

NERC

NORTH AMERICAN ELECTRIC
RELIABILITY CORPORATION

2016 Business Plan and Budget

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RELIABILITY | ACCOUNTABILITY



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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 mission is to improve and ensure the reliability of the Bulk Power System (BPS)¹ in North America. NERC’s area of responsibility spans the continental United States and Canada and the northern portion of Baja California, Mexico. Entities under NERC’s jurisdiction are the users, owners, and operators of the BPS—a system that serves the needs of over 340 million people, includes installed electricity production capacity of approximately 1,200 gigawatts, operates 475,000 miles of high-voltage transmission (100 kV and above), and is comprised of assets worth more than one trillion dollars.

Electric Reliability Organization (ERO)

The Federal Energy Regulatory Commission (FERC or Commission) certifies and has oversight of NERC as the electric reliability organization (ERO) within the United States to establish and enforce Reliability Standards for the U.S. portion of the BPS, pursuant to Section 215 of the Federal Power Act (§215).² 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. Equivalent relationships have been sought and, for the most part, realized in Canada and Mexico.

International Relations

Prior to adoption of §215 in the United States, the Canadian provinces of Ontario (in 2002) and New Brunswick (in 2004) adopted all Reliability Standards that were approved by the NERC Board of Trustees (Board) as mandatory and enforceable within their respective jurisdictions through market rules. Reliability legislation is in place, or NERC has memoranda of understanding with, provincial authorities in Ontario, New Brunswick, Nova Scotia, Québec, Manitoba, Saskatchewan, British Columbia, and Alberta, and with the National Energy Board of Canada (NEB). NERC’s standards are mandatory and enforceable in Ontario and New Brunswick as a matter of provincial law. Manitoba has adopted legislation, and standards are also mandatory. In addition, NERC has been designated as the “electric reliability organization” under Alberta’s Transmission Regulation, and certain Reliability Standards have been approved in that jurisdiction; others are pending. NERC standards are now mandatory in British Columbia and Nova Scotia. NERC and the Northeast Power Coordinating Council (NPCC) have been recognized as standards-setting bodies by the Régie de l’énergie de Québec, and Québec has the framework in place for Reliability Standards to become mandatory. NEB has made Reliability Standards mandatory for international power lines.

In Mexico, the Comisión Federal de Electricidad has signed WECC’s reliability management system agreement, which applies only to Baja California Norte.

Membership and Governance

An 11-member Board, comprised of 10 independent directors 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, governance and human resources, compliance, standards oversight and technology, nominations and, most recently, Enterprise-wide risk.

Membership in NERC is open to any person or entity that has an interest in the reliability of the North American BES. Membership is voluntary and affords participants the opportunity to engage in the

¹ NERC’s standards, compliance and enforcement activities are focused on the [Bulk Electric System \(BES\)](#), which is comprised of certain BPS facilities.

² [ERO Enterprise Strategic Plan](#)

governance of the organization through election to the Member Representatives Committee (MRC).³ More than 600 entities and individuals are members of NERC.

Scope of Oversight

As the international, multijurisdictional ERO in North America, NERC is authorized to:

- Propose, monitor compliance with, and enforce mandatory Reliability Standards for the North American BPS, subject to regulatory oversight and approvals from FERC in the United States and applicable authorities in Canada;
- Conduct near-term and long-term assessments of the reliability of the North American BPS;
- Certify BPS operators as having and maintaining the necessary knowledge and skills to perform their reliability responsibilities;
- Maintain situational awareness of events and conditions that may threaten BPS reliability;
- Coordinate efforts to improve physical security and cybersecurity for the BPS of North America;
- Conduct detailed analyses and investigations of system disturbances and unusual events as well as measure ongoing system trends to determine root causes, uncover lessons learned, and issue relevant findings as advisories, recommendations, and essential actions to the industry; and
- Identify, based on lessons learned, 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 eight regional reliability entities (Regional Entities or the Regions) to perform aspects of the ERO functions described through delegation agreements. FERC has approved delegation agreements between NERC and the eight Regional Entities (Florida Reliability Coordinating Council (FRCC), Midwest Reliability Organization (MRO), Northeast Power Coordinating Council, Inc. (NPCC), ReliabilityFirst, SERC Reliability Corporation (SERC), Southwest Power Pool Regional Entity (SPP RE), Texas Reliability Entity, Inc. (Texas RE), and the Western Electricity Coordinating Council (WECC)⁴). These agreements describe the authorities delegated and responsibilities assigned to the Regional Entities in the United States to address, among other things: (1) developing regional Reliability Standards, (2) monitoring compliance with and enforcement of mandatory Reliability Standards (both North American-wide and regional), (3) certifying registered entities and registering owners, operators, and users of the BES, (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 Regional Entities whose territories and geographic footprints extend into Canadian provinces and Mexico to perform equivalent functions in those jurisdictions.

ERO Enterprise Operating Model

The collective network of leadership, experience, judgment, skills, and technologies shared among NERC and the eight Regional Entities is referred to as the ERO Enterprise (the Enterprise). In 2014, a common operating model, Improving Coordinated Operations Across the ERO Enterprise⁵ was developed to define how NERC and the Regional Entities achieve excellence in the oversight and execution of statutory functions by collaborating to mitigate reliability risks. The model also defines the division of the roles and

³ The [Member Representatives Committee](#) (MRC) comprises 28 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.

⁴ WECC has sub-delegated its Reliability Coordinator (“RC”) and Interchange Authority (“IA”) functions to Peak Reliability, which commenced operations and assumed the RC and IA functions within the WECC footprint on January 2, 2014.

⁵ [Improving Coordinated Operations Across the ERO Enterprise](#)

responsibilities for NERC and the Regional Entities to efficiently and effectively execute services performed as the collective Enterprise.

NERC has unique responsibilities within the Enterprise to design the oversight of program areas; develop operational oversight and leadership; set qualifications and expectations for the performance of delegated activities; and assess, train, and give feedback to corresponding regional programs. NERC also reviews and provides input to the annual Regional Entity business plans and budgets, including but not limited to review of resource allocations, staffing capacity assessments, and program performance assessments. NERC input and review occurs before regional board approval.

Similarly, the Regional Entities have a mirrored set of responsibilities that include being responsive to the design of the operational model, providing input into the overall development of each ERO program area, providing training and development to meet ERO qualifications, being receptive to feedback from the ERO, and making responsive adjustments. Regional Entities also have an obligation to meet professional standards of independence and objectivity, and provide the best available expertise for addressing risks.

With due recognition and awareness of the distinction between individual roles, responsibilities, and corporate status, NERC and the Regional Entities are continually refining their individual and collective operating and governance practices in support of an agreed-upon set of strategic goals and objectives that are designed to ensure the ERO fulfills its statutory obligations.

Statutory and Regulatory Background

NERC's authority as the ERO in the United States is based on Section 215 of the Federal Power Act, as added by the Energy Policy Act of 2005,⁶ and the Commission's regulations and orders issued pursuant to Section 215. In Canada, NERC's authorities are established by the memoranda of understanding and regulations previously mentioned.

Funding

Section 215 of the Federal Power Act and the Commission's regulations specify procedures for NERC's funding in the United States. NERC's annual business plan and budget is subject to Commission approval in the United States. Once approved, NERC's annual funding is provided 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.

The Regional Entities' funding requirements are addressed separately in their respective business plans and budgets, which must be reviewed and approved by NERC and FERC in the United States. Assessments for the Regional Entity budgets are included in the overall NERC assessments to load-serving entities.

⁶ This was codified in section 215 of the Federal Power Act, 16 United States C. 824o.

Introduction and Executive Summary

TOTAL RESOURCES (in whole dollars)				
	2016 Budget	U.S.	Canada	Mexico
Statutory FTEs	192.47			
Non-statutory FTEs				
Total FTEs	192.47			
Statutory Expenses	\$ 65,797,608			
Non-Statutory Expenses	-			
Total Expenses	\$ 65,797,608			
Statutory Inc (Dec) in Fixed Assets	\$ 1,269,057			
Non-Statutory Inc (Dec) in Fixed Assets	-			
Total Inc (Dec) in Fixed Assets	\$ 1,269,057			
Statutory Working Capital Requirement	\$ 380,490			
Non-Statutory Working Capital Requirement				
Total Working Capital Requirement	\$ 380,490			
Proceeds from Financing Activities	\$ 55,000			
Total Statutory Funding Requirement	\$ 67,502,155			
Total Non-Statutory Funding Requirement	\$ -			
Total Funding Requirement	\$ 67,502,155			
Statutory Funding Assessments	\$ 57,081,445	\$ 51,774,310	\$ 5,147,404	\$ 159,731
Non-Statutory Fees				
NEL	4,536,826,392	4,001,404,260	523,411,096	12,011,036
NEL%	100.00%	88.20%	11.54%	0.26%

Strategic Goals, Objectives, and Metrics

Developing the common operating model for NERC and the Regional Entities helped align the Enterprise's business-planning goals, objectives, metrics, and assumptions for the 2015–2018 planning period. In November 2014, the NERC Board approved an updated version of the *ERO Enterprise Strategic Plan*. Prior to its approval, NERC's Board requested stakeholder input on the plan as part of the November 2014 policy input request from the Member Representatives Committee (MRC). NERC posts the written comments and tracks and reports on corresponding actions in response to this input on an ongoing basis.

Performance Metrics

As part of an ongoing effort to make improvements to its strategic plan, in 2014, NERC and the Regional Entities adopted four overarching performance metrics (standards; compliance, registration, and certification; risks to reliability; and coordination and collaboration) designed to assess the overall effectiveness of the Enterprise in addressing risk to, and improving the reliability of, the BES. The *ERO Enterprise Strategic Plan* includes five consolidated goals within these metrics.

The metrics concentrate on measuring reliability results, assuring standards and compliance effectiveness, and improving risk mitigation and program execution. They are reviewed annually as part of the strategic planning process and are prioritized based on current and planned activities and major initiatives.

Demonstrating Success (2015–2018)

- Achieve reliability results
- Ensure standards and compliance effectiveness
- Improve risk mitigation
- Execute effective ERO programs

In November 2014, the NERC Board approved the 2015 performance metrics⁷. The four metrics, used in 2015 to measure the Enterprise’s success against the strategic goals, are not inclusive of all the objectives and deliverables identified for the entire three-year planning period; therefore, some of the deliverables listed in the strategic plan may not be specifically listed word for word in the four metrics approved for 2015. The 2016 performance metrics are expected to be finalized in Q4 2015.

NERC publicly posts and reviews quarterly corporate performance results with the Board’s Corporate Governance and Human Resources Committee. The company also publicly posts and reviews with its Finance and Audit Committee unaudited financial results each quarter for both the company and the Regional Entities. Combined, these two reports provide both NERC’s Board and stakeholders with an overview of the company’s operational and financial performance, including any actions proposed to mitigate performance shortfalls.

Stakeholder Engagement

NERC and the Regional Entities involve stakeholders in the early development of the strategic plan, in the identification of prioritized risk-based activities, and in the development of the *2016 Business Plan and Budget*. NERC obtained stakeholder input from a number of sources, including the Reliability Issues Steering Committee (RISC), other standing committees of the Board, and the MRC’s Budget Input Group, which was established in 2012 to provide and help coordinate annual input in the development of NERC’s business plan and budget.

Priorities and Major Activities

The electric grid is one of the nation’s most critical infrastructures, and the North American BES is one of the largest, most complex, and most robust systems ever created. All other critical infrastructure sectors are dependent on electric power, directly or indirectly. As the organization charged with ensuring the reliability and security of the North American power grid, NERC continues its focus on the changing risk landscape from conventional risks (such as extreme weather and equipment failures) to new and emerging risks in the security arena. Coordinated physical and cyber attacks intended to disable elements of the power grid or deny electricity to specific targets differ from conventional risks in that they result from intentional actions by adversaries and are not simply random failures or acts of nature. These threats are not new, but they have evolved and continue to demand more attention from industry and the ERO. Recognizing the costs to electricity users associated with these efforts requires prioritization, along with risk management, to ensure that the ERO is focusing resources on the greatest risks to the reliability of the BES.

⁷ [2015 performance metrics](#)

NERC and the Regional Entities are invested in achieving positive results for reliability, demonstrating the effectiveness of the ERO by closing gaps in Reliability Standards, designing and implementing effective risk-based compliance monitoring and enforcement, and executing ERO programs and operational activities that support transparent and reliability-focused strategic goals and objectives. The following subsections highlight key initiatives and priorities.

Risk-Based Strategy – (ERO Enterprise Goal 4 and Metric 3)

The Enterprise continues to integrate risk management principles and set priorities to address the reliability issues of greatest importance. The focus in 2016 and beyond will be to identify and solve specific issues that present risk to reliability, to improve reliability performance, to minimize the use of less-effective processes, and to avoid using already limited resources on less-important issues.

In 2013, the RISC presented priority recommendations⁸ to the NERC Board and worked closely with NERC and Regional Entity staffs to review, analyze, and identify high-priority reliability risk areas of strategic importance for the ERO. This collaborative risk-based prioritization is being integrated into a multiyear reliability risk management process to identify projects the Enterprise will undertake year to year, ensure the efficient use of resources to focus on high-risk areas, maximize opportunities for industry input, and align with the ERO's strategic and business-planning priorities.⁹

The following list identifies the current risk projects that were selected from this prioritization process and the areas for focus in 2015, with a number of these efforts extending into 2016. The list is not inclusive of all the activities that may be initiated in 2016. The final 2016 list will be identified after risk control projects are compiled and as the RISC makes recommendations regarding ERO priorities and associated projects. A preliminary set of 2016 project areas is provided in the discussion of the Reliability Assessment and Performance Analysis department's 2016 activities in Section A.

2015 ERO Enterprise High-Priority Risk Projects:

1. **Changing Resource Mix** – As the generation and load on the power system change (e.g., as a result of integrated variable resources, increased dependence on natural gas, increased demand-side management, new technologies deployed, etc.), the system is operating in conditions that are significantly different than for what it was designed and planned, which can expose new vulnerabilities not previously considered. Fundamental operating characteristics and behaviors are no longer a certainty. Without focusing on how to respond, this risk will increase.
2. **Extreme Physical Events** – While the probability of extreme physical events (such as physical attack, geomagnetic disturbance, or severe weather) that can lead to extensive damage is low, the potential consequences are high enough that risk avoidance (reducing the probability) is insufficient as a sole risk management strategy. Though risk mitigation efforts (reducing the potential consequence) are underway, additional focus is needed to address the risk of extreme physical events and minimize both the duration of the events and the magnitude of their consequences.
3. **Cybersecurity Preparedness** – Threats to cyber systems with potential impacts to reliability remain a risk of significant importance to industry. This risk includes threats and vulnerabilities that result from the compromise of technology or communications that support the reliable

⁸ See http://www.nerc.com/comm/RISC/Related%20Files%20DL/RISC_Priority_Recommendations-Jul_26_2013.pdf for the complete report.

⁹ Please refer to Reliability Assessment and Performance Analysis program in Section A for additional detail regarding the overall planned risk project portfolio and associated projects within the respective program area details, as well as the consolidated resource allocations.

operations of the BES. NERC is committed to protecting the BES against cybersecurity compromises that could lead to misoperation of devices resulting in instability of the BPS. In 2015, NERC continued to support industry's transition from the currently enforceable CIP Version 3 standards directly to CIP Version 5. The goal of the transition program is to improve industry's understanding of the technical security requirements for CIP Version 5, as well as the expectations for compliance and enforcement. The need for continued attention on cybersecurity preparedness is also addressed in the *2013 Long-Term Reliability Assessment*,¹⁰ the *RISC's ERO Reliability Risk Priorities: RISC Updates and Recommendations* report,¹¹ the Cyber Attack Task Force final report,¹² the *2015 State of Reliability*, and NERC's *ERO Top Priority Reliability Risks 2014-2017*.¹³

4. **Protection System Misoperations** – NERC's 2012–2015 state of reliability reports identified protection system misoperations as a significant threat to BES reliability. Additional activities with industry are ongoing to ensure this risk is adequately managed.
5. **Extreme Weather Preparedness and Resiliency Efforts** – Lack of generator preparedness for cold weather extremes may result in forced outages, deratings, and failures to start. Further, increased dependence on natural gas can exacerbate impacts if fuel becomes unavailable, either from well-head freeze-ups or pipeline constraints. Insufficient availability of intra-regional generation and limits on import transfer capability may result in insufficient generation to serve forecast load, which can result in load shedding.
6. **Right-of-Way Clearances** – Transmission Owners and applicable Generation Owners may have established incorrect ratings that are based on design documents, rather than on the actual facilities built. Managing to stay within operating limits that are based on incorrect ratings may be inadequate to prevent equipment damage, cascading, instability, or separation.

Using the 2015 projects as a baseline for gauging 2016 resource requirements, NERC plans to provide an equivalent level of support in 2016 to address high-risk priority projects. Section A describes the resources required to support risk projects in 2016.¹⁴

Physical Security and Cybersecurity – (ERO Enterprise Goals 3 and 4)

In March 2014, FERC directed the ERO to create one or more physical grid security Reliability Standards requiring registered entities to address physical security risks and vulnerabilities related to the reliable operation of the BES. NERC engaged subject matter experts throughout the Regions and among industry to assist in drafting a standard within a 90-day time period. The standard requires registered entities to prioritize their most critical assets based on vulnerability and other criteria. The standard's final ballot closed with 86 percent approval from the ballot body. It was adopted by the Board and approved by FERC on November 20, 2014, with directives that were completed for filing in Q2 2015.

NERC initiated a transition program to help industry understand and implement NERC's Critical Infrastructure Protection Version 5 (CIP Version 5) Reliability Standards in a timely and efficient manner. CIP Version 5 represents a significant improvement over the current CIP Version 3 standards, as it includes new cybersecurity controls and extends the scope of the protected systems. NERC is deploying a transition program, with activities through the enforcement date of the Version 5 standards, designed to improve

¹⁰ [2013 Long-Term Reliability Assessment](#)

¹¹ [RISC's ERO Reliability Risk Priorities: RISC Updates and Recommendations](#)

¹² [Cyber Attack Task Force final report](#)

¹³ [ERO Top Priority Reliability Risks 2014-2017](#)

¹⁴ In addition to the foregoing risk-based activities, NERC also incorporates risk considerations into other program area activities as further described in Section A.

industry's understanding of the technical security requirements for CIP Version 5, as well as the expectations for compliance and enforcement.

NERC also operates the Electricity Sector Information Sharing and Analysis Center (ES-ISAC). The ES-ISAC directly benefits stakeholders by:

- serving as a central coordination hub for electricity sector cyber and physical risk, security information sharing, and sector coordination support;
- sharing information (in a declassified format) derived from classified threat and security vulnerability briefings that is otherwise not generally available; and
- enhancing industry-initiated security assessments through information sharing.

Through the ES-ISAC, NERC performs an oversight role with respect to the Cyber Risk Information Sharing Program (CRISP), a voluntary program to facilitate the exchange of detailed cybersecurity information between electric organizations, the ES-ISAC, and the US Department of Energy (DOE) to enable electric power critical infrastructure operators to better protect their networks from sophisticated cyber threats.

Risk-Based Compliance and Enforcement – (ERO Enterprise Goal 3 and Metric 4)

NERC and the Regional Entities will continue to improve compliance monitoring and enforcement operations through the development and implementation of approaches based on reliability risk.

NERC completed the strategy for the Compliance Monitoring and Enforcement Program (CMEP) in late 2014 under its Reliability Assurance Initiative. During 2015, NERC and the Regional Entities began implementation activities supporting the risk-based approach to the CMEP. Implementation of risk-based compliance and enforcement activities is a multiyear effort to sustain and improve reliability by promoting efficiencies, eliminating undue regulatory burdens, streamlining documentation and reporting requirements, improving noncompliance processing, and developing new tools and training materials.

Based on the results and feedback associated with implementation efforts in 2015, several risk-based compliance and enforcement activities are planned for 2016 and beyond, including:

1. continued execution of training programs to support the implementation of the ERO Enterprise Compliance Monitoring and Enforcement Capabilities and Competencies Guide;
2. communication and education outreach events regarding risk-based CMEP implementation efforts;
3. design and implementation of governance, risk, and compliance management processes and tools to support compliance oversight planning and execution;¹⁵
4. compliance activities related to the successful transition to CIP Version 5; and
5. consolidation of new enforcement processes and activities.

BES Implementation – (ERO Enterprise Goal 2 and Metric 4)

In 2010, FERC directed NERC to revise the BES definition to encompass all elements and facilities necessary to plan and reliably operate the BES. The revised definition became effective July 1, 2014, and NERC and the Regional Entities have both been engaged in activities supporting its implementation, including providing guidance on the consistent evaluation of the inclusion, exclusion, and self-notification of BES elements.

¹⁵ NERC's oversight of risk-based CMEP implementation by Regional Entities will include an evaluation of how risk-based compliance monitoring concepts are used and applied, as well as the associated results.

These implementation activities began in 2014 and include:

1. the BES element evaluation process and associated procedures to provide a uniform, clear way of determining assets contained within the BES;
2. the review of self-determined notifications by entities;
3. the review of entity-submitted exceptions to the BES definition by Regions and NERC;
4. the consideration of reviews and appeals of BES determinations and associated registration aspects;
5. the provision of guidance regarding Reliability Standard applicability; and
6. the management of compliance and enforcement monitoring.

The implementation of the BES definition through the end of 2015 is expected to address the majority of submittals, resulting in a steady-state condition in 2016.

Risk-Based Registration – (ERO Enterprise Goal 2 and Metric 4)

The goal of risk-based registration is to enhance the registration criteria so they contain threshold criteria complemented by risk-based methods. In 2014, NERC and the Regional Entities developed a risk-based registration (RBR) program that ensures entities are properly registered or deregistered commensurate with risk to BES reliability, are properly scoped, and are responsible for applicable NERC Reliability Standards along with associated compliance obligations. NERC's registration rules and criteria are set forth in Section 500 and Appendices 5A and 5B of the NERC Rules of Procedure. The RBR program concentrates on the scope of an entity's compliance responsibilities according to the BES reliability risks it poses. With the maturation of the ERO and associated industry experience, NERC revisited and adjusted the registration criteria to focus more on a risk-based technical foundation. These adjustments are focused on avoiding unnecessarily registering all potential entities without consideration of their materiality and risks to reliability. This approach will be used to exclude entities with assets that would have a very low likelihood of posing a risk to the reliability of the BES, while at the same time adjusting the scope of Reliability Standard requirements that must be followed.

In November 2014, NERC's Board approved the first phase of RBR. On March 19, 2015, FERC approved RBR and requested more information on potential reliability impacts resulting from removing the load-serving entity function from the NERC Compliance Registry. NERC is currently addressing this information request. NERC has started the process of implementing the first phase of RBR by removing purchase-selling entities and interchange authorities from the registry. NERC will issue letters to affected entities notifying them of their new statuses. The second phase of RBR, concentrating on generator owners and operators and transmission owners and operators, is ongoing in 2015, with potential implementation in 2016.

Transforming Standards to a Steady State – (ERO Enterprise Goal 1 and Metric 4)

In accordance with the approved Reliability Standards Development Plan (RSDP), the transformation of the NERC standards to a steady state remains a high priority. "Steady state" in regard to standards was defined in the 2015–2018 RSDP as a set of clear, concise, high-quality, and technically sound Reliability Standards that are results-based, including retiring requirements that do little to promote reliability. In their 2013 review of the NERC Reliability Standards,¹⁶ a panel of independent experts also found that the

¹⁶ http://www.nerc.com/pa/Stand/Standards%20Development%20Plan%20Library/Standards_Independent_Experts_Review_Project_Report.pdf

standards should be stable, necessary for accountability, and sufficient to maintain the reliability of the BES.

Cost Control and Efficiency

NERC and the Regional Entities are focused on controlling costs and making improvements to load-serving and registered entity systems and processes. Working collaboratively with the Regional Entities under the oversight of NERC's Standards Oversight and Technology Committee, NERC has developed and refined a long-term enterprise information technology program. The enterprise software tools developed through this program reduce combined-information technology spending; improve productivity, event reporting, tracking, and root cause analysis; and streamline and improve registration, BES reliability assessments, data analysis, and sharing. NERC has also concentrated efforts to control travel and meeting expenses and reduce outside contractor, consulting, and legal expenses. Over the past several years and after a successful incubation period, NERC has also transitioned to industry the financial and operational support for certain reliability tools, as well as a data communication network used to support operations by reliability coordinators in the Eastern Interconnection. As discussed below and in Section A, NERC management evaluates the resource needs and allocation on an ongoing basis to ensure that resources are allocated in an efficient and effective manner in support of ERO priorities. NERC has also worked closely with the Regional Entities to streamline enforcement staff in connection with the development of more efficient and risk-based enforcement mechanisms. As standards development and enforcement processes have matured, NERC management has been able to reduce both standards and legal staff and reallocate budgeted open positions to support increased resource needs in connection with reliability risk analysis and assessments, compliance assurance, and cybersecurity initiatives.

2016 Key Business Planning Assumptions

As part of the annual business planning process, NERC and the Regional Entities developed a set of common business planning assumptions that entities consider in developing their respective business plans and budgets. The Regional Entities used these assumptions to evaluate their projected workloads and determine resource levels required to complete necessary tasks and meet the obligations of their Regional Delegation Agreements. These common business planning assumptions are set forth in Exhibit A.

Application of Section 215 Criteria

In its order approving NERC's *2013 Business Plan and Budget*, FERC required NERC to establish criteria for determining whether its proposed activities are eligible for funding under Section 215. In an order dated April 19, 2013, FERC approved NERC's proposed criteria, with certain modifications.¹⁷ Exhibit B summarizes the major activities NERC proposes to undertake in 2016 and the approved Section 215 criteria applicable to such activities.

Overview of 2016 Budget and Funding Requirements

NERC's 2016 combined expense and fixed asset (capital) budget is approximately \$67.2M, which represents a decrease of approximately \$1.6M (2.3%) below Draft 1 of the 2016 budget and an increase of approximately \$537k (0.8%) over 2015. Total expenses are increasing approximately \$554k (0.8%) over 2015. The total fixed asset (capital) budget, before accounting for depreciation,¹⁸ is approximately \$3.9M, an increase of approximately \$293k over 2015. Approximately \$7.98M (12%) of NERC's 2016 budget is related to CRISP. In the absence of CRISP, the 2016 budget would increase approximately \$1.9M (3.3%)

¹⁷ North American Electric Reliability Corporation, Order on Compliance, 143 FERC ¶ 61,052 (2013), as well as North American Electric Reliability Corporation, Order on *2014 Business Plan and Budget* of the North American Electric Reliability Corporation and Ordering Compliance Filing, 145 FERC ¶ 61,097 (2013).

