeting Expenses (Decrease \$32K, 19.2%)

There is an overall travel expense decrease for both staff travel and member reimbursement. Travel dollars for participation on ERO working groups, member travel for organizational group and MRO-sponsored NERC organizational group face-to-face meetings trended very low in prior years. It is anticipated that these costs will not be as high as budgeted in prior years and thus costs are budgeted much lower in 2022. The increased use of virtual technology is also a factor for the decrease in costs.

Operating Costs (Decrease \$6K, 5.9%)

Reflects flat costs in training and slightly lower contract costs.

Indirect Expenses (Increase \$247K, 21.5%)

There is an overall increase in administrative services expenditures that are allocated to the operational programs based on the FTEs.

Reliability Analysis and Organization Registration and Certification Budget Detail

The following table lists funding sources and related expenses for the Reliability Analysis and Organization Registration and Certification Program.

Statement of Activities, Fixed Assets Expenditures and Change in Working Capital					
2021 Budget & Projection, and 2022 Budget					
RELIABILITY ANALYSIS and ORGANIZATION REGISTRATION and CERTIFICATION					
	2021	2021	Variance	2022	Variance
	Budget	Projection	2021 Projection v 2021 Budget Over(Under)	Budget	2022 Budget v 2021 Budget Over(Under)
Funding					
ERO Funding					
NERC Assessments	\$ 3,132,998	\$ 3,132,998		\$ 3,610,669	\$ 477,671
Penalties Released	60,132	60,132		82,068	21,936
Total Funding (A)	\$ 3,193,130	\$ 3,193,130		\$ 3,692,737	\$ 499,607
Expenses					
Personnel Expenses					
Salaries	\$ 1,303,637	\$ 1,303,637	\$ -	\$ 1,528,561	\$ 224,924
Payroll Taxes	86,380	86,380	-	100,217	13,838
Benefits	136,669	136,669	-	154,429	17,760
Retirement Costs	201,108	201,108	-	254,449	53,341
Total Personnel Expenses	\$ 1,727,794	\$ 1,727,794	\$ -	\$ 2,037,657	\$ 309,863
Meeting Expenses					
Meetings	\$ 9,000	\$ 9,000	\$ -	\$ 9,000	\$ -
Travel	160,000	160,000	-	127,600	(32,400)
Total Meeting Expenses	\$ 169,000	\$ 169,000	\$ -	\$ 136,600	\$ (32,400)
Operating Expenses					
Consultants & Contracts	\$ 71,100	\$ 71,100	\$ -	\$ 71,100	\$ -
Office Rent	-	-	-	-	-
Office Costs	31,000	31,000	-	25,000	(6,000)
Professional Services	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Total Operating Expenses	\$ 102,100	\$ 102,100	\$ -	\$ 96,100	\$ (6,000)
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Indirect Expenses	\$ 1,152,536	\$ 1,152,536	\$ -	\$ 1,399,994	\$ 247,458
Total Expenses (B)	\$ 3,151,430	\$ 3,151,430	\$ -	\$ 3,670,351	\$ 518,921
Change in Net Assets (=A - B)	\$ 41,700	\$ 41,700	\$ -	\$ 22,386	\$ (19,314)
Fixed Asset Additions, excluding Right of Use Assets (C)	\$ 41,700	41,700	-	22,386	(19,314)
TOTAL BUDGET (Total Expenses plus Fixed Asset Additions =B + C)	\$ 3,193,130	\$ 3,193,130	\$ -	\$ 3,692,737	\$ 499,607
TOTAL CHANGE IN RESERVES (=A-B-C)	\$ -	\$ -	\$ -	\$ -	\$ -
FTEs	8.34	8.34	-	9.13	0.79

Table A-6. Reliability Analysis and Organization Registration and Certification Budget Detail

Training and Education Program

The following table summarizes the budget for the Training and Education program.

Training and Education (in whole dollars)			
	2021 Budget	2022 Budget	Increase (Decrease)
Total FTEs	2.16	1.89	(0.27)
Direct Expenses	\$ 548,033	\$ 564,545	\$ 16,511
Indirect Expenses	\$ 298,499	\$ 289,812	\$ (8,686)
Other Non-Operating Expenses	\$ -	\$ -	\$ -
Inc(Dec) in Fixed Assets	\$ 10,800	\$ 4,634	\$ (6,166)
Total Funding Requirement	\$ 857,333	\$ 858,992	\$ 1,660

Table A-7. Training and Education Budget

Program Scope and Functional Description

MRO is committed to its mission “to identify, prioritize and assure effective and efficient mitigation of risks to the reliability and security of the North American bulk power system by promoting Highly Effective Reliability Organizations® (HEROs).” One way we do this is by providing training and education to industry on the implementation of the CMEP, the application of Reliability Standards, reviewing reliability assessments, performing quality event analysis, identifying lessons learned from event analysis, and other related information to system reliability, security, and compliance. The Training and Education Program provides outreach to MRO registered entities through MRO’s newsletter and other publications, workshops, webinars and conferences, as well as presentation opportunities at other industry events. The emphasis on Critical Infrastructure Protection and security over the last several years will continue in 2022. MRO and its advisory councils continually seek ways to share information, best practices, and lessons learned across the regional footprint.

MRO’s Training and Education Program assists ERO Enterprise efforts to keep entity personnel trained and industry participants informed, and supports the ERO Enterprise Long Term Strategy through execution of MRO’s strategic goals 3, 4 and 5:

Goal 3: Reduction of Known Reliability Risks

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

Goal 4: Identification and Assessment of Emerging Reliability Risks

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

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

The ERO Enterprise identifies and evaluates cyber and physical security risks to the BPS and assures those risks are reduced through active stakeholder engagement and information sharing of current threats and vulnerabilities, security workshops, and development of good industry practice guides. The ERO Enterprise supports the Electricity Information Sharing and Analysis Center (E-ISAC), the CRISP, technical protective programs, and physical and

cybersecurity preparedness exercises, and engages with government partners to de-classify sensitive security information needed to protect BPS devices and assets. The ERO Enterprise works with stakeholders to develop and share information to foster BPS resiliency in connection with both traditional and emerging risks.

Impact on Resource Needs

Training, education, and outreach by staff are being supplemented with webinar and virtual courses, resulting in a decrease in meeting expenses. A conference in the southern region of the MRO footprint results in an increase to travel expense.

Training and Education Resource Requirements

Overall Budget Change 2022 vs 2021 (Increase \$1.7K, 0.2%)

Personnel Expenses (Increase \$35K, 9%)

The average salary increase was budgeted at 3 percent. Executive staff resources increased to meet training, education, and outreach initiatives using webinar and virtual courses. This resulted in slightly higher salary costs.

Meeting Expenses (Decrease \$18.6K, 11.7%)

There is an overall meeting expense decrease due to use of webinars and virtual meetings that offsets an increase in both staff and member travel for a planned off-site conference.

Indirect Expenses (Decrease \$8.7K, 2.9%)

There is an overall decrease in administrative services expenditures that are allocated to the operational programs based on the FTEs. The decrease is reflective of a lower FTE in this program.

Training and Education Budget Detail

The following table shows funding sources and related expenses for the Training and Education Program.

Statement of Activities, Fixed Assets Expenditures and Change in Working Capital					
2021 Budget & Projection, and 2022 Budget					
TRAINING and EDUCATION					
	2021	2021	Variance	2022	Variance
	Budget	Projection	2021 Projection v 2021 Budget Over(Under)	Budget	2022 Budget v 2021 Budget Over(Under)
Funding					
ERO Funding					
NERC Assessments	\$ 841,758	\$ 841,758		\$ 842,003	\$ 244
Penalties Released	15,574	15,574		16,989	1,415
Total Funding (A)	\$ 857,332	\$ 857,332		\$ 858,992	\$ 1,660
Expenses					
Personnel Expenses					
Salaries	\$ 290,379	\$ 290,379	\$ -	\$ 319,838	\$ 29,459
Payroll Taxes	18,898	18,898	-	20,073	1,175
Benefits	33,080	33,080	-	31,529	(1,552)
Retirement Costs	46,609	46,609	-	52,605	5,996
Total Personnel Expenses	\$ 388,967	\$ 388,967	\$ -	\$ 424,045	\$ 35,078
Meeting Expenses					
Meetings	\$ 120,000	\$ 120,000	\$ -	\$ 90,000	\$ (30,000)
Travel	39,067	39,067	-	50,500	11,433
Total Meeting Expenses	\$ 159,067	\$ 159,067	\$ -	\$ 140,500	\$ (18,567)
Operating Expenses					
Consultants & Contracts	\$ -	\$ -	\$ -	\$ -	\$ -
Office Rent	-	-	-	-	-
Office Costs	-	-	-	-	-
Professional Services	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Total Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Indirect Expenses	\$ 298,499	\$ 298,499	\$ -	\$ 289,812	\$ (8,686)
Total Expenses (B)	\$ 846,532	\$ 846,532	\$ -	\$ 854,357	\$ 7,825
Change in Net Assets (=A - B)	\$ 10,800	\$ 10,800	\$ -	\$ 4,634	\$ (6,166)
Fixed Asset Additions, excluding Right of Use Assets (C)	\$ 10,800	10,800	-	4,634	(6,166)
TOTAL BUDGET (Total Expenses plus Fixed Asset Additions =B + C)	\$ 857,332	\$ 857,332	\$ -	\$ 858,992	\$ 1,660
TOTAL CHANGE IN RESERVES (=A-B-C)	\$ -	\$ -	\$ -	\$ -	\$ (0)
FTEs	2.16	2.16	-	1.89	(0.27)

Table A-8. Training and Education Budget Detail

Situation Awareness and Infrastructure Security Program

The following table lists the budget for Situation Awareness and Infrastructure Security.

Situation Awareness and Infrastructure Security (in whole dollars)			
	2021 Budget	2022 Budget	Increase (Decrease)
Total FTEs	2.00	2.95	0.95
Direct Expenses	\$ 459,593	\$ 625,546	\$ 165,953
Indirect Expenses	\$ 276,388	\$ 452,353	\$ 175,965
Other Non-Operating Expenses	\$ -	\$ -	\$ -
Inc(Dec) in Fixed Assets	\$ 10,000	\$ 7,233	\$ (2,767)
Total Funding Requirement	\$ 745,980	\$ 1,085,132	\$ 339,152

Table A-9. Situation Awareness and Infrastructure Security Budget

Program Scope and Functional Description

MRO, through the regional Reliability Coordinators and other available tools, monitors present conditions on the BES and provides leadership coordination, technical expertise, and assistance to industry and governmental partners in responding to events as necessary. The department also uses data obtained from NERC Alerts to determine which entities may be more susceptible to a specific risk based on the responses. The Security Department, sponsors the Security Advisory Council (SAC) and the SAC Threat Forum (SACTF). These organizational groups address Cyber, Physical, and Operational risks to the BES through training, outreach, intelligence briefings, risk assessments, weekly threat calls, and sponsor a large annual security conference that draws over 400 attendees. The department also maintains strong connections with the E-ISAC and other agencies to further increase the reliability and security of the BES.

This program supports the ERO Enterprise vision of a highly reliable and secure North American bulk power system and efforts to communicate risks to reliability, and supports ERO Enterprise efforts related to the ERO Enterprise Long-Term Strategy through execution of MRO's strategic goals 1, 3 and 5:

Goal 1: Risk-Responsive Reliability Standards

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

Goal 3: Reduction of Known Reliability Risks

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

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

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

Impact on Resource Needs

The Situational Awareness Program will work with stakeholders to identify significant known risks to reliability, mitigate those risks, and promote a culture of reliability excellence. The workload in this area is stable.

The Infrastructure Security Program will focus on activities to promote identification, assessment, mitigation, and communication of cyber, physical, and operational risks to the reliability and security of the North American bulk power system. There is increased activity in this area and an increase in dedicated staff resources.

Situation Awareness and Infrastructure Security Resource Requirements

Overall Budget Change 2022 vs 2021 (Increase \$339K, 45.5%)

The budget for this area will increase to realign and dedicate MRO staffing to support increased focus on security.

Personnel Expenses (Increase \$201K, 53.2%)

The average salary increase was budgeted at 3 percent. However, MRO added an FTE to focus on work related to detection and mitigation of cyber security risks. Also, benefits increased due to projected increase in medical premium costs.

Meeting Expenses (Decrease \$30.6K, 46.8%)

There is an overall travel expense decrease for both staff travel and member reimbursement. Travel dollars for participation on ERO working groups, NERC stakeholder committees, and member travel for organizational group and MRO-sponsored NERC organizational group face-to-face meetings trended very low in prior years. It is anticipated that these costs will not be as high as budgeted in prior years and thus costs are budgeted much lower in 2022. The increased use of virtual technology is also a factor for decrease in costs.

Indirect Expenses (Increase \$176K, 63.7%)

There is an overall increase in administrative services expenditures that are allocated to the operational programs based on the FTEs.

Situation Awareness and Infrastructure Security Budget Detail

The following table shows funding sources and related expenses for the Situation Awareness and Infrastructure Security Program.

Statement of Activities, Fixed Assets Expenditures and Change in Working Capital 2021 Budget & Projection, and 2022 Budget					
SITUATION AWARENESS and INFRASTRUCTURE SECURITY					
	2021 Budget	2021 Projection	Variance 2021 Projection v 2021 Budget Over(Under)	2022 Budget	Variance 2022 Budget v 2021 Budget Over(Under)
Funding					
ERO Funding					
NERC Assessments	\$ 731,560	\$ 731,560	\$ -	\$ 1,058,615	\$ 327,055
Penalties Released	14,420	14,420		26,517	12,097
Total Funding (A)	\$ 745,980	\$ 745,980		\$ 1,085,132	\$ 339,152
Expenses					
Personnel Expenses					
Salaries	\$ 279,803	\$ 279,803	\$ -	\$ 426,796	\$ 146,994
Payroll Taxes	17,455	17,455	-	28,902	11,447
Benefits	34,037	34,037	-	48,790	14,753
Retirement Costs	46,398	46,398	-	74,320	27,923
Total Personnel Expenses	\$ 377,693	\$ 377,693	\$ -	\$ 578,809	\$ 201,116
Meeting Expenses					
Meetings	\$ 2,000	\$ 2,000	\$ -	\$ 4,277	\$ 2,277
Travel	63,400	63,400	-	30,500	(32,900)
Total Meeting Expenses	\$ 65,400	\$ 65,400	\$ -	\$ 34,777	\$ (30,623)
Operating Expenses					
Consultants & Contracts	\$ -	\$ -	\$ -	\$ -	\$ -
Office Rent	-	-	-	-	-
Office Costs	16,500	16,500	-	11,960	(4,540)
Professional Services	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Total Operating Expenses	\$ 16,500	\$ 16,500	\$ -	\$ 11,960	\$ (4,540)
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Indirect Expenses	\$ 276,388	\$ 276,388	\$ -	\$ 452,353	\$ 175,965
Total Expenses (B)	\$ 735,980	\$ 735,980	\$ -	\$ 1,077,899	\$ 341,919
Change in Net Assets (=A - B)	\$ 10,000	\$ 10,000	\$ -	\$ 7,233	\$ (2,767)
Fixed Asset Additions, excluding Right of Use Assets (C)	\$ 10,000	10,000	-	7,233	(2,767)
TOTAL BUDGET (Total Expenses plus Fixed Asset Additions =B + C)	\$ 745,980	\$ 745,980	\$ -	\$ 1,085,132	\$ 339,152
TOTAL CHANGE IN RESERVES (=A-B-C)	\$ -	\$ -	\$ -	\$ -	
FTEs	2.00	2.00	-	2.95	0.95

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

Administrative Services

The following table outlines the budget for Administrative Services.

Administrative Services (in whole dollars)						
	Direct Expenses and Fixed Assets			FTEs		
	2021 Budget	2022 Budget	Increase (Decrease)	2021 Budget	2022 Budget	Increase (Decrease)
General and Administrative	\$1,481,685	\$1,862,449	\$380,764	3.36	2.75	(0.61)
Legal	\$834,634	\$976,919	\$142,285	1.55	2.79	1.24
Information Technology	\$2,198,094	\$2,298,664	\$100,570	6.00	7.98	1.98
Human Resources	\$431,072	\$474,285	\$43,213	1.29	2.15	0.86
Finance and Accounting	\$2,214,201	\$2,329,953	\$115,752	3.80	4.35	0.55
Total Administrative Services	\$7,159,688	\$7,942,270	\$782,583	16.00	20.02	4.02

Table A-11. Administrative Services Budget

Program Scope and Functional Description

MRO's Administrative Services area includes the business and administrative functions of the organization, including legal and regulatory, communications, information technology, human resources, finance and accounting, and general expenses. Costs incurred for these services are allocated as an indirect expense across MRO's other program areas.

MRO's Administrative Services function supports ERO Enterprise efforts to be effective and efficient as outlined in the ERO Enterprise Long-Term Strategy through the execution of MRO's strategic goal 5 and 6:

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

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

Goal 6: Improving ERO Enterprise Effectiveness and Efficiency

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

Methodology for Allocation of Administrative Services Expenses to Programs

All expenses for the Administrative Services programs, referred to as indirect expenses, are allocated to the delegated program areas based on their respective number of FTEs.

Funding Sources

The expenses related to the indirect program areas are being allocated entirely to the direct programs; therefore, the indirect program areas have no ERO assessment revenue.

General and Administrative

The following table lists the General and Administrative budget.

General and Administrative (in whole dollars)			
	2021 Budget	2022 Budget	Increase (Decrease)
Total FTEs	3.36	2.75	(0.61)
Total Direct Expenses	\$ 1,481,685	\$ 1,862,449	\$ 380,764
Inc(Dec) in Fixed Assets	\$ -	\$ -	\$ -
Assessment Stabilization Reserves Req'd	\$ (1,068,447)	\$ (1,743,698)	\$ (675,251)

Table A-12. General and Administrative Budget

Program Scope and Functional Description

The General and Administrative Department is led by MRO's President and CEO. The department ensures that there is appropriate attention to the execution of MRO's strategic priorities and the day-to-day management of the corporation, board governance, policies and procedures to maintain and enhance operation of the corporation, proper record-keeping, and related responsibilities under applicable regulations, as well as MRO's Delegation Agreement.

General and Administrative Services Resource Requirements

Overall Budget Change 2022 vs 2021 (Increase \$381K, 25.7%)

Personnel Expenses (Increase \$97.7K, 9.4%)

The average salary increase was budgeted at 3 percent. Retirement benefits budgeted at 3 percent but also incremental increase in benefit for leadership service years. .

Meeting Expenses (Decrease \$90.4K, 34.7%)

There is a decrease in overall meeting and travel expenses due to increased use of virtual meetings.

Operating Expenses (Increase \$373.5K, 201.9%)

Costs for Independent Director compensation and reimbursement were moved from the Legal Department to the General and Administrative Department. As compared to the expense budgeted for 2021 in legal, budgeted expense for independent director compensation and reimbursement is stable for 2022.

General and Administrative Budget Detail

The following table shows funding sources and related expenses for the General and Administrative Program.

Statement of Activities, Fixed Assets Expenditures and Change in Working Capital 2021 Budget & Projection, and 2022 Budget					
GENERAL and ADMINISTRATIVE					
	2021 Budget	2021 Projection	Variance 2021 Projection v 2021 Budget Over(Under)	2022 Budget	Variance 2022 Budget v 2021 Budget Over(Under)
Funding					
ERO Funding					
NERC Assessments	\$ (1,068,447)	\$ (1,068,447)	\$ -	\$ (1,743,698)	\$ (675,251)
Penalties Released	-	-	-	-	-
Total Funding (A)	\$ (1,068,447)	\$ (1,068,447)	\$ -	\$ (1,743,698)	\$ (675,251)
Expenses					
Personnel Expenses					
Salaries	\$ 845,317	\$ 845,317	\$ -	\$ 936,453	\$ 91,137
Payroll Taxes	34,161	34,161	-	34,547	385
Benefits	51,571	51,571	-	45,829	(5,743)
Retirement Costs	104,936	104,936	-	116,820	11,884
Total Personnel Expenses	\$ 1,035,985	\$ 1,035,985	\$ -	\$ 1,133,649	\$ 97,664
Meeting Expenses					
Meetings	\$ 60,000	\$ 60,000	\$ -	\$ 60,000	\$ -
Travel	200,700	200,700	-	110,300	(90,400)
Total Meeting Expenses	\$ 260,700	\$ 260,700	\$ -	\$ 170,300	\$ (90,400)
Operating Expenses					
Consultants & Contracts	\$ 65,000	\$ 65,000	\$ -	\$ 65,000	\$ -
Office Rent	-	-	-	-	-
Office Costs	120,000	120,000	-	133,000	13,000
Professional Services	-	-	-	360,500	360,500
Miscellaneous	-	-	-	-	-
Total Operating Expenses	\$ 185,000	\$ 185,000	\$ -	\$ 558,500	\$ 373,500
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Indirect Expenses	\$ (1,481,685)	\$ (1,481,685)	\$ -	\$ (1,862,449)	\$ (380,764)
Total Expenses (B)	\$ -	\$ -	\$ -	\$ -	\$ -
Change in Net Assets (=A - B)	\$ (1,068,447)	\$ (1,068,447)	\$ -	\$ (1,743,698)	\$ (675,251)
Fixed Asset Additions, excluding Right of Use Assets (C)	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL BUDGET (Total Expenses plus Fixed Asset Additions =B + C)	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL CHANGE IN RESERVES (=A-B-C)	\$ (1,068,447)	\$ (1,068,447)	\$ -	\$ (1,743,698)	\$ (675,251)

Table A-13. General and Administrative Budget Detail

Legal

The following table lists the Legal budget.

Legal (in whole dollars)			
	2021 Budget	2022 Budget	Increase (Decrease)
Total FTEs	1.55	2.79	1.24
Total Direct Expenses	\$ 834,634	\$ 976,919	\$ 142,285
Inc(Dec) in Fixed Assets	\$ -	\$ -	\$ -
Working Capital Requirement	\$ -	\$ -	\$ -

Table A-14. Legal Budget

Program Scope and Functional Description

MRO's Legal function is staffed by the Vice President General Counsel and Corporate Secretary, and Assistant Corporate Secretary and Senior Counsel. Advice is provided to the board, the President and CEO, and staff on legal matters affecting MRO; and corporate records for the board are maintained in this area. MRO may use external specialized legal resources on an as-needed basis. In 2021, this functional area added an FTE focused on external and internal communications, work that had previously been spread across multiple departments.

Legal Resource Requirements**Overall Budget Change 2022 vs 2021 (Increase \$142K, 17.0%)**

The increase in this indirect program area is related to the increase in FTEs to reflect the addition of communications activities and staff.

Personnel Expenses (Increase \$384K, 114.8%)

The average salary increase was budgeted at 3 percent. Additionally, there is an increase in FTEs. Benefits increased due to projected increase in medical premium costs.

Meeting Expense (Decrease \$3.2K, 13.6%)

This decrease is due to reallocation of travel costs for on-site visit of remotely located staff to the enforcement budget. The decrease is also due to less planned business travel.

Operating Expense (Decrease \$238.5K, 50%)

The decrease in this indirect program area is related to a reallocation of budget for Independent Director Compensation and reimbursement to the General and Administrative budget. The increase in office costs is due to added costs for communications and outreach training, outreach supplies and additional cost of professional licenses.

Legal Budget Detail

The following table shows funding sources and related expenses for the Legal Department.

Statement of Activities, Fixed Assets Expenditures and Change in Working Capital 2021 Budget & Projection, and 2022 Budget					
LEGAL					
	2021 Budget	2021 Projection	Variance 2021 Projection v 2021 Budget Over(Under)	2022 Budget	Variance 2022 Budget v 2021 Budget Over(Under)
Funding					
ERO Funding					
NERC Assessments	\$ -	\$ -	\$ -	\$ -	\$ -
Penalties Released	-	-	-	-	-
Total Funding (A)	\$ -	\$ -	\$ -	\$ -	\$ -
Expenses					
Personnel Expenses					
Salaries	\$ 268,391	\$ 268,391	\$ -	\$ 552,889	\$ 284,497
Payroll Taxes	12,352	12,352	-	33,056	20,704
Benefits	20,113	20,113	-	47,452	27,339
Retirement Costs	33,534	33,534	-	85,019	51,484
Total Personnel Expenses	\$ 334,390	\$ 334,390	\$ -	\$ 718,415	\$ 384,025
Meeting Expenses					
Meetings	\$ -	\$ -	\$ -	\$ 500	\$ 500
Travel	23,500	23,500	-	19,800	(3,700)
Total Meeting Expenses	\$ 23,500	\$ 23,500	\$ -	\$ 20,300	\$ (3,200)
Operating Expenses					
Consultants & Contracts	\$ -	\$ -	\$ -	\$ 54,900	\$ 54,900
Office Rent	-	-	-	-	-
Office Costs	15,244	15,244	-	35,804	20,560
Professional Services	461,500	461,500	-	147,500	(314,000)
Miscellaneous	-	-	-	-	-
Total Operating Expenses	\$ 476,744	\$ 476,744	\$ -	\$ 238,204	\$ (238,540)
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Indirect Expenses	\$ (834,634)	\$ (834,634)	\$ -	\$ (976,919)	\$ (142,285)
Total Expenses (B)	\$ -	\$ -	\$ -	\$ -	\$ -
Change in Net Assets (=A - B)	\$ -	\$ -	\$ -	\$ -	\$ -
Fixed Asset Additions, excluding Right of Use Assets (C)	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL BUDGET (Total Expenses plus Fixed Asset Additions =B + C)	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL CHANGE IN RESERVES (=A-B-C)	\$ -	\$ -	\$ -	\$ -	\$ -
FTEs	1.55	1.55	-	2.79	1.24

Table A-15. Legal Budget Detail

Information Technology

The following table lists the Information Technology budget.

Information Technology (in whole dollars)			
	2021 Budget	2022 Budget	Increase (Decrease)
Total FTEs	6.00	7.98	1.98
Total Direct Expenses	\$ 2,198,094	\$ 2,298,664	\$ 100,570
Inc(Dec) in Fixed Assets	\$ -	\$ -	\$ -
Working Capital Requirement	\$ -	\$ -	\$ -

Table A-16. Information Technology Budget

Program Scope and Functional Description

MRO's Information Technology Program responds to business needs by providing the technology and communications tools for staff to perform Regional Entity functions. Information Technology is also responsible for maintaining the security of the organization's business network and information.

In addition, this program contributes to the ERO Enterprise focus to capture effectiveness, efficiency, and continuous improvement opportunities. This program coordinates efforts with NERC and other regional IT programs to find best practice and cost efficiencies through shared tools and applications and supports ERO Enterprise efforts related to the ERO Enterprise Long-Term Strategy through execution of MRO's strategic goals 5 and 6:

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

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

Goal 6: Improving ERO Enterprise Effectiveness and Efficiency

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

Information Technology Resource Requirements

Overall Budget Change 2022 vs 2021 (Increase \$100.6K, 4.6%)

The increase in the indirect programs is largely due to an increase in IT staff. Cyber security threats and risks continue to increase and evolve, and testing and analysis in this program identified a staff shortage. Additional FTEs are needed to manage an increased focus on security efforts.

Personnel Expenses (Increase \$267.5K, 25.8%)

The average salary increase was budgeted at 3 percent. There is a net increase of two FTEs in this program area. Additionally, benefits increased due to projected increase in medical premium costs.

Meeting Expenses (Decrease \$3.8K, 38.0%)

Staff travel decreased as increased use of virtual meetings take the place of in-person meetings.

Operating Expenses (Decrease \$38K, 4.2%)

This decrease reflects some cost savings in repairs and maintenance.

Fixed Asset (Decrease \$125K, 50%)

Major capital purchases were made in 2021. Fewer purchases are needed in 2022. Purchases are mainly replacements on retired computer hardware.

Information Technology Budget Detail

The following table shows funding sources and related expenses for the Information Technology Program.

Statement of Activities, Fixed Assets Expenditures and Change in Working Capital 2021 Budget & Projection, and 2022 Budget					
INFORMATION TECHNOLOGY					
	2021 Budget	2021 Projection	Variance 2021 Projection v 2021 Budget Over(Under)	2022 Budget	Variance 2022 Budget v 2021 Budget Over(Under)
Funding					
ERO Funding					
NERC Assessments	\$ -	\$ -	\$ -	\$ -	\$ -
Penalties Released	-	-	-	-	-
Total Funding (A)	\$ -	\$ -	\$ -	\$ -	\$ -
Expenses					
Personnel Expenses					
Salaries	\$ 746,507	\$ 746,507	\$ -	\$ 921,491	\$ 174,984
Payroll Taxes	55,252	55,252	-	67,927	12,675
Benefits	104,289	104,289	-	135,988	31,700
Retirement Costs	130,990	130,990	-	179,140	48,150
Total Personnel Expenses	\$ 1,037,037	\$ 1,037,037	\$ -	\$ 1,304,546	\$ 267,509
Meeting Expenses					
Meetings	\$ -	\$ -	\$ -	\$ 1,200	\$ 1,200
Travel	10,000	10,000	-	5,000	(5,000)
Total Meeting Expenses	\$ 10,000	\$ 10,000	\$ -	\$ 6,200	\$ (3,800)
Operating Expenses					
Consultants & Contracts	\$ 549,707	\$ 549,707	\$ -	\$ 549,568	\$ (139)
Office Rent	-	-	-	-	-
Office Costs	351,350	351,350	-	313,350	(38,000)
Professional Services	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Total Operating Expenses	\$ 901,057	\$ 901,057	\$ -	\$ 862,918	\$ (38,139)
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Indirect Expenses	(1,948,094)	(1,948,094)	\$ -	(2,173,664)	(225,570)
Total Expenses (B)	\$ -	\$ -	\$ -	\$ -	\$ -
Change in Net Assets (=A - B)	\$ -	\$ -	\$ -	\$ -	\$ -
Fixed Asset Additions, excluding Right of Use Assets	\$ 250,000	\$ 250,000	-	\$ 125,000	\$ (125,000)
Allocation of Fixed Assets	\$ (250,000)	\$ (250,000)	-	\$ (125,000)	\$ 125,000
Inc(Dec) in Fixed Assets (C)	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL BUDGET (Total Expenses plus Fixed Asset Additions =B + C)	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL CHANGE IN RESERVES (=A-B-C)	\$ -	\$ -	\$ -	\$ -	\$ -
FTEs	6.00	6.00	-	7.98	1.98

Table A-17. Information Technology Budget Detail

Human Resources

The following table lists the Human Resources budget.