¹⁸ NERC and the Regional Entities budget Depreciation as an Operating Expense with an equal and offsetting credit against budgeted Fixed Asset Additions; as a result, the budgets do not include depreciation in the funding requirements.

over 2015 (without CRISP). As further explained in Section A – Electricity Sector Information Sharing and Analysis Center (ES-ISAC), the majority of the NERC CRISP budget will be funded by participating utilities, with only a small portion funded through assessments. A comparative statement of activities presenting NERC’s 2016 budget with and without CRISP is set forth later in this section.

Without the application any offsets to assessments (as discussed below), NERC’s total average assessments would increase \$3.2M (5.8%) over 2015. One of the primary differences between NERC’s projected 0.8% 2016 budget increase and the 5.8% 2016 assessment increase (unadjusted) results from eliminating the one-time application of 2014 penalty funds used to offset U.S. assessments in 2015. This loss of penalty offsets will not impact Canadian or Mexican assessments, since U.S. penalty funds are only used to reduce U.S. assessments.¹⁹ Other factors contributing to this difference include depreciation adjustments, debt assumptions, and projected reserve requirements, all of which impact assessments in the United States, Canada, and Mexico.

The allocation of assessments to U.S. entities depends on the final amount of penalty funds both available and applied to reduce assessments after taking into account NERC’s policies on the allocation of U.S. penalty funds as well as the determination of the amount of penalty funds to be contributed to NERC’s Assessment Stabilization Reserve pursuant to NERC’s Working Capital and Operating Reserve Policy.²⁰

In February 2015, NERC’s Board approved an amendment to the company’s Working Capital and Operating Reserve Policy. Among the approved changes to this policy was the creation of an Assessment Stabilization Reserve. The primary purpose of the Assessment Stabilization Reserve is to mitigate wide year-to-year swings in assessments that may result from, among other things, the loss of penalty fund offsets to assessments for the previous year, and to narrow the gap between annual percentage changes in NERC’s budget and assessments that results from year-to-year changes in penalty collections. In accordance with the approved policy, 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, is determined annually as part of NERC’s open and transparent business plan and budget process. The amount of the contribution must be approved by NERC’s Board, upon the recommendation of the Board’s Finance and Audit Committee, as well as approved by FERC.

In this draft of NERC’s *2016 Business Plan and Budget*, management proposes an overall average assessment increase of 3.2%. This includes the release of \$1.4M in available penalty funds to offset U.S. assessments, with the remaining \$2.3M in available penalty funds held in the Assessment Stabilization Reserve. The allocation of assessments to Canadian entities will depend on the final determination and allocation of certain compliance and enforcement costs to Canadian entities pursuant to NERC’s policy on the allocation of compliance costs.²¹ For this draft, management updated and calculated these Canadian compliance and enforcement credits using the updated NERC budget information and the latest NEL data available. The current assessment allocation among the United States, Canada, and Mexico is \$51.8M, \$5.1M, and \$159.7k, respectively. Approximately \$36k of NERC’s total assessment increase of over \$1.7M

¹⁹ Accounting, Financial Statement and Budgetary Treatment of Penalties Imposed and Received for Violations of Reliability Standards, December 8, 2008 and as amended August 15, 2013

²⁰ [NERC’s Working Capital and Operating Reserve Policy](#). NERC filed a petition with FERC on March 6, 2015 for approval of this policy; the Commission conditionally approved the revised policy in an order issued June 18, 2015, in Docket No. RR15-8-000. *North American Electric Reliability Corporation, Order Conditionally Accepting Revisions to Working Capital and Operating Reserve Policy*, 151 FERC ¶ 61,225 (2015)

²¹ Expanded Policy on allocation of Certain Compliance and Enforcement Costs, July 29, 2008.

²² The Electricity Subsector Coordinating Council (ESCC) serves as the principal liaison between the federal government and the electric power sector, with the mission of coordinating efforts to prepare for, and respond to, national-level disasters or threats to critical infrastructure. The ESCC includes utility CEOs and trade association leaders representing all segments of the industry. Its counterparts include senior Administration officials from the White House, relevant Cabinet agencies, federal law enforcement, and national security organizations.

is allocated to Canada. Approximately \$9.6k of the increase is allocated to Mexico. The balance (approximately \$1.727M) is allocated to the U.S. This corresponds to an average percentage increase in assessments from 2015 of 3.5% for the United States, 0.7% for Canada, and 6.4% for Mexico, as set forth in the table below.

REGION	CHANGE IN NERC ASSESSMENTS			
		US	Canada	Mexico
	TOTAL			
	\$	\$	\$	\$
FRCC	111,121	111,121	-	-
MRO	85,228	52,538	32,690	-
NPCC	(18,030)	16,287	(34,317)	-
RF	347,317	347,317	-	-
SERC	564,304	564,304	-	-
SPP RE	245,076	245,076	-	-
TRE	212,367	212,367	-	-
WECC	225,686	178,459	37,620	9,607
Total	1,773,070	1,727,470	35,993	9,607
% Change	3.2%	3.5%	0.7%	6.4%

The following table provides a high-level year-over-year comparison of the major categories of expenses, total budget, and FTEs.

Statement of Activities and Fixed Assets Expenditures 2015 and 2016 Budgets

STATUTORY

	2015 BUDGET	2015 PROJECTION	Variance Over (Under)	2016 BUDGET	2015 vs 2016 Budget Over (Under)	
					\$	%
FUNDING						
NERC Assessments	\$ 55,308,375	\$ 55,308,375	\$ -	\$ 57,081,445	\$ 1,773,070	3.2%
Penalties	1,155,000	1,155,000	-	1,439,000	284,000	
CRISP Funding	8,943,589	7,233,140	(1,710,449)	6,830,738	(2,112,851)	
Other Revenues / Fees	1,964,300	1,961,339	(2,961)	2,150,972	186,672	
TOTAL FUNDING	\$ 67,371,264	\$ 65,657,854	\$ (1,713,410)	\$ 67,502,155	\$ 130,891	0.2%
EXPENSES						
Personnel	35,803,312	35,758,363	(44,949)	37,283,807	1,480,495	
Meeting	3,566,146	3,662,334	96,188	3,620,286	54,140	
Operating	25,863,357	25,165,141	(698,216)	24,903,515	(959,843)	
Non-Operating	131,000	70,206	(60,794)	110,000	(21,000)	
TOTAL EXPENSES (B)	\$ 65,363,815	\$ 64,656,044	\$ (707,771)	\$ 65,917,608	\$ 553,793	0.8%
FIXED ASSETS						
Depreciation	\$ (2,333,006)	\$ (2,438,614)	(105,608)	\$ (2,641,943)	\$ (308,936)	
Computer, Software, Equip	3,618,500	4,243,500	625,000	3,911,000	292,500	
Leasehold Improvements	-	566,361	566,361	-	-	
NET FIXED ASSETS (C)	1,285,494	2,385,857	1,100,364	1,269,057	(16,436)	-1.3%
TOTAL BUDGET (B + C)	\$ 66,649,309	\$ 67,041,901	\$ 392,592	\$ 67,186,665	\$ 537,357	0.8%
FTEs	192.30	192.03	(0.3)	192.47	0.2	0.1%

NERC's 2016 budget and funding requirements reflect the resources necessary to support achievement of the goals and objectives set forth in the strategic plan. The 2016 budget is comprised of both operating and capital (fixed asset) costs. Operating costs include but are not limited to: personnel costs based on projected 2015 year-end headcount, consulting costs to support specific program area needs, contracts for office space, software licensing, third-party data management, and communications and other customary services to support office operations. Fixed asset (capital) 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.

Key Budget Assumptions

Key assumptions used in the development of NERC's 2016 budget include:

- Maintaining FTEs at a similar level as 2015. Management periodically reviews resource allocation to ensure that appropriate resources are being dedicated to key priorities and activities. As operations in some areas become more efficient and/or major initiatives are completed, resources are redeployed to priority areas. For example, as Reliability Standards moved closer to a steady state, it was possible to reallocate some of those resources to support additional compliance assurance, reliability risk assessment, and security needs without increasing the company's overall FTE budget.
- Applying a 7.8% reduction to FTEs (vacancy rate) to account for attrition and hiring delays. This assumption is based on a review and analysis of historic attrition and vacancy rates, as well as the time it takes to recruit and onboard new staff.
- Considering market-based compensation and salary increases. Executive and staff compensation and benefits are established based on guidelines established by NERC's Corporate Governance and Human Resources Committee and comprehensive market compensation and benefit information provided by a leading nationally recognized compensation and benefits consulting firm, as well as other available data. An updated market study will be undertaken in 2015 under the oversight of NERC's Corporate Governance and Human Resources Committee.
- Anticipating market increases in medical and dental benefit plan costs. Medical and dental premium cost estimates are based on market data provided by the company's benefits consultant. Due to the restructuring of the company's medical plan to a high-deductible health savings account structure, NERC has been able to hold premium increases down in recent years, but 2016 expectations are for a slightly higher premium increase.
- Including incremental retirement plan funding for the company's 457(f) plan, which was approved by the board in February 2015. No other changes to retirement or benefit plans have been assumed for 2016. This plan will be further reviewed as part of the independent compensation and benefit market review referenced above.
- Incorporating the findings of the strategic review of the ES-ISAC undertaken by the Electricity Subsector Coordinating Council (ESCC). As further explained in Section A – Electricity Sector Information Sharing and Analysis Center (ES-ISAC), the ESCC²² presented its recommendations from this review in June 2015. These recommendations will be considered in connection with future determinations regarding ES-ISAC activities and resource requirements. For purposes of the initial draft of NERC's *2016 Business Plan and Budget*, total ES-ISAC and CRISP resource

²² The Electricity Subsector Coordinating Council (ESCC) serves as the principal liaison between the federal government and the electric power sector, with the mission of coordinating efforts to prepare for, and respond to, national-level disasters or threats to critical infrastructure. The ESCC includes utility CEOs and trade association leaders representing all segments of the industry. Its counterparts include senior Administration officials from the White House, relevant Cabinet agencies, federal law enforcement, and national security organizations.

requirements were modeled consistent with 2015 budget levels. Pursuant to the terms of the contracts with CRISP participants, management is in the process of developing and finalizing the projected 2016 CRISP budget and participant funding requirements. Additional information will be provided in the final draft of NERC's 2016 Business Plan and Budget.

- Forecasting meeting and travel expenses.
 - Forecast is kept flat and is based on a review of 2014–2015 costs. The company has undertaken significant efforts over the past several years to reduce travel and meeting expenses. In 2013, NERC implemented additional policies, systems, and controls over travel expenses. The company has also worked closely with Regional Entities to share meeting space where possible, which has helped reduce meeting costs.
- Accounting for contractors and consultants.
 - Contractor and consulting expenses are developed on a department-by-department basis and reflect both known and anticipated expenses, based on historic and current information.

The following table summarizes total year-over-year contractor and consulting costs by department.

Consultants & Contracts	2015 Budget	2016 Budget	Inc(Dec) v 2015
Compliance Assurance	388,000	200,000	(188,000)
Reliability Risk Management	0	56,000	56,000
Compliance Investigation, Reg and Cert	0	50,000	50,000
Reliability Assessments and Performance Analysis	955,450	1,084,039	128,589
Situation Awareness	1,077,321	1,211,475	134,154
ES-ISAC	8,756,190	6,551,929	(2,204,261)
Training, Education and Operator Certification	752,130	675,800	(76,330)
General & Administrative	15,000	95,000	80,000
Information Technology	1,729,600	2,094,671	365,071
Human Resources	298,275	550,000	251,725
Finance and Accounting	339,500	297,000	(42,500)
TOTAL CONSULTANTS AND CONTRACTS	14,311,466	12,865,914	(1,445,553)

The Compliance Assurance department will require ongoing consulting support for implementation of compliance assurance reform initiatives. Contract and consulting expenses for the Reliability Assessment and Performance Analysis program area are largely for software and services supporting reliability data management and analysis. Situation Awareness costs are primarily related to licenses and services supporting Situation Awareness for FERC, NERC, and the Regional Entities (SAFNR), and other reliability information and notification (e.g., alerts) systems.

As further described in Section A, the Critical Infrastructure Department (CID) was consolidated with the ES-ISAC. CID consulting costs for 2015 included support for GridEx, which is conducted every other year and is not planned for 2016, and outside consulting support for the Critical Infrastructure Protection

Committee, which will be supported by internal resources in 2016. Approximately \$5.9M of the total ES-ISAC contract and consulting costs are CRISP related and funded by CRISP participants. Other ES-ISAC contract and consulting costs include software maintenance, reporting services, and analysis support costs consistent with the 2015 budget.

Training, Education, and Operator Certification contract and consulting costs include the cost of operator certification, training, and continuing education programs, and training NERC personnel. It also includes supporting compliance and enforcement (risk-based CMEP) and other training initiatives.

Information Technology (IT) contract and consulting support is primarily for systems and software maintenance and support services, including costs for enhancements to and maintenance of enterprise applications. Costs associated with IT security programs and the ongoing implementation and support of a document management program are also included. Software development costs are primarily budgeted under fixed (capital) assets and are discussed further below.

Human Resources contract and consulting costs are primarily for employee training, various surveys, compensation studies, and consulting services to support process improvements.

Finance and Accounting costs are primarily for outside auditor services in connection with the annual financial statement audit and Form 990 preparation and filing, as well as audit and consulting services to support the Enterprise Risk Management and Internal Control audit plan and Compliance and Certification Committee (CCC) audit plan.

Fixed Asset (Capital) Budget and Capital Financing

NERC's 2016 capital budget is approximately \$3.9M (excluding depreciation), which represents an increase of approximately \$293k from 2015. The table below provides a summary of the major capital budget components.

NERC Capital Budget			
	2015 Budget	2016 Budget	Inc(Dec) v 2015
ERO Application Development	\$ 1,050,000	\$ 1,500,000	\$ 450,000
Document Management	-	465,000	465,000
ERO Data Analysis Tool	550,000	-	(550,000)
Generation Data Software	200,000	-	(200,000)
Other IT Hardware and Software	1,453,500	1,411,000	(42,500)
Network Devices and A/V	365,000	535,000	170,000
Total Capital Budget	\$ 3,618,500	\$ 3,911,000	\$ 292,500
Depreciation (excluded from Assessments)	(2,333,006)	(2,641,943)	(308,937)
Fixed Assets (net)	\$ 1,285,494	\$ 1,269,057	\$ (16,437)

NERC has budgeted 2.7M²³ in 2016 for services related to the planning, design, and implementation of software applications supporting common NERC and Regional Entity operations. These ERO-related costs

²³ Depending on the nature of the expenditures, they may or may not be capitalized. Examples would be expenses related to the development planning or to the extent a decision is made for a third party to develop, host, and maintain the application. To the extent the expenditures cannot be capitalized, they will be recorded as a variance in contractor and consulting expenses,

include \$1.5M in capital expenditures and \$1.2M in other IT operating costs. Senior management of NERC and the Regional Entities has refined and updated the ERO Enterprise's long-term IT architecture and data management plans and the specific applications that will be under development in 2016. The Information Technology department section offers further detail regarding updates to the Enterprise IT Strategy; the current status of the development of Enterprise IT applications; projects that will be under development in 2016; and steps that are being taken to improve NERC's oversight of the identification, development, and execution of Enterprise IT applications. The proposed \$2.7M budget for 2016 related to enterprise application development and support is comparable to the 2016 projection presented in NERC's *2015 Business Plan and Budget*. Further information regarding the ERO Enterprise application development budget is contained in Section A – Information Technology department. NERC's 2016 capital budget also includes ongoing funding for IT security, disaster recovery, data storage, replacement of servers and laptops, and software license costs.

The 2016 budget projection assumes that \$1.5M of the total \$3.9M capital budget will be financed as part of the capital financing program that was described and put in place as part of NERC's *2014 Business Plan and Budget*. Further information regarding capital financing may be found in Exhibit D.

Working Capital and Operating Reserves

Management is proposing an overall reserve budget of \$8.8M for the combined four categories of operating reserves and the Assessment Stabilization Reserve under the company's amended Working Capital and Operating Reserve Policy. Based upon the company's projected cash flow needs, additional working capital reserves are not anticipated to be required. Pursuant to the company's amended Working Capital and Operating Reserve policy, funds reserved for future liabilities are now budgeted under a separate reserve category entitled Future Obligation Reserve. This reserve is primarily comprised of existing funds and is budgeted to be \$3.2M for 2016. The second category of operating reserves is the System Operating Certification Reserve. The 2016 System Operator Certification Reserve is budgeted at \$390k. It uses available funds (i.e., is not funded through assessments). The third category of operating reserves is the CRISP Operating Reserve, which represents funds dedicated to support CRISP. Similar to 2015, these reserves are established pursuant to a CRISP budget agreed to with and funded entirely by utilities participating in CRISP. They have no impact on assessments, and they are segregated from other reserves pursuant to the terms of the CRISP agreements. Currently, the CRISP reserves are projected to be \$516k in the 2016 budget.

The fourth category of Operating Reserves is the Operating Contingency Reserve. This reserve includes funds for expenditures that were not anticipated at the time the company's budget was prepared or for which the timing was uncertain. NERC's current policy on Operating Contingency Reserves (approved by the Board in February 2015) requires a reserve target of 3.5–7.0%. This percentage is calculated against NERC's total budget for operating and capital expenditures, less those costs related to CRISP and System Operator Certification (both having separate reserve categories). For this draft of the 2016 budget, the Operating Contingency Reserve is targeted for \$2.5M, or 3.7% of operating and capital costs, excluding CRISP and System Operator costs.

In addition to the four categories of operating reserves and as previously discussed, the company's amended Working Capital and Operating Reserve Policy also provides for the establishment of an Assessment Stabilization Reserve. Penalty funds available for use in 2016 total \$3.7M. For purposes of the initial draft of the company's *2016 Business Plan and Budget*, management proposes the release of \$1.4M

which are recorded under the operating expense portion of NERC's budget. However, management is committed to working with the limitations of its overall operating and capital budget with respect to enterprise software- and hardware-related expenditures.

in penalty funds to offset assessments, with the remaining \$2.3M of available funds held in the Assessment Stabilization Reserve. The use of \$1.4M to offset assessments in 2016 yields an average increase of 3.2% over the 2015 assessments. Penalty funds received after June 30, 2015, will be restricted and applied in accordance with the company's approved *2017 Business Plan and Budget*. The \$2.3M in penalty funds contributed to the Assessment Stabilization Reserve will be held in that reserve and applied as determined in connection with the company's approved *2017 Business Plan and Budget*, after customary review and input from stakeholders as part of the *2017 Business Plan and Budget* approval process. Further information regarding working capital and operating reserves may be found in Exhibit E.

Department Budget and FTE Comparisons

The following tables set forth a 2015–2016 total budget comparison by department. The amounts shown below reflect all direct and indirect departmental costs, including fixed asset costs. Costs incurred for general and administrative and other overheads are considered indirect, and are allocated to the statutory departments based on the ratio of that department's budgeted FTEs to total budgeted FTEs.

2015–2016 Total Budget by Department

Total Budget	Budget 2015	Budget 2016	Change	
			2016 Budget v 2015 Budget	% Change
Reliability Standards	10,247,145	8,193,116	(2,054,029)	-20.0%
Compliance Analysis, Certificaton and Registration	4,864,863	4,632,871	(231,993)	-4.8%
Compliance Assurance	5,737,572	9,420,903	3,683,332	64.2%
Compliance Enforcement	5,806,866	5,293,298	(513,568)	-8.8%
Reliability Assessments and Performance Analysis	9,825,750	9,918,728	92,979	0.9%
Training, Education and Operator Certification	3,950,926	3,912,231	(38,695)	-1.0%
Reliability Risk Management				
Event Analysis	4,203,169	5,355,795	1,152,626	27.4%
Situation Awareness	3,646,902	3,692,197	45,295	1.2%
ES-ISAC (including CRISP)	18,366,117	16,767,525	(1,598,592)	-8.7%
Total Budget	66,649,309	67,186,665	537,357	0.8%

The increase in Compliance Assurance department costs is primarily due to the transfer of resources to this department as part of the internal reorganization to better align auditor resources and support ongoing compliance assurance initiatives. The increase in the Event Analysis department budget is due to reallocation of resources to that department to further support increased reliability risk assessment and analysis resource priorities.

The following table presents a year-over-year comparison of FTEs by department and reflects 2015 personnel additions, interdepartmental transfers, and attrition assumptions. An FTE represents the number of employees employed full time during the year, plus the number of employees employed part time (less than full schedule) or during a portion of the year converted to a full-time basis. Headcount represents the total number of personnel employed during the year, regardless of the length of their employment during that year. FTEs will be less than headcount, unless there are no part-time employees or employees who are employed less than a full year. The company's 2016 personnel budget is based upon existing headcount and associated compensation and benefit costs, as well as assumptions on the number and cost of new hires, all within an overall FTE budget. An average vacancy rate is applied to each position and its associated costs to arrive at an overall personnel cost budget. The vacancy rate represents an adjustment, which is applied in the calculation of budgeted personnel costs to account for attrition and variations in the budget assumptions on the timing of new hires.

2015–2016 Year-Over-Year Comparison of FTEs by Department

Total FTE's by Program Area	Budget 2015	Budget 2016	Change from 2015 Budget	% Change from 2015
STATUTORY				
Operational Programs				
Reliability Standards	24.40	17.98	(6.4)	-26.3%
Compliance Analysis, Certification and Registration	11.25	10.14	(1.1)	-9.9%
Compliance Assurance	12.19	19.36	7.2	58.8%
Compliance Enforcement	15.01	12.22	(2.8)	-18.6%
Reliability Assessments and Performance Analysis	19.70	18.67	(1.0)	-5.2%
Training, Education and Operator Certification	7.97	7.38	(0.6)	-7.5%
Event Analysis	9.38	11.06	1.7	18.0%
Situation Awareness	6.10	5.53	(0.6)	-9.3%
ES-ISAC (with CRISP)	18.76	18.90	0.1	0.7%
Total FTEs Operational Programs	124.76	121.24	(3.5)	-2.8%
Administrative Programs				
General & Administrative	13.13	17.52	4.4	33.4%
Legal and Regulatory	15.01	12.22	(2.8)	-18.6%
Information Technology	19.70	22.13	2.4	12.3%
Human Resources	2.81	2.77	(0.0)	-1.4%
Finance and Accounting	16.89	16.60	(0.3)	-1.7%
Total FTEs Administrative Programs	67.54	71.23	3.7	5.5%
Total FTEs	192.30	192.47	0.2	0.1%

The increase in General and Administrative FTEs in the table below is due to reallocation of personnel to support NERC's Chief Reliability Officer, who has oversight over multiple operating departments, as well as personnel providing day-to-day operating and administrative support for the ERO Executive Management Group. The increase in Information Technology FTEs is due to the reallocation of personnel to strengthen project management oversight over NERC and ERO Enterprise software application development and implementation.

The NERC 2016 organizational chart can be found in Appendix 1. The difference between the number of positions reflected in the 2016 organizational chart and total 2016 budgeted FTEs is due to assumptions regarding vacancy rates and timing of new hires.

The following pages include a statement of activities comparing the 2015 budget and the proposed 2016 budget, followed by a statement of activities comparing the 2015 budget and the proposed 2016 budget with and without CRISP.