Human Resources (in whole dollars)			
	2021 Budget	2022 Budget	Increase (Decrease)
Total FTEs	1.29	2.15	0.86
Total Direct Expenses	\$ 431,072	\$ 474,285	\$ 43,213
Inc(Dec) in Fixed Assets	\$ -	\$ -	\$ -
Working Capital Requirement	\$ -	\$ -	\$ -

Table A-18. Human Resources Budget

Program Scope and Functional Description

Human Resources

The Human Resources function designs, plans, and implements Human Resource policies and procedures in adherence with applicable federal and state laws. This function also facilitates the recruitment and retention efforts of the organization by coordinating tasks associated with the employee life cycle activities including onboarding, training, professional development, and best practice employee retention initiatives. This department also engages in Diversity and Inclusion initiatives as well as works closely with the ERO Enterprise on similar efforts, and undertakes or supports several other important initiatives as directed by MRO's Governance and Personnel Committee.

MRO has developed a culture and talent management program that features in-depth communication and training. New hire training initiatives and employee collaborations are planned to create opportunities for peer-to-peer internal mentorship, learning opportunities, and team building. MRO continues to review and enhance its employee engagement and culture enrichment activities in an effort to positively impact all stages of the employee life cycle from candidate identification, the onboarding experience of new employees, throughout the life cycle, as well as the overall corporate culture to be an "employer of choice," to attract and retain qualified staff.

Human Resources Resource Requirements

Overall Budget Change 2022 vs 2021 (Increase \$43K, 10.0%)

The budget change in this administrative area is primarily due to the increase in FTEs. MRO has doubled its staff under existing resources, increased its participation in ERO groups, and engages in other important initiatives, making the addition of a dedicated HR FTE necessary.

Personnel Expense (Increase \$39K, 11.6%)

The average salary increase was budgeted at 3 percent. An additional FTE is needed to support staff growth and the reallocation of resources to support the development of the corporate risk management program.

Operating Expense (Increase \$4K, 4.6%)

Budgeted amounts in office costs increased slightly for costs related to the addition of one FTE.

Human Resources Budget Detail

The following table shows funding sources and related expenses for the Human Resources Program.

Statement of Activities, Fixed Assets Expenditures and Change in Working Capital 2021 Budget & Projection, and 2022 Budget					
HUMAN RESOURCES					
	2021 Budget	2021 Projection	Variance 2021 Projection v 2021 Budget Over(Under)	2022 Budget	Variance 2022 Budget v 2021 Budget Over(Under)
Funding					
ERO Funding					
NERC Assessments	\$ -	\$ -	\$ -	\$ -	\$ -
Penalties Released				-	
Total Funding (A)	\$ -	\$ -	\$ -	\$ -	\$ -
Expenses					
Personnel Expenses					
Salaries	\$ 259,627	\$ 259,627	\$ -	\$ 273,690	\$ 14,063
Payroll Taxes	15,704	15,704	-	18,244	2,540
Benefits	24,239	24,239	-	34,323	10,085
Retirement Costs	38,003	38,003	-	50,353	12,350
Total Personnel Expenses	\$ 337,572	\$ 337,572	\$ -	\$ 376,610	\$ 39,038
Meeting Expenses					
Meetings	\$ -	\$ -	\$ -	\$ -	\$ -
Travel	2,000	2,000	-	2,000	-
Total Meeting Expenses	\$ 2,000	\$ 2,000	\$ -	\$ 2,000	\$ -
Operating Expenses					
Consultants & Contracts	\$ 27,000	\$ 27,000	\$ -	\$ 27,000	\$ -
Office Rent	-	-	-	-	-
Office Costs	64,500	64,500	-	68,675	4,175
Professional Services	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Total Operating Expenses	\$ 91,500	\$ 91,500	\$ -	\$ 95,675	\$ 4,175
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Indirect Expenses	\$ (431,072)	\$ (431,072)	\$ -	\$ (474,285)	\$ (43,213)
Total Expenses (B)	\$ -	\$ -	\$ -	\$ -	\$ -
Change in Net Assets (=A - B)	\$ -	\$ -	\$ -	\$ -	\$ -
Fixed Asset Additions, excluding Right of Use Assets (C)	\$ -	-	-	-	-
TOTAL BUDGET (Total Expenses plus Fixed Asset Additions =B + C)	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL CHANGE IN RESERVES (=A-B-C)	\$ -	\$ -	\$ -	\$ -	\$ -
FTEs	1.29	1.29		2.15	0.86

Table A-19. Human Resources Budget Detail

Finance and Accounting

The following table lists the Finance and Accounting budget.

Finance and Accounting (in whole dollars)			
	2021 Budget	2022 Budget	Increase (Decrease)
Total FTEs	3.80	4.35	0.55
Total Direct Expenses	\$ 2,214,201	\$ 2,329,953	\$ 115,752
Inc(Dec) in Fixed Assets	\$ -	\$ -	\$ -
Working Capital Requirement	\$ -	\$ -	\$ -

Table A-20. Finance and Accounting Budget

Program Scope and Functional Description

Finance and Accounting

The Finance and Accounting function directs the overall financial planning and accounting practices of the organization, oversees treasury, accounting, budget, tax, and audit activities, as well as the financial and accounting system controls and standards. The Finance and Accounting function also administers employee benefit plans, including the 401(k) and Retiree Medical Trust, and reports the overall outcome of MRO's annual activities to the MRO Board. This function also facilitates all MRO internal and external meetings, workshops, and events.

Finance and Accounting Resource Requirements

Overall Budget Change 2022 vs 2021 (Increase \$115.8K, 5.2%)

The increased costs in the Finance and Accounting area are primarily a result of increase in office space and a focus on facility management.

Personnel Expenses (Increase \$69K, 9.1%)

The average salary increase was budgeted at 3 percent. Additionally, there is an increase of one-half FTE in this program area.

Meeting Expenses (Decrease \$6K, 50%)

Staff travel decreased as increased use of virtual meetings take the place of in-person meetings.

Operating Expenses (Increase \$52K, 3.6%)

The increase in this area is due to higher contract and office costs. This cost is partially offset by reduced budgeted amounts in rent.

Finance, and Accounting Budget Detail

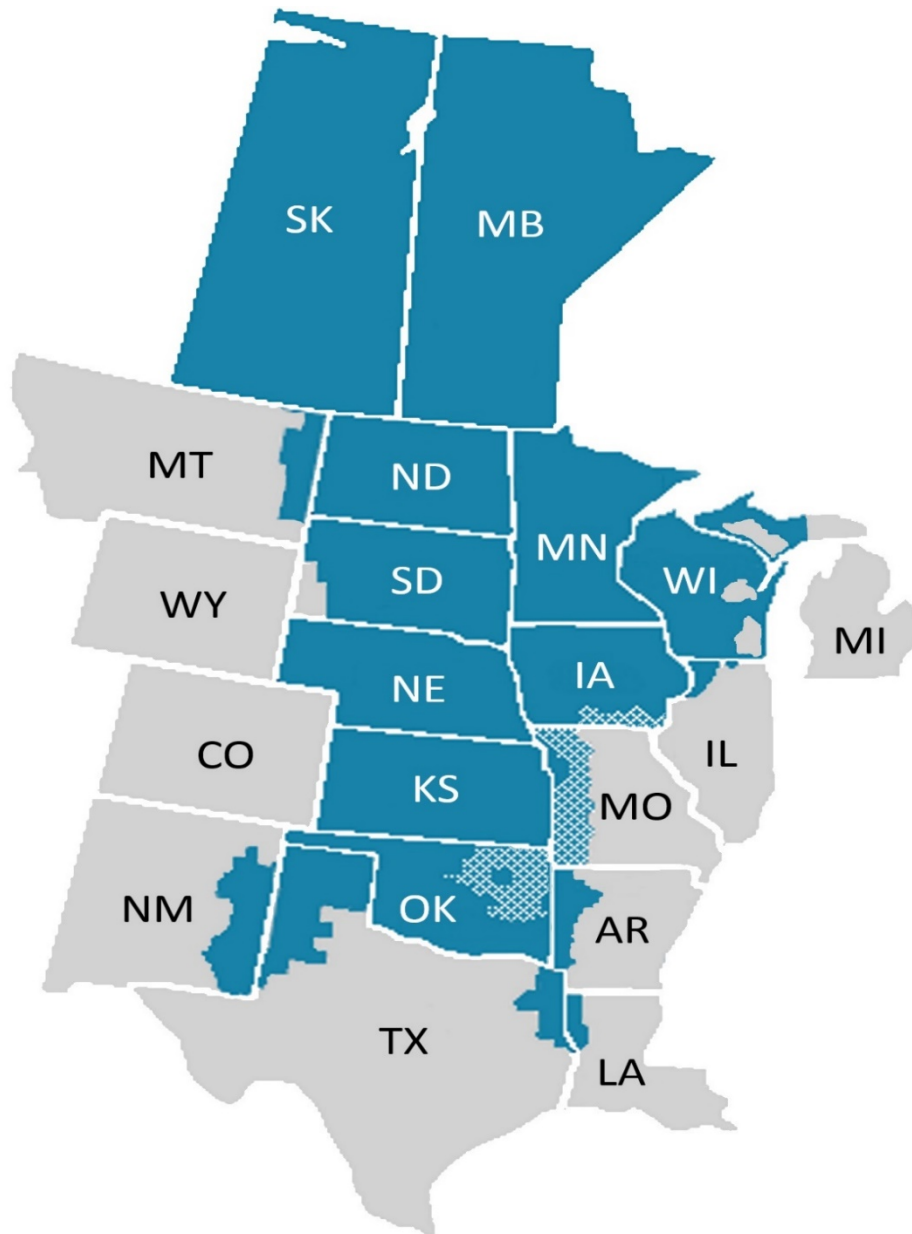
The following table shows funding sources and related expenses for the Finance and Accounting Program.

Statement of Activities, Fixed Assets Expenditures and Change in Working Capital 2021 Budget & Projection, and 2022 Budget					
FINANCE and ACCOUNTING					
	2021 Budget	2021 Projection	Variance 2021 Projection v 2021 Budget Over(Under)	2022 Budget	Variance 2022 Budget v 2021 Budget Over(Under)
Funding					
ERO Funding					
NERC Assessments	\$ -	\$ -	\$ -	\$ -	\$ -
Penalties Released	-	-	-	-	-
Total Funding (A)	\$ -	\$ -	\$ -	\$ -	\$ -
Expenses					
Personnel Expenses					
Salaries	\$ 549,682	\$ 549,682	\$ -	\$ 606,220	\$ 56,537
Payroll Taxes	35,972	35,972	-	37,423	1,451
Benefits	76,841	76,841	-	74,578	(2,263)
Retirement Costs	98,006	98,006	-	111,583	13,577
Total Personnel Expenses	\$ 760,501	\$ 760,501	\$ -	\$ 829,803	\$ 69,302
Meeting Expenses					
Meetings	\$ 2,000	\$ 2,000	\$ -	\$ 1,000	\$ (1,000)
Travel	10,000	10,000	-	5,000	(5,000)
Total Meeting Expenses	\$ 12,000	\$ 12,000	\$ -	\$ 6,000	\$ (6,000)
Operating Expenses					
Consultants & Contracts	\$ 43,500	\$ 43,500	\$ -	\$ 53,850	\$ 10,350
Office Rent	1,168,700	1,168,700	-	1,132,100	(36,600)
Office Costs	171,500	171,500	-	249,200	77,700
Professional Services	58,000	58,000	-	59,000	1,000
Miscellaneous	-	-	-	-	-
Total Operating Expenses	\$ 1,441,700	\$ 1,441,700	\$ -	\$ 1,494,150	\$ 52,450
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Indirect Expenses	\$ (2,214,201)	\$ (2,214,201)	\$ -	\$ (2,329,953)	\$ (115,752)
Total Expenses (B)	\$ -	\$ -	\$ -	\$ -	\$ 0
Change in Net Assets (=A - B)	\$ -	\$ -	\$ -	\$ -	\$ (0)
Fixed Asset Additions, excluding Right of Use Assets	\$ -	\$ -	\$ -	\$ -	\$ -
Allocation of Fixed Assets	\$ -	\$ -	-	-	-
Inc(Dec) in Fixed Assets (C)	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL BUDGET (Total Expenses plus Fixed Asset Additions =B + C)	\$ -	\$ -	\$ -	\$ -	\$ 0
TOTAL CHANGE IN RESERVES (=A-B-C)	\$ -	\$ -	\$ -	\$ -	\$ (0)
FTEs	3.80	3.80	-	4.35	0.55

Table A-21. Finance and Accounting Budget Detail

Section B – Supplemental Financial Information

2022 Business Plan and Budget



Section B – Supplemental Financial Information

Reserve Balance

Table B-1 analyzes the reserve for 2021 through 2022.

Reserve Analysis 2021-2022				
	Total Reserves	Working Capital Reserves	30-Day Reserves	Assessment Stabilization Reserves (ASR)
Beginning, January 1, 2021	8,512,161	5,904,677		2,607,484
Plus: Penalty Sanctions ¹	458,250			458,250
Plus: Release from ASR	-			-
Plus: 2021 Assessments	16,983,251	16,983,251		
Adjustment for targeted 30-day reserves		(1,513,332)	1,513,332	
Less: 2021 Projected Expenditures	(18,412,202)	(18,412,202)		
Projected Reserves December 31, 2021	7,541,460	2,962,394	1,513,332	3,065,734
Beginning, January 1, 2022	7,541,460	2,962,394	1,513,332	3,065,734
Plus: Penalty Sanctions ¹	-	458,250		(458,250)
Plus: Release from ASR	-	1,743,698		(1,743,698)
Plus: 2022 Assessments	17,832,414	17,832,414		
Adjustment for targeted 30-day reserves		(156,198)	156,198	
Less: 2022 Projected Expenditures	(20,034,361)	(20,034,361)		
Projected Reserves December 31, 2022	5,339,512	2,806,196	1,669,530	863,786

¹ Penalties collected between July 1, 2020 - June 30, 2021 are released in the following budget year

Table B-1. Reserve Analysis 2021 - 2022

Explanation of Changes in Reserve Policy from Prior Years

Per Policy and Procedure 13, MRO's reserves are identified and quantified each year in the business plan and budget. MRO resets its reserves at the beginning of each year. MRO's FAC resolved that a 30-day reserve of cash is sufficient based on MRO's cash flow risk. The FAC and the board determined that the certainty of MRO's funding stream supports the resolution that a 30-day reserve is reasonable for sustaining short-term contingencies.