Introduction and Executive Summary

Statement of Activities and Fixed Assets Expenditures 2015 and 2016 Budgets

STATUTORY								
	2015	2015	Variance 2015	2016	Variance	% Inc 2016	2016 Budget	Variance to
	Budget	Projection	2015 Budget	Budget	v 2015 Budget	over 2015	Draft 1	Prior Draft
			Over(Under)		Over(Under)			Over(Under)
Funding								
ERO Funding								
NERC Assessments	\$ 55,308,375	\$ 55,308,375	\$ -	\$ 57,081,445	\$ 1,773,070	3.2%	\$ 57,216,402	\$ (134,957)
Penalty Sanctions ¹	1,155,000	1,155,000	-	1,439,000	284,000		839,000	600,000
Total ERO (Assessment) Funding	\$ 56,463,375	\$ 56,463,375	\$ -	\$ 58,520,445	\$ 2,057,070		\$ 58,055,402	\$ 465,043
Third-Party Funding (CRISP)	8,943,589	7,233,140	(1,710,449)	6,830,738	(2,112,851)		8,365,389	(1,534,651)
Testing Fees	1,670,000	1,670,000	-	1,867,972	197,972		1,867,972	-
Services & Software	50,000	50,000	-	50,000	-		50,000	-
Workshops	241,300	237,025	(4,275)	230,000	(11,300)		230,000	-
Interest	3,000	4,158	1,158	3,000	-		3,000	-
Miscellaneous	-	156	156	-	-		-	-
Total Funding (A)	\$ 67,371,264	\$ 65,657,854	\$ (1,713,410)	\$ 67,502,155	\$ 130,891	0.2%	\$ 68,571,764	\$ (1,069,609)
Expenses								
Personnel Expenses								
Salaries	\$ 27,580,677	\$ 27,807,341	\$ 226,664	\$ 28,842,336	\$ 1,261,660		\$ 28,675,229	167,107
Payroll Taxes	1,673,628	1,826,683	153,055	1,871,367	197,739		1,863,684	7,683
Benefits	3,547,178	3,381,238	(165,940)	3,579,280	32,103		3,580,519	(1,239)
Retirement Costs	3,001,829	2,743,101	(258,728)	2,990,823	(11,006)		2,998,184	(7,361)
Total Personnel Expenses	\$ 35,803,312	\$ 35,758,363	\$ (44,949)	\$ 37,283,807	\$ 1,480,495	4.1%	\$ 37,117,617	166,190
Meeting Expenses								
Meetings	\$ 1,050,000	\$ 1,108,004	\$ 58,004	\$ 1,096,500	\$ 46,500		\$ 1,081,500	15,000
Travel	2,203,395	2,196,388	(7,007)	2,203,786	391		2,203,392	394
Conference Calls	312,751	357,942	45,191	320,000	7,249		320,000	-
Total Meeting Expenses	\$ 3,566,146	\$ 3,662,334	\$ 96,188	\$ 3,620,286	\$ 54,140	1.5%	\$ 3,604,892	15,394
Operating Expenses								
Consultants & Contracts	\$ 14,311,466	\$ 13,975,464	\$ (336,002)	\$ 12,865,914	\$ (1,445,552)		\$ 14,759,175	(1,893,261)
Office Rent	2,987,777	2,987,777	-	3,054,287	66,510		3,054,287	-
Office Costs	3,583,328	3,575,494	(7,834)	3,795,572	212,243		3,795,317	255
Professional Services	2,611,280	2,150,792	(460,488)	2,509,300	(101,980)		2,509,300	-
Miscellaneous	36,500	37,000	500	36,500	-		36,500	-
Depreciation	2,333,006	2,438,614	105,608	2,641,943	308,936		2,641,943	-
Total Operating Expenses	\$ 25,863,357	\$ 25,165,141	\$ (698,216)	\$ 24,903,515	\$ (959,843)	-3.7%	\$ 26,796,521	\$ (1,893,006)
Total Direct Expenses	\$ 65,232,815	\$ 64,585,838	\$ (646,977)	\$ 65,807,608	\$ 574,793	0.9%	\$ 67,519,030	\$ (1,711,422)
Indirect Expenses								
		\$ -	\$ -	\$ (0)	\$ (0)		\$ -	\$ (0)
Other Non-Operating Expenses	\$ 131,000	\$ 70,206	\$ (60,794)	\$ 110,000	\$ (21,000)	-16.0%	\$ 110,000	\$ -
Total Expenses (B)	\$ 65,363,815	\$ 64,656,044	\$ (707,771)	\$ 65,917,608	\$ 553,793	0.8%	\$ 67,629,030	\$ (1,711,422)
Change in Assets	\$ 2,007,449	\$ 1,001,811	\$ (1,005,638)	\$ 1,584,548	\$ (422,901)		\$ 942,734	641,813
Fixed Assets								
Depreciation	\$ (2,333,006)	\$ (2,438,614)	(105,608)	\$ (2,641,943)	\$ (308,936)		\$ (2,641,943)	\$ -
Computer & Software CapEx	3,253,500	3,683,757	430,257	2,447,000	(806,500)		3,276,000	(829,000)
Furniture & Fixtures CapEx	-	14,611	14,611	-	-		-	-
Equipment CapEx	365,000	559,743	194,743	1,464,000	1,099,000		535,000	929,000
Leasehold Improvements	-	566,361	566,361	-	-		-	-
Allocation of Fixed Assets	\$ -	\$ 0	\$ 0	\$ (0)	\$ (0)		\$ (0)	\$ -
Inc(Dec) in Fixed Assets (C)	1,285,494	2,385,857	1,100,364	1,269,057	(16,436)	-1.3%	1,169,057	100,000
TOTAL BUDGET (=B + C)	\$ 66,649,309	\$ 67,041,901	\$ 392,592	\$ 67,186,665	\$ 537,357	0.8%	\$ 68,798,087	\$ (1,611,422)
FTEs	192.3	192.0	(0.3)	192.5	0.18	0.1%	192.5	(0.01)

Introduction and Executive Summary

Statement of Activities and Fixed Assets Expenditures 2015 and 2016 Budgets

TOTAL STATUTORY

	2015	2015	2015 Budget	2016	2016 Budget	Variance 2016 Budget		% Inc 2016
	Budget	2015 CRISP	w/o CRISP	Budget	2016 CRISP	w/o CRISP	CRISP Over(Under)	
Funding								
ERO Funding								
NERC Assessments	\$ 55,308,375	\$ 860,938	\$ 54,447,437	\$ 57,081,445	\$ 1,108,641	\$ 55,972,805	\$ 1,525,367	2.8%
Penalty Sanctions ¹	1,155,000	16,554	1,138,446	1,439,000	33,572	1,405,428	266,982	
Total ERO (Assessment) Funding	\$ 56,463,375	\$ 877,492	\$ 55,585,883	\$ 58,520,445	\$ 1,142,213	\$ 57,378,232	\$ 1,792,349	
Third-Party Funding (CRISP)	8,943,589	8,943,589	-	6,830,738	6,830,738	-	-	
Testing Fees	1,670,000	-	1,670,000	1,867,972	-	1,867,972	197,972	
Services & Software	50,000	-	50,000	50,000	-	50,000	-	
Workshops	241,300	-	241,300	230,000	-	230,000	(11,300)	
Interest	3,000	42	2,958	3,000	68	2,932	(26)	
Miscellaneous	-	-	-	-	-	-	-	
Total Funding (A)	\$ 67,371,264	\$ 9,821,123	\$ 57,550,141	\$ 67,502,155	\$ 7,973,019	\$ 59,529,136	\$ 1,978,995	3.4%
Expenses								
Personnel Expenses								
Salaries	\$ 27,580,677	\$ 363,357	\$ 27,217,320	\$ 28,842,336	\$ 592,724	\$ 28,249,612	\$ 1,032,292	
Payroll Taxes	1,673,628	20,990	1,652,638	1,871,367	32,899	1,838,469	185,831	
Benefits	3,547,178	33,953	3,513,225	3,579,280	50,247	3,529,034	15,809	
Retirement Costs	3,001,829	40,951	2,960,878	2,990,823	65,802	2,925,021	(35,857)	
Total Personnel Expenses	\$ 35,803,312	\$ 459,251	\$ 35,344,061	\$ 37,283,807	\$ 741,671	\$ 36,542,135	\$ 1,198,074	3.4%
Meeting Expenses								
Meetings	\$ 1,050,000	\$ 15,000	\$ 1,035,000	\$ 1,096,500	30,000	1,066,500	\$ 31,500	
Travel	2,203,395	30,000	2,173,395	2,203,786	37,455	2,166,331	(7,064)	
Conference Calls	312,751	5,000	307,751	320,000	2,000	318,000	10,249	
Total Meeting Expenses	\$ 3,566,146	\$ 50,000	\$ 3,516,146	\$ 3,620,286	\$ 69,455	\$ 3,550,831	\$ 34,685	1.0%
Operating Expenses								
Consultants & Contracts	\$ 14,311,466	\$ 7,666,055	\$ 6,645,410.8	\$ 12,865,914	5,888,594	6,977,320	\$ 331,909	
Office Rent	2,987,777	-	2,987,777	3,054,287	-	3,054,287	66,510	
Office Costs	3,583,328	305,000	3,278,328	3,795,572	304,027	3,491,545	213,217	
Professional Services	2,611,280	350,000	2,261,280	2,509,300	175,000	2,334,300	73,020	
Miscellaneous	36,500	-	36,500	36,500	250	36,250	(250)	
Depreciation	2,333,006	-	2,333,006	2,641,943	-	2,641,943	308,936	
Total Operating Expenses	\$ 25,863,357	\$ 8,321,055	\$ 17,542,302	\$ 24,903,515	\$ 6,367,871	\$ 18,535,644	\$ 993,342	5.7%
Total Direct Expenses	\$ 65,232,815	\$ 8,830,306	\$ 56,402,509	\$ 65,807,608	\$ 7,178,997	\$ 58,628,611	\$ 2,226,101	3.9%
Indirect Expenses		\$ 368,803	\$ (368,803)	\$ (0)	\$ 650,917	\$ (650,917)	\$ (282,114)	
Other Non-Operating Expenses	\$ 131,000	\$ -	\$ 131,000	\$ 110,000	-	110,000	\$ (21,000)	
Total Expenses (B)	\$ 65,363,815	\$ 9,199,108	\$ 56,164,707	\$ 65,917,608	\$ 7,829,914	\$ 58,087,694	\$ 1,922,987	3.4%
Change in Assets	\$ 2,007,449	\$ 622,014	\$ 1,385,435	\$ 1,584,548	\$ 143,105	\$ 1,441,442	\$ 56,008	
Fixed Assets								
Depreciation	\$ (2,333,006)	\$ -	(2,333,006)	\$ (2,641,943)	\$ -	\$ (2,641,943)	\$ (308,936)	
Computer & Software CapEx	3,253,500	100,000	3,153,500	2,447,000	100,000	2,347,000	(806,500)	
Furniture & Fixtures CapEx	-	-	-	-	-	-	-	
Equipment CapEx	365,000	-	365,000	1,464,000	-	1,464,000	1,099,000	
Leasehold Improvements	-	-	-	-	-	-	-	
Allocation of Fixed Assets	-	22,014	(22,014)	(0)	43,105	(43,105)	(21,091)	
Inc(Dec) in Fixed Assets (C)	1,285,494	122,014	1,163,479	1,269,057	143,105	1,125,952	(37,527)	
TOTAL BUDGET (=B + C)	\$ 66,649,309	\$ 9,321,123	\$ 57,328,186	\$ 67,186,665	\$ 7,973,019	\$ 59,213,646	\$ 1,885,460	3.3%
TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)²	\$ 721,955	\$ 500,000	\$ 221,955	\$ 315,490	\$ -	\$ 315,490	\$ 93,535	
FTEs	192.30	1.88	190.42	192.47	2.76	189.71	(0.71)	-0.4%

Projections for 2017–2018

Management has developed preliminary operating and fixed asset (capital) projections for 2017 and 2018. The significant assumptions considered in preparing these projections include:

- No increase in the total FTEs over 2016 budgeted FTEs
- Personnel and benefit cost increases consistent with the 2016 budget assumptions
- 2017 increase and 2018 decrease in contractor and consulting expense related to the Grid Security Exercise, which occurs every other year
- Debt service repayment obligations in connection with the company's Capital Financing Program consistent with the projected Enterprise IT Applications capital forecast
- No increase in CRISP-related expenditures, except for personnel and benefit cost increases as noted above

Projected costs for 2017 are \$4.2M, or 6.2% over the current 2016 budget (total operating and fixed asset expenditures). The 2018 projected costs decrease \$585k, or 0.8%, from the 2017 projection. Average 2017 assessments are projected to increase \$3.6M, or 6.3%, over 2016. Average 2018 assessments are projected to decrease slightly by \$122k or 0.2%. No assumptions have been made regarding the release of funds from the Assessment Stabilization Reserve to reduce U.S. assessments, including that portion of the 2017 projected assessment increase resulting from the loss of the one-time application of penalty offsets in 2016.

Introduction and Executive Summary

Statement of Activities and Fixed Assets Expenditures
2016 Budget & Projected 2017 and 2018 Budgets

	2016 Budget	2017 Projection	\$ Change 17 v 16	% Change 17 v 16	2018 Projection	\$ Change 18 v 17	% Change 18 v 17
Funding							
ERO Funding							
NERC Assessments	\$ 57,081,445	\$ 60,659,599	\$ 3,578,154	6.27%	\$ 60,537,108	\$ (122,491)	-0.2%
Penalty Sanctions	1,439,000	-	(1,439,000)	-100.00%	-	-	
Total NERC Funding	\$ 58,520,445	\$ 60,659,599	\$ 2,139,154	3.7%	\$ 60,537,108	\$ (122,491)	-0.2%
Third-Party Funding (CRISP)	6,830,738	8,488,833	1,658,095	24.27%	8,488,833	-	0.0%
Testing Fees	1,867,972	1,867,972	-	0.00%	1,867,972	-	0.0%
Services & Software	50,000	50,000	-	0.00%	50,000	-	0.0%
Workshops	230,000	230,000	-	0.00%	300,000	70,000	30.4%
Interest	3,000	3,554	554	18.47%	3,000	(554)	-15.6%
Miscellaneous	-	-	-		-	-	
Total Funding (A)	\$ 67,502,155	\$ 71,299,959	\$ 3,797,803	5.6%	\$ 71,246,913	\$ (53,045)	-0.1%
Expenses							
Personnel Expenses							
Salaries	\$ 28,842,336	\$ 29,726,738	\$ 884,401	3.1%	\$ 30,603,240	\$ 876,502	2.9%
Payroll Taxes	1,871,367	1,910,077	38,710	2.1%	1,939,976	29,899	1.6%
Benefits	3,579,280	4,006,605	427,324	11.9%	4,312,722	306,118	7.6%
Retirement Costs	2,990,823	3,104,437	113,614	3.8%	3,202,370	97,933	3.2%
Total Personnel Expenses	\$ 37,283,807	\$ 38,747,856	\$ 1,464,049	3.9%	\$ 40,058,308	\$ 1,310,452	3.4%
Meeting Expenses							
Meetings	\$ 1,096,500	\$ 1,096,500	\$ -	0.0%	\$ 1,096,500	\$ -	0.0%
Travel	2,203,786	2,203,786	-	0.0%	2,203,786	-	0.0%
Conference Calls	320,000	320,000	-	0.0%	320,000	-	0.0%
Total Meeting Expenses	\$ 3,620,286	\$ 3,620,286	\$ -	0.0%	\$ 3,620,286	\$ -	0.0%
Operating Expenses							
Consultants & Contracts	\$ 12,865,914	15,009,682	2,143,769	16.7%	14,839,593	(170,089)	-1.1%
Office Rent	3,054,287	2,961,341	(92,946)	-3.0%	2,942,752	(18,589)	-0.6%
Office Costs	3,795,572	3,795,572	-	0.0%	3,795,572	-	0.0%
Professional Services	2,509,300	2,515,135	5,835	0.2%	2,419,909	(95,226)	-3.8%
Miscellaneous	36,500	36,500	-	0.0%	36,500	-	0.0%
Depreciation	2,641,943	2,103,670	(538,273)	-20.4%	1,621,321	(482,348)	-22.9%
Total Operating Expenses	\$ 24,903,515	\$ 26,421,899	\$ 1,518,385	6.1%	\$ 25,655,647	\$ (766,252)	-2.9%
Total Direct Expenses	\$ 65,807,608	\$ 68,790,042	\$ 2,982,434	4.5%	\$ 69,334,241	\$ 544,199	0.8%
Indirect Expenses	\$ -	\$ -	\$ -	-	\$ -	\$ -	-
Other Non-Operating Expenses	\$ 110,000	\$ 122,100	\$ 12,100	11.0%	140,250	18,150	14.9%
Total Expenses (B)	\$ 65,917,608	\$ 68,912,142	\$ 2,994,534	4.5%	\$ 69,474,491	562,349	0.8%
Change in Assets	\$ 1,584,548	\$ 2,387,817	\$ 803,269	50.7%	\$ 1,772,422	\$ (615,395)	-25.8%
Fixed Assets							
Depreciation	\$ (2,641,943)	\$ (2,103,670)	\$ 538,273	-20.4%	\$ (1,621,321)	\$ 482,348	-22.9%
Computer & Software CapEx	2,447,000	3,822,000	1,375,000	56.2%	2,677,000	(1,145,000)	-30.0%
Furniture & Fixtures CapEx	-	-	-		-	-	
Equipment CapEx	1,464,000	715,000	(749,000)	-51.2%	230,000	(485,000)	-67.8%
Leasehold Improvements	-	-	-		-	-	
Allocation of Fixed Assets	-	-	-		-	-	
Inc(Dec) in Fixed Assets (C)	\$ 1,269,057	\$ 2,433,330	\$ 1,164,273	91.7%	\$ 1,285,679	\$ (1,147,652)	-47.2%
TOTAL BUDGET (=B + C)	\$ 67,186,665	\$ 71,345,472	\$ 4,158,807	6.2%	\$ 70,760,170	\$ (585,302)	-0.8%
FTEs	192.47	192.47	-		192.47	-	

Section A — 2015 Business Plan and Budget Program Area and Department Detail

Reliability Standards

Reliability Standards Program (in whole dollars)					
	2015 Budget	2016 Budget	Increase (Decrease)	2015 Budget - Prior Draft	Variance to Prior Draft Over(Under)
Total FTEs	24.40	17.98	(6.42)	17.979	-
Direct Expenses	\$ 4,800,751	\$ 3,888,768	\$ (911,983)	\$ 3,972,198	\$ (83,430)
Indirect Expenses	\$ 5,139,603	\$ 4,234,020	\$ (905,583)	\$ 4,281,116	\$ (47,096)
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Inc(Dec) in Fixed Assets	\$ 306,791	\$ 70,328	\$ (236,463)	\$ 72,997	\$ (2,669)
TOTAL BUDGET	\$ 10,247,145	\$ 8,193,116	\$ (2,054,030)	\$ 8,326,310	\$ (133,194)

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 Reliability Standards (both continent-wide standards and regional reliability standards) for the reliable planning, operation, and critical infrastructure protection of the North American BES. The major activities undertaken by the Standards department include:

- Delivering high-quality, continent-wide Reliability Standards:** NERC standard developers and other standards staff provide project management and leadership to develop solutions necessary to address reliability risks identified through the Reliability Risk Management Process (RRMP). These may include the development of or modifications to NERC Reliability Standards through standard development outreach activities, facilitation of drafting team activities, drafting support, assisting drafting teams in maintaining adherence to the development process as outlined in the *Standard Processes Manual*, and ensuring that the quality of documents produced is appropriate for approval by industry and the Board.
- Facilitating continent-wide industry engagement:** NERC manages the work of over 200 industry contributors who serve on the Standards Committee, subgroups, and other project teams for the development of NERC Reliability Standards through the standards development program.
- Conducting balloting, disseminating information, and supporting regulatory filings:** Through NERC's commenting and ANSI-accredited balloting process, industry consensus is built by engaging thousands of industry volunteers within hundreds of registered entities throughout North America who review, comment on, and approve the standards created by the standard drafting teams. The department also supports the filing of standards with regulatory authorities and provides support with regulatory proceedings.

The Reliability Standards program provides a mechanism for the eight Regional Entities to process regional standards when unique regional reliability gaps are detected, or incorporate Regional variances into continent-wide standards. The NERC Standards department staff supports regional standards development processes by providing technical advice, final quality review of regional standards, presentation to the Board, and preparation of regional standards materials for submission for standard adoption to the applicable regulatory authorities in the United States and Canada.

Stakeholder Engagement and Cost-Effective Analysis Project

As part of the standard development process, industry technical experts scope, draft, and review the new or revised NERC Reliability Standards for approval by the industry ballot body, adoption by the Board, and filing with regulatory authorities in the United States and Canada. Additionally, stakeholders continue to pilot methods to address the cost-effectiveness of proposed standards.

Key Efforts Underway

Efforts will be undertaken to ensure that the Reliability Standards Development Plan is effectively executed and that NERC's Reliability Standards are focused on and mitigate significant risks to BES reliability. Department resources will be focused on supporting the strategic plan, including but not limited to support of the RRMP, resolving FERC directives, and transforming the NERC Reliability Standards to steady state by early 2016. The Standards department will:

1. **Focus on the selection of projects undertaken.** Resources will be expended on issues determined to be a reliability risk through the RRMP (also see Reliability Assessment and Performance Analysis section for additional detail). The department will apply broader project management skills to implement a variety of solutions to a reliability concern. An effective solution to an identified reliability risk may be a Reliability Standard, or it may be a guideline, information request, training, NERC Alert, technical conference, research, or a combination of these or other tools.
2. **Address FERC directives and respond to FERC orders** through standards development projects, as necessary. Each project will determine whether: (1) the directive will be complied with as issued, (2) there is an equally effective and efficient way to address the concern that fostered the directive, or (3) if there is technical justification (including that the directive has been overcome by events, processes, or advances in technology) that the directive is no longer needed.
3. **Transform NERC's standards to steady state.** The department will complete the majority of its work by addressing possible outstanding Paragraph 81 Phase 2 requirement candidates and Independent Experts Review Project (IERP) recommendations for retirement, and conducting concurrent development of compliance guidance with Reliability Standards.
4. **Determine whether to make further improvements to the standards.** In 2015, as the Reliability Standards approach steady state, industry, NERC, and FERC will determine whether there is a need to make further improvements to the standards. If desired, the 2016–2018 Reliability Standards Development Plan will outline future 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.
5. **Facilitate smooth transition to new standards** such as CIP Version 5 and Physical Security. This includes working with the Compliance Monitoring and Enforcement, Registration, and Reliability Assessment and Performance Analysis programs to develop guidelines, webinars, and other activities to support auditor and industry training for the new standards.

The 2016–2018 RSDP will be developed during the first half of 2015 in conjunction with the Standards Committee, RISC, and RRMP. It will outline the continued work plan for the transformation of NERC Reliability Standards, the Standards department's support of Reliability Risk Management, resolution of FERC directives, and next steps in the periodic review of standards.

2016 Goals and Deliverables

In early 2016, the transformation of the Reliability Standards to steady state will be complete.²⁴ Specifically, the majority of FERC directives will be addressed, as well as the remaining recommendations for retiring requirements made by the Paragraph 81 project and the independent experts. The body of standards will be improved while considering quality and content criteria as well as results-based standards principles. The NERC Standards staff will continue to address 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.

Resource Requirements

Personnel

As in prior years, industry engagement is vital to the successful development of standards. The transformation of NERC standards to steady state will require additional industry engagement throughout 2015. In 2016, industry subject matter expert engagement requirements will be ongoing as the remaining projects from 2015 are finalized.

The NERC Standards department continues to focus resources on the production of quality standards, rather than solely on the monitoring and execution of the standards process. Workload in the standards area during 2015 is anticipated to be less than projected when the *2015 Business Plan and Budget* was developed. This is due to a reduction in the number of new standards under development, a reduction in outstanding FERC directives, and more efficient and effective workloads and resource management. These factors contributed to the reallocation of resources from the Standards department to other NERC departments. For 2016, budgeted FTEs were reduced to reflect this resource reallocation and reduction in department staffing levels. No additional personnel resources are planned for 2016. The departmental travel expenses are expected to be the same as the 2015 levels, given the anticipated amount of outreach for the number of standards reviews expected to be in process, coupled with cost savings resulting from holding more meetings at NERC's Atlanta and Washington, DC, offices.

Contractors and Consultants

No contractor and consulting support is budgeted in 2016, which is consistent with the 2015 budget.

²⁴As defined in the 2015-2017 RSDP, "steady state" means a stable set of clear, concise, high-quality and technically sound Reliability Standards that are results based, including retirement of requirements that do little to promote reliability.

Section A — 2016 Business Plan and Budget Program Area and Department Detail

Statement of Activities and Fixed Assets Expenditures							
2015 Budget & Projection, and 2016 Budget							
RELIABILITY STANDARDS							
	2015 Budget	2015 Projection	Variance 2015 Projection v 2015 Budget Over(Under)	2016 Budget	Variance 2016 Budget v 2015 Budget Over(Under)	2016 Budget Draft 1	Variance to Prior Draft Over(Under)
Funding							
ERO Funding							
NERC Assessments	\$ 9,911,464	\$ 9,911,464	\$ -	\$ 7,869,295	\$ (2,042,169)	\$ 8,092,298	\$ (223,003)
Penalty Sanctions	231,095	231,095	-	218,376	(12,719)	128,563	89,813
Total NERC Funding	\$ 10,142,558	\$ 10,142,559	\$ -	\$ 8,087,671	\$ (2,054,888)	\$ 8,220,861	\$ (133,190)
Third-Party Funding	-	-	-	-	-	-	-
Testing Fees	-	-	-	-	-	-	-
Services & Software	-	-	-	-	-	-	-
Workshops	104,000	104,000	-	105,000	1,000	105,000	-
Interest	587	587	-	445	(142)	449	(4)
Miscellaneous	-	24	24	-	-	-	-
Total Funding (A)	\$ 10,247,145	\$ 10,247,170	\$ 24	\$ 8,193,116	\$ (2,054,030)	\$ 8,326,310	\$ (133,194)
Expenses							
Personnel Expenses							
Salaries	\$ 3,082,972	\$ 2,275,253	\$ (807,719)	\$ 2,260,735	\$ (822,238)	\$ 2,331,800	(71,066)
Payroll Taxes	202,258	170,118	(32,140)	163,064	(39,194)	166,118	(3,054)
Benefits	441,383	322,107	(119,276)	327,239	(114,144)	327,239	0
Retirement Costs	346,269	242,649	(103,620)	250,560	(95,710)	260,144	(9,584)
Total Personnel Expenses	\$ 4,072,883	\$ 3,010,127	\$ (1,062,756)	\$ 3,001,598	\$ (1,071,285)	\$ 3,085,302	(83,704)
Meeting Expenses							
Meetings	\$ 194,056	\$ 194,056	\$ -	\$ 207,000	\$ 12,944	\$ 207,000	-
Travel	339,300	300,000	(39,300)	271,988	(67,312)	271,715	274
Conference Calls	117,736	100,000	(17,736)	133,000	15,264	133,000	-
Total Meeting Expenses	\$ 651,092	\$ 594,056	\$ (57,036)	\$ 611,988	\$ (39,104)	\$ 611,715	274
Operating Expenses							
Consultants & Contracts	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-
Office Rent	-	-	-	-	-	-	-
Office Costs	76,276	58,911	(17,365)	64,622	(11,654)	64,622	-
Professional Services	-	-	-	-	-	-	-
Miscellaneous	500	500	-	500	-	500	-
Depreciation	-	194,645	194,645	210,060	210,060	210,060	-
Total Operating Expenses	\$ 76,776	\$ 254,056	\$ 177,280	\$ 275,182	\$ 198,406	\$ 275,182	\$ -
Total Direct Expenses	\$ 4,800,751	\$ 3,858,239	\$ (942,512)	\$ 3,888,768	\$ (911,983)	\$ 3,972,198	\$ (83,430)
Indirect Expenses	\$ 5,139,603	\$ 4,271,179	\$ (868,424)	\$ 4,234,020	\$ (905,583)	\$ 4,281,116	\$ (47,096)
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses (B)	\$ 9,940,354	\$ 8,129,418	\$ (1,810,936)	\$ 8,122,788	\$ (1,817,566)	\$ 8,253,314	\$ (130,526)
Change in Assets	\$ 306,791	\$ 2,117,752	\$ 1,810,960	\$ 70,328	\$ (236,464)	\$ 72,997	(2,669)
Fixed Assets							
Depreciation	\$ -	\$ (194,645)	\$ (194,645)	\$ (210,060)	\$ (210,060)	\$ (210,060)	\$ -
Computer & Software CapEx	-	-	-	-	-	-	-
Furniture & Fixtures CapEx	-	-	-	-	-	-	-
Equipment CapEx	-	-	-	-	-	-	-
Leasehold Improvements	-	-	-	-	-	-	-
Allocation of Fixed Assets	\$ 306,791	303,932	(2,859)	280,388	(26,403)	283,056	(2,669)
Inc(Dec) in Fixed Assets (C)	306,791	109,287	(197,504)	70,328	(236,463)	72,997	(2,669)
TOTAL BUDGET (=B + C)	\$ 10,247,145	\$ 8,238,706	\$ (2,008,439)	\$ 8,193,116	\$ (2,054,029)	\$ 8,326,310	\$ (133,194)
FTEs	24.40	18.51	(5.89)	17.98	(6.42)	17.979	0.00

Compliance Monitoring and Enforcement and Organization Registration and Certification Program Area

The Compliance Monitoring, Enforcement, and Organization Registration and Certification Program Area's purpose is to monitor, enforce, and ensure registered entity compliance with the ERO's mandatory Reliability Standards. This program area is broken down into two operational groups: Reliability Assurance and Compliance Enforcement.

Reliability Assurance

Reliability Assurance is comprised of three groups: Compliance Assurance, Compliance Analysis and Certification, and Registration. Together these areas address reliability, including subjectivity to and compliance with standards. The groups work in tandem with Compliance Enforcement, Standards, and Reliability Risk Management.

Compliance Assurance

Compliance Assurance (in whole dollars)					
	2015 Budget	2016 Budget	Increase (Decrease)	2016 Budget - Prior Draft	Variance to Prior Draft Over(Under)
Total FTEs	12.19	19.36	7.17	15.67	3.69
Direct Expenses	\$ 3,016,607	\$ 4,559,233	\$ 1,542,628	\$ 3,672,752	\$ 886,481
Indirect Expenses	\$ 2,567,695	\$ 4,559,714	\$ 1,992,019	\$ 3,732,255	\$ 827,459
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Inc(Dec) in Fixed Assets	\$ 153,270	\$ 301,956	\$ 148,686	\$ 246,767	\$ 55,189
TOTAL BUDGET	\$ 5,737,572	\$ 9,420,903	\$ 3,683,333	\$ 7,651,774	\$ 1,769,130

Background and Scope

NERC's Compliance Assurance group (formerly the Compliance Operations department) works collaboratively with the eight Regional Entities to ensure consistent and effective implementation of risk-based compliance monitoring under the Compliance Monitoring and Enforcement Program (CMEP) across the entire ERO Enterprise. The CMEP identifies the monitoring processes for use by the Regional Entities, including compliance audits, self-certification, spot checking, investigations, self-reporting, periodic data submittals, and complaints. NERC and the Regional Entities ensure consistent and fair implementation of the CMEP, coalesce around best practices, and implement data management procedures that address data reporting requirements, data integrity, data retention, data security, and data confidentiality.

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

- Consistent implementation of the risk-based compliance monitoring program for reliability improvements, including developing and maintaining the necessary compliance-related processes, procedures, IT platforms, tools, and templates;
- Development and delivery of comprehensive and ongoing education and training on risk-based compliance monitoring and enforcement for ERO Enterprise staff;
- Oversight of the Regional Entities' delegated compliance functions, including: (1) consistent and uniform CMEP planning, implementation, and reporting; (2) compliance operations and coordination; and (3) auditor training;

- CIP Version 5 activities related to transition, training, and compliance design of ERO education programs that support industry compliance and the integration of risk assessment and internal controls;
- CIP-014-1 training and outreach activities related to effective implementation of the Physical Security Reliability Standard;
- Development of baseline monitoring requirements;
- Development and maintenance of Reliability Standard Audit Worksheets (RSAWs);
- Support for Regional Entity and industry committees, working groups, and task forces, such as the NERC Compliance and Certification Committee; and
- Guidance (with support from the Regional Entities) to the ERO Enterprise for NERC Reliability Standards associated with 2015 risk elements and training for every Reliability Standard approved by FERC.

Stakeholder Engagement and Benefit

The Compliance Assurance group is committed to ensuring that all registered entities understand their compliance obligations and how compliance will be assessed.

Compliance Assurance also provides compliance information, statistics, and perspectives to standard drafting teams to foster the development of standards that provide an increased reliability benefit and clarify compliance risks. It will continue its collaboration with industry and Standards department staff early in the standards development process by providing draft RSAW guidance, including information on how compliance with draft standards will be determined, as well as input regarding the auditability and enforceability of the draft standards. This will better ensure that an RSAW serves as a tool in the auditing process and is not used or viewed as a tool to expand or modify standards requirements.

NERC continues to promote registered entities' development of effective compliance programs and internal controls. The Compliance Assurance group is committed to a proactive and forward-looking method of supporting reliability assurance by taking into account greater consideration of internal controls. A common risk-based methodology for evaluating an entity's risk to the BES and the entity's relevant internal controls will support a consistent, risk-based approach to how compliance monitoring activities may be scoped.

NERC also continues to provide industry-focused outreach events and webinars on the ERO Enterprise's approaches to risk-based CMEP activities. On March 5, 2015, a panel of participants from NERC, Regional Entities, and stakeholder companies discussed the components of the transformed, risk-based CMEP. Additional outreach efforts will include, at minimum, quarterly webinars on lessons learned, process updates, and guidance for compliance monitoring and enforcement activities, combined with a second industry focused event in Q4 2015. Further, ERO Enterprise staff will conduct a webinar series providing guidance on standards and requirements associated with the 2015 risk elements identified for consideration for compliance monitoring.

Throughout the remainder of 2015 and during 2016, ERO Enterprise staff will continue holding advisory group meetings to identify additional outreach and education needs, as well as providing an opportunity for industry input into the rollout of the ERO Enterprise's implementation of risk-based approaches to the CMEP.

Key Efforts Underway

Risk-Based Compliance Monitoring

Consistent with the goals and objectives set forth in the strategic plan, NERC will continue to implement risk-based compliance monitoring and enforcement as part of its stated objectives of ensuring BES reliability, improving the efficiency and effectiveness of NERC and Regional Entity compliance and enforcement operations, and reducing unnecessary burdens on registered entities.

The ERO Enterprise has begun implementation of all aspects of the risk-based CMEP. Oversight related to the design documents is underway, and NERC and Regional Entity management remain in close coordination to ensure successful implementation. The Compliance Assurance department and Compliance Enforcement department staff will regularly address the following topics:

- Continued training of the ERO Enterprise staff.
- Continued outreach efforts during 2015 (including industry-focused workshops, a small entity tabletop exercise for ERO Enterprise staff, tutorials on the use of compliance and enforcement information available online and efforts to support and encourage information sharing among registered entities.)
- Oversight of Regional Entity implementation of various risk-based processes.
- Development and benchmarking of metrics to support the measures of success for the risk-based CMEP identified in November 2014.

Regional Entity Oversight and Compliance

Ensuring the successful implementation of the risk-based CMEP is the priority of NERC's Compliance Assurance and Compliance Enforcement department. For Compliance Assurance, oversight activities will occur through a two-phased approach.

Phase 1 began during Q1 2015. It is designed to establish conceptual consistency in the application of the ERO Enterprise's risk-based approach by reviewing each Region's risk-based process documentation to understand its conceptual intents of application and compare these concepts to the ERO Enterprise's guidance documents. This will involve dialogue and the collection and review of supporting documents that describe the Regional Entity's execution and application of the design for the ERO Enterprise's risk-based CMEP.

In Phase 2, Compliance Assurance's oversight will evolve into a more traditional evaluation of how risk-based compliance monitoring concepts are utilized, the determinations made when using risk-based concepts, and the results of their application by the Regional Entities. Phase 2 oversight will continue throughout 2015 and into 2016 and will focus on samples of compliance monitoring work by each Regional Entity as they apply these risk-based concepts.

CIP Compliance and Transition

Consistent implementation of the risk-based CIP compliance monitoring program, including registration and certification, is necessary for reliability improvements. NERC and the Regional Entities continue to manage the smooth transition of compliance activities from Version 3 to Version 5 of the CIP Standards by providing training, webinars, and other forms of outreach. The ERO education programs support industry compliance and the integration of risk assessment and internal controls. In addition to the transition from Version 3 to Version 5 of the CIP standards, NERC and the Regional Entities are further supporting the successful implementation and monitoring of the Physical Security Reliability Standard.

2016 Goals and Deliverables

The Compliance Assurance group has several goals and objectives that support the *ERO Enterprise Strategic Plan*. Resources will be focused on building upon the framework and improvements implemented as a result of the risk-based compliance monitoring activities in 2014 and 2015. Specific 2016 objectives for this group are:

- Develop and implement a training program to support implementation of the common audit procedures and the ERO Auditor Capabilities and Competencies Guide.
- Work closely with NERC's Enforcement and IT departments, as well as staff in the Regional Entities, regarding the improvements in the existing compliance, reporting, analysis tracking system, and other compliance tools to support risk-based activities.
- Make effective internal controls models and information available to industry.
- Initiate compliance phase-in learning periods for new standards.
- Transition to a single ERO approach for compliance monitoring, common audit planning, and consistent implementation of risk-based techniques and principles.
- Consolidate to a common set of RSAWs, or successors, for all standards.
- Create technically sound training to support compliance methodologies and testing approaches for Reliability Standards.
- Support the successful transition to the CIP Version 5 Reliability Standards that become effective in 2016.
- Continue to monitor and support effective implementation and monitoring of the Physical Security Reliability Standard.

These 2016 activities are necessary to ensure that policies, processes, and procedures are implemented both uniformly and consistently across the Regions. A number of compliance monitoring activities support the implementation of the strategic risk-based reforms intended to reduce regulatory burden on industry, increase efficiency, and provide greater direct reliability benefit by properly aligning resources associated with compliance monitoring programs. Moreover, oversight will ensure industry benefits are achieved, validate methodologies, and identify continued process improvements. The bulk of these activities will be resourced from NERC and Regional Entity staffs, but certain activities related to advancing the program implementation and the compliance application tool will be supported through the use of outside consultants.

Resource Requirements

Personnel

FTE additions for 2016 reflect the reallocation of 2015 budgeted FTEs to support key departmental initiatives related to successful implementation and oversight of the risk-based CMEP.

Contractors and Consultants

Funds have been budgeted for outside consultants to assist in successful implementation of risk-based compliance monitoring. While at a reduced level from the 2014 and 2015 budgets, these resources are necessary to support the transformation of NERC's Compliance Monitoring and Enforcement Program to a risk-based design. In addition, the Information Technology budget includes funding for the maintenance, evaluation, and development of enterprise tools supporting compliance assessment, registration, certification, and enforcement activities.

Section A — 2016 Business Plan and Budget Program Area and Department Detail

Statement of Activities and Fixed Assets Expenditures							
2015 Budget & Projection, and 2016 Budget							
COMPLIANCE ASSURANCE							
	2015 Budget	2015 Projection	Variance		Variance		Variance to Prior Draft Over(Under)
			2015 Projection v 2015 Budget Over(Under)	2016 Budget	2016 Budget v 2015 Budget Over(Under)	2016 Budget Draft 1	
Funding							
ERO Funding							
NERC Assessments	\$ 5,621,826	\$ 5,621,826	\$ -	\$ 9,185,250	\$ 3,563,424	\$ 7,539,302	\$ 1,645,948
Penalty Sanctions	115,453	115,453	-	235,174	119,722	112,081	123,094
Total NERC Funding	\$ 5,737,279	\$ 5,737,279	\$ -	\$ 9,420,424	\$ 3,683,146	\$ 7,651,382	\$ 1,769,042
Third-Party Funding	-	-	-	-	-	-	-
Testing Fees	-	-	-	-	-	-	-
Services & Software	-	-	-	-	-	-	-
Workshops	-	-	-	-	-	-	-
Interest	293	293	-	479	186	392	88
Miscellaneous	-	21	21	-	-	-	-
Total Funding (A)	\$ 5,737,572	\$ 5,737,593	\$ 21	\$ 9,420,903	\$ 3,683,332	\$ 7,651,774	\$ 1,769,130
Expenses							
Personnel Expenses							
Salaries	\$ 1,783,650	\$ 2,500,644	\$ 716,994	\$ 3,063,004	\$ 1,279,353	\$ 2,362,252	700,752
Payroll Taxes	115,456	169,529	54,073	205,979	90,524	163,191	42,788
Benefits	220,692	270,682	49,990	351,727	131,035	288,548	63,179
Retirement Costs	200,525	234,431	33,906	336,902	136,377	264,123	72,779
Total Personnel Expenses	\$ 2,320,322	\$ 3,175,286	\$ 854,964	\$ 3,957,612	\$ 1,637,289	\$ 3,078,113	\$ 879,498
Meeting Expenses							
Meetings	\$ 70,000	\$ 100,000	\$ 30,000	\$ 60,000	\$ (10,000)	\$ 60,000	-
Travel	198,000	242,000	44,000	276,343	78,343	276,065	278
Conference Calls	7,200	66,394	59,194	20,000	12,800	20,000	-
Total Meeting Expenses	\$ 275,200	\$ 408,394	\$ 133,194	\$ 356,343	\$ 81,143	\$ 356,065	\$ 278
Operating Expenses							
Consultants & Contracts	\$ 388,000	\$ 388,000	\$ -	\$ 200,000	\$ (188,000)	\$ 200,000	-
Office Rent	-	-	-	-	-	-	-
Office Costs	32,834	35,152	2,318	44,779	11,945	38,074	6,705
Professional Services	-	-	-	-	-	-	-
Miscellaneous	250	250	-	500	250	500	-
Depreciation	-	1,090	1,090	-	-	-	-
Total Operating Expenses	\$ 421,084	\$ 424,493	\$ 3,408	\$ 245,279	\$ (175,805)	\$ 238,574	\$ 6,705
Total Direct Expenses	\$ 3,016,607	\$ 4,008,173	\$ 991,566	\$ 4,559,233	\$ 1,542,627	\$ 3,672,752	\$ 886,481
Indirect Expenses	\$ 2,567,695	\$ 3,715,072	\$ 1,147,377	\$ 4,559,714	\$ 1,992,019	\$ 3,732,255	\$ 827,459
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses (B)	\$ 5,843,302	\$ 7,723,245	\$ 2,138,943	\$ 9,118,947	\$ 3,534,645	\$ 7,405,007	\$ 1,713,941
Change in Assets	\$ 153,270	\$ (1,985,652)	\$ (2,138,922)	\$ 301,956	\$ 148,686	\$ 246,767	\$ 55,189
Fixed Assets							
Depreciation	-	(1,090)	(1,090)	-	-	-	-
Computer & Software CapEx	-	-	-	-	-	-	-
Furniture & Fixtures CapEx	-	-	-	-	-	-	-
Equipment CapEx	-	-	-	-	-	-	-
Leasehold Improvements	-	-	-	-	-	-	-
Allocation of Fixed Assets	\$ 153,270	\$ 264,360	111,091	301,956	148,686	\$ 246,767	55,189
Inc(Dec) in Fixed Assets (C)	\$ 153,270	\$ 263,270	\$ 110,000	\$ 301,956	\$ 148,686	\$ 246,767	\$ 55,189
TOTAL BUDGET (=B + C)	\$ 5,737,572	\$ 7,986,515	\$ 2,248,943	\$ 9,420,903	\$ 3,683,332	\$ 7,651,774	\$ 1,769,130
FTEs	12.19	16.10	3.91	19.36	7.17	15.67	3.69

Compliance Analysis, Certification and Registration

Compliance Analysis, Certification and Registration (in whole dollars)					
	2015 Budget	2016 Budget	Increase (Decrease)	2016 Budget - Prior Draft	Variance to Prior Draft Over(Under)
Total FTEs	11.25	10.14	(1.11)	11.07	(0.93)
Direct Expenses	\$ 2,353,718	\$ 2,086,784	\$ (266,934)	\$ 2,376,906	\$ (290,122)
Indirect Expenses	\$ 2,369,694	\$ 2,387,951	\$ 18,257	\$ 2,635,961	\$ (248,011)
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Inc(Dec) in Fixed Assets	\$ 141,451	\$ 158,136	\$ 16,685	\$ 174,283	\$ (16,147)
TOTAL BUDGET	\$ 4,864,863	\$ 4,632,871	\$ (231,992)	\$ 5,187,150	\$ (554,280)

Background and Scope

The Compliance Analysis, Certification and Registration group is responsible for a range of requirements and activities embodied in Section 500 (Organization Registration and Certification) and Appendices 5A and 5B of the NERC Rules of Procedure. The group provides technical resource support to standards development, compliance monitoring, and enforcement and ensures that (1) all entities impacting the BES are registered commensurate with risk; (2) all RCs, TOPs, and BAs are certified; (3) industry maintains effective internal control programs for reliability assurance risk; and (4) compliance gaps identified in reportable events are assessed and addressed if appropriate. Specific activities of the group include:

- **Registration** – Identifies and registers BES users, owners, and operators who are responsible for compliance with Reliability Standards. Organizations that are registered are included on the NERC Compliance Registry (NCR) and are responsible for knowing the content of and complying with all applicable Reliability Standards. Maintains the current registration for the entire ERO for entities as they take on and drop functional responsibilities.
- **Certification** – Evaluates and certifies the competency of reliability entities; i.e., those that perform certain key reliability functions, specifically the RC, BA, and TOP functions. Entities performing these three functions must be certified as having the necessary personnel, knowledge, facilities, programs, and other qualifications to carry out these important responsibilities, including demonstrating the ability to meet the requirements and sub-requirements of all of the Reliability Standards applicable to the reliability function(s) for which they are being certified. This also includes confirming through the certification review process that a reliability entity continues to have the qualifications mentioned above following planned material changes to that entity's operation.
- **Compliance Analysis** – Conducts reliability assurance activities, including:
 - **Investigations** – Staff conducts non-public, confidential investigations to identify Possible Violations of NERC Reliability Standards in response to complaints, BES disturbances, or other similar triggers. Staff participates on all Regional Entity-led investigations and observe as requested on FERC-led reliability investigations and inquiries.
 - **Compliance evaluations** – Staff works closely with regional staff to confirm that qualified events and disturbances are evaluated against the relevant approved Reliability Standards and ensure formal compliance monitoring occurs if indicated. These analyses are also shared with FERC staff.
 - **Complaints** – NERC addresses formal complaints that allege the violation of Reliability Standards through a confidential process.

- **Reliability Assurance** – Conduct activities to reasonably assure the ERO that certain actions have been taken as reported in response to NERC Alerts or guidance to industry. An example of this is the Right-of-Way Clearances, which is one of the 2015 ERO Enterprise high-priority risk projects.
- **Oversight** – NERC provides oversight of Regional Entity implementation of regional registration, compliance, certification, investigation, complaint programs, and processes.

Risk-Based Registration

In 2014, NERC established a Risk-Based Registration Advisory Group (RBRAG) to provide input and advice for the Risk-Based Registration (RBR) design and implementation plan. The RBRAG is comprised of representatives from NERC, Regional Entity, and FERC staffs, along with United States and Canadian industry representatives. A white paper was developed with input from the RBRAG, industry responses to a survey, and the assessment of information about the current Registration program attributes. NERC finalized the first phase of RBR via a filing with FERC in November 2014. FERC approved it in March 2015 and issued directives to which NERC is currently responding.

Reliability Benefits

NERC launched RBR to ensure the right entities are subject to the right set of applicable Reliability Standards by using a consistent and common approach to risk assessment and registration across the ERO. The goal of this effort is to develop registration criteria and thresholds that identify users, owners, and operators who have a material impact on reliability, preserve an adequate level of reliability, and avoid causing or exacerbating instability, uncontrolled separation, or cascading failures. Registered entities will be given proper signals and incentives to focus on operational, planning, physical security, cybersecurity, and business decisions in the best interest of reliability, rather than focusing on managing compliance risks. Registered entities will have certainty as to compliance obligations with tailored Reliability Standard requirements, as appropriate.

Key Efforts Underway

In 2014, the Compliance Analysis, Certification and Registration group developed the new RBR design and registration criteria, which included Board approval of a full implementation plan by year-end. In 2015, after FERC approval on March 19, 2015, NERC implemented Phase I of this effort, which included deactivation of Purchasing-Selling Entities (PSEs) and Interchange Authorities (IAs), while working on providing FERC with more information on the proposal to deactivate Load Serving Entities (LSEs) and Distribution Providers (DPs).

The overall benefits of the RBR program include:

- Reduced industry burden associated with registration and ensuring no gaps or duplication of compliance responsibilities.
- Improved use of NERC, Regional Entity, and registered entity resources.
- Improved feedback to Reliability Standards development so applicability can be tailored for currently enforced and future standards.
- Increased consistency in registration with the eight Regional Entities by developing a common and repeatable approach as part of the RBR program design.

As a part of Phase 2 of RBR, staff will work on technical review and analysis to determine if further refinements are needed for Transmission Owners (TOs), Transmission Operators (TOPs), Generation Owners (GOs) and Generation Operators (GOPs). NERC will continue to work with RBRAG, the RBR Task Force, and industry to complete Phase 2. If warranted, recommendations will be developed along with

transition plans for delivery to the NERC Board for endorsement or approval of any necessary ROP changes.

Staff is also working with the Regional Entities to further evaluate the current certification program. To the extent that changes, enhancements, or a discontinuation of the program are identified, recommendations will be developed along with transition plans targeted to be implemented in 2016. Depending on the level of change or enhancements, additional resource demands may be required in 2016; however, the budget demands cannot be fully assessed at this time.

2016 Goals and Deliverables

The planned activities for 2016 include continuation of current initiatives, as well as enhanced oversight and quality assurance reviews of Regional Entity performance of delegated registration, certification, investigations, and complaint duties. This oversight will include site visits, tabletop reviews, self-certifications, and sampling of performance. This will enable NERC to assess the Regional Entities' performance on agreed-upon goals and measures.

Resource Requirements

Personnel

No additional personnel are budgeted for 2016. The variance in FTEs between budgets is due to the reallocation of one position to another department and the application of an updated vacancy rate (7.8% vs 6.0%).

Contractor Expenses

Contractor expenses of \$50k are budgeted for 2016 for outside technical support in connection with RBR implementation.

Section A — 2016 Business Plan and Budget Program Area and Department Detail

Statement of Activities and Fixed Assets Expenditures							
2015 Budget & Projection, and 2016 Budget							
COMPLIANCE ANALYSIS, CERTIFICATION and REGISTRATION							
	2015	2015	Variance	2016	Variance	2016 Budget	Variance to
	Budget	Projection	2015 Projection	Budget	2016 Budget	Draft 1	Prior Draft
			v 2015 Budget		v 2015 Budget		Over(Under)
			Over(Under)		Over(Under)		Over(Under)
Funding							
ERO Funding							
NERC Assessments	\$ 4,758,043	\$ 4,758,043	\$ -	\$ 4,509,458	\$ (248,585)	\$ 5,107,715	\$ (598,258)
Penalty Sanctions	106,550	106,550	-	123,162	16,612	79,159	44,004
Total NERC Funding	\$ 4,864,593	\$ 4,864,593	\$ -	\$ 4,632,620	\$ (231,973)	\$ 5,186,874	\$ (554,254)
Third-Party Funding	-	-	-	-	-	-	-
Testing Fees	-	-	-	-	-	-	-
Services & Software	-	-	-	-	-	-	-
Workshops	-	-	-	-	-	-	-
Interest	270	270	-	251	(19)	277	(26)
Miscellaneous	-	14	14	-	-	-	-
Total Funding (A)	\$ 4,864,863	\$ 4,864,877	\$ 14	\$ 4,632,871	\$ (231,992)	\$ 5,187,150	\$ (554,280)
Expenses							
Personnel Expenses							
Salaries	\$ 1,658,833	\$ 1,492,294	\$ (166,539)	\$ 1,410,333	\$ (248,500)	\$ 1,644,792	(234,459)
Payroll Taxes	105,003	103,460	(1,543)	97,779	(7,224)	109,404	(11,624)
Benefits	203,715	189,745	(13,970)	184,238	(19,478)	200,987	(16,749)
Retirement Costs	186,557	163,263	(23,294)	157,451	(29,106)	183,278	(25,827)
Total Personnel Expenses	\$ 2,154,108	\$ 1,948,762	\$ (205,346)	\$ 1,849,801	\$ (304,307)	\$ 2,138,461	(288,660)
Meeting Expenses							
Meetings	\$ 3,064.00	\$ 4,583	\$ 1,519	\$ 4,000	\$ 936	\$ 4,000	-
Travel	164,158	171,000	6,842	155,146	(9,012)	154,989	156
Conference Calls	3,588	3,000	(588)	2,000	(1,588)	2,000	-
Total Meeting Expenses	\$ 170,810	\$ 178,583	\$ 7,773	\$ 161,146	\$ (9,664)	\$ 160,989	156
Operating Expenses							
Consultants & Contracts	\$ -	\$ -	\$ -	\$ 50,000	\$ 50,000	\$ 50,000	-
Office Rent	-	-	-	-	-	-	-
Office Costs	28,550	26,924	(1,626)	25,338	(3,213)	26,956	(1,618)
Professional Services	-	-	-	-	-	-	-
Miscellaneous	250	250	-	500	250	500	-
Depreciation	-	1,057	1,057	-	-	-	-
Total Operating Expenses	\$ 28,800	\$ 28,231	\$ (570)	\$ 75,838	\$ 47,037	\$ 77,456	\$ (1,618)
Total Direct Expenses	\$ 2,353,718	\$ 2,155,576	\$ (198,142)	\$ 2,086,784	\$ (266,935)	\$ 2,376,906	(290,122)
Indirect Expenses	\$ 2,369,694	\$ 2,526,711	\$ 157,017	\$ 2,387,951	\$ 18,257	\$ 2,635,961	\$ (248,011)
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-
Total Expenses (B)	\$ 4,723,412	\$ 4,682,287	\$ (41,126)	\$ 4,474,734	\$ (248,678)	\$ 5,012,867	\$ (538,133)
Change in Assets	\$ 141,451	\$ 182,591	\$ 41,140	\$ 158,136	\$ 16,686	\$ 174,283	(16,147)
Fixed Assets							
Depreciation	-	(1,057)	(1,057)	-	-	-	-
Computer & Software CapEx	-	-	-	-	-	-	-
Furniture & Fixtures CapEx	-	-	-	-	-	-	-
Equipment CapEx	-	-	-	-	-	-	-
Leasehold Improvements	-	-	-	-	-	-	-
Allocation of Fixed Assets	\$ 141,451	\$ 179,798	38,347	158,136	16,685	\$ 174,283	(16,147)
Inc(Dec) in Fixed Assets (C)	\$ 141,451	\$ 178,741	\$ 37,291	\$ 158,136	\$ 16,685	\$ 174,283	\$ (16,147)
TOTAL BUDGET (=B + C)	\$ 4,864,863	\$ 4,861,028	\$ (3,835)	\$ 4,632,871	\$ (231,993)	\$ 5,187,150	\$ (554,280)
FTEs	11.25	10.95	(0.30)	10.14	(1.11)	11.07	(0.93)

Compliance Enforcement Department

Compliance Enforcement (in whole dollars)					
	2015 Budget	2016 Budget	Increase (Decrease)	2016 Budget - Prior Draft	Variance to Prior Draft Over(Under)
Total FTEs	15.01	12.22	(2.79)	13.37	(1.15)
Direct Expenses	\$ 2,456,441	\$ 2,225,938	\$ (230,501)	\$ 2,422,986	\$ (197,048)
Indirect Expenses	\$ 3,161,698	\$ 2,876,962	\$ (284,736)	\$ 3,183,394	\$ (306,431)
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Inc(Dec) in Fixed Assets	\$ 188,727	\$ 190,398	\$ 1,671	\$ 210,356	\$ (19,958)
TOTAL BUDGET	\$ 5,806,866	\$ 5,293,298	\$ (513,567)	\$ 5,816,736	\$ (523,437)

Background and Scope

The Compliance Enforcement department 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 Compliance Enforcement department works collaboratively with the eight Regional Entities to ensure consistent and effective implementation of the risk-based Compliance Monitoring and Enforcement Program. The department also focuses on ensuring that the ERO Enterprise dedicates resources to the matters that pose the greatest risk to reliability.