Additionally, Policy and Procedure 13 addresses additional cash-on-hand necessary to meet unplanned, short-term financial needs resulting from changes in the level of expenditures that would adversely affect the company's total annual operating budget during the budget year. The policy combines penalties received and surplus working capital. MRO staff may propose to set aside these funds in a separate reserve account to be released in future periods to mitigate year-to-year variations in assessments. MRO proposes to release \$2,201,948 from assessment stabilization reserves to stabilize assessments.

Breakdown by Statement of Activity Sections

Table B-2 lists all penalties, including date received and amount, received prior to June 30, 2021.

Penalty Sanctions Received On or Prior to June 30, 2021	Date Received	Amount Received
	Feb-21	\$ 27,000
	Apr-21	41,250
	May-21	390,000
Total Penalties Received		<u>\$ 458,250</u>

Table B-2. Penalty Sanctions Received

Penalty Sanctions

All penalties received after July 1, 2020, and prior to June 30, 2021, are listed above, including the amount and date received.

Allocation Method: Penalty sanctions received have been combined with surplus working capital (if any). MRO staff may set aside these funds in a separate reserve account to be released in future budget periods to mitigate year-to-year variations in budget assessments. Assuming no additional penalties collected, all remaining penalty dollars will be released in the 2022 budget year as part of assessment stabilization.

Table B-3 lists the budget for Supplemental Funding.

Outside Funding Breakdown By Program (Excluding Penalty Sanction)	Budget 2021	Projection 2021	Budget 2022	Variance 2022 Budget v 2021 Budget
Compliance Monitoring, Enforcement & Org. Registration				
Other	\$ -	\$ -	\$ -	\$ -
Total	\$ -	\$ -	\$ -	\$ -
Reliability Assessment and Performance Analysis				
Other		-		
Total	\$ -	\$ -	\$ -	\$ -
Training and Education				
Testing Fees and Certificate Renewals	\$ -	\$ -	\$ -	-
CEH Fees	-	-	-	-
Workshops	-	-	-	-
Other		-		
Total	\$ -	\$ -	\$ -	\$ -
Situation Awareness and Infrastructure Security				
FIST Royalties	\$ -	\$ -	\$ -	-
TSIN Fees				
Other		-		
Total	\$ -	\$ -	\$ -	\$ -
General and Administrative				
Interest Income	\$ -	\$ -	\$ -	-
Other				
Total	\$ -	\$ -	\$ -	\$ -
Total Outside Funding	\$ -	\$ -	\$ -	\$ -

Table B-3. Supplemental Funding

Explanation of Significant Variances – 2022 Budget versus 2021 Budget

MRO does not earn interest income on general cash held. MRO does not budget interest income on penalties received and held for future budget years. All interest earned is applied to reserves for the reduction of future assessments.

Table B-4 summarizes Personnel Expenses.

Personnel Expenses	Budget 2021	Projection 2021	Budget 2022	Variance 2022 Budget v 2021 Budget	Variance %
Total Salaries	\$ 10,059,263	\$ 10,059,263	\$ 11,416,562	\$ 1,357,299	13.5%
Total Payroll Taxes	631,891	631,891	744,165	112,275	17.8%
Total Benefits	1,064,375	1,064,375	1,193,996	129,621	12.2%
Total Retirement	1,528,209	1,528,209	1,922,258	394,048	25.8%
Total Personnel Costs	\$ 13,283,737	\$ 13,283,737	\$ 15,276,980	\$ 1,993,243	15.0%
FTEs	66.00	66.00	71.00	5.00	7.6%
Cost per FTE					
Salaries	152,413	\$ 152,413	\$ 160,797	8,384	5.5%
Payroll Taxes	9,574	9,574	10,481	907	9.5%
Benefits	16,127	16,127	16,817	690	4.3%
Retirement	23,155	23,155	27,074	3,919	16.9%
Total Cost per FTE	\$ 201,269	\$ 201,269	\$ 215,169	\$ 13,900	6.9%

Table B-4. Personnel Expenses

Explanation of Significant Variances – 2022 Budget versus 2021 Budget

Personnel Expenses (Increase \$2M, 15.0%)

The following assumptions were used to determine the 2022 MRO budget:

- Total personnel expenses were increased to include the addition of 1 net FTE to support the statutory programs and 4 net FTEs in administrative services.
- The average salary increase was budgeted at 3 percent. Benefit costs are projected to increase by 9 percent .

Table B-5 lists the budget for Meeting Expenses.

Meeting Expenses	Budget 2021	Projection 2021	Budget 2022	Variance 2022 Budget v 2021 Budget	Variance %
Meeting Expenses	\$ 204,900	\$ 204,900	\$ 178,877	\$ (26,023)	-12.7%
Travel	739,967	\$ 739,967	581,670	(158,297)	-21.4%
Total Meeting Expenses	\$ 944,867	\$ 944,867	\$ 760,547	\$ (184,320)	-19.5%

Table B-5. Meeting Expenses

Explanation of Significant Variances – 2022 Budget versus 2021 Budget

Meeting Expenses (Decrease \$184K, 19.5%)

The decrease in meeting and travel expense reflects increased use of virtual meetings.

Travel Expenses (Decrease \$158K, 21.4%)

There is an overall travel expense decrease for both staff travel and member reimbursement. Travel dollars for participation on ERO collaboration groups, the Align project, and member travel for organizational group face-to-face meetings trended very low in prior years. It is anticipated that these costs will not be as high as budgeted in prior years and thus costs are budgeted much lower in 2022. The increased use of virtual technology is also a factor for decrease in costs.

Table B-6 lists the budget for Consultants and Contracts.

Consultants	Budget 2021	Projection 2021	Budget 2022	Variance 2022 Budget v 2021 Budget	Variance %
Consultants					
Reliability Standards	\$ -	\$ -	\$ -	\$ -	
Compliance	403,000	282,100	165,000	(238,000)	-59%
Reliability Analysis and Organization Registration and Certification	-	-	-	-	
Event Analysis	-	-	-	-	
Training and Education	-	-	-	-	
Situation Awareness and Infrastructure Security	-	-	-	-	
Committee and Member Forums	-	-	-	-	
General and Administrative	65,000	65,000	65,000	-	0%
Legal	-	-	54,900	54,900	
Information Technology	191,200	191,200	165,200	(26,000)	-14%
Human Resources	-	-	-	-	
Accounting and Finance	7,500	7,500	7,500	-	0%
Consultants Total	\$ 666,700	\$ 545,800	\$ 457,600	\$ (209,100)	-31%

Contracts	Budget 2021	Projection 2021	Budget 2022	Variance 2022 Budget v 2021 Budget	Variance %
Contracts					
Reliability Standards	\$ -	\$ -	\$ -	\$ -	
Compliance	180,394	126,276	218,382	37,988	21%
Reliability Analysis and Organization Registration and Certification	71,100	49,770	71,100	-	0%
Event Analysis	-	-	-	-	
Training and Education	-	-	-	-	
Situation Awareness and Infrastructure Security	-	-	-	-	
Committee and Member Forums	-	-	-	-	
General and Administrative	-	-	-	-	
Legal	-	-	-	-	
Information Technology	358,507	268,880	384,368	25,861	7%
Human Resources	27,000	27,000	27,000	-	0%
Accounting and Finance	36,000	36,000	46,350	10,350	29%
Contracts Total	\$ 673,001	\$ 507,926	\$ 747,200	\$ 74,199	11%

Table B-6. Consultants and Contracts

Explanation of Significant Variances – 2022 Budget versus 2021 Budget

Consultants for Compliance (Decrease \$238K, 59%)

Consultants for Compliance was historically budgeted to have resources to perform CMEP activity in case staffing levels were not adequate to perform required work. MRO is not projecting a need for this in 2022. The scope of the consulting budget for compliance in 2022 is to seek outside expertise in process efficiencies to review the department's processes.

Legal (Increase \$54.9K, 100%)

This increase includes communication initiatives for crisis and media preparation and training.

IT Consultants (Decrease \$26K, 14%)

Consultants consist of external technical support of the MRO communication network. Internal staff have been able to maintain MRO's IT network with less external technical support.

Contracts for Compliance (Increase \$38K, 21%)

The increase is due to contract costs for continued carrying costs for webCDMS.

IT Contracts (Increase \$25.9K, 7%)

IT contracts consist of maintenance of IT networks, systems, and software applications. Increased costs in contracts are due to the addition of business applications and newly acquired communication systems for greater efficiency and robust technological operation.

Accounting and Finance Contracts (Increase \$10.4K, 29%)

Contracts consist of the use of third-party vendors that support the use of finance applications.

Table B-7 lists the budget for Office Rent.

Office Rent	Budget 2021	Projection 2021	Budget 2022	Variance 2022 Budget v 2021 Budget	Variance %
Office Rent	\$ 1,128,700	\$ 1,128,700	\$ 1,086,100	\$ (42,600)	-3.8%
Utilities	10,000	\$ 10,000	11,000	1,000	10.0%
Maintenance	30,000	\$ 30,000	35,000	5,000	16.7%
Total Office Rent	\$ 1,168,700	\$ 1,168,700	\$ 1,132,100	\$ (36,600)	-3.13%

Table B-7. Office Rent

Explanation of Significant Variances – 2022 Budget versus 2021 Budget

Rent is slightly lower due to adjusted occupancy costs from prior year.

Table B-8 lists the budget for Office Costs.

Office Costs	Budget 2021	Projection 2021	Budget 2022	Variance 2022 Budget v 2021 Budget	Variance %
Phone Service					
Data Circuit (qmo)	\$ 60,000	\$ 60,000	\$ 60,000	\$ -	0.00%
Webex	19,200	19,200	19,200	-	0.00%
Voice Circuits	18,000	18,000	18,000	-	0.00%
Business Cable	3,250	3,250	3,250	-	0.00%
Disaster Recovery Site	-	-	-	-	
Internet/Cell	64,520	64,520	63,854	(666)	-1.03%
Office Supplies	35,000	35,000	36,700	1,700	4.86%
Employee Member Events	32,000	32,000	34,000	2,000	6.25%
Employee Related Expense	25,000	25,000	27,400	2,400	9.60%
Computer Supplies and Maintenance	149,000	149,000	138,500	(10,500)	-7.05%
Publications & Subscriptions	13,600	13,600	23,675	10,075	74.08%
Professional Dues	19,076	19,076	23,560	4,484	23.51%
Postage	4,200	4,200	4,200	-	0.00%
Temporary Services	-	-	55,000	55,000	
Finance-Filing/Reg Fees	4,000	4,000	4,400	400	10.00%
Equipment Repair/Service Contracts	39,000	39,000	39,000	-	0.00%
Bank Charges	6,000	6,000	20,000	14,000	233.33%
Presentation & Publicity & Supplies Promotional	20,000	20,000	25,000	5,000	25.00%
Departmental Functional Training	303,851	303,851	282,195	(21,656)	-7.13%
Insurance Expense	90,000	90,000	90,000	-	0.00%
Total Office Costs	\$ 905,697	\$ 905,697	\$ 967,934	\$ 62,237	6.87%

Table B-8. Office Costs

Explanation of Significant Variances – 2022 Budget versus 2021 Budget (Increase \$62K, 6.9%)

The primary increase is due to the added costs of temporary services.

Table B-9 lists the budget for Professional Services.

Professional Services	Budget 2021	Projection 2021	Budget 2022	Variance 2022 Budget v 2021 Budget	Variance %
Independent Trustee Fees	\$ 331,500	\$ 331,500	\$ 330,500	\$ (1,000)	-0.30%
Independent Trustee Travel Reimbursement	30,000	30,000	30,000	-	0.00%
Outside Legal	100,000	100,000	100,000	-	0.00%
Branding and Videography			47,500	47,500	
Accounting and Auditing Fees	35,000	35,000	36,000	1,000	2.86%
Actuarial Fees	23,000	23,000	23,000	-	0.00%
Total Services	\$ 519,500	\$ 519,500	\$ 567,000	\$ 47,500	9.14%

Table B-9. Professional Services

Explanation of Significant Variances – 2022 Budget versus 2021 Budget

The variance in costs is mainly attributable to the rebranding and design of MRO's new website (the current website is slated for retirement).

Table B-10 lists the budget for Miscellaneous.

Miscellaneous Expenses	Budget 2021	Projection 2021	Budget 2022	Variance 2022 Budget v 2021 Budget	Variance %
	\$ -	\$ -	\$ -	\$ -	-
					-
					-
Total Miscellaneous Expenses	\$ -	\$ -	\$ -	\$ -	0.00%

Table B-10. Miscellaneous

Explanation of Significant Variances – 2022 Budget versus 2021 Budget

MRO has not budgeted any Miscellaneous Expenses in 2022 or 2021.

Table B-11 lists the budget for other Non-Operating Expenses.

Other Non-Operating Expenses	Budget 2021	Projection 2021	Budget 2022	Variance 2022 Budget v 2021 Budget	Variance %
Interest Expense	\$ -	\$ -	\$ -	\$ -	-
Line of Credit Payment					-
Office Relocation	-	-	-	-	-
Total Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	0.00%

Table B-11. Other Non-Operating Expenses

Explanation of Significant Variances – 2022 Budget versus 2021 Budget

MRO has not budgeted any Non-Operating Expenses in 2022 or 2021.

Table B-12 lists the budget for Fixed Assets.

Fixed Assets	Budget 2021	Projection 2021	Budget 2022	Variance 2022 Budget v 2021 Budget	Variance %
Computer Equipment	250,000	250,000	125,000	(125,000)	-50.0%
Capitalized Software	-	-	-	-	
Furniture and Equipment	-	-	-	-	
Leasehold Improvements	-	(10,000)	-	-	
Total Change in Fixed Assets	\$ 250,000	\$ 240,000	\$ 125,000	\$ (125,000)	-50.0%

Table B-12. Fixed Assets

Explanation of Significant Variances – 2022 Budget versus 2021 Budget

MRO experienced one-time purchases in computer equipment in 2020-2021. Fewer computer purchases are expected in 2022.

Table B-13 compares the 2022 budget with projections for 2023 - 2024.