The NERC Compliance Enforcement department performs its responsibilities by:

- Monitoring Regional Entities' enforcement processes and providing oversight over their outcomes to ensure due process, to identify best practices and process efficiency opportunities, and to promote consistency among Regional Entities' business practices;
- Collecting and analyzing compliance enforcement data and trends to assist with the identification of emerging risks and to help inform the development of enforcement policies and processes;
- Filing notices of penalty and other submittals associated with noncompliance discovered through Regional Entity compliance monitoring and enforcement activities;
- Processing and filing notices of penalty and other submittals associated with violations discovered through NERC-led investigations and audits;
- Collaborating with other NERC departments, including Compliance Assurance, Standards, Event Analysis, and Regional Entity Coordination;
- Delivering training of the ERO Enterprise staff and other outreach efforts, offering tutorials on the use of compliance and enforcement information available online, and supporting and encouraging information sharing among registered entities; and
- Coordinating with the Regional Entities on implementation of various risk-based processes.

Stakeholder Engagement and Benefit

Over the past few years, NERC and the Regional Entities have made substantial progress in reducing the number of instances of noncompliance remaining to be evaluated and processed. The ERO Enterprise has held registered entities accountable for instances of noncompliance that posed a risk to the reliability of the BPS while ensuring that enforcement actions are timely and transparent. NERC promotes a culture of

reliability excellence by examining registered entities' internal compliance programs and considering them as mitigating factors in penalty determinations.

Completion of the Reliability Assurance Initiative

In 2014, through the Reliability Assurance Initiative (RAI), NERC completed the design of the various components of the risk-based CMEP, and in 2015 and 2016, the ERO Enterprise will focus on the CMEP's successful implementation. NERC is transitioning the information previously accumulated in the RAI page of NERC's website to the Compliance and Enforcement pages, which will be redesigned to be more usable. The RAI page will remain in place during 2015, with all of its current content, to ensure that the information remains available to all interested parties while the Compliance and Enforcement pages are reorganized. NERC also will continue to highlight new information available regarding the risk-based CMEP in its weekly bulletins and monthly newsletter.

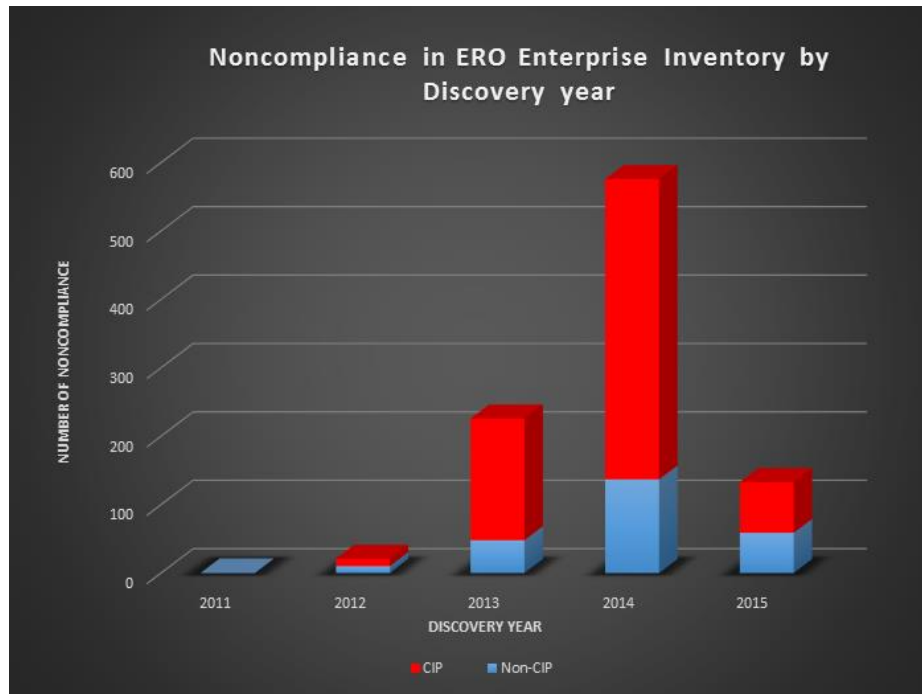
Processing Efficiencies

In an effort to improve the efficiency of enforcement processing throughout the ERO Enterprise, NERC developed a series of key enforcement processing metrics, which are tracked and analyzed throughout the year. In addition, in 2012, 2013, and 2014, NERC established corporate goals to reduce the number of older violations remaining to be processed. Working with NERC, the Regional Entities invested significant time and resources in processing the older violations. As a result, the ERO Enterprise as a whole reduced the number of older violations substantially.

In 2012, NERC and the Regional Entities reduced the number of open violations dating from before 2011 (excluding violations that are held by appeal, a regulator, or a court, referred to as "on-hold" violations) by 80%. During 2013, the ERO Enterprise reduced the number of pre-2012 violations (excluding on-hold violations) by 93%. In 2014, 92.75% of the pre-2013 noncompliance issues were processed and resolved. The 35 pre-2013 remaining non-federal-entity instances of noncompliance²⁵ represent 0.43% of the total violations submitted to the ERO Enterprise from 2007 through December 31, 2014.

The targets and thresholds for processing efficiency-related metrics remain the same in 2015. This is because the ERO Enterprise has achieved a steady state with regard to enforcement processing. This has only been possible due to the hard work of the Regional Entities and NERC Enforcement in eliminating backlog in 2013 and 2014 and incorporating new enforcement processes and procedures into practice.

²⁵ The active caseload does not include instances of noncompliance that have been on hold and not available for processing pending a court decision on the applicability of monetary penalties to federal entities. In August 2014, the court issued a decision holding that monetary penalties are not applicable to federal entities, and the ERO Enterprise has developed a plan to resolve a majority of these items during 2015. Despite the on-hold status, the majority of these instances of noncompliance was mitigated.



Continued Outreach Efforts in 2015 and Beyond

Currently scheduled events for 2015 include industry-focused outreach events and webinars on the ERO Enterprise's approaches to risk-based CMEP activities. Agenda topics and discussions will incorporate feedback obtained from prior industry outreach events as well as any lessons learned during the ERO Enterprise's implementation and rollout of the risk-based CMEP.

Additional outreach efforts will include, at minimum, quarterly webinars on lessons learned, process updates, and guidance for compliance monitoring and enforcement activities, combined with industry-focused events. Further, ERO Enterprise staff will conduct a webinar series providing guidance on standards and requirements associated with the 2015 risk elements identified for consideration for compliance monitoring.

Throughout 2015, ERO Enterprise staff will continue holding advisory group meetings to identify additional outreach and education needs as well as provide an opportunity for industry input into the rollout of the ERO Enterprise's implementation of risk-based approaches to the CMEP.

Risk-Based CMEP Implementation

On February 19, 2015, FERC approved the implementation of the risk-based CMEP. The goal of the CMEP is to shift the compliance and enforcement approach from one in which all instances of noncompliance are evaluated as Possible Violations to an approach that strengthens management practices and reserves the enforcement process for instances of noncompliance that have been found to pose a greater risk to reliability. The programs discussed below, in conjunction with compliance outreach encouraging the development of strong management practices, will advance NERC's progress toward this goal.

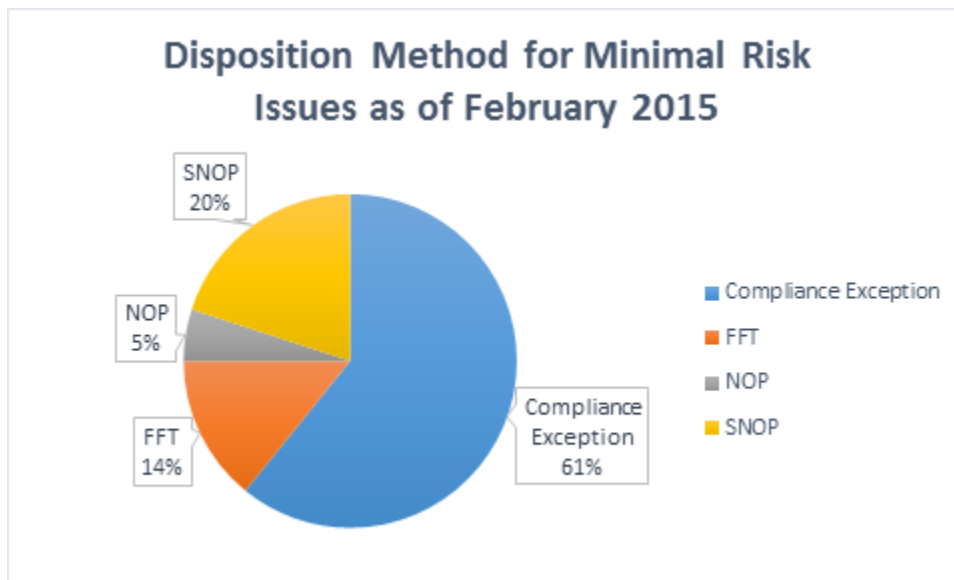
Compliance Exceptions

A compliance exception is an alternative disposition method and is not a dismissal; Find, Fix, Track (FFT); or Notice of Penalty. It is essentially the exercise of enforcement discretion with respect to a noncompliance regardless of its method of discovery (self-report, self-certification, compliance audit finding, etc.). The process of identifying and recording a compliance exception builds on the FFT program.

The ERO Enterprise exercises discretion in the process by taking into account the facts and circumstances of the noncompliance, the risk posed by the noncompliance to the reliability of the BPS, and the deterrent effect of an enforcement action or penalty, among other things. Compliance exception treatment is available for issues that pose a minimal risk to the BPS that would be mitigated within 12 months of the date the compliance exception is posted.

In 2013 and 2014, the use of compliance exceptions (as the alternative disposition for noncompliance posing a minimal risk to the reliability of the BPS) was limited to allow the testing of the new process. In 2013, 43% of noncompliance instances were disposed through the FFT process. In 2014, 34% of noncompliance instances were disposed through the FFT process, and 10% were provided compliance exception treatment. The utilization of streamlined disposition tracks for lesser-risk issues remains steady and reflects the continued use of these tracks as well as an initial shift of usage of compliance exceptions in lieu of FFTs.

In 2015, this disposition track became available throughout the ERO Enterprise. Utilization of compliance exceptions as a disposition track has increased steadily. NERC Compliance Enforcement expects that the full-year 2015 data will show a more even distribution of the utilization of compliance exceptions. It should also show an increase in utilization of compliance exceptions and a corresponding reduction of minimal-risk issues processed as FFTs, compared to 2014. These positive trends should continue into 2016.



Self-Logging

NERC and Regional Entity enforcement staff also have worked closely with stakeholders to identify potential improvements to self-report processes and other enforcement processes. A number of improvements were designed and implemented in 2013 and 2014. As of January 1, 2015, 19 registered entities have been permitted to self-log minimal-risk noncompliance instances. The self-logging program allows any registered entities that have demonstrated effective management practices to keep track of minimal-risk noncompliance (and related mitigation) on a log that is periodically reviewed by the Regional Entity.

As directed by FERC, a formal review of an entity’s internal controls is required before a Regional Entity grants the flexibility to self-log instances of noncompliance. The program is now available to any registered entity that would like to be evaluated by its Regional Entity in accordance with the program requirements.

NERC Oversight of Risk-Based CMEP Implementation

For 2015, ensuring the successful implementation of NERC's risk-based CMEP is the priority of Compliance Enforcement's oversight plan. As part of that oversight and in addition to offering regular feedback to the Regional Entities, NERC will provide a report by the end of 2015 identifying areas for improvement or promoting consistency through training, guidance, or adjustment the following year. NERC also produces an annual ERO CMEP report, which for 2015 will include an assessment of the risk-based CMEP implementation. NERC will publish that report during Q1 2016.

NERC performs oversight of the Regional Entities' enforcement programs primarily through the review of the processes, supporting evidence, and other information provided by the Regional Entities over the course of focused engagements of program areas that are scheduled throughout the year. NERC communicates the recommendations and findings to the Regional Entities to help the ERO Enterprise develop responsive strategies and solutions to potential issues and ensure uniform and consistent implementation of the CMEP. Such recommendations and findings also help identify priority areas for training of ERO Enterprise staff during the year.

Other Key Enforcement Efforts Underway

Regional Entities Training

NERC Enforcement will provide training to Regional Entity staff on the risk-based CMEP processes, especially compliance exceptions and the self-logging program. NERC is developing this training based on early experience with implementing the programs, as well as observations from the various spot checks.

NERC will measure if ERO Enterprise staff performing key activities are trained and competent in their areas of responsibility, such as risk assessment, audit, internal controls evaluation, and enforcement, and are perceived by registered entities as being well qualified in their roles. NERC will track participation of Regional Entity enforcement staff in each category.

2016 Goals and Deliverables

Specific 2016 objectives for the Compliance Enforcement department include:

- Refining and improving the risk-based CMEP processes;
- Implementing in a transparent manner an ERO Enterprise enforcement philosophy that is risk focused and drives desired behaviors by registered entities;
- Expanding the feedback loop of information from Enforcement to Standards and other program areas; and
- Working closely with NERC's Compliance Assurance and Information technology departments, as well as staff in the Regional Entities, regarding the improvements in the existing compliance, reporting, analysis tracking system, and other compliance tools to support risk-based activities.

Resource Requirements

Personnel

Efforts to improve the efficiency and effectiveness of the Enforcement department's operations and reduce its backlog have permitted the department to reduce current staffing levels below 2015 budgeted amounts, allowing additional resources to be allocated to other ERO departmental priorities. No changes to current Enforcement staffing levels are proposed in 2016.

Contractor Expenses

The Information Technology budget includes funding for the maintenance, evaluation, and development of enterprise tools supporting technical feasibility exceptions, registration, and enforcement activities.

Statement of Activities and Fixed Assets Expenditures							
2015 Budget & Projection, and 2016 Budget							
COMPLIANCE ENFORCEMENT							
	2015	2015	Variance	2016	Variance	2016 Budget	Variance to
	Budget	Projection	2015 Projection	Budget	2016 Budget	Draft 1	Prior Draft
			v 2015 Budget		v 2015 Budget		Over(Under)
			Over(Under)		Over(Under)		Over(Under)
Funding							
ERO Funding							
NERC Assessments	\$ 5,664,344	\$ 5,664,344	\$ -	\$ 5,144,612	\$ (519,732)	\$ 5,720,803	\$ (576,191)
Penalty Sanctions	142,161	142,161	-	148,384	6,223	95,598	52,786
Total NERC Funding	\$ 5,806,505	\$ 5,806,505	\$ -	\$ 5,292,996	\$ (513,509)	\$ 5,816,402	\$ (523,406)
Third-Party Funding	-	-	-	-	-	-	-
Testing Fees	-	-	-	-	-	-	-
Services & Software	-	-	-	-	-	-	-
Workshops	-	-	-	-	-	-	-
Interest	361	361	-	302	(59)	334	(32)
Miscellaneous	-	17	17	-	-	-	-
Total Funding (A)	\$ 5,806,866	\$ 5,806,883	\$ 17	\$ 5,293,298	\$ (513,568)	\$ 5,816,736	\$ (523,437)
Expenses							
Personnel Expenses							
Salaries	\$ 1,785,495	\$ 1,680,103	\$ (105,392)	\$ 1,629,233	\$ (156,262)	\$ 1,777,015	(147,782)
Payroll Taxes	110,866	112,910	2,044	109,485	(1,381)	119,666	(10,181)
Benefits	254,644	226,735	(27,909)	222,877	(31,767)	243,495	(20,618)
Retirement Costs	200,635	177,029	(23,606)	181,419	(19,216)	198,234	(16,815)
Total Personnel Expenses	\$ 2,351,641	\$ 2,196,777	\$ (154,864)	\$ 2,143,014	\$ (208,627)	\$ 2,338,409	(195,395)
Meeting Expenses							
Meetings	\$ 2,000	\$ 1,000	\$ (1,000)	\$ 2,500	\$ 500	\$ 2,500	-
Travel	57,900	52,000	(5,900)	56,736	(1,164)	56,679	57
Conference Calls	2,900	1,500	(1,400)	1,200	(1,700)	1,200	-
Total Meeting Expenses	\$ 62,800	\$ 54,500	\$ (8,300)	\$ 60,436	\$ (2,364)	\$ 60,379	57
Operating Expenses							
Consultants & Contracts	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-
Office Rent	-	-	-	-	-	-	-
Office Costs	41,500	25,159	(16,341)	21,866	(19,634)	23,575	(1,710)
Professional Services	-	-	-	-	-	-	-
Miscellaneous	500	1,000	500	500	-	500	-
Depreciation	-	1,790	1,790	122	122	122	-
Total Operating Expenses	\$ 42,000	\$ 27,948	\$ (14,052)	\$ 22,488	\$ (19,512)	\$ 24,197	\$ (1,710)
Total Direct Expenses	\$ 2,456,441	\$ 2,279,225	\$ (177,216)	\$ 2,225,938	\$ (230,502)	\$ 2,422,986	\$ (197,048)
Indirect Expenses	\$ 3,161,698	\$ 2,960,520	\$ (201,178)	\$ 2,876,962	\$ (284,736)	\$ 3,183,394	\$ (306,431)
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-
Total Expenses (B)	\$ 5,618,139	\$ 5,239,745	\$ (378,394)	\$ 5,102,901	\$ (515,239)	\$ 5,606,380	\$ (503,479)
Change in Assets	\$ 188,727	\$ 567,137	\$ 378,411	\$ 190,398	\$ 1,671	\$ 210,356	(19,958)
Fixed Assets							
Depreciation	-	(1,790)	(1,790)	(122)	(122)	(122)	-
Computer & Software CapEx	-	-	-	-	-	-	-
Furniture & Fixtures CapEx	-	-	-	-	-	-	-
Equipment CapEx	-	-	-	-	-	-	-
Leasehold Improvements	-	-	-	-	-	-	-
Allocation of Fixed Assets	\$ 188,727	\$ 210,667	21,941	190,520	1,793	210,478	(19,958)
Inc(Dec) in Fixed Assets (C)	\$ 188,727	\$ 208,878	\$ 20,151	\$ 190,398	\$ 1,671	\$ 210,356	\$ (19,958)
TOTAL BUDGET (=B + C)	\$ 5,806,866	\$ 5,448,623	\$ (358,243)	\$ 5,293,298	\$ (513,568)	\$ 5,816,736	\$ (523,437)
FTEs	15.01	12.83	(2.18)	12.22	(2.79)	13.37	(1.15)

Reliability Assessment and Performance Analysis

Reliability Assessments and Performance Analysis (in whole dollars)					
	2015 Budget	2016 Budget	Increase (Decrease)	2016 Budget - Prior Draft	Variance to Prior Draft Over(Under)
Total FTEs	19.70	18.67	(1.03)	19.59	(0.92)
Direct Expenses	\$ 5,456,456	\$ 5,616,840	\$ 160,384	\$ 5,827,097	\$ (210,258)
Indirect Expenses	\$ 4,149,598	\$ 4,396,749	\$ 247,152	\$ 4,665,318	\$ (268,569)
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Inc(Dec) in Fixed Assets	\$ 219,696	\$ (94,860)	\$ (314,556)	\$ (77,566)	\$ (17,295)
TOTAL BUDGET	\$ 9,825,750	\$ 9,918,728	\$ 92,978	\$ 10,414,850	\$ (496,122)

Background and Scope

The Reliability Assessment and Performance Analysis (RAPA) department carries out the ERO's statutory responsibility to conduct assessments of the reliability and adequacy of the BES. These assessments are used to provide insight and guidance about reliability risks and performance improvements as well as reliability performance issues and areas of concern (including equipment performance and related reliability issues). These insights provide a foundation for the development of new Reliability Standards or modifications to mandatory Reliability Standards, or other initiatives, such as guidelines, alert(s), webinars, etc., all focused on enhancing overall reliability. The department focuses on developing a technical framework and understanding the reliability risks facing the industry. It also provides guidance and insights to stakeholders across North America. The department relies on its own engineering and analysis expertise, as well as Regional Entity and stakeholder resources. RAPA is responsible for:

- Independent assessments and reports on the overall reliability and adequacy of the BPS and associated reliability risks that could impact the short-term and the long-term (e.g., 10-year) planning horizon.
- Development of focused reliability assessments based on emerging reliability risks (e.g., emerging environmental regulations) and other reliability issues garnering an in-depth analysis.
- Performance analysis and recommendations of historical reliability and associated trends, relying on data integrity and consistent method, supporting credible recommendations and guidance.
- Reliability assessment and bulk system evaluation model and case development for analyzing steady-state and dynamic conditions, including frequency, Essential Reliability Services, and stability aspects.
- Assurance oversight that electrical elements necessary for the reliable operation of the BPS are appropriately identified as BES elements.
- Reliability risk program management for identifying and improving key risk areas using analyses of reliability gaps, risks, controls, and management efforts, as well as integration with the Reliability Issues Steering Committee (RISC), long-term reliability assessment, short-term (seasonal) reliability assessments, and state of reliability reports.
- Management of reliability risk program priorities to align with the strategic plan and business plan and budget for the appropriate level of resources, timing, completion, and execution.

- Establishment of reliability leadership and consistent, technically sound guidance and recommendations that position industry and policy makers to enhance reliability through effective outreach and communications.

Stakeholder Engagement and Benefit

The ERO monitors the reliability performance of the BES in North America through data gathered to analyze historic trends. The ERO provides reports and recommendations regarding the anticipated conditions that could impact the reliability, security, and stability of the BPS to the industry, Regional Entities, regulatory entities, and other designated entities.

RAPA works with industry leaders to create a reliability strategy that is relevant, timely, and effective at addressing the most important reliability risks. This effort includes understanding key information identified through analysis and assessment efforts; extracting and prioritizing the associated reliability risks from that information; sharing and integrating those risk analysis insights across the ERO Enterprise; and translating that knowledge into actionable guidance and recommendations for NERC management, the Board, and entities, and state, federal, and provincial policy makers. This offers stakeholders an open and transparent approach for the development of NERC's reliability strategy, ultimately ensuring the ERO is accountable to industry, regulators, and the public at large.

Key RAPA Efforts Underway

RAPA focuses its efforts in the following key areas:

Reliability Risk: Analysis and Management

Reliability Risk analysis and management efforts involve wide-ranging concerted efforts among stakeholders, RISC members, functional groups within NERC, and the Regional Entities.

Analysis: A comprehensive understanding of complex interdependencies and their wide-ranging impacts affecting BES reliability requires deliberate and methodical risk analysis and control strategies. A robust approach that identifies emerging reliability risks, prioritizes those with significant potential impact, and seeks to address them across the ERO Enterprise is essential for ensuring effective BES reliability. NERC's approach to identifying these reliability risks and implementing appropriate mitigation or management efforts is based on strong expertise and fundamental technical analysis of reliability behavior, leveraging reliability assessments, performance analysis, and event analyses, the use of the RISC to provide guidance about strategic risks and priorities, and effective management/mitigation steps across industry.

This comprehensive approach represents an important aspect demonstrating the link between NERC's activities and its mission of ensuring the reliability of the North American BES. Specific areas of reliability risk have been identified for projects in 2016. The set of programs and associated projects described in the following pages represents a focus on risk priority projects where NERC, in alignment with the industry, the RISC, and governments, can make a difference in improving or maintaining reliability.

Management: Reliability risk management efforts involve identifying key reliability risk areas, setting priorities for addressing these areas, then determining appropriate efforts from the suite of tools available to address such risks, and compiling these into an overall portfolio of prioritized risk projects. Industry, NERC, RISC, and others undertook significant efforts to assemble event and performance analyses from published assessments into a prioritized set of appropriate reliability risk projects. These analyses led to recommendations based on technical committee discussions; industry perspectives at the Reliability Leadership Summit; and ongoing technical committee assessment, event analysis, and Reliability Assessment and Reliability Risk Analysis work products, such as the long-term reliability assessment, the state of reliability report, and various special reports and seasonal assessments. These prioritized risk

project recommendations have been incorporated for 2015 into eight project areas focused on managing the top-priority reliability risks. Each risk management program area contains one or more projects identified to produce specific deliverables. By structuring these projects and programs within the larger context of priority reliability risks, resources can be allocated across the ERO Enterprise and program areas.

These top-priority reliability risk programs have been identified for 2015 efforts in this business plan; further refinement and identification of a comparable list of priority efforts will emerge over the course of the year, representing the 2016 priority risk projects. For budget assumption purposes, NERC has planned for a comparable level of effort to be allocated across program areas for these projects. This is not intended to be an exhaustive list of all the reliability-centered activities undertaken by NERC. Ongoing obligations regarding standards development, compliance and enforcement, reliability assessments, and performance analysis are expected to continue, as are the numerous activities to respond to regulatory directives and increase the efficiency and effectiveness of the ERO.