Statement of Activities, Fixed Assets Expenditures and Change in Working Capital							
2023 and 2024 Projections							
	2022	2023	\$ Change	% Change	2024	\$ Change	% Change
	Budget	Projection	22 v 23	22 v 23	Projection	23 v 24	23 v 24
Funding							
ERO Funding							
NERC Assessments	\$ 17,832,414	\$ 19,080,682	\$ 1,248,269	7.00%	\$ 20,416,330	\$ 1,335,648	7.00%
Penalties Released	458,250	-	(458,250)	-100.00%	-	-	-
Membership Dues	-	-	-	-	-	-	-
Testing Fees	-	-	-	-	-	-	-
Services & Software	-	-	-	-	-	-	-
Workshop Fees & Miscellaneous	-	-	-	-	-	-	-
Interest & Investment Income	-	-	-	-	-	-	-
Total Funding (A)	\$ 18,290,664	\$ 19,080,682	\$ 790,019	4.3%	\$ 20,416,330	\$ 1,335,648	7.0%
Expenses							
Personnel Expenses							
Salaries	\$ 11,416,562	\$ 12,078,722	\$ 662,161	5.8%	\$ 12,755,131	\$ 676,408	5.6%
Payroll Taxes	744,165	787,327	43,162	5.8%	831,417	44,090	5.6%
Benefits	1,193,996	1,263,248	69,252	5.8%	1,333,989	70,742	5.6%
Retirement Costs	1,922,258	2,033,749	111,491	5.8%	2,147,639	113,890	5.6%
Total Personnel Expenses	\$ 15,276,980	\$ 16,163,045	\$ 886,065	5.8%	\$ 17,068,176	\$ 905,131	5.6%
Meeting Expenses							
Meetings & Conference Calls	\$ 178,877	\$ 178,877	\$ -	0.0%	\$ 178,877	\$ -	0.0%
Travel	581,670	581,670	-	0.0%	581,670	-	0.0%
Total Meeting Expenses	\$ 760,547	\$ 760,547	\$ -	0.0%	\$ 760,547	\$ -	0.0%
Operating Expenses, excluding Depreciation							
Consultants & Contracts	\$ 1,204,800	\$ 1,240,944	36,144	3.0%	\$ 1,278,172	37,228	3.0%
Office Rent	1,132,100	1,166,063	33,963	3.0%	1,201,045	34,982	3.0%
Office Costs	967,934	996,972	29,038	3.0%	1,026,881	29,909	3.0%
Professional Services	567,000	584,010	17,010	3.0%	601,530	17,520	3.0%
Miscellaneous	-	-	-	-	-	-	-
Total Operating Expenses	\$ 3,871,834	\$ 3,987,989	\$ 116,155	3.0%	\$ 4,107,629	\$ 119,640	3.0%
Other Non-Operating Expenses	\$ -	\$ -	\$ -		\$ -	\$ -	
Indirect Expenses	\$ -	\$ -	\$ -		\$ -	\$ -	
Total Expenses (B)	\$ 19,909,361	\$ 20,911,581	\$ 1,002,220	5.0%	21,936,352	1,024,770	4.9%
Change in Net Assets (=A - B)	\$ (1,618,698)	\$ (1,830,899)	\$ (212,201)	13.1%	\$ (1,520,021)	310,878	-17.0%
Fixed Asset Additions, excluding Right of Use Assets (C)	\$ 125,000	\$ -	\$ (125,000)	-100.0%	\$ -	\$ -	
TOTAL BUDGET (Total Expenses plus Fixed Asset Additions =B + C)	\$ 20,034,361	\$ 20,911,581	\$ 877,220	4.4%	\$ 21,936,352	\$ 1,024,770	4.9%
TOTAL CHANGE IN RESERVES (=A-B-C)	\$ (1,743,698)	\$ (1,830,899)			\$ (1,520,021)		
FTEs	71.00	73.00	2.00		76.00	3.00	

Table B-13. Budget 2022 Compared with 2023-2024 Projections

Explanation of 2022, 2023, 2024 Projections

At this time, MRO does not anticipate significant changes in program areas for the next three years.

- FTEs increase by three
- Meeting expenses remain flat
- Three percent escalation rate applied to operating expense categories
- Total budget increase of \$877K in 2023
- Total budget increase of \$815K in 2024
- Zero penalties budgeted

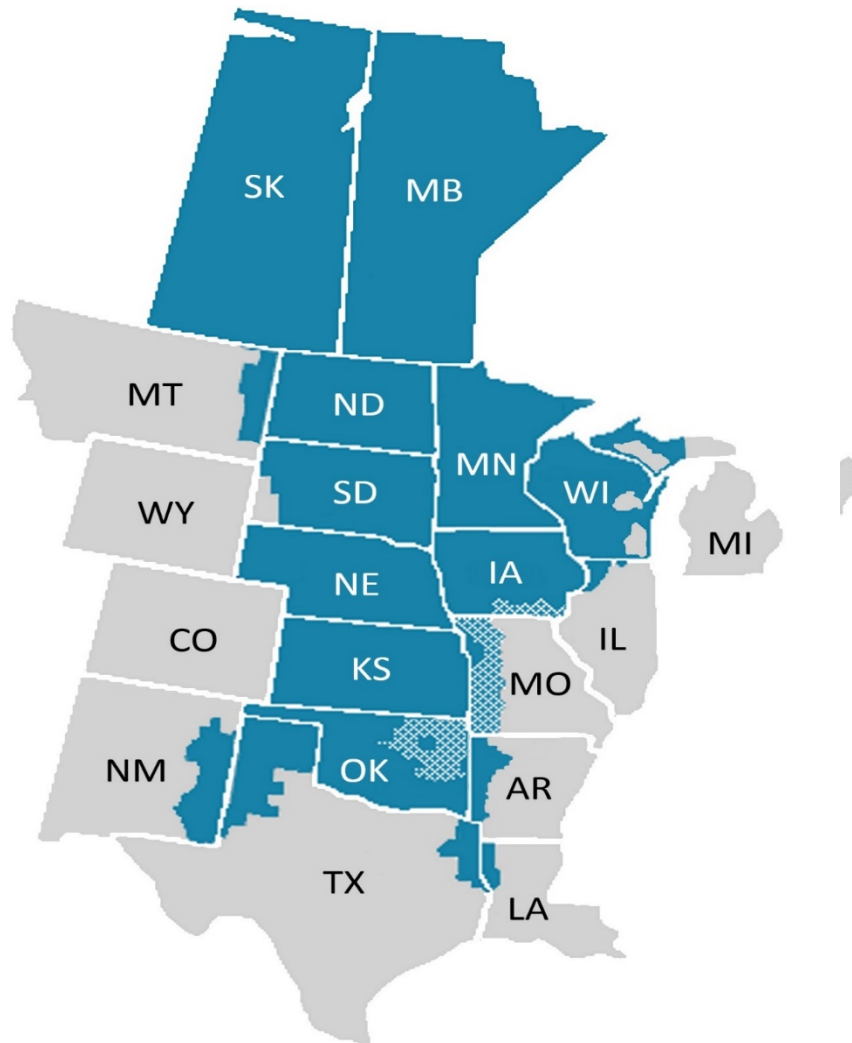
Section C – Non-Statutory Activities

2022 Business Plan and Budget

Section C – Non-Statutory Activities

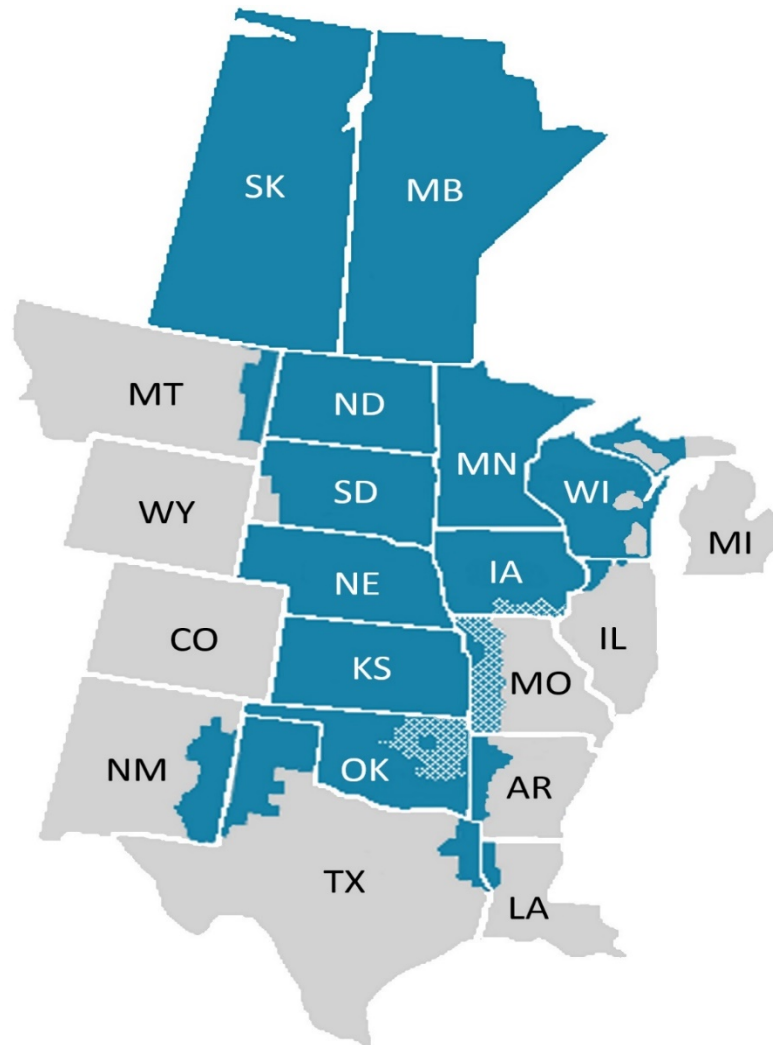
2022 Non-Statutory Business Plan and Budget

MRO has no non-statutory activities.



Section D – Additional Consolidated Financial Statements

2022 Business Plan and Budget



Section D – Additional Consolidated Financial Statements

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

Statement of Activities and Capital Expenditures by Program 2022 Business Plan and Budget	Functions in Delegation Agreement											
	Statutory Total	Reliability Standards (Section 300)	Compliance (Section 400)	Reliability Analysis and Organization Registration and Certification (Section 800 & 500)	Training and Education (Section 600&900)	Situation Awareness and Infrastructure Security (Section 1000)	Committee and Member Forums	General and Administrative	Legal and Regulatory	Information Technology	Human Resources	Accounting and Finance
Funding												
ERO Funding												
NERC Assessments	17,832,414	154,508	13,910,317	3,610,669	842,003	1,058,615		(1,743,698)				
Assessment Stabilization Adjustment	458,250	4,045	328,631	82,068	16,989	26,517						
Membership Dues	-											
Testing Fees	-											
Services & Software	-											
Workshops & Miscellaneous Revenue	-											
Interest & Investment Income	-											
Total Funding (A)	18,290,664	158,553	14,238,948	3,692,737	858,992	1,085,132	-	(1,743,698)	-	-	-	-
Expenses												
Personnel Expenses												
Salaries	11,416,562	58,474	5,792,149	1,528,561	319,838	426,796	-	936,453	552,889	921,491	273,690	606,220
Payroll Taxes	744,165	3,914	399,863	100,217	20,073	28,902	-	34,547	33,056	67,927	18,244	37,423
Benefits	1,193,996	7,319	613,759	154,429	31,529	48,790	-	45,829	135,988	47,452	34,323	74,578
Retirement Costs	1,922,258	10,839	987,129	254,449	52,605	74,320	-	116,820	85,019	179,140	50,353	111,583
Total Personnel Expenses	15,276,980	80,547	7,792,900	2,037,657	424,045	578,809	-	1,133,649	718,415	1,304,546	376,610	829,803
Meeting Expenses												
Meetings	178,877	1,400	11,500	9,000	90,000	4,277	-	60,000	500	1,200	-	1,000
Travel	581,670	6,500	224,470	127,600	50,500	30,500	-	19,800	19,800	5,000	2,000	5,000
Total Meeting Expenses	760,547	7,900	235,970	136,600	140,500	34,777	-	170,300	20,300	6,200	2,000	6,000
Operating Expenses												
Consultants & Contracts	1,204,800	-	383,382	71,100	-	-	-	65,000	54,900	549,568	27,000	53,850
Office Rent	1,132,100	-	-	-	-	-	-	-	-	-	-	1,132,100
Office Costs	967,934	-	130,945	25,000	-	11,960	-	133,000	35,804	313,350	68,675	249,200
Professional Services	567,000	-	-	-	-	-	-	360,500	147,500	-	-	59,000
Miscellaneous	-	-	-	-	-	-	-	-	-	-	-	-
Total Operating Expenses	3,871,834	-	514,327	96,100	-	11,960	-	558,500	238,204	862,918	95,675	1,494,150
Total Direct Expenses	19,909,361	88,447	8,543,197	2,270,357	564,545	625,546	-	1,862,449	976,919	2,173,664	474,285	2,329,953
Indirect Expenses	-	69,003	5,606,108	1,399,994	289,812	452,353	-	(1,862,449)	(976,919)	(2,173,664)	(474,285)	(2,329,953)
Other Non-Operating Expenses	-	-	-	-	-	-	-	-	-	-	-	-
Total Expenses (B)	19,909,361	157,450	14,149,305	3,670,351	854,357	1,077,899	-	-	-	-	-	-
Change in Net Assets	(1,618,698)	1,103	89,643	22,386	4,634	7,233	-	(1,743,698)	-	-	-	-
Fixed Assets												
Computer & Software CapEx	125,000									125,000		
Furniture & Fixtures CapEx	-									-		
Equipment CapEx	-									-		
Leasehold Improvements	-									-		
Allocation of Fixed Assets	(0)	1,103	89,643	22,386	4,634	7,233	-	-	-	(125,000)	-	-
Inc(Dec) in Fixed Assets (C)	125,000	1,103	89,643	22,386	4,634	7,233	-	-	-	-	-	-
TOTAL BUDGET (Total Expenses plus Fixed Asset Additions =B + C)	20,034,361	158,553	14,238,948	3,692,737	858,992	1,085,132	-	-	-	-	-	-
TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)	(1,743,698)	0	0	(0)	(0)	(0)	-	(1,743,698)	-	-	-	-
FTEs	71.00	0.45	36.56	9.13	1.89	2.95	-	2.75	2.79	7.98	2.15	4.35

Table D-1. Consolidated Statement of Activities by Program, Statutory and Non-Statutory

Statement of Financial Position

The following table provides MRO Statement of Financial Position as of these dates:

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

Statement of Financial Position			
2020 Audited, 2021 Projection, and 2022 Budget			
STATUTORY			
	(Per Audit)	Projected	Budget
	31-Dec-20	31-Dec-21	31-Dec-22
ASSETS			
Cash	8,654,730	7,787,096	7,967,516
Restricted Cash	-	-	-
Other Receivables	-	-	-
Prepaid expenses and other current assets	376,264	320,000	280,000
Security deposit	39,858	39,858	39,858
Restricted Cash - non-current	2,607,484	2,634,484	432,536
Other Assets	166,208	196,466	228,539
Property and equipment and capitalized software	1,627,565	3,636,261	3,569,956
Total Assets	13,472,109	14,614,165	12,518,406
LIABILITIES AND NET ASSETS			
Liabilities			
Accounts payable and accrued expenses	3,345,191	3,007,000	3,187,420
Postretirement medical benefit obligation	609,597	840,463	1,081,798
Deferred assessments - non-current	-	-	-
Deferred rent - non-current	446,917	465,306	488,809
Other Liability	166,208	196,466	228,539
Total Liabilities	4,567,913	4,509,235	4,986,566
Net Assets - unrestricted	8,904,196	10,104,930	7,531,840
Total Liabilities and Net Assets	13,472,109	14,614,165	12,518,406