Reliability Risk Management Programs: These programs reflect the culmination of risk identification and reliability management aspects. NERC staff worked with the RISC to support determination of Reliability Risk Priorities that were presented to the Board in late 2014, and ensured that both reliability risk and associated reliability risk management projects are reflected in ERO business planning activities. These program areas and projects have been refined to identify specific reliability risks, associated measurements, and the most critical aspects within those broad areas that should be addressed. The overall strategies for managing the risks include the use of guidelines, information requests, training, NERC Alerts, technical conferences, research, standards, and other tools. The results are weighed for overall effectiveness and efficiency, and each project plan addresses each identified reliability risk with a set of approaches commensurate in scope to the level of risk being managed. Ultimately, these efforts are reflected in ERO activities and the overall ERO planning process.

Listed below are the eight programs focused on managing the top-priority reliability risks selected by NERC based on guidance from many sources, including the Board and the RISC. Each program has associated projects that are supported by various NERC departments as listed after each project. Further information about each project may be found in the supporting department's section of this report.

Program: Changing Resource Mix

The energy currently produced by large rotating generators is being replaced by energy produced in different locations by variable resources, demand response programs, and other new types of resources. These resources exhibit different characteristics with respect to some of the less-obvious fundamental components of reliable operation (e.g., inertia, frequency response, generator output maneuverability). Operationally, uncertainty concerning the commitment of demand-side resources to meet load obligations and the lack of visibility of demand-side resources once committed presents a scheduling risk to operators in real time. At the same time, continuing improvements in smart grid technologies, energy efficiency, and other changes in load composition impact characteristics and behavior of load, reactive power needs, and how the system operates and behaves during disturbances (e.g., fault-induced delayed voltage recovery). All of these changes move the system toward different behaviors, operating characteristics, and levels of reliability risk. An increased penetration of natural-gas-fired generation has also increased NERC's concern on gas-electric interdependencies. The increasing amount of gas-fired generation exposes vulnerabilities on the gas pipeline system.

- Project: Essential Reliability Services Special Assessment Phase 2 – RAPA
- Project: Development of Standardized Models – RAPA

- Project: Support for IEEE 1547 Standard for Interconnecting Distributed Resources with Electric Power Systems – RAPA
- Project: Load Composition Modeling Analysis – RAPA
- Project: Gas-Electric Interdependencies and Infrastructure Assessment – RAPA

Program: Risks in Resource Planning

Environmental regulations, increased uncertainty in future resources due to other potential environmental regulations, low natural gas prices, load forecasting uncertainty, and economic factors all contribute to an increased rate of plant retirements and a lack of construction of new plants. Specifically, continued expansion of environmental regulations—including CO₂ regulations and other regulations targeting water usage by generators—greatly increases this risk. While demand response and energy efficiency may offset some of these losses, performance of those technologies can be uncertain, and each brings unique challenges. Long-term outages of multiple units to apply environmental retrofits also may have impacts. This all contributes to a lack of certainty regarding resource adequacy in North America over the next several years.

- Project: Environmental Regulations Special Assessment – RAPA

Program: Protection System Reliability

Protection Systems serve a vital role in defense against system disturbances. When Protection System components fail, the order of execution can result in either incorrect elements being removed from service, or more elements being removed than necessary. Failures to trip and slow trips can result in damaged equipment, which may result in degraded reliability for an extended period of time. NERC’s annual state of reliability reports have consistently concluded that Protection System Misoperations are a significant contributor to disturbance events and increase the severity of automatic transmission outages.

- Project: Protection System Reliability Analysis – RAPA
- Project: System Protection Initiative – RAPA

Program: Protection System Misoperations

Protection System Misoperations represent a double threat. Unnecessary trips can result in making a bad event worse and may start cascading failures as each successive trip can cause another protection system to trip. Project: Protection System Guidelines – RAPA

- Project: Analysis of Protection System Misoperations – RAPA
- Project: System Protection Initiative – RAPA
- Project: Protection System Education – RRM

Program: Uncoordinated Protection Systems

When Protection System components are not coordinated properly, the order of execution can result in either incorrect elements being removed from service, or more elements being removed than necessary.

- Project: Guidelines for Coordination of Protection Systems and Other Devices – RAPA
- Project: System Protection Initiative – RAPA

Program: Extreme Physical Events

Severe weather events (e.g., hurricanes, tornadoes, polar vortices, GMDs, etc.) and coordinated sabotage attacks (e.g., localized physical attacks of significance or EMPs) are physical events that,

at the extreme, can cause extensive interconnection-wide equipment damage, fuel limitations, and disruptions of telecommunications. Because of the long time involved in manufacturing and replacing some BPS assets, an extreme physical event that causes extensive damage to equipment could result in degraded reliability for an extended period of time. While isolated, local physical events have a higher probability of occurrence, the likelihood of extensive, interconnection-wide events is low. However, the potential consequences of such an event are high enough that additional focus is needed to properly address this risk. While additional facilities could be one mitigation measure, permitting, siting, and construction of additional facilities will require long lead times for implementation.

- Project: Promoting Resiliency – RRM
- Project: Emergency Transformer Replacement – RAPA

Program: Availability of Real-Time Tools and Monitoring

NERC has analyzed data and identified that outages of tools and monitoring systems are fairly common occurrences. Functional capabilities impacted by this risk include perceiving and comprehending the information provided by decision-support tools, information sharing, coordination of models, and planning across seams. Less-than-adequate situational awareness has the potential for significant negative reliability consequences and is often a precursor event or contributor to events. Additionally, insufficient communication and data regarding neighboring entities' operations is also a latent risk that could result in invalid assumptions of another system's behavior or state.

- Project: Latent Risk Awareness of Real-Time Tools – RRM
- Project: Real-Time Reliability Monitoring and Analysis Standards – Standards
- Project: Tool Failure Guidelines – RRM

Program: Right-of-Way Clearances

The failure to maintain transmission rights of way contributes to vegetation and other clearance-related outages. Another latent reliability risk, highlighted by the 2010 *Facility Ratings Alert* to industry, involved the misalignment between the design and actual construction of BPS facilities. Reports from various entities have indicated that in a number of cases, actual conductor-to-ground clearances seen in the field have been inconsistent with those assumed during the design of the facility. Examples of inaccurate historical information that leads to these inconsistencies includes, but is not limited to, misplaced structures or supports, inadequate tower height, and ground profile inaccuracies. While an entity may address this concern by changing the facility ratings, modifying the transmission line configuration, or changing the topography, such cases must be identified before they can be addressed. Failure to address these misalignments could lead to incorrect ratings that are inadequate to prevent equipment damage, cascading, instability, or separation.

- Project: Right-of-Way Entity Visit Evaluations – Compliance Assurance

Overall, the resources expected to be deployed to address these reliability risk projects would be similar for 2016 to the comparable level of effort devoted to these efforts in 2015. Accordingly, each of the respective program areas provides a depiction of the efforts and resource allocation needed to support these projects and those anticipated to be identified for 2016. As the RISC and ERO continue to refine the efforts to establish a multiyear perspective addressing the key reliability initiatives, the specific projects and goals for 2016 (and potentially into 2017 and 2018) will be more clearly defined. At the same time, for business plan and budgeting purposes, it is

expected that the level of effort allocated to these projects in 2015 would remain generally consistent with the levels expected in subsequent years.

Performance Analysis

Performance Analysis collects transmission outage, generator performance, and demand response data in a common format using the various industry databases. This data is used to develop and report on transmission metrics that analyze outage frequency, duration, causes, and many other factors related to transmission outages and generator performance. In addition to collecting simple equipment availability, detailed information about individual outage events is collected that, when analyzed at the regional and NERC levels, provides data that may be used to improve BES reliability.

The key trends, findings, and recommendations from Performance Analysis serve as technical input to the ERO's Reliability Standards and standards project prioritization, compliance process improvements, event analyses, reliability assessment, and critical infrastructure protection efforts. This analysis of BES performance provides an industry reference for historical BES reliability, but it also offers analytical insights that lead toward the prioritization of specific actionable risk control steps for industry. These analyses and results are summarized in the annual state of reliability report, which provides guidance and recommendations leading to enhanced bulk system reliability.

Performance Analysis is working with Event Analysis to develop a link between their various databases. Specific equipment outages will be linked to disturbance reports filed with NERC, enabling better association of transmission and generation outages. The continued alignment between these efforts is expected to enhance the ability to conduct effective event analyses as well as identify key reliability areas for trend analysis of multiple databases. This is expected to improve the depth of event analyses across the ERO Enterprise and expand the quality of data gathered for sophisticated statistical and probabilistic analyses. This will lead to trends and insights about reliability performance, as well as effective measures and actions to address reliability risks.

Reliability Assessment

Reliability assessments serve to evaluate the expected reliability behavior of the BPS through extensive deterministic and probabilistic analyses to identify potential reliability conditions that could compromise overall reliability. These reviews include both evaluations at the edge of the planning horizon, as well as assessments of the anticipated performance during the short-term (12- to 18-month outlook). These analyses involved planned and anticipated changes within the generation resources, transmission infrastructure, and load behavior to formulate recommendations and related guidance, often by examining special scenarios and unique situations within the BPS. These analyses provide a technical platform for important policy discussions on challenges facing the interconnected BES, as well as focused recommendations that improve overall reliability or lessen reliability risks.

Each year, NERC is responsible for assessing and reporting on the reliability, adequacy, and associated risks that could impact the short-term and the long-term study periods. As emerging risks and potential impacts to reliability are identified, RAPA conducts special reliability assessments and identifies recommendations and guidance actions that may be warranted to lessen identified risks or enhance reliability overall. RAPA's assessments are founded on solid engineering through collaborative and consensus-based approaches.

By identifying and quantifying emerging reliability issues, NERC is able to provide risk-informed recommendations and support a learning environment for industry to pursue improved reliability performance. These recommendations, along with the associated technical analysis, provide the basis for actionable enhancements to resource and transmission planning methods, planning and operating guidelines, and NERC Reliability Standards. These efforts are expected to expand to reflect the changing

resource mix, reliability behavior of resources, and loads. It will include greater focus on probabilistic approaches to conducting assessments as well as focusing seasonal assessments on a short-term horizon to encompass more than peak condition reserve margin analyses.

Key assessments include:

- Long-Term Reliability Assessment (supplemented by the Probabilistic Assessment conducted biennially)
- Summer and Winter (or Short-Term) Reliability Assessments
- Special and Scenario Reliability Assessments

Key Special Assessments in 2016 are expected to include:

- Special Assessment of Reliability Implications of EPA CPP Final Rule (Phase II)
- Comprehensive Essential Reliability Services Assessment

Additionally, RAPA coordinates forecast reliability data between planning areas, the eight Regional Entities, and governmental organizations and produces the Electricity Supply and Demand Database.

A significant ongoing effort anticipated to involve both RAPA, Regional Entity staff, and stakeholders focuses on the continued development of effective Essential Reliability Services. These efforts are expected to lead to a broad set of recommendations that will culminate with defined Essential Reliability Services elements, an evaluation of initial metrics and data compilation of actual performance, and refinement about the ongoing assessment of Essential Reliability Services measures. These recommendations are expected to drive a variety of modifications to the reliability assessment activities, the performance analysis efforts, the system analysis efforts, and potential other related adaptations to reflect the significantly changing resource mix and load reliability behavior.

System Analysis

Understanding the technical behavior of the North American grid is the foundation for identifying crucial aspects of performance that are important for sustaining overall reliability. NERC's understanding of grid behavior is achieved through a comprehensive evaluation of system behavior through constant observation and study, analytic simulations, and forensic analysis of system disturbances. Methodically comparing the results of analytical powerflow and dynamics simulations to actual system behavior enables RAPA to gain insights to enhance predictive system analysis. These insights also establish the framework and foundation for recommendations to improve operating strategies that enhance the performance and reliability of the electric system.

Key Programs:

- Modeling Initiative
 - Improve dynamics
 - Develop quality and fidelity metrics
 - Collaboration with IEEE
- Frequency Response Assessment and Interconnection Frequency Response Obligation Analysis
 - Support BAL-003 and ALR 1-12
- PMU Measurement and Use Improvements
- Interconnection-Wide Model Building Designation and Criteria Administration

- Analysis of TPL Footnote 12
 - Report to FERC on utilization
- BES Exception and Self-Determined Notification Processing
- Model Building Selection and Designation

Based on NERC and industry priorities, and to meet business planning goals, RAPA has chosen not to pursue several issues and initiatives in 2015. Probabilistic analysis of reserve margins for NERC’s long-term reliability assessment will be completed every two years rather than annually (none in 2013 or 2015); the smart grid follow-on work plan will be addressed starting in late 2016; and wind generator availability information (GADS) is being initiated in 2015 such that data gathering begins in the 2016 time frame. In 2015, RAPA will refine the composition of NERC’s annual state of reliability report to expand the GADS data trend analysis, and for 2016 begin to reflect post-seasonal reliability review, insights from analysis of transmission, generator, and demand response data systems (TADS, GADS, and DADS), and integration of event analysis and misoperations.

Further, RAPA will continue to work closely with other organizations, including but not limited to the Electric Power Research Institute (EPRI), the Department of Energy (DOE), the Institute of Electrical and Electronic Engineers (IEEE), the Institute of Nuclear Power Operations (INPO), the North American Transmission Forum (NATF), the North American Generation Forum (NAGF), and the Canadian Electricity Association (CEA). RAPA collaborates with these groups on a number of fronts, including geomagnetic disturbance (GMD), vegetation management, TADS, GADS, and variable generation integration. RAPA will continue working with the Interstate Natural Gas Association of America (INGAA) and the Natural Gas Supply Association (NGSA) regarding studies pertaining to the interdependency of gas and electric systems. NERC anticipates executing in mid-2015 a series of memoranda of understandings with IEEE, NRC, INPO, and DOE regarding collaboration and essential alignment of respective efforts that would be expected to effectuated through concentrated work plan efforts starting in 2016.

BES Definition Implementation

During 2014, RAPA was closely involved in the development of a revised definition for BES. RAPA also worked closely with the Regional Entities to develop a software application to manage the implementation of the revised BES definition and exception process, associated business processes, and guidance supporting the implementation of the BES tool. The BES tool, by which a registered entity submits self-determined notifications or requests for exception of certain elements from the BES, and its functionality for Regions, registered entities, and NERC has been structured to conform to provisions of the Order 773 and 773-A directives and requirements.

The effective date for the implementation of the revised BES definition was July 1, 2014, and it is expected that by the end of 2015, the majority of the entity applications of the BES definition to their respective systems would be essentially complete, and that for 2016 and beyond, the level of reviews and assessments would reach steady state as a result of ongoing changes and modifications to the BES network and elements. The reviews, evaluations, and confirmations of proposed changes to BES elements by registered entities will continue to take place during 2016. This will involve both NERC and Regional Entity resources to manage effective implementation. RAPA may contract outside experts to conduct technical reviews of BES exception requests.

Model-Building Entity Selection and Designation

NERC has committed to selecting and designating the model-building entity for each interconnection by September 2015. As the designee, the entity will support creation of the interconnection-wide powerflow and dynamics cases that include all of the Planning Coordinators in the interconnection, so long as the

entity continues to demonstrate, to NERC's satisfaction, the designee functions and attributes developed by the Modeling Project Task Force.

The ERAG/MMWG group will need to transition from a Regional Entity-funded model to a Planning Coordinator-funded model. However, the Planning Coordinators are only responsible for submitting their individual system models to NERC—not for assembling the model. Assembly of the model is currently performed by Powertech, which is funded by the Regional Entities in the Eastern Interconnection at approximately \$400k.

2016 Goals and Deliverables

In 2016, RAPA will seek to accomplish several specific goals and objectives as part of the strategic focus of the ERO Enterprise:

1. Issue reliability assessment reports, guidelines, recommendations, and alerts as needed (including the verification and validation of data and information through Regional Entities and technical committees as required).
 - a. One 10-year long-term reliability assessment
 - b. One short-term reliability assessment (covering both summer and winter, as well as shoulder periods)
 - c. Special assessments addressing key reliability risks (risk projects)
 - Essential Reliability Services Phase II
 - Phase II Special Reliability Assessment on the EPA Clean Power Plan
 - d. One annual state of reliability report
 - e. One frequency response analysis report (to FERC and to support BAL-003 and annual IFRO)
2. Oversee the Generating, Transmission, and Demand Response Availability Data Systems (GADS, TADS, and DADS), along with reliability metrics, misoperations, and the Spare Equipment Database.
 - a. Strengthen data collection and validation processes by designing, creating, testing, and implementing data-checking systems for reliability assessment, system analysis, and risk analysis.
 - b. Provide periodic updates on trends and measures of BES reliability.
3. Develop a risk registry and systematic prioritization process consistent with the RISC framework and support BES risk profile measurement and assessment of standards.
4. Execute integrated risk control strategies and plans across the organization to address the highest-priority existing or emerging risks to BES reliability, and explicitly measure the results.
5. Support NERC Reliability Standard development and responses to FERC directives by providing technical and system analysis expertise.
6. Support the technical foundation development for Reliability Standards to address deficiencies or needs revealed by RAPA.
7. Advance NERC's analytical capability for identifying and determining reliability risks and conducting various reliability assessments.

- a. Integrate Essential Reliability Services analysis and measures into the long-term reliability assessment (include new data collection and analysis approaches needed to address assessment objectives of identifying reliability issues due to a changing resource mix).
 - b. Transmission/deliverability assessments and studies will require advanced powerflow and stability analysis tools.
 - c. Probabilistic assessments will require advanced statistical analysis tools.
8. Provide support and leadership to (1) the Planning Committee and (2) standing committees' subcommittees, working groups, and task forces serving the standing committees.
 9. Assist in the development of approaches to registration and provide input to NERC staff in support of the development CMEP risk elements. Input is based on reliability trends, risks, and historical performance information to ensure that the compliance focus remains on the most critical entities and associated Reliability Standards.
 10. Conduct major event investigations, analyses, and reporting of major findings, recommendations, and lessons learned that will improve reliability.
 11. Build and sustain an Enterprise RAPA team that encompasses risk-informed approaches and structured methods to identify and address reliability risks.
 12. Implement effective oversight and tracking of various technical aspects of reliability, including frequency response performance, application of TPL footnote b adoption, and root cause applications, to assessments and analyses.
 13. Designate, develop, and support interconnection-wide model-building groups. NERC may need to fund model-building work for the Eastern Interconnection; it is now completed by a contractor of ERAG (Powertech).
 14. Develop a structured approach to evaluate and improve system models, model validation, system analysis, and assessments. Align interconnection-wide modeling assessments with NERC's long-term reliability assessment.

Projects Addressing the Top-Priority Reliability Risks as Identified by the RISC

The RISC identified the following top-priority reliability risk projects for consideration in 2015. The projects are supported by one or more NERC departments, as indicated in the list below. As the RISC and ERO refine efforts to establish a multiyear perspective addressing key reliability initiatives, the specific projects and goals for 2015—and potentially into 2016 and 2017—will be more clearly defined as departments take into consideration resource availability.

Project: Essential Reliability Services Special Assessment Phase II

The Reliability Assessments team will incorporate Essential Reliability Services measures within the long-term reliability assessment. The scope of this project consists of scenario analyses of different levels of Essential Reliability Services. (RAPA-RRM)

Project: Development of Standardized Models

The Reliability Initiatives and System Analysis team will continue developing a standardized set of powerflow and dynamic modeling components to support industry's need for more accurate models. (RAPA)

Project: Load Composition Modeling Analysis

The Reliability Initiatives and System Analysis team will work with stakeholders through the Planning Committee to develop a guideline for performing analysis of loads to determine system needs for various essential reliability services. (RAPA)

Project: Model Validation Project

The Reliability Initiatives and System Analysis team will work with stakeholders to improve the quality and fidelity of powerflow and dynamics analysis by validating both the modeling cases and the dynamics models of system elements using the NERC Modeling Validation Guidelines. (RAPA)

Project: Frequency Response Initiative

1. The Reliability Initiatives and System Analysis team will continue to annually calculate the Interconnection Frequency Response Obligations and Frequency Response Obligations for the Balancing Authorities in support of Standard BAL-003-1, Frequency Response and Frequency BIAS Setting. (RAPA)
2. The Reliability Initiatives and System Analysis team will continue to work with the Resource Subcommittee outreach team and the generator owners and operators to improve the frequency response of traditional generators. (RAPA)
3. The Reliability Initiatives and System Analysis team will work with the Resources Subcommittee, the Frequency Response Working Group, and the ERSTF and develop a guideline for frequency-responsive resource performance. This will entail collaboration with IEEE, NAGF, and other subject matter experts. (RAPA)

Project: Support for IEEE 1547–Standard for Interconnecting Distributed Resources with Electric Power Systems

The Reliability Initiatives and System Analysis team will continue its work with the standards-setting groups at IEEE to develop rules that establish frequency and voltage disturbance ride-through obligations for distributed energy resources. (RAPA)

Project: Gas-Electric Interdependencies and Infrastructure Assessment

The Reliability Assessments team will develop an assessment designed to analyze future risks to the BPS resulting from significant integration of gas-fired generation. (RAPA)

Project: Environmental Regulations Special Assessment

The Reliability Assessments team will continue NERC’s assessment strategy around the EPA’s Clean Power Plan. (RAPA)

Project: Protection System Reliability Analysis

The Reliability Initiatives and System Analysis team will continue analysis of single-point-of-failure data reported in response to Order No. 754 to determine whether an industry response is necessary. The results of that analysis will be presented to the Planning Committee (RAPA-RISA), the RISC, and the Standards Committee for development of ERO responses to address the findings of this analysis. (RAPA-RRM)

Project: Guidelines for Coordination of Protection Systems and Other Devices

The Reliability Initiatives and System Analysis team will work with stakeholders to leverage the existing body of work developed by NERC’s Special Protection and Control Subcommittee to seek industry comments to develop a guideline on appropriate approaches to coordinate transmission and generation protection systems. Included in the scope is coordination of the design and operation of transmission system protection, generator protection and control, special protection systems, and under-frequency and under-voltage load-shedding programs. Additionally,

modeling necessary for assessing coordination through planning and operating assessments of system performance will be considered. (RAPA)

Project: Emergency Transformer Replacement

The Reliability Assessments and Performance Analysis teams will work with industry to encourage participation in coordination support programs such as the Spare Equipment Database and the Spare Transformer Equipment Program. Reliability Assessments and Performance Analysis will also work to share information regarding the Recovery Transformer Program. (RAPA)

Project: Protection System Performance Improvements

The Performance Analysis team will collaborate with industry to minimize setting errors, maintain microprocessor-based relay firmware, and apply power line carrier communication-aided protection. A number of potential approaches will be used, including site visits, webinars, guidelines, and lessons learned. (RAPA-RRM)

The overall impact of resource allocations on the NERC budget reflected in the individual project program areas is reflected in the summary overview below.

Resource Requirements

Personnel

Additional personnel (including open positions) were reallocated to RAPA from other departments to address increased resource demands associated with ongoing reliability assessment, performance analysis, and system analysis activities. The schedule of FTEs shows RAPA at a comparable level to 2015 due to the anticipated timing of new hires and the application of an increased vacancy rate across the whole organization.

Contractor Expenses

The total contractor and consultant expenses for the department are projected at \$1.1M, representing an approximate \$129k increase over the 2015 budget. The 2016 contractor and consulting resources are described below and are grouped into four categories. Further information is provided on Exhibit C.

1. Research and Initiative Implementation, Tracking, and Reporting
 - a. Reliability effects of GMD
 - b. Collaboration research with DOE
2. Special and Long-Term Assessments and State of Reliability Analysis
 - a. Scenario assessment consultants
 - b. EPA CPP assessment consultants
 - c. Essential Reliability Services assessment analyses consultants
 - d. Probabilistic assessments
3. Licensing and Support of Existing Databases
 - a. System analysis tools
 - o Powerflow model analysis tools
 - o Probabilistic loss-of-load analysis tool
 - o Security-constrained economic dispatch tool
 - b. Reliability Assessment Data System (NERC-RADS)

4. Software Application Development—Replacement for the software application for industry access to GADS data is included in the Information Technology Capital budget, as are costs related to the development of enterprise software applications such as development of the Reliability Assessment Database applications.