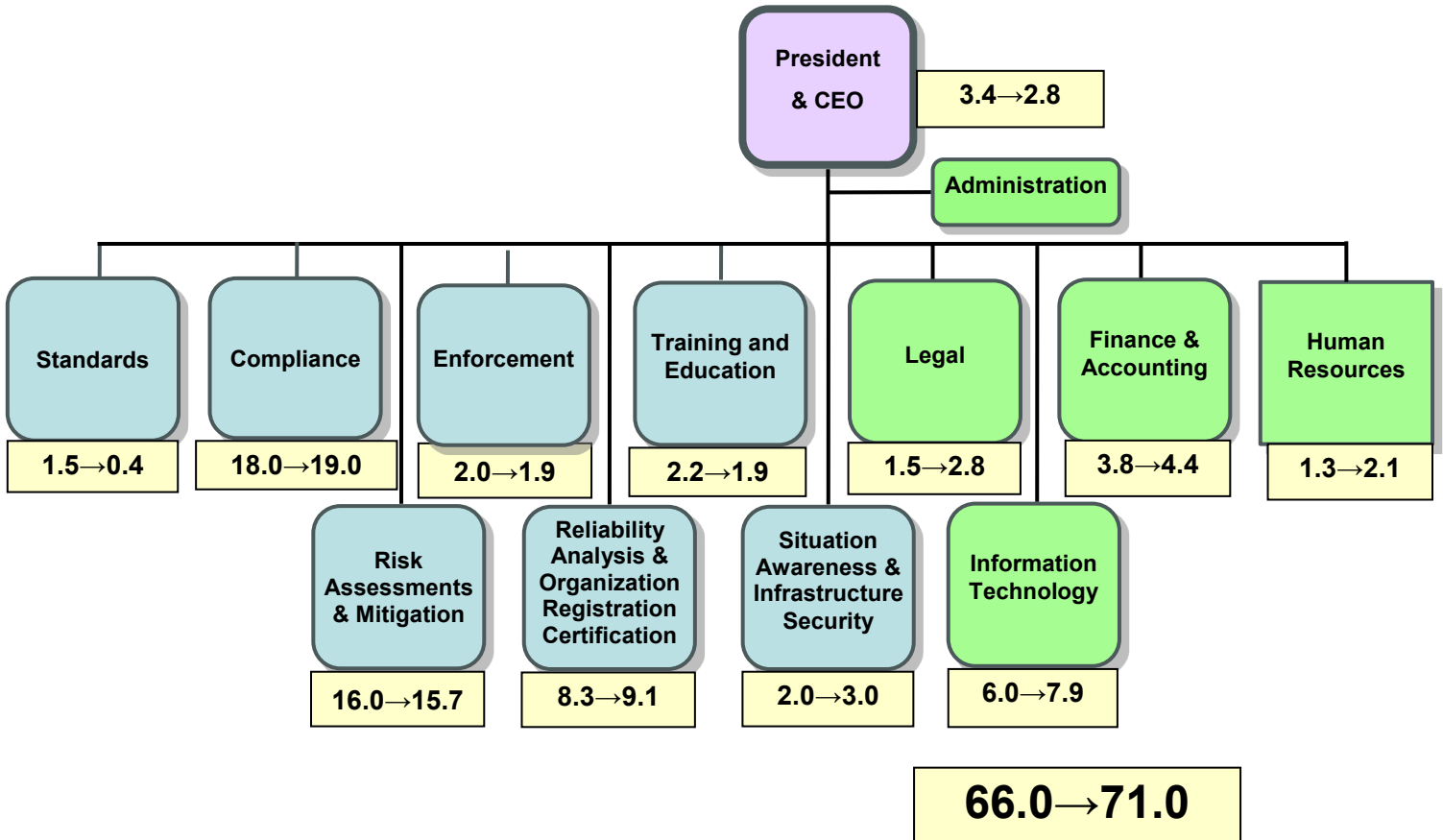
Table D-2. Statement of Financial Position, Three-Year Comparison

Appendix A

Organization Chart

The MRO Organization Chart is shown below.

2021 to 2022 Full Time Equivalent (FTE) Comparison Organization Chart



FTE Trend from 2020 to 2024

2020	2021	2022	2023 Estimate	2024 Estimate
63.0	66.0	71.0	73.0	74.0

Figure 2. Organization Chart and FTE Trend

Appendix B

This section lists acronyms used in this document.

Acronym	Definition
ASR	Assessment Stabilization Reserve
BES	Bulk Electric System
BPS	Bulk Power System
CMEP	Compliance Monitoring and Enforcement Program
CMEPAC	Compliance Monitoring and Enforcement Program Advisory Council
COP	Compliance Oversight Plan
CORES	Centralized Organization Registration ERO System
CRISP	Cybersecurity Risk Information Sharing Program
DADS	Demand Response Availability Data System
E-ISAC	Electricity Information Sharing and Analysis Center
ERAG	Eastern Interconnection Reliability Assessment Group
ERO	Electric Reliability Organization
FAC	Finance and Audit Committee
FERC	Federal Energy Regulatory Commission
FPA	Federal Power Act
FTE	Full-Time Equivalent
GAAP	Generally Accepted Accounting Principles
GADS	Generating Availability Data System
GPC	Governance & Personnel Committee
HERO	Highly Effective Reliability Organization
HRO	Highly Reliable Organization
IRA	Inherent Risk Assessment
IT	Information Technology
MRO	Midwest Reliability Organization
NEL	Net-Energy-for-Load
NERC	North American Electric Reliability Corporation
OGOC	Organizational Group Oversight Committee
RAC	Reliability Advisory Council
RAM	Risk Assessment and Mitigation
RE	Regional Entity

RISC	Reliability Issues Steering Committee
SAC	Security Advisory Council
SAG	Standard Application Guide
SOA	Statement of Activities
SPP RE	Southwest Power Pool Regional Entity
TADS	Transmission Availability Data System

Appendix C

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Attachment 4

NERC Management's Responses to Stakeholder Comments Submitted on Draft of NERC's 2022 Business Plan and Budget

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 positions 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,



Andy Sharp
Vice President and Chief Financial Officer

Attachment 5

Calculation of Adjustments to the 2022 AESO NERC Assessment, IESO NERC Assessment, New Brunswick NERC Assessment and Québec NERC Assessment

2022 IESO Assessment Adjustment

Credit for NERC Compliance Costs

Includes adjustment for 2020 Actual v Budgeted Costs

	2022 NERC Budget		IESO NEL Share	2022 Compliance FTEs			Costs Paid by				
	Final		(2020) 2.958%	Total	Credit	% Credit	IESO Credit	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			NB Credit Budget)	Costs Paid by NB
			Total	Credit	% Credit		
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%						

Attachment 6

Memorandum for NERC Board of Trustees Describing NERC's Participation in Preparation of and Review
of Regional Entity 2022 Business Plans and Budgets

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

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

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

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

NERC recently completed reviews of the Regional Entity 2022 BP&Bs. The following is a summary of the review findings and outcomes:

- All Regional Entity budgets cover activities eligible for funding, consistent with the regional delegation agreements as well as section 215 criteria.
- All statutory areas for all Regional Entities have adequate resources to fulfill their delegated functions.
- All Regional Entities conform to necessary budget reporting and format requirements. NERC also worked with the Regional Entities to further alignment on reserve reporting, clarifying category definitions and overall presentation on reserve balances and penalty funds received.
- Other minor wording change suggestions.

Additionally, the ERO Finance Group continues to have ongoing discussions regarding reserve balances and policies, including long-term strategies for the use of these funds to offset future assessments.

Attachment 7

Donation Holdback Agreement between Peak Reliability and the Western Electricity Coordinating Council

DONATION HOLDBACK AGREEMENT

This Donation Holdback Agreement (this “**Agreement**”) is entered into as of [12-5], 2020 by and between Peak Reliability (“**Peak**”) and Western Electricity Coordinating Council (“**WECC**”) and, together with Peak, the “**Parties**”).

RECITALS

A. Peak is a dissolved Utah nonprofit corporation recognized as a tax-exempt 501(c)(4) mutual benefit corporation. Peak operated as an energy reliability coordinator prior to its dissolution with the Secretary of State of Utah on December 12, 2019 (the “**Dissolution Date**”).

B. WECC is a Utah nonprofit corporation recognized as a tax-exempt 501(c)(4) mutual benefit corporation. WECC works to effectively mitigate risks to the reliability and security of the Western Interconnection’s Bulk Power System.

C. Upon Peak’s wind-down, after the payment of all liabilities and member rebates, Peak expects to hold approximately \$4.1 million in excess cash (the “**Remaining Funds**”). Pursuant to Peak’s non-profit governance documents and IRS rules, Peak is required to donate the Remaining Funds to another non-profit organization, and Peak intends to donate the Remaining Funds to WECC (the “**Donation**”).

D. Peak does not anticipate any liabilities will arise after the completion of the Donation. However, Peak desires that, as a condition of the Donation, WECC agrees to hold back certain donated funds to cover unexpected future liabilities as set forth in this Agreement.

Accordingly, the parties agree as follows:

AGREEMENT

1. Holdback Fund. Upon acceptance of the Donation, WECC agrees to hold \$[300,000] of the amount donated by Peak to WECC (the “**Holdback Fund**”) in escrow, in a separate account not to be commingled with WECC’s general funds, for a period of five years from date on which the Donation is made. If Peak receives notice from a third party of an outstanding liability (a “**Third Party Claim**”) after the date of the Donation (other than any Excluded Claim described in Paragraph 2), then Peak shall notify WECC of such Third Party Claim, and WECC shall remit payment from the Holdback Fund directly to such third party to cover the amount of such Third Party Claim (a “**Third Party Payment**”).

2. Excluded Claims. In no event shall WECC be responsible for making any Third Party Payment if the Third Party Claim (a) involves an amount in excess of the amount remaining in the Holdback Fund or (b) is in connection with a lawsuit or any other legal, administrative, arbitral, or

other proceeding (each an “**Excluded Claim**”). For avoidance of doubt, there shall be no successor-in-interest liability to either Party under any theory of successor liability.

3. Governing Law. This Donation Holdback Agreement shall be governed by and construed in accordance with the internal laws of the State of Utah, without giving effect to any choice or conflict of law provision or rule.

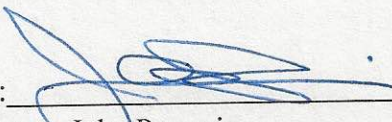
4. Merger and Amendment. This Agreement constitutes the sole, full and entire understanding and agreement between the Parties with respect to the subject matter contained herein, and any other written or oral agreements relating to the subject matter hereof existing between the Parties are expressly cancelled. No change, modification, or addition to this Agreement shall be valid unless in writing and signed by or on behalf of each of the Parties.

5. Counterparts and Electronic Signatures. This Agreement may be executed in counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. The Parties agree that transmission to each other of this Agreement with the transmitting party’s email or other electronic signature shall suffice to bind the party signing and transmitting this Agreement in the same manner as if the Agreement with an original signature had been delivered.

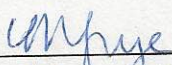
[Signature Page Follows]

IN WITNESS WHEREOF, the undersigned have executed this Agreement as of the date first set forth above.

PEAK RELIABILITY

By: 
Name: John Procario
Title: Board Chair

WESTERN ELECTRICITY COORDINATING COUNCIL

By: 
Name: Melanie Frye
Title: CEO

Attachment 8

Metrics Comparing Regional Entity Operations Based on the 2022 Budgets

2022 Metrics for Budget Submissions

Budget Metrics	MRO	NPCC ⁶	ReliabilityFirst	SERC	Texas RE	WECC
1 Number of registered entities ¹	220	239	262	267	262	435
2 Number of registered functions	604	472	264	726	482	1,038
3 Total NEL (GWh)	479,196	605,651	856,672	1,290,440	381,905	855,793
4 NEL (GWh) per registered entity	2,178	2,534	3,270	1,310	1,458	1,967
5 Total ERO Funding ²	\$17,832,414	\$ 16,113,445	\$ 26,936,627	\$ 26,194,934	\$15,562,115	\$30,298,000
6 ERO Funding per registered entity	\$ 81,056	\$ 67,420	\$ 102,812	\$ 98,108	\$ 59,397	\$ 69,651
7 ERO Funding per registered function	\$ 29,524	\$ 34,139	\$ 102,033	\$ 36,081	\$ 32,287	\$ 29,189
8 Total Budget ³	\$20,034,361	\$ 17,465,133	\$ 26,219,927	\$ 26,708,260	\$17,160,613	\$29,746,899
9 Total Budget per registered entity	\$ 91,065	\$ 73,076	\$ 100,076	\$ 100,031	\$ 65,499	\$ 68,384
10 Total Budget per registered function	\$ 33,169	\$ 37,002	\$ 99,318	\$ 36,788	\$ 35,603	\$ 28,658
11 Total Statutory FTE ⁴	71.00	49.90	67.60	104.00	66.00	152.50
12 Registered entity per Statutory FTE	3.099	4.790	3.876	2.567	3.970	2.852
13 Registered function per Statutory FTE	8.507	9.459	3.905	6.981	7.303	6.807
14 Total CMEP Budget ⁵	\$14,238,948	\$ 10,119,600	\$ 7,751,602	\$ 19,534,883	\$13,648,328	\$17,730,856
15 CMEP budget per registered entity	\$ 64,722	\$ 42,341	\$ 29,586	\$ 73,164	\$ 52,093	\$ 40,761
16 CMEP budget per registered function	\$ 23,574	\$ 21,440	\$ 29,362	\$ 26,908	\$ 28,316	\$ 17,082
17 Total CMEP FTE	36.56	24.95	53.00	50.45	41.75	67.75
18 Registered entity per CMEP FTE	6.0	9.6	4.9	5.3	6.3	6.4
19 Registered function per CMEP FTE	16.5	18.9	5.0	14.4	11.5	15.3

¹ As of June 2021.

² ERO Funding is the sum of Assessments and Penalty Release funds only. (Excludes funding such as Membership Dues, Testing Fees, Services & Software, Workshops, Interest, and Miscellaneous.)

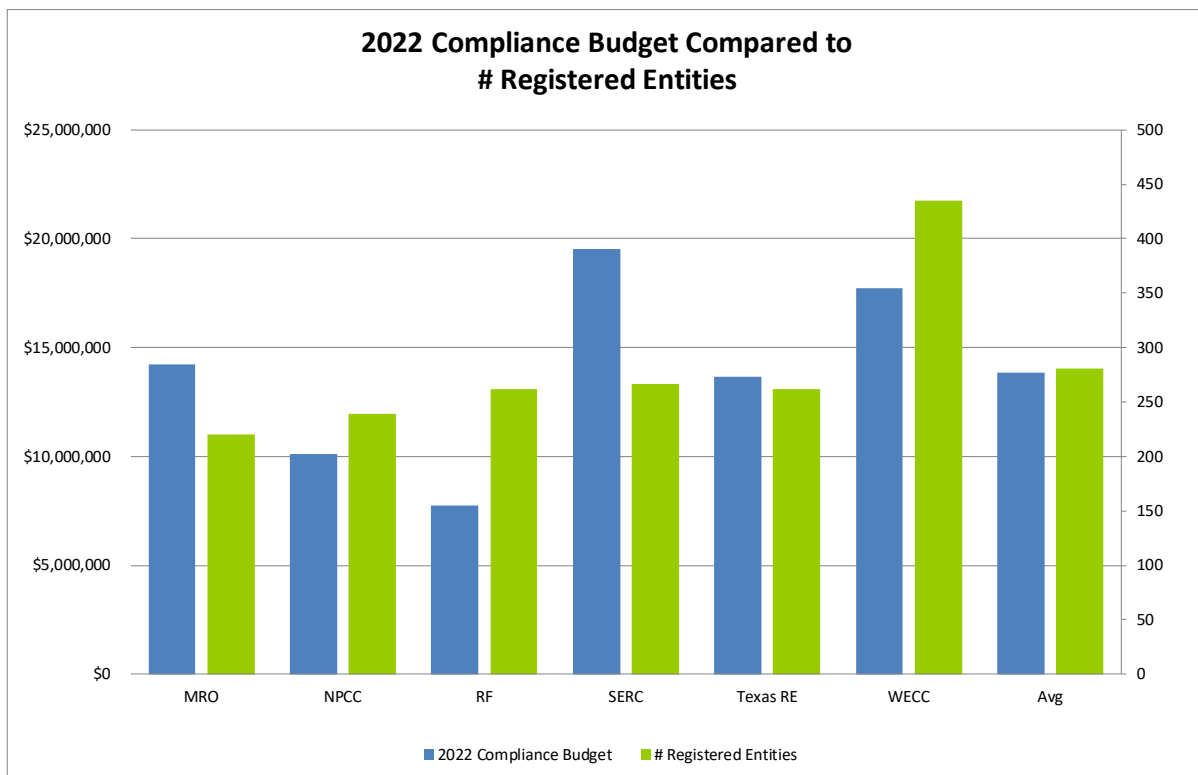
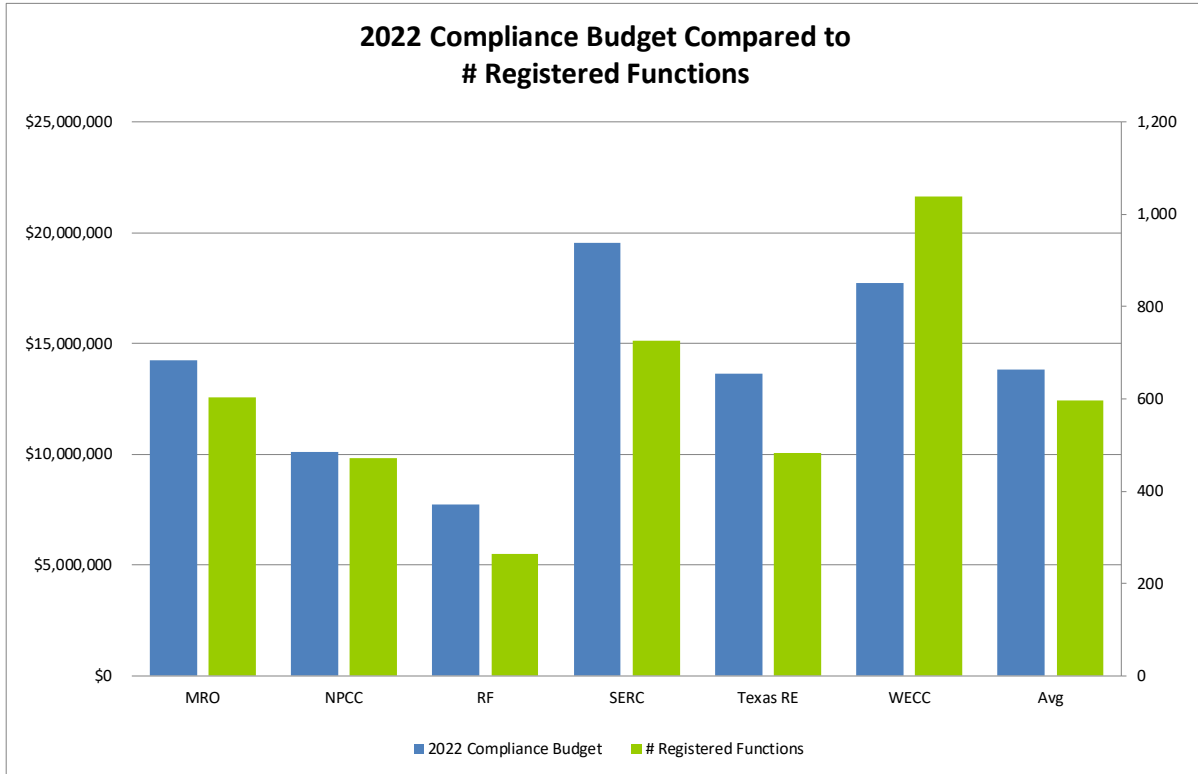
³ Total Budget is the sum of Total Expenses and Fixed Asset Expenditures.

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

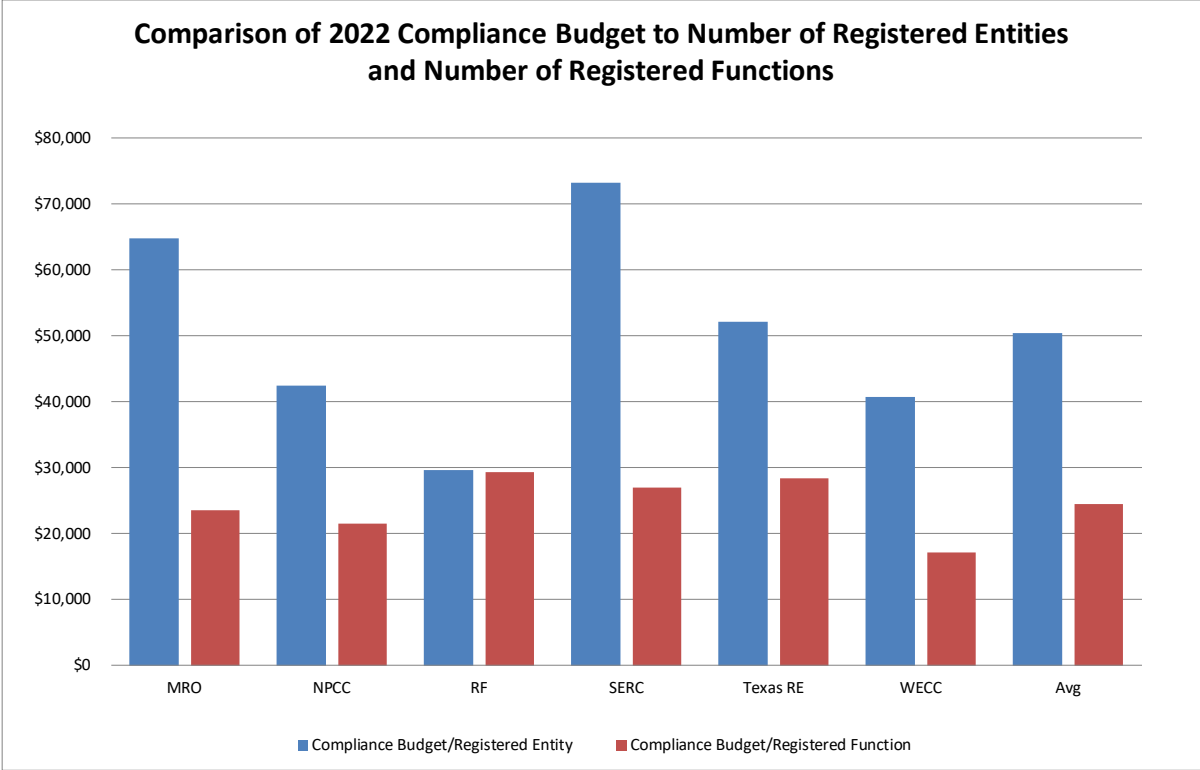
⁵ Total CMEP (Compliance, Enforcement, & Organization Registration and Certification) Budget is a sum of Direct Expenses, Indirect Expenses, and Fixed Asset Expenditures.

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

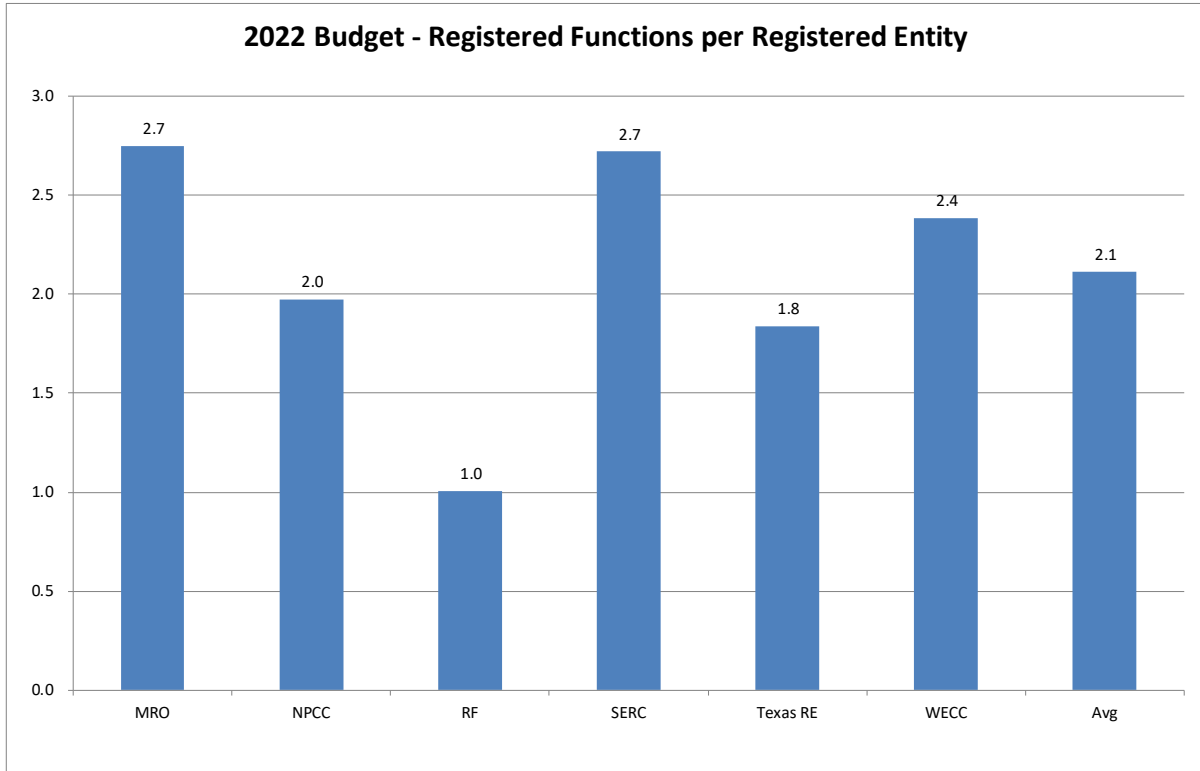
	MRO	NPCC	RF	SERC	Texas RE	WECC	Avg
2022 Compliance Budget	\$14,238,948	\$10,119,600	\$7,751,602	\$19,534,883	\$13,648,328	\$17,730,856	\$13,837,370
# Registered Entities	220	239	262	267	262	435	281
# Registered Functions	604	472	264	726	482	1,038	598



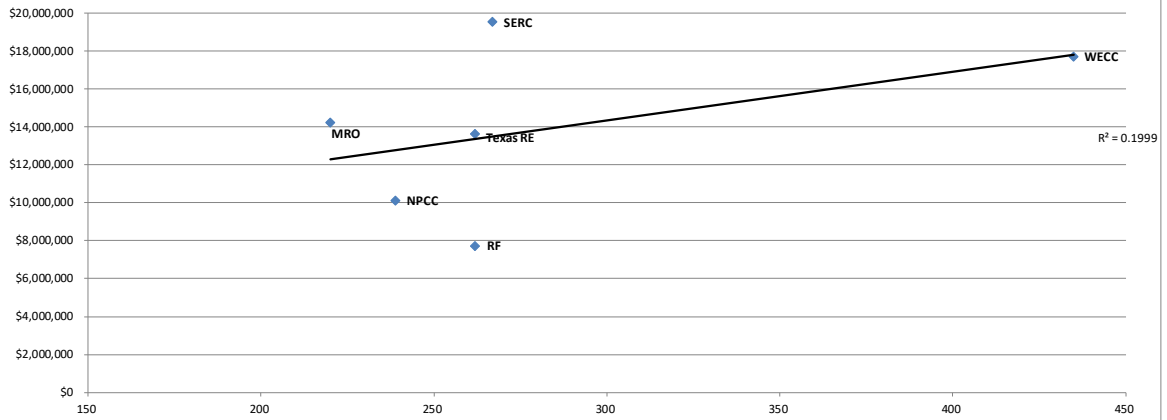
	MRO	NPCC	RF	SERC	Texas RE	WECC	Avg
Compliance Budget/Registered Entity	\$64,722	\$42,341	\$29,586	\$73,164	\$52,093	\$40,761	\$50,445
Compliance Budget/Registered Function	\$23,574	\$21,440	\$29,362	\$26,908	\$28,316	\$17,082	\$24,447



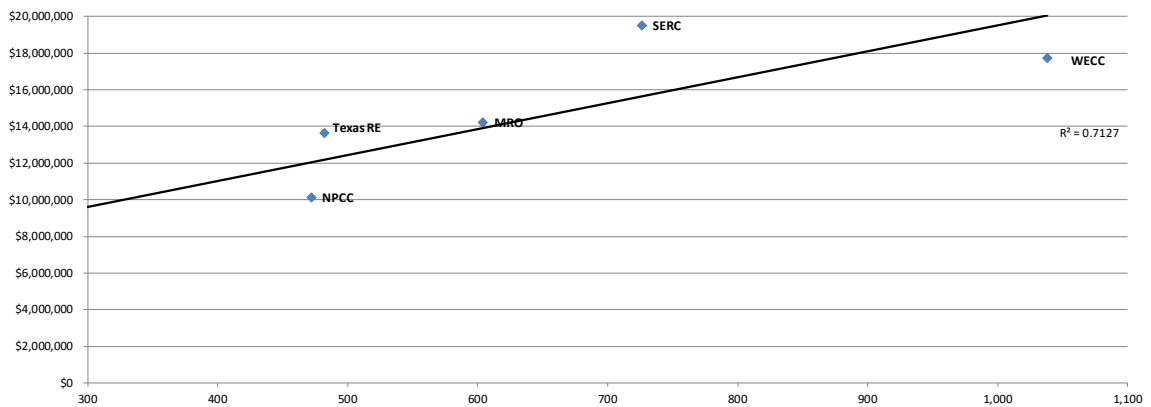
	MRO	NPCC	RF	SERC	Texas RE	WECC	Avg
Registered Functions per Registered Entity 2022 Budget	2.7	2.0	1.0	2.7	1.8	2.4	2.1