Statement of Activities and Fixed Assets Expenditures							
2015 Budget & Projection, and 2016 Budget							
RELIABILITY ASSESSMENTS and PERFORMANCE ANALYSIS							
	2015 Budget	2015 Projection	Variance 2015 Projection v 2015 Budget Over(Under)	2016 Budget	Variance 2016 Budget v 2015 Budget Over(Under)	2016 Budget Draft 1	Variance to Prior Draft Over(Under)
Funding							
ERO Funding							
NERC Assessments	\$ 9,571,195	\$ 9,571,195	\$ -	\$ 9,626,497	\$ 55,302	\$ 10,209,260	\$ (582,763)
Penalty Sanctions	186,581	186,581	-	226,769	40,189	140,101	86,668
Total NERC Funding	\$ 9,757,776	\$ 9,757,776	\$ -	\$ 9,853,266	\$ 95,491	\$ 10,349,361	\$ (496,094)
Third-Party Funding	-	-	-	-	-	-	-
Testing Fees	-	-	-	-	-	-	-
Services & Software	50,000	50,000	-	50,000	-	50,000	-
Workshops	17,500	17,500	-	15,000	(2,500)	15,000	-
Interest	474	474	-	462	(12)	489	(27)
Miscellaneous	-	26	26	-	-	-	-
Total Funding (A)	\$ 9,825,750	\$ 9,825,776	\$ 26	\$ 9,918,728	\$ 92,979	\$ 10,414,850	\$ (496,122)
Expenses							
Personnel Expenses							
Salaries	\$ 2,833,480	\$ 2,789,268	\$ (44,212)	\$ 2,713,593	\$ (119,887)	\$ 2,879,571	(165,978)
Payroll Taxes	176,963	199,058	22,095	187,469	10,506	193,310	(5,840)
Benefits	356,502	319,588	(36,914)	340,119	(16,383)	349,129	(9,010)
Retirement Costs	317,664	269,958	(47,706)	301,588	(16,077)	321,491	(19,903)
Total Personnel Expenses	\$ 3,684,609	\$ 3,577,872	\$ (106,737)	\$ 3,542,769	\$ (141,840)	\$ 3,743,500	(200,731)
Meeting Expenses							
Meetings	\$ 90,018	\$ 74,679	\$ (15,339)	\$ 110,000	\$ 19,982	\$ 110,000	-
Travel	313,993	314,000	7	326,510	12,517	334,242	(7,732)
Conference Calls	31,500	27,000	(4,500)	27,000	(4,500)	27,000	-
Total Meeting Expenses	\$ 435,511	\$ 415,679	\$ (19,832)	\$ 463,510	\$ 27,999	\$ 471,242	(7,732)
Operating Expenses							
Consultants & Contracts	\$ 955,450	\$ 1,160,780	\$ 205,330	\$ 1,084,039	\$ 128,589	\$ 1,084,039	-
Office Rent	-	-	-	-	-	-	-
Office Costs	152,386	133,041	(19,345)	139,998	(12,388)	141,792	(1,795)
Professional Services	-	-	-	-	-	-	-
Miscellaneous	500	500	-	500	-	500	-
Depreciation	228,000	274,510	46,510	386,024	158,024	386,024	-
Total Operating Expenses	\$ 1,336,336	\$ 1,568,831	\$ 232,495	\$ 1,610,561	\$ 274,225	\$ 1,612,355	\$ (1,795)
Total Direct Expenses	\$ 5,456,456	\$ 5,562,382	\$ 105,926	\$ 5,616,840	\$ 160,384	\$ 5,827,097	(210,258)
Indirect Expenses	\$ 4,149,598	\$ 4,513,467	\$ 363,869	\$ 4,396,749	\$ 247,152	\$ 4,665,318	(268,569)
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-
Total Expenses (B)	\$ 9,606,054	\$ 10,075,849	\$ 469,795	\$ 10,013,589	\$ 407,535	\$ 10,492,416	\$ (478,827)
Change in Assets	\$ 219,696	\$ (250,073)	\$ (469,770)	\$ (94,860)	\$ (314,556)	\$ (77,566)	(17,295)
Fixed Assets							
Depreciation	(228,000)	(274,510)	(46,510)	(386,024)	(158,024)	(386,024)	-
Computer & Software CapEx	200,000	688,836	488,836	-	(200,000)	-	-
Furniture & Fixtures CapEx	-	-	-	-	-	-	-
Equipment CapEx	-	-	-	-	-	-	-
Leasehold Improvements	-	-	-	-	-	-	-
Allocation of Fixed Assets	\$ 247,696	\$ 321,173	\$ 73,477	291,164	\$ 43,468	\$ 308,459	(17,295)
Inc(Dec) in Fixed Assets (C)	\$ 219,696	\$ 735,499	\$ 515,803	\$ (94,860)	\$ (314,556)	\$ (77,566)	\$ -
TOTAL BUDGET (=B + C)	\$ 9,825,750	\$ 10,811,348	\$ 985,599	\$ 9,918,728	\$ 92,979	\$ 10,414,850	\$ (496,122)
FTEs	19.70	19.56	(0.14)	18.67	(1.03)	19.59	(0.92)

Reliability Risk Management

NERC's Reliability Risk Management (RRM) group carries out the ERO's statutory responsibility to perform assessments (real time or near real time) of the reliability and adequacy of the BES, including identifying potential issues of concern relating to system, equipment, entity, and human performance that may indicate the need to develop new or modified Reliability Standards. RRM has two departments: Situation Awareness (also referred to as Bulk Power System Awareness) and Event Analysis. These departments are responsible for four primary functions: (1) BES awareness; (2) event analysis and determination of root and contributing causes; (3) assessment of human performance challenges that affect BES reliability and identification of improvement opportunities; and (4) support of the NERC Operating Committee.

RRM's functions and resources are directly focused on proactive awareness of BES conditions and all events over a threshold of certain risk or impact. Through awareness and continuous assessment, RRM identifies potential reliability risks to the BES. RRM analyzes events in detail, addresses the most significant risks to BES reliability, and ensures that industry is well informed of system events, emerging trends, risk analysis, and lessons learned. Through performing these functions, RRM provides data and analysis to inform the other aspects of NERC's statutory functions. The group also provides strategic direction for using risk-based concepts in planning and executing its responsibilities.

Situation Awareness Department

	Situation Awareness (in whole dollars)				
	2015 Budget	2016 Budget	Increase (Decrease)	2016 Budget - Prior Draft	Variance to Prior Draft Over(Under)
Total FTEs	6.10	5.53	(0.57)	5.53	-
Direct Expenses	\$ 2,446,801	\$ 2,310,875	\$ (135,926)	\$ 2,309,418	\$ 1,457
Indirect Expenses	\$ 1,284,901	\$ 1,302,775	\$ 17,875	\$ 1,317,266	\$ (14,491)
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Inc(Dec) in Fixed Assets	(84,800)	78,547	163,346	79,368	(821)
TOTAL BUDGET	\$ 3,646,902	\$ 3,692,197	\$ 45,295	\$ 3,706,052	\$ (13,855)

Background and Scope

NERC's Situation Awareness department and the eight Regional Entities monitor BES conditions, significant occurrences and emerging risks, and threats across the 14 Reliability Coordinator regions in North America to maintain an understanding of conditions and situations that could impact the bulk electric system's reliable operation. This group also supports the development and publication of Alerts and awareness products and facilitates information sharing among industry, Regions, and the government during crisis situations and major system disturbances. The process for understanding the potential threats or vulnerabilities to the reliability of the BPS starts with understanding occurrences and events in the context in which they occur.

Stakeholder Engagement and Benefit

BES 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 BES. However, being cognizant of the short-term condition of the BES and the signatures associated with the entire range of reliability performance helps the ERO identify significant occurrences and events more accurately and efficiently. Registered entities continue to robustly share information and collaborate with the ERO in an effort to maintain and improve the overall reliability of the grid.

Key Efforts Underway

Several reliability-related situation awareness and monitoring tools will undergo enhancement, replacement, streamlining, or modification. The following tools are being focused on during 2015: (1) operation and maintenance of Situation Awareness for NERC, FERC, and Regions, Version 2 (SAFNRv2) software application used for monitoring; (2) replacement of the current secure alert tool with a streamlined alert process that will notify industry via email and direct entity representatives to the NERC alerts page for public alerts and to the ES-ISAC portal for confidential, non-public alerts; and (3) retirement of NERCnet (Frame Relay Contract) – Interconnection Security Network (ISN) and initiation of service, using a new communication network developed, sponsored, and managed by the Eastern Interconnection Data Sharing Network consortium.

2016 Goals and Deliverables

In 2016, the Situation Awareness department will seek to accomplish the following specific goals and deliverables:

1. Ensure that the ERO is aware of all BES events above a threshold of impact.
2. Enable the sharing of information and data to facilitate wide-area situational awareness.
3. During crisis situations, facilitate the exchange of information among industry, Regions, and the U.S. and Canadian governments.
4. Keep industry informed of emerging reliability threats and risks to the BES, including any expected actions.
5. Conduct the annual NERC Monitoring and Situational Awareness Conference and Human Performance Conference.
6. Administer the NERC Alerts process as specified in ROP §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.

The department uses the following reliability-related tools to support department activities:

Resource Adequacy (ACE Frequency) Tool

This software application provides continuous monitoring of key resource adequacy performance metrics, including pre-established thresholds and limits defined in standards. It alerts Reliability Coordinators and resource subcommittees to conditions that could result in critical inadequacies, such as major tie errors, inaccurate load forecasts, and inadequate frequency response.

Inadvertent Interchange

This tool facilitates the entering of monthly scheduling data and submittal of monthly inadvertent performance standards reports to NERC. It also assists in the monitoring and resolution of reliability issues originated by inadvertent interchange imbalances.

Frequency Monitoring and Analysis Tool

This tool detects frequency events and captures key frequency response information for each interconnection.

Intelligent Alarms Tool

This tool detects short-term and long-term frequency deviations using data transmitted to NERC by the Balancing Authorities. When coupled with the FNet²⁶ and Frequency Monitoring and Analysis tools, this tool allows immediate differentiation of the cause of a frequency deviation—a generator trip or a scheduling error.

Area Interchange Error Monitoring Tool

This is an automatic data collection tool for post-analysis of frequency excursions. It is used in major system disturbances as part of the frequency response analysis.

Genscape

The PowerIQ and PowerRT tools provide more detailed insight into current-day conditions impacting BPS conditions in both normal operations and stressed conditions.

Resource Requirements

Personnel

No additional personnel are projected for the Situation Awareness department in 2016.

Contractor Expenses

The overall funding of approximately \$1.2M for contractors and consultants (which includes the cost of the tools set forth above) to support the Situation Awareness department in 2016 represents a slight increase over 2015 budget levels. The detailed 2016 contractor and consulting budget for the Situation Awareness department is set forth in Exhibit C with a comparison to 2015 budgeted amounts.

²⁶ FNet – Operated by the Power Information Technology Laboratory at the University of Tennessee, FNET is a low-cost, quickly deployable global positioning system (GPS)-synchronized wide-area frequency measurement network. High dynamic accuracy Frequency Disturbance Recorders (FDRs) are used to measure the frequency, phase angle, and voltage of the power system at ordinary 120 V outlets. The measurement data are continuously transmitted via the Internet to the FNET servers hosted at the University of Tennessee and Virginia Tech.

Section A — 2016 Business Plan and Budget Program Area and Department Detail

Statement of Activities and Fixed Assets Expenditures 2015 Budget & Projection, and 2016 Budget

SITUATION AWARENESS

	2015 Budget	2015 Projection	Variance 2015 Projection v 2015 Budget Over(Under)	2016 Budget	Variance 2016 Budget v 2015 Budget Over(Under)	2015 Budget Draft 1	Variance to Prior Draft Over(Under)
Funding							
ERO Funding							
NERC Assessments	\$ 3,588,981	3,588,981	\$ -	\$ 3,624,868	\$ 35,887	\$ 3,666,356	\$ (41,488)
Penalty Sanctions	57,774	57,774	-	67,193	9,419	39,558	27,635
Total NERC Funding	\$ 3,646,755	\$ 3,646,755	\$ -	\$ 3,692,060	\$ 45,305	\$ 3,705,914	\$ (13,853)
Third-Party Funding	-	-	-	-	-	-	-
Testing Fees	-	-	-	-	-	-	-
Services & Software	-	-	-	-	-	-	-
Workshops	-	-	-	-	-	-	-
Interest	147	147	0	137	(10)	138	(1)
Miscellaneous	-	8	8	-	-	-	-
Total Funding (A)	\$ 3,646,902	\$ 3,646,910	\$ 8	\$ 3,692,197	\$ 45,295	\$ 3,706,052	\$ (13,855)
Expenses							
Personnel Expenses							
Salaries	\$ 849,802	\$ 779,928	\$ (69,874)	\$ 764,342	\$ (85,460)	\$ 764,342	-
Payroll Taxes	55,831	59,674	3,843	58,235	2,404	58,235	-
Benefits	112,106	99,038	(13,068)	101,765	(10,341)	100,493	1,272
Retirement Costs	95,226	80,002	(15,224)	85,275	(9,951)	85,123	152
Total Personnel Expenses	\$ 1,112,965	\$ 1,018,642	\$ (94,323)	\$ 1,009,617	\$ (103,349)	\$ 1,008,192	1,424
Meeting Expenses							
Meetings	\$ 5,000	\$ 5,000	\$ -	\$ 6,500	\$ 1,500	\$ 6,500	-
Travel	45,882	45,000	(882)	33,005	(12,877)	32,972	33
Conference Calls	2,610	1,000	(1,610)	1,000	(1,610)	1,000	-
Total Meeting Expenses	\$ 53,492	\$ 51,000	\$ (2,492)	\$ 40,505	\$ (12,987)	\$ 40,472	33
Operating Expenses							
Consultants & Contracts	\$ 1,077,321	\$ 1,417,589	\$ 340,268	\$ 1,211,475	\$ 134,154	\$ 1,211,475	-
Office Rent	-	-	-	-	-	-	-
Office Costs	41,025	41,000	(25)	41,052	27	41,052	-
Professional Services	-	-	-	-	-	-	-
Miscellaneous	500	500	-	500	-	500	-
Depreciation	161,498	7,107	(154,390)	7,727	(153,771)	7,727	-
Total Operating Expenses	\$ 1,280,343	\$ 1,466,196	\$ 185,853	\$ 1,260,754	\$ (19,590)	\$ 1,260,754	\$ -
Total Direct Expenses	\$ 2,446,801	\$ 2,535,838	\$ 89,038	\$ 2,310,875	\$ (135,926)	\$ 2,309,418	\$ 1,457
Indirect Expenses	\$ 1,284,901	\$ 1,319,889	\$ 34,988	\$ 1,302,775	\$ 17,875	\$ 1,317,266	\$ (14,491)
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses (B)	\$ 3,731,701	\$ 3,855,727	\$ 124,026	\$ 3,613,650	\$ (118,051)	\$ 3,626,684	\$ (13,034)
Change in Assets	\$ (84,800)	\$ (208,818)	\$ (124,018)	\$ 78,547	\$ 163,346	\$ 79,368	(821)
Fixed Assets							
Depreciation	(161,498)	(7,107)	154,390	(7,727)	153,771	(7,727)	-
Computer & Software CapEx	-	23,000	23,000	-	-	-	-
Furniture & Fixtures CapEx	-	-	-	-	-	-	-
Equipment CapEx	-	-	-	-	-	-	-
Leasehold Improvements	-	-	-	-	-	-	-
Allocation of Fixed Assets	\$ 76,698	\$ 93,922	17,224	86,273	9,575	\$ 87,094	(821)
Inc(Dec) in Fixed Assets (C)	\$ (84,800)	\$ 109,815	\$ 194,614	\$ 78,547	\$ 163,346	\$ 79,368	\$ -
TOTAL BUDGET (=B + C)	\$ 3,646,902	\$ 3,965,542	\$ 318,640	\$ 3,692,197	\$ 45,295	\$ 3,706,052	\$ (13,855)
FTEs	6.10	5.72	(0.38)	5.53	(0.57)	5.53	-

Event Analysis Department

Event Analysis (in whole dollars)					
	2015 Budget	2016 Budget	Increase (Decrease)	2016 Budget - Prior Draft	Variance to Prior Draft Over(Under)
Total FTEs	9.38	11.06	1.68	11.06	-
Direct Expenses	\$ 2,303,098	\$ 2,650,065	\$ 346,968	\$ 2,639,231	\$ 10,834
Indirect Expenses	\$ 1,975,798	\$ 2,605,551	\$ 629,753	\$ 2,634,533	\$ (28,982)
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Inc(Dec) in Fixed Assets	\$ (75,728)	\$ 100,179	\$ 175,907	\$ 101,821	\$ (1,642)
TOTAL BUDGET	\$ 4,203,169	\$ 5,355,795	\$ 1,152,626	\$ 5,375,585	\$ (19,790)

Background and Scope

The Event Analysis department 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 Reliability Standards or consider new Reliability Standards. The department analyzes and determines the cause of the events, promptly ensures tracking of corrective actions to prevent recurrence, and provides lessons learned to the industry. Event Analysis ensures that reporting and analysis are consistent to allow wide-area assessment of trends and risks. The department analyzes all reportable events for sequence of events, root cause, risk to reliability, and mitigation and keeps the industry well informed of system events, emerging trends, risk analysis, lessons learned, and expected actions.

Additional resources within this department focus on identifying human-error risks and those precursor factors that allow human error to impact system reliability. The department educates industry regarding risks, precursors, and mitigation methods. Resources also support compliance and standards training initiatives and trending and analysis to identify emerging reliability risks to the BES. These efforts are conducted in collaboration with industry human performance projects, including WECC's Human Performance Working Group, the NERC Operating Committee's Event Analysis Subcommittee, and others.

Stakeholder Engagement and Benefit

The Event Analysis department coordinates event analyses to support the use of collective resources, consistency in analysis, and timely delivery of event analysis reports.²⁷ The ERO disseminates to the electric industry lessons learned and other useful information obtained from or as a result of event analysis. The Event Analysis team conducts in-depth analyses of approximately 150 events per year on average. In 2014, the team also conducted calls facilitated by the Regional Entities with over 140 registered entities to discuss in detail and finalize root and contributing causes for the categorized events analyzed. Major analysis to date includes continuing assessment of Energy Management System (EMS) outages, publication of an Advisory Alert regarding the importance of Distributed Control System settings to generator governor frequency response, and analyses of substation equipment failure trends and ground overcurrent relay misoperations.

Collaboration with the Trade Associations and Forums

The activities of the North American Transmission Forum (NATF), the North American Generator Forum (NAGF), trade associations, and other industry groups are expected to compliment ERO Enterprise

²⁷ The core process for Event Analysis is outlined in the Board-approved process: Electric Reliability Organization Event Analysis Process - Version 2 (July 2013).

activities and limit the need to add incremental resources to the NERC and Regional Entity business plans and budgets that might otherwise be required in the absence of these forums.

NERC is supporting the NAGF's ongoing transformation into a more formal structure through 2016 and continuing through 2018 with logistical and administrative support directly furthering NAGF's goals and business plan.

NATF has been invited to participate in several reliability initiatives that are expected to continue into 2016, including protection systems misoperations reduction, physical security, various activities related to reliability assurance initiatives, improvement of modeling practices, and complementary efforts on addressing the GMD challenges.

2016 Goals and Deliverables

In 2016, the Event Analysis department will seek to accomplish several specific goals and objectives as part of the strategic focus of the ERO Enterprise:

- Work with the Regional Entities to obtain and review information from registered entities on qualifying events and disturbances to advance awareness of events above a threshold level; facilitate analysis of root and contributing causes, risks to reliability, wide-area assessments, and remediation efforts; and disseminate information regarding events in a timely manner.
- Ensure that all reportable events are analyzed for sequence of events, root cause, risk to reliability, and mitigation.
- Continue to refine risk-based methods to support better identification of reliability risks, including the use of more sophisticated cause codes for analysis.
- Ensure consistency in reporting and analysis to support wide-area assessments of significant reliability trends and risks.
- Conduct training (webinars, workshops, and conference support) to inform industry and the ERO of lessons learned, root cause analysis, trends, human performance, and cold weather preparedness and recommendations.
- Develop reliability recommendations and alerts as needed.
- 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.
- Advance the quality and usefulness of reliability assessments and event analysis data.

The Event Analysis department will also support several of the top-priority reliability risk projects during 2016 through 2017, as identified and described under the Reliability Assessment and Performance Analysis department section of this document.

Resource Requirements

Personnel

Additional resources were allocated to the department in 2015 to support increased work load. No additional personnel are planned to be added to the Event Analysis department in 2016.

Contractor Expenses

The overall funding of \$56k for contractors and consultants to support the Event Analysis department in 2016 represents an increase over 2015 since the department did not have any budgeted contractor and consulting funds in 2015. This modest addition will augment internal capabilities and capacity in the areas of substation equipment, protection systems, and data analysis. The detailed 2016 contractor and consulting budget for the Event Analysis department is set forth in Exhibit C, together with a comparison to 2015 budgeted amounts.

Statement of Activities and Fixed Assets Expenditures 2015 Budget & Projection, and 2016 Budget							
EVENT ANALYSIS							
	2015 Budget	2015 Projection	Variance 2015 Projection v 2015 Budget Over(Under)	2016 Budget	Variance 2016 Budget v 2015 Budget Over(Under)	2016 Budget Draft 1	Variance to Prior Draft Over(Under)
Funding							
ERO Funding							
NERC Assessments	\$ 4,066,804	\$ 4,066,804	\$ -	\$ 5,181,136	\$ 1,114,332	\$ 5,256,193	\$ (75,057)
Penalty Sanctions	88,839	88,839	-	134,385	45,546	79,116	55,269
Total NERC Funding	\$ 4,155,643	\$ 4,155,643	\$ -	\$ 5,315,521	\$ 1,159,878	\$ 5,335,309	\$ (19,788)
Third-Party Funding	-	-	-	-	-	-	-
Testing Fees	-	-	-	-	-	-	-
Services & Software	-	-	-	-	-	-	-
Workshops	47,300	43,025	(4,275)	40,000	(7,300)	40,000	-
Interest	226	226	-	274	48	276	(3)
Miscellaneous	-	15	15	-	-	-	-
Total Funding (A)	\$ 4,203,169	\$ 4,198,909	\$ (4,260)	\$ 5,355,795	\$ 1,152,626	\$ 5,375,585	\$ (19,790)
Expenses							
Personnel Expenses							
Salaries	\$ 1,447,159	\$ 1,714,485	\$ 267,326	\$ 1,716,263	\$ 269,104	\$ 1,708,129	8,135
Payroll Taxes	92,831	113,761	20,930	114,132	21,301	113,987	145
Benefits	173,284	196,077	22,793	202,259	28,975	200,987	1,272
Retirement Costs	162,193	174,304	12,111	191,377	29,183	190,248	1,128
Total Personnel Expenses	\$ 1,875,467	\$ 2,198,627	\$ 323,160	\$ 2,224,030	\$ 348,563	\$ 2,213,350	10,680
Meeting Expenses							
Meetings	\$ 79,228	\$ 134,228	\$ 55,000	\$ 81,500	\$ 2,272	\$ 81,500	-
Travel	114,500	124,790	10,290	152,487	37,987	152,333	154
Conference Calls	10,000	10,000	-	14,000	4,000	14,000	-
Total Meeting Expenses	\$ 203,728	\$ 269,018	\$ 65,290	\$ 247,987	\$ 44,259	\$ 247,833	154
Operating Expenses							
Consultants & Contracts	\$ -	\$ -	\$ -	\$ 56,000	\$ 56,000	\$ 56,000	-
Office Rent	-	-	-	-	-	-	-
Office Costs	29,736	47,156	17,419	49,181	19,445	49,181	-
Professional Services	-	-	-	-	-	-	-
Miscellaneous	500	500	-	500	-	500	-
Depreciation	193,667	193,667	0	72,367	(121,299)	72,367	-
Total Operating Expenses	\$ 223,903	\$ 241,322	\$ 17,419	\$ 178,048	\$ (45,855)	\$ 178,048	\$ -
Total Direct Expenses	\$ 2,303,098	\$ 2,708,967	\$ 405,869	\$ 2,650,065	\$ 346,967	\$ 2,639,231	\$ 10,834
Indirect Expenses	\$ 1,975,798	\$ 2,612,088	\$ 636,290	\$ 2,605,551	\$ 629,753	\$ 2,634,533	\$ (28,982)
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses (B)	\$ 4,278,897	\$ 5,321,055	\$ 1,042,159	\$ 5,255,616	\$ 976,719	\$ 5,273,764	\$ (18,148)
Change in Assets	\$ (75,728)	\$ (1,122,146)	\$ (1,046,418)	\$ 100,179	\$ 175,907	\$ 101,821	\$ (1,642)
Fixed Assets							
Depreciation	(193,667)	(193,667)	(0)	(72,367)	121,299	(72,367)	-
Computer & Software CapEx	-	217,102	217,102	-	-	-	-
Furniture & Fixtures CapEx	-	-	-	-	-	-	-
Equipment CapEx	-	-	-	-	-	-	-
Leasehold Improvements	-	-	-	-	-	-	-
Allocation of Fixed Assets	\$ 117,939	\$ 185,873	67,935	172,546	54,608	\$ 174,189	(1,642)
Inc(Dec) in Fixed Assets (C)	\$ (75,728)	\$ 209,308	\$ 285,036	\$ 100,179	\$ 175,907	\$ 101,821	\$ (1,642)
TOTAL BUDGET (=B + C)	\$ 4,203,169	\$ 5,530,364	\$ 1,327,195	\$ 5,355,795	\$ 1,152,626	\$ 5,375,585	\$ (19,790)
FTEs	9.38	11.32	1.94	11.06	1.68	11.06	-

Electricity Sector Information Sharing and Analysis Center (ES-ISAC)²⁸

	ES-ISAC (in whole dollars)		Increase (Decrease)	2016 Budget - Prior Draft	Variance to Prior Draft Over(Under)
	2015 Budget	2016 Budget			
Total FTEs	18.76	18.90	0.14	18.44	0.46
Direct Expenses	\$ 14,078,643	\$ 11,965,349	\$ (2,113,294)	\$ 13,599,920	\$ (1,634,570)
Indirect Expenses	\$ 3,951,596	\$ 4,450,914	\$ 499,317	\$ 4,390,888	\$ 60,026
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Inc(Dec) in Fixed Assets	\$ 335,877	\$ 351,262	\$ 15,385	\$ 246,825	\$ 104,437
TOTAL BUDGET	\$ 18,366,117	\$ 16,767,525	\$ (1,598,592)	\$ 18,237,633	\$ (1,470,108)

Background and Scope

The ES-ISAC was formed in 1998 when the U.S. Secretary of Energy requested that NERC serve as the ISAC²⁹ for the electricity sub-sector.³⁰ The ES-ISAC's primary function is the rapid and secure sharing of information with the electric industry and governmental entities regarding real and potential security threats to the electricity sector, as well as methods and tools to avoid or mitigate the potential impact from these threats. ES-ISAC facilitates sector coordination regarding physical security and cybersecurity events affecting the BES.

The ES-ISAC is a founding member of the National Council of ISACs and participates in daily coordination with its members to ensure effective collaboration. This close coordination is essential for addressing critical infrastructure protection and resilience within each sector, as well as the important interdependencies that exist among sectors.

The ES-ISAC directly benefits stakeholders by:

- Serving as a central coordination hub for electricity sector cyber and physical risk and security information sharing and sector coordination support.
- Sharing information derived (declassified format) from classified threat and security vulnerability briefings that is otherwise not generally available.
- Enhancing industry initiated security assessments and capabilities through information sharing.
- Helping to improve the security of the BES and electric sector.

The ES-ISAC develops alerts and notifications for distribution to registered entities. The ES-ISAC also utilizes its secure, private information-sharing portal to receive voluntary reports from industry members. This portal is designed with the ability to receive unattributed reports to increase information reporting. Having access to information regarding threats (including threats faced by other sectors, such as the

²⁸ In 2015, NERC combined its Critical Infrastructure Department (CID) into the ES-ISAC for both operational and financial reporting purposes.

²⁹ The Information Security Analysis Center (ISAC) construct was conceived and operates under US Government authorities derived from Presidential Decision Directive 63, which was signed in 1998. The ISACs focus specifically on information sharing, analytics and sector activities directly related to the protection of critical infrastructure.

³⁰ Subsequent administrations have sought to continue and strengthen information sharing in other sectors by establishing other sector-specific ISACs. In 2013, the Department of Energy (DOE) again reaffirmed its desire for NERC to continue to operate the ES-ISAC.

financial and communications industries) and the ability to analyze the potential impact of these threats on the electric sector and share this information with industry improves the security of the electric sector.