Regional Entity 2022 Compliance Program Budget as Function of Number of Registered Entities

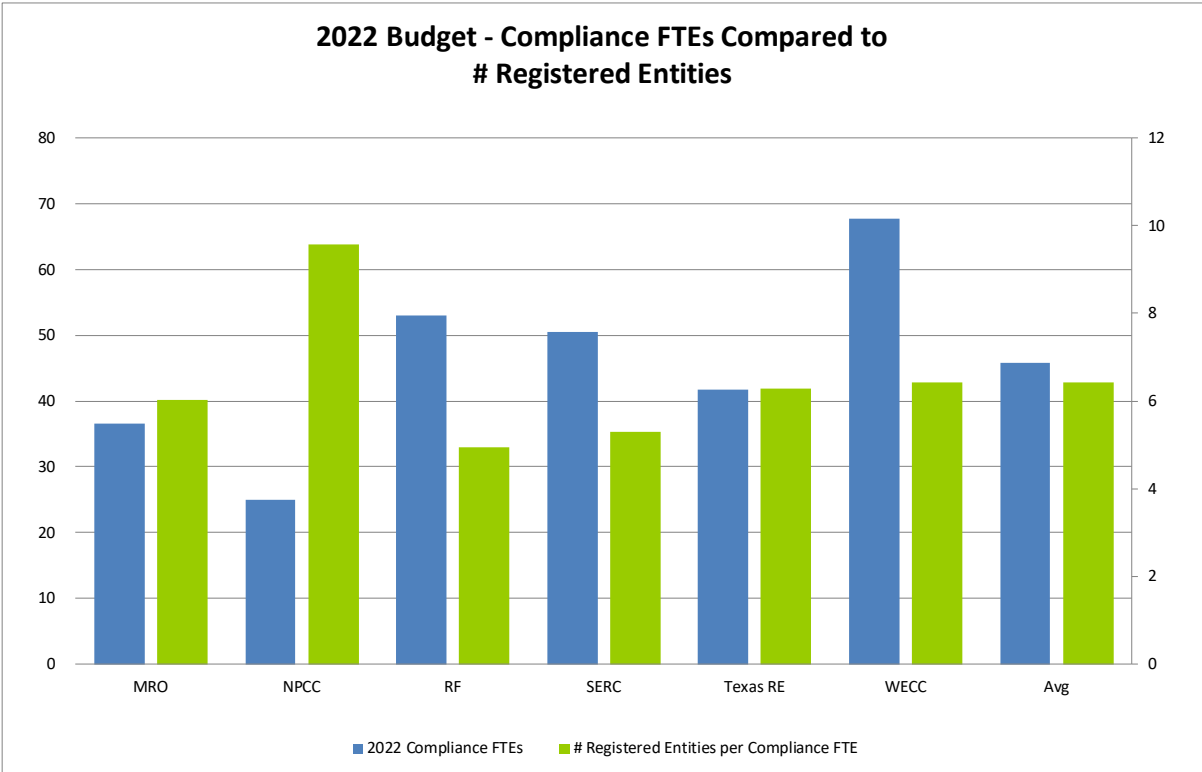
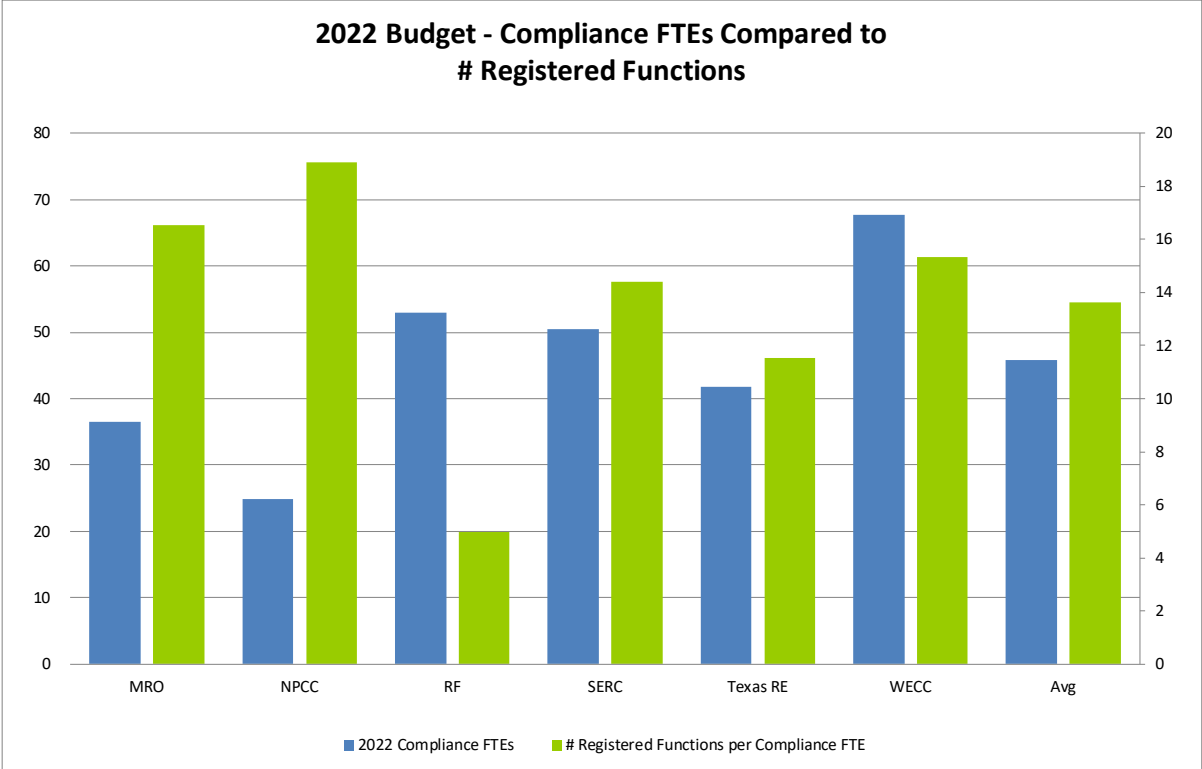


Regional Entity 2022 Compliance Program Budget as Function of Number of Registered Functions

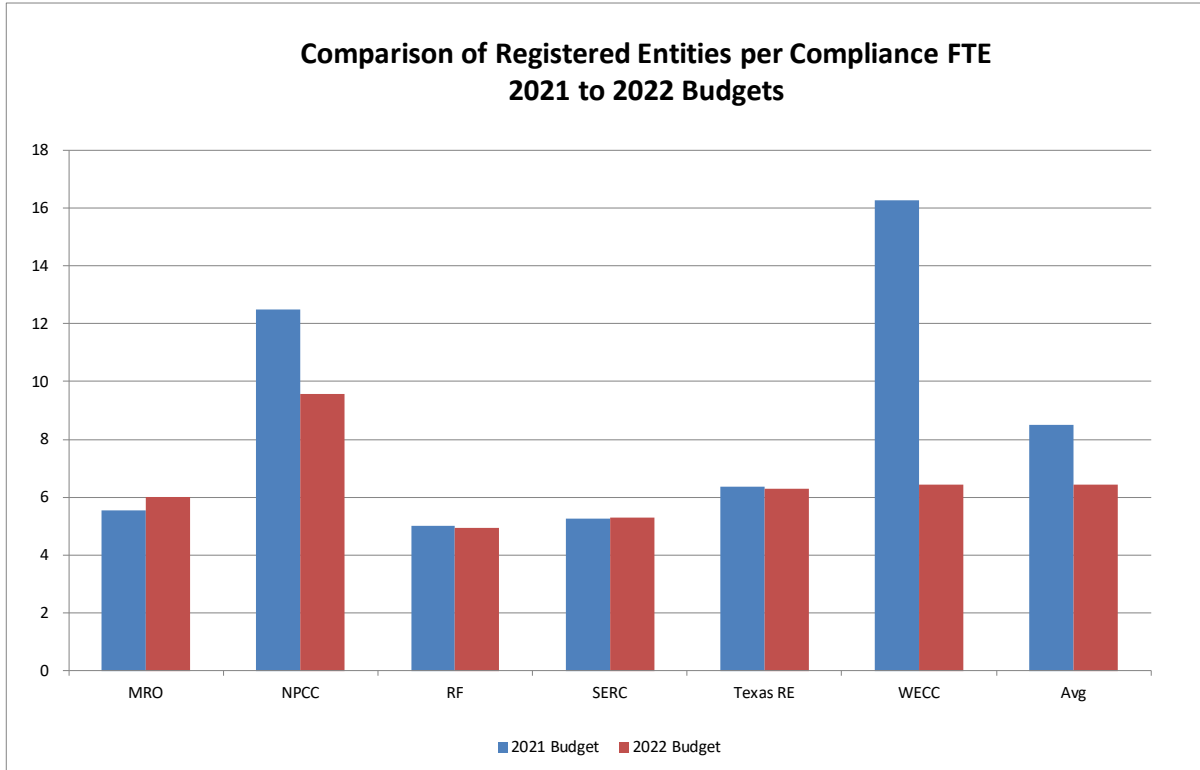


	MRO	NPCC	RF	SERC	Texas RE	WECC	Avg
2022 Compliance FTEs	36.56	24.95	53.00	50.45	41.75	67.75	45.74

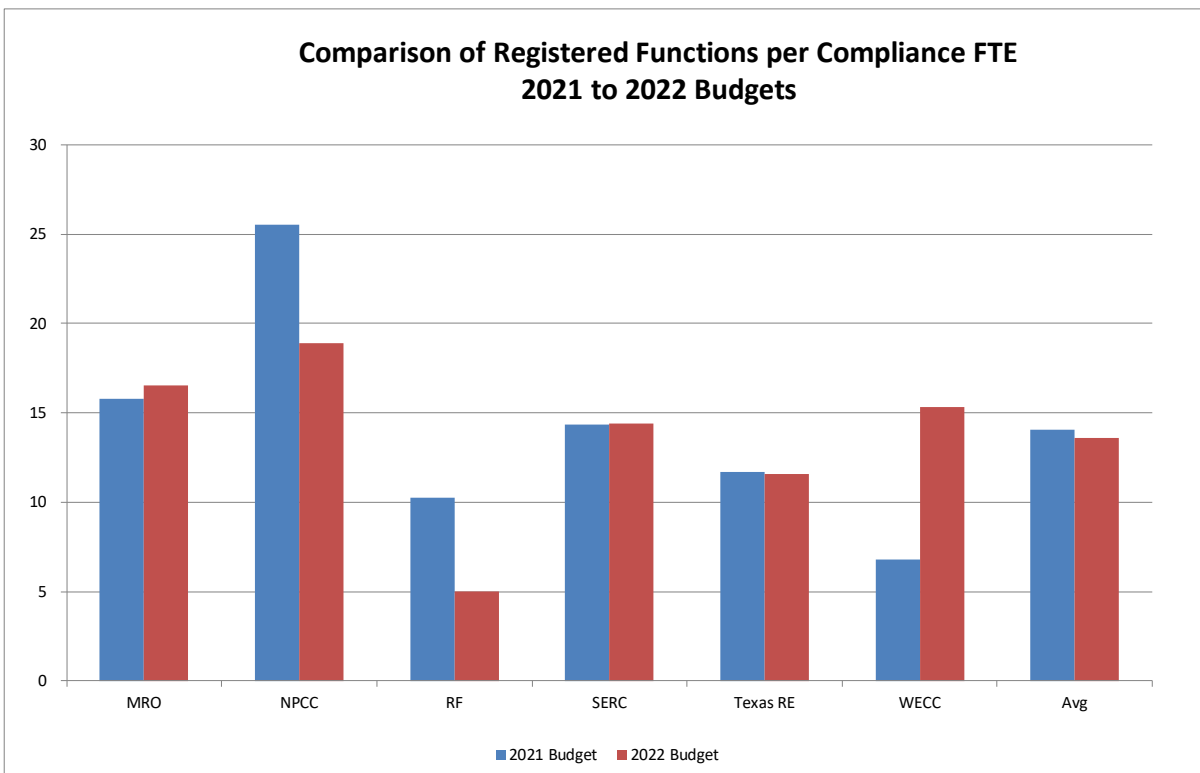
# Registered Entities per Compliance FTE	6.0	9.6	4.9	5.3	6.3	6.4	6.4
# Registered Functions per Compliance FTE	16.5	18.9	5.0	14.4	11.5	15.3	13.6



	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



Attachment 9

Metrics on NERC and Regional Entity Administrative (Indirect) Costs Based on the 2021 and 2022 Budgets

Analysis of Indirect (Administrative Services) Costs
2022 Budget versus 2021 Budget

2021 BUDGET					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		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	\$ 88,028,283	\$ 51,103,265	\$ 36,925,018	41.9%	1.38	
18,412,201	11,252,515	7,159,686	38.9%	1.57	MRO	20,034,361	12,092,092	7,942,269	39.6%	1.52	
16,440,649	10,025,636	6,415,013	39.0%	1.56	NPCC	17,465,133	10,706,202	6,758,931	38.7%	1.58	
24,785,492	17,694,926	7,090,566	28.6%	2.50	RF	26,219,927	18,457,780	7,762,147	29.6%	2.38	
25,829,078	14,051,451	11,777,627	45.6%	1.19	SERC	26,708,260	14,833,574	11,874,686	44.5%	1.25	
14,211,538	8,177,064	6,034,474	42.5%	1.36	Texas RE	17,160,613	9,969,676	7,190,937	41.9%	1.39	
\$ 28,605,029	\$ 18,042,747	\$ 10,562,282	36.9%	1.71	WECC	29,746,899	18,657,895	11,089,004	37.3%	1.68	
30.2%					1.26	AVERAGE	30.4%				

2021 BUDGETED FTEs					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		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	223.73	142.65	81.08	36.2%	1.76	
66.00	50.00	16.00	24.2%	3.13	MRO	71.00	50.98	20.02	28.2%	2.55	
42.11	32.23	9.88	23.5%	3.26	NPCC	49.90	38.95	10.95	21.9%	3.56	
84.35	64.60	19.75	23.4%	3.27	RF	88.60	67.60	21.00	23.7%	3.22	
100.00	67.40	32.60	32.6%	2.07	SERC	104.00	68.25	35.75	34.4%	1.91	
63.00	48.25	14.75	23.4%	3.27	Texas RE	66.00	51.25	14.75	22.3%	3.47	
148.50	106.55	41.95	28.2%	2.54	WECC	152.50	110.55	41.95	27.5%	2.64	
21.3%					2.14	AVERAGE	21.6%				