The ES-ISAC also maintains a seat on the operations floor of the National Cybersecurity and Communications Integration Center (NCCIC) within the Department of Homeland Security (DHS). This operations center is the hub for real-time, classified threat and vulnerability work, and the ES-ISAC serves a central private sector role in this operation. The NCCIC operations floor is where ES-ISAC personnel holding the appropriate security clearances analyze the threat and vulnerability component provided by the intelligence community to make initial determinations of potential BES impacts. The ES-ISAC maintains other information-sharing relationships throughout the U.S. and Canadian governments, including the DOE, Canadian Secret Intelligence Service, and U.S. Department of Defense. The ES-ISAC also coordinates information sharing with similar agencies in Australia, New Zealand, and the United Kingdom.

The department also supports an annual grid security conference (GridSecCon) and a biennial Grid Security Exercise (Grid-X). ES-ISAC staff also works with industry and governmental entities to examine critical infrastructure protection policy issues and provides staff-level support to NERC's Critical Infrastructure Protection Committee, an industry-led committee comprised of industry experts in the areas of cybersecurity, physical and operational security.

Maintaining Separation from Compliance and Enforcement

In February 2012, the Board of Trustees approved an [ES-ISAC Policy Statement](#) that established a separation between the ES-ISAC and NERC's compliance and enforcement program. In support of this policy and in furtherance of one of the FERC recommendations from an audit of NERC, in June 2013, NERC requested comments from stakeholders regarding the impact on NERC's compliance-related activities of the walling off of certain staff from ES-ISAC activities (this is further detailed in the ES-ISAC Policy Statement.) In response to the request for comments, stakeholders generally expressed support for this policy.³¹ Commenters recommended even stronger separation of the ES-ISAC information-sharing function from NERC's compliance and enforcement function, including physical separation of ES-ISAC personnel from other NERC personnel, coupled with strong process management with explicit access restrictions from all NERC personnel. Commenters also recommended the adoption of standards of conduct and procedures similar to those governing separation of utility merchant and transmission functions, as well as a change in management reporting structure in which the ES-ISAC would report directly to the NERC president and chief executive officer. In consideration of this input, NERC management undertook a number of initiatives, including:

- Separating the ES-ISAC from other operating areas within NERC and having the ES-ISAC and the NERC chief security officer report directly to NERC's president and chief executive officer.
- Transferring critical infrastructure protection auditors to NERC's Compliance Assurance Department which provides oversight of Regional Entity compliance functions. In addition to removing these auditors from the same department as ES-ISAC personnel, this transfer provided better functional alignment among the auditors and more efficient management of the compliance oversight and audit assurance function.
- Finalizing a formal Employee Code of Conduct to further memorialize the existing separation of the ES-ISAC from Compliance Monitoring and Enforcement personnel. The Code of Conduct contains many of the principals incorporated in codes of conduct separating utility competitive and regulated operations. Management

³¹ The full text of the comments may be found at the following link:
<http://www.nerc.com/gov/bot/FINANCE/2014%20Business%20Plan%20and%20Budget2nd%20Draft/ES-ISAC%20Comments%20Received%20as%20of%2008-02-13.pdf>

- Exercising an option to acquire additional space in the company's Washington, D.C. office to physically separate the ES-ISAC from the company's other operations and restrict personnel access between operating areas and the ES-ISAC. The build out of this space was recently completed and the ES-ISAC operations and personnel are now physically separated from other NERC personnel.
- Establishing, in 2014, a separated secure cloud environment to house the ES-ISAC Portal was established. In 2015, a separate data facility for ES-ISAC IT infrastructure was installed, including segmented networking and server data infrastructure to provide business functions such as email, storage, and other IT needs. By Q4 2015, the ES-ISAC IT infrastructure will be physically, logically, and operationally separated from other NERC's other IT infrastructure.

Management is also continuing to enhance internal policies, procedures and training applicable to ES-ISAC operations, with particular emphasis on restrictions applicable to information sharing between ES-ISAC personnel and other NERC personnel.

Key Efforts Underway

With industry support, senior management is committed to enhancing the effectiveness and capabilities of ES-ISAC operations. These efforts include ongoing enhancement in organizational structure, operational and analytical capabilities, as well as the development of metrics to track the effectiveness of operations. Management will also take steps to improve the quality and value of ES-ISAC products, including ongoing review of registered user needs.

During 2015, as part of a periodic review of companywide resource needs and resource allocation, NERC allocated additional resources support to the ES-ISAC is recruiting personnel to fill open positions, and recruited and appointed a senior vice president and chief security officer in charge of ES-ISAC operations. Ongoing resources requirements consist primarily of personnel, contractors, consultants, software, hardware and communications infrastructure to gather, analyze, and provide information regarding cybersecurity threats.

In the fourth quarter of 2014 and with board industry support, NERC also assumed management responsibility for the Cyber Risk Information Sharing Program (CRISP). CRISP is a public-private partnership whose purpose is to facilitate the sharing of cyber threat information and to develop situation awareness tools that enhance the electricity sector's ability to identify, prioritize, and coordinate the protection of its critical infrastructure. CRISP provides critical infrastructure owners and operators the capability to voluntarily share cyber threat data, analyze this data, and receive machine-to-machine mitigation measures. Information-sharing devices that are installed on participants' networks send encrypted data to a CRISP analysis center operated by the Pacific Northwest National Labs (PNNL), which analyzes the data it receives and sends alerts and mitigation measures back to CRISP participants through secure communications. CRISP became fully operational in 2015. The ES-ISAC will continue to work with PNNL, CRISP participants and ES-ISAC registered users to strengthen program execution, including both quality and timeliness aspects of information sharing. Working closely with PNNL, NERC has developed a 2016 CRISP budget which has been distributed to the CRISP participants for review and approval. Pursuant to the terms of the CRISP participants agreements the vast majority of CRISP costs are funded by CRISP participants, with a portion of NERC's incremental internal budget be funded equally by CRISP participants and through assessments. The 2016 ES-ISAC budget maintains the same percentage allocation of CRISP funding requirements from assessments and from CRISP participants as 2015. In connection with the growth of the program and related support needs from ES-ISAC staff, the 2016 ES-ISAC budget also reflects an increase in the number of budgeted ES-ISAC FTEs allocated to support CRISP. As the program grows in the future additional resources may be allocated to further support CRISP.

During 2015, the Electricity Sector Coordinating Council (ESCC)³² initiated a strategic review of the ES-ISAC. The objective of this initiative was to gain a better understanding of the ES-ISAC operations and capabilities, benchmark these operations and capabilities against other ISACs (e.g. the financial services sector ISAC) and make recommendations regarding future enhancement in the ESS-ISAC's operations and capabilities. This review has produced several initial key findings and recommendations ("ESSC Findings and Recommendations") for the ESSC membership which collectively support an overarching vision of the ES-ISAC becoming a leading, trusted source for the analysis and sharing of electricity security information. The ESSC Findings and Recommendations are intended to ensure that the ES-ISAC and associated collaborative activities within the subsector contribute to the building upon the capabilities of the ES-ISAC in support of this vision. NERC senior management is working with ESSC leadership to facilitate ongoing ESSC involvement in ES-ISAC strategic oversight.

The ESSC Findings and Recommendations will be reviewed at the August, 2015 MRC and NERC board meetings.

2016 Goals and Deliverables

NERC's 2016 budget provides ongoing resource support for the ES-ISAC. This resource support is primarily directed to five areas:

1. Improving the usability and functionality of the information-sharing portal³³.
2. Advancing information collection and analytical capabilities, portal monitoring, and information sharing.
3. Ongoing improvements in CRISP program management.
4. Enhancing industry engagement, including the identification of needs and expectations.
5. Continuing to work with ESSC leadership to build a more effective and responsive ES-ISAC.

Resource Requirements

Personnel

As previously noted, in 2015 additional open budgeted resources were re-allocated to provide support to the ES-ISAC³⁴. The year over year comparison of budgeted FTEs in the table below is net of a reduction in ES-ISAC FTEs due to the transfer of CID auditors to the Compliance Assurance department. This had the effect of offsetting the impact of the allocation of these additional resources.

The ES-ISAC staffing and organizational structure has recently been updated to reflect three primary focus areas (1) customer engagement, (2) watch operations (3) cyber security analysis, and (4) physical security analysis. NERC's 2016 organization chart attached as Exhibit [] has been updated to reflect these charts. The ES-ISAC will continue to receive shared services support from NERC's corporate services departments

³² The role of the Electricity Sub-sector Coordinating Council is to foster and facilitate the coordination of sector-wide policy-related activities and initiatives to improve the reliability and resilience of the Electricity Sub-sector, including physical and cybersecurity infrastructure. The ESSC consists of one member from the NERC Board of Trustees (appointed by the board chairperson), the NERC Chief Executive Officer, five CEO-level executives from NERC member organizations, and the chairperson of the NERC Critical Infrastructure Protection Committee.

³³ The ES-ISAC portal is being actively developed and upgraded. In 2014, it was moved to a new self-owned segmented and secured cloud platform. Additional enhancements to make the portal more useful for both cyber and physical security information sharing and a new version of the portal platform are to be released Q215.

³⁴ Departments with reduced staffing needs included the legal, enforcement and standards departments.

(i.e. finance and accounting, IT, HR, legal and external affairs). Personnel providing such shared services will do so only in accordance with strict operating protocols governing access to and use of ES-ISAC information.

Contract Expenses

The specific nature and need for contract support for the ES-ISAC falls under three major categories: Program Level Support, Software and Services, and Events and Outreach. Each of these categories is discussed further below and Exhibit C sets forth the budget for each of these categories of expense.

Program Level Support

CRISP

During 2016 NERC will continue to subcontract to PNNL a significant portion of the costs to operate and maintain CRISP.

Portal Enhancement

The ES-ISAC communication portal capabilities include: publishing alerts and other informational products, exchanging threat indicator information, and providing self-service access to user security awareness services. The ES-ISAC will continue development of a new portal platform that was initiated in 2014 as part of a long-term improvement strategy. Important new enhancements and improved capabilities are presently in use and development. These include facilitation of direct data exchange with other ISACs and government partners. The portal's improved capabilities support ES-ISAC analysts in their information analysis functions and directly tie the ES-ISAC analysts with their counterparts in other sectors and national laboratories. Additional portal enhancements will also extend functionality to allow for easier access to filtered data for both the cyber and physical security communities and provide for Cyber Awareness Monitoring tool integration.

Cyber Risk Preparedness Assessments (CRPA)

The CRPA is a program that assesses the cybersecurity capabilities of registered entities through facilitated tabletop exercises. Conducting these assessments allows the ES-ISAC to gain a better understanding of industry capabilities, identify key sector-level areas for improvement, and share best practices across the industry. Through the CRPA, participants gain an improved understanding of their cybersecurity programs and capabilities. The CRPA allows them to identify areas for improvement and enhance their abilities to respond to and recover from cyber events. The CRPA also educates participants through defined deliverables and best practices. The program incorporates many Electricity Subsector Cybersecurity Capability Maturity Model practices, which allows the participating organization to assess its cybersecurity program and use the CRPA to validate its assessment. The ES-ISAC is continuing to develop, and will deploy, a CRPA "kit" for entities to use to develop and run their own CRPAs. This kit will allow more sector members to leverage the CRPA methodology, which will have a more significant impact on overall sector preparedness. ES-ISAC staff will host training and education sessions on the kit to accelerate adoption of the methodology across the sector and move the program toward self-sustainment within the industry. The contractor and consulting budget continues to support CRPA engagements.

Cyber Awareness Monitoring

The ES-ISAC will continue to license cyber awareness and continuous monitoring tools and services, including third-party services that provide real-time Internet communications visibility and analytics. During 2012 and 2013, the ES-ISAC worked with a vendor to develop a specific software visualization application that allows ES-ISAC staff to monitor malware and threats, as well as the general health of BES entities. ES-ISAC staff can then alert individual entities of problems.

Software and Services

Software Integration Support Services

The ES-ISAC operations center includes monitors used to display intelligence information provided from various software applications. Software integration services are routinely required from vendors providing existing and new software applications. Additional software must be licensed and maintained to display and integrate BES maps that have cyber intelligence information. A portion of these costs is budgeted under Office Costs as software maintenance expenses.

Analyst Workbench

A strong technical analytic capability is needed to develop baselines and identify patterns and understandings of potential cyber-related threats. The analyst workbench toolset maintains historical information and allows a team to use and deliver consistent and repeatable analysis in both an operational (during an event) as well as nonoperational capacity. This workbench will include a threat database for historical correlation and various tools for network- and host-based analysis of malicious software.

Events and Outreach

Aurora Webinars and Technical Support

In late 2006, a significant supply chain vulnerability was discovered in digital protective control devices that protect generators and motors in use throughout the BES. This vulnerability, named the Aurora Vulnerability, demonstrated a remote exploit that led to the destruction of a small generator as a proof of concept attack in early 2007. In June of 2007, NERC released a Level 1 Industry Advisory that specified actions that entities could take to help prevent exploitation. In October 2010, NERC released a second Aurora Alert, this time a Level 2 Recommendation to Industry. This second release also triggered a substantial increase in NERC's effort to close this vulnerability gap, and it required entities to report every six months until they closed the Alert actions. Prior to each required reporting period, the ES-ISAC holds three webinars to provide BES entities who are still working on their Aurora mitigations an opportunity to interact with the original authors and researchers who discovered the Aurora vulnerability. The ES-ISAC anticipates supporting limited webinar activity for this purpose until at least 2017.

Intelligence Reporting Services

ES-ISAC analytic personnel maintain a detailed understanding of emerging vulnerabilities and threats within the broad industrial control systems community, as well as within the more focused BES community. To support this intelligence role, the ES-ISAC budget includes the costs for intelligence services from a specialized security information service providers that focuses closely on the electricity subsector. This service gives ES-ISAC staff increased understanding of continuing trends, breaking news, and implications to the BES, which they utilize to keep registered entities informed of emerging BES risks through alerts and esisac.com security postings.

Section A — 2016 Business Plan and Budget Program Area and Department Detail

Statement of Activities and Fixed Assets Expenditures							
2016 Budget & Projection and 2015 Budget							
ES-ISAC							
	2015 Budget	2015 Projection	2015 Projection v 2015 Budget Over(Under)	2016 Budget	2016 Budget v 2015 Budget Over(Under)	2016 Budget Draft 1	Variance to Prior Draft Over(Under)
Funding							
ERO Funding							
NERC Assessments*	\$ 9,671,899	9,671,899	\$ -	\$ 9,636,756	\$ (35,143)	\$ 9,669,923	\$ (33,167)
Penalty Sanctions	177,676	177,676	-	229,563	51,887	131,860	97,703
Total NERC Funding	\$ 9,849,577	\$ 9,849,575	\$ -	\$ 9,866,319	\$ 16,744	\$ 9,801,783	\$ 64,536
Third-Party Funding (CRISP)	8,943,589	7,233,140	(1,710,449)	6,830,738	(2,112,851)	8,365,389	(1,534,651)
Testing Fees	-	-	-	-	-	-	-
Services & Software	-	-	-	-	-	-	-
Workshops	72,500	72,500	-	70,000	(2,500)	70,000	-
Interest	451	1,609	1,158	468	17	461	7
Total Funding (A)	\$ 18,866,117	\$ 17,156,845	\$ (1,709,270)	\$ 16,767,525	\$ (2,098,590)	\$ 18,237,633	\$ (1,470,108)
Expenses							
Personnel Expenses							
Salaries	\$ 3,157,196	\$ 2,696,350	\$ (460,846)	\$ 3,373,066	\$ 215,870	\$ 3,259,944	113,122
Payroll Taxes	188,916	178,178	(10,738)	208,610	19,693	205,086	3,524
Benefits	339,525	281,572	(57,953)	345,260	5,735	345,227	34
Retirement Costs	354,866	220,165	(134,701)	366,723	11,857	362,987	3,736
Total Personnel Expenses	\$ 4,040,504	\$ 3,376,265	\$ (664,239)	\$ 4,293,659	\$ 253,155	\$ 4,173,243	120,416
Meeting Expenses							
Meetings	\$ 193,134	\$ 193,134	\$ -	\$ 230,000	\$ 36,866	215,000	15,000
Travel	314,358	274,358	(40,000)	256,488	(57,870)	249,993	6,495
Conference Calls	46,385	46,385	-	22,000	(24,385)	22,000	-
Total Meeting Expenses	\$ 553,877	\$ 513,877	\$ (40,000)	\$ 508,488	\$ (45,389)	\$ 486,993	21,495
Operating Expenses							
Consultants & Contracts	\$ 8,756,190	\$ 7,670,930	\$ (1,085,260)	\$ 6,551,929	\$ (2,204,261)	8,329,390	(1,777,461)
Office Rent	-	\$ -	-	-	-	-	-
Office Costs	377,072	\$ 391,850	14,777	392,285	15,213	391,304	980
Professional Services	350,000	\$ 189,512	(160,488)	175,000	(175,000)	175,000	-
Miscellaneous	1,000	\$ 1,000	-	500	(500)	500	-
Depreciation	-	\$ 11,576	11,576	43,489	43,489	43,489	-
Total Operating Expenses	\$ 9,484,262	\$ 8,264,868	\$ (1,219,394)	\$ 7,163,203	\$ (2,321,059)	\$ 8,939,683	\$ (1,776,481)
Total Direct Expenses	\$ 14,078,643	\$ 12,155,010	\$ (1,923,633)	\$ 11,965,349	\$ (2,113,294)	\$ 13,599,920	\$ (1,634,570)
Indirect Expenses	\$ 3,951,596	\$ 3,710,457	\$ (241,139)	\$ 4,450,914	\$ 499,317	\$ 4,390,888	\$ 60,026
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses (B)	\$ 18,030,240	\$ 15,865,467	\$ (2,164,772)	\$ 16,416,263	\$ (1,613,977)	\$ 17,990,808	\$ (1,574,545)
Change in Assets	\$ 835,877	\$ 1,291,378	\$ 455,503	\$ 351,262	\$ (484,613)	246,825	104,437
Fixed Assets							
Depreciation	-	(11,576)	(11,576)	(43,489)	(43,489)	(43,489)	-
Computer & Software CapEx	100,000	5,257	(94,743)	100,000	-	-	100,000
Furniture & Fixtures CapEx	-	-	-	-	-	-	-
Equipment CapEx	-	194,743	194,743	-	-	-	-
Leasehold Improvements	-	-	-	-	-	-	-
Allocation of Fixed Assets	\$ 235,877	\$ 264,032	28,155	294,751	58,874	290,314	4,437
Inc(Dec) in Fixed Assets (C)	\$ 335,877	\$ 452,456	\$ 116,579	\$ 351,262	\$ 15,385	\$ 246,825	\$ 104,437
TOTAL BUDGET (=B + C)	\$ 18,366,117	\$ 16,317,923	\$ (2,048,194)	\$ 16,767,525	\$ (1,598,592)	\$ 18,237,633	\$ (1,470,108)
FTEs	18.76	16.08	(2.68)	18.90	0.14	18.44	0.46

Training, Education, and Operator Certification

Training, Education and Operator Certification (in whole dollars)					
	2015 Budget	2016 Budget	Increase (Decrease)	2016 Budget - Prior Draft	Variance to Prior Draft Over(Under)
Total FTEs	7.97	7.38	(0.59)	7.376	-
Direct Expenses	\$ 2,171,919	\$ 2,062,086	\$ (109,834)	\$ 2,211,435	\$ (149,350)
Indirect Expenses	\$ 1,678,797	\$ 1,737,034	\$ 58,237	\$ 1,756,355	\$ (19,321)
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -
Inc(Dec) in Fixed Assets	\$ 100,210	\$ 113,112	\$ 12,902	\$ 114,207	\$ (1,095)
TOTAL BUDGET	\$ 3,950,926	\$ 3,912,231	\$ (38,695)	\$ 4,081,997	\$ (169,766)

Background and Scope

NERC's Training and Education Program provides oversight and coordination of the delivery of training programs that support the ERO's statutory responsibilities. This program provides training to NERC and Regional Entity staff members, including compliance auditors. It also provides training and education to industry participants on the requirements of Reliability Standards and the compliance monitoring and enforcement process. Further, this program provides training to industry participants on NERC's Reliability Standards development process, thereby helping to support the more efficient and effective development of mandatory Reliability Standards. The Training and Education Program supports NERC's responsibilities to develop, adopt, and obtain approval of Reliability Standards and to monitor, enforce, and achieve compliance with the mandatory standards. Section 901 of the NERC Rules of Procedure addresses the Training and Education Program's activities. The responsibility for training is shared among multiple departments at NERC.³⁵

The Training and Education Program also supports NERC's System Operator Certification and Continuing Education (SOCCED) programs, which ensure that personnel operating the BES have the skills, training, and qualifications needed to operate the system reliably. NERC maintains the required credentials for over 6,000 system operators to work in system control centers across North America. NERC's system operator certification exam is designed to test specific knowledge of job skills and Reliability Standards. It also prepares operators for complying with requirements of Reliability Standards and appropriately operating the BES during normal and emergency operations. Certification exams are created by the Personnel Certification Governance Committee (PCGC), an industry group of operations experts, trainers, and supervisors. Under the PCGC oversight, the Examination Working Group periodically updates and publishes new exams. Once an operator passes the certification exam, certification is maintained by completing NERC-approved continuing education courses and activities. The Personnel Subcommittee, composed of industry training experts, provides oversight of the Continuing Education program. Section 900 of the NERC Rules of Procedure addresses the Training and Education Program's activities in these areas.

Key Efforts Underway

The ERO provides education for industry and ERO personnel to support their understanding of key program areas. These areas include:

1. Risk-Based Compliance Monitoring and Enforcement

³⁵ The Compliance Assurance and Human Resources departments are also engaged in training initiatives.

2. Standards and Compliance
3. Registration and Certification
4. Continuing education for system operators and other industry personnel as appropriate and related to reliability functions
5. Event Analysis, Cause Analysis, and Lessons Learned
6. New System Operator Certification exams for each credential: Reliability Coordinator; Transmission Operator; Balancing and Interchange Operator; and Balancing, Interchange and Transmission Operator.

2016 Goals and Deliverables

In response to stakeholder and Regional Entity feedback, training and education opportunities will be further expanded and focused for registered entities, NERC staff, and Regional Entities. For registered entities, this training and education will focus on objectives related to NERC Reliability Standards, including standards compliance and emerging cyber-related issues that could affect BES reliability. For NERC and Regional Entity staff, the training and education will focus on consistent audit and investigation techniques and standards compliance reviews, including the risk-based compliance monitoring and enforcement and other improvements in compliance and enforcement practices. NERC will continue to offer training in auditor skills to promote continued development of auditing expertise. NERC will leverage IT systems to better deliver and share common training products and information with Regional Entities and registered entities. Other training will focus on knowledge and skill development in a number of key areas, including:

- Development and implementation of clear and technically sound Reliability Standards
- Key lessons learned and trends from events
- Identified themes from trending and common-cause analyses
- Effective compliance cultures with practices, procedures, and controls to address reliability risks
- Effective root, apparent, and common-cause analysis methods
- Quality improvement of registered entity self-reporting and self-certification
- Entity registration processes, issues, and alternatives
- Human performance fundamentals
- Developing and incorporating a systematic approach to ongoing training

NERC will continue to provide learning opportunities through workshops hosted by the Regional Entities. NERC will also host workshops, webinars, and training courses, as well as use vendors to develop training modules and supplement internal training resources. The responsibility for the subject matter expertise for much of the training is shared among multiple departments at NERC. The Training and Education group will provide coordination and synchronization efforts for shared NERC and ERO training responsibilities in addition to advancing and improving the skills of NERC's operating staff. NERC's Human Resources department will continue to budget and manage the delivery of more traditional corporate employee training and continuing education programs in concert with the coordination and synchronizing efforts of the Training and Education group.

As part of the System Operator Certification exam development cycle, a job task analysis (JTA) will be conducted in 2015. The results of the JTA will be the baseline for the next set of exams. NERC will continue

to work with industry stakeholders and the exam development vendor to create certification exams that will promote reliability of the North American BPS. The Continuing Education (CE) program will review and enhance the program manual. As the CE program continues to grow, there are opportunities to adjust the program manual to address new training topics and techniques.

Resource Requirements

Personnel

No additional personnel are proposed for this area in 2016. The slight reduction in FTEs is due to the application of an updated vacancy rate (7.8% vs 6.0%).

Contractor Expenses

The total proposed consulting and contractor budget is approximately \$76k lower in 2016 than the 2015 budget.

Further detail in support of the proposed 2016 contractor and consulting budget to support Training, Education, and Operator Certification is set forth in Exhibit C, which includes a comparison to 2015 budgeted amounts. The primary areas of contractor and consulting support include:

- Testing services to develop, administer, proctor, score, and support system operator certification exams across North America.
- Ongoing hosting and maintenance fees for the System Operator Certification and Continuing Education (SOCCED) database.
- Improvements to the SOCCED database.
- Supplemental support to Continuing Education Review Panel industry volunteers to review and audit over 2,500 individual learning activities and provider applications received each year.³⁶
- Audit team leader soft skills training delivered by certified NERC staff using vendor-licensed materials to support effective dialogue and communications between audit teams and registered entities.
- Vendor-supported BES technical training for select ERO staff, including auditors and technical and support staff.
- Auditor training by recognized auditing specialists for NERC and Regional Entity staff to promote continued development of compliance staff.
- Web-based training development for ERO staff and industry, including standards applications, risk assessment training, industry human performance fundamentals, and BES events lessons learned.
- Learning management system to support web-based training for ERO staff.

³⁶ Review and approval of learning activity applications results in over 400,000 hours of continuing education per year for the industry's certified system operators.

Section A — 2016 Business Plan and Budget Program Area and Department Detail

Statement of Activities and Fixed Assets Expenditures							
2015 Budget & Projection, and 2016 Budget							
TRAINING, EDUCATION and OPERATOR CERTIFICATION							
	2015	2015	Variance	2016	Variance	2016 Budget	Variance to
	Budget	Projection	2015 Projection	Budget	2016 Budget	Draft 1	Prior Draft
			v 2015 Budget		v 2015 Budget		Over(Under)
			Over(Under)		Over(Under)		Over(Under)
Funding							
ERO Funding							
NERC Assessments	\$ 1,826,822	\$ 1,826,822	\$ -	\$ 1,742,146	\$ (84,676)	\$ 1,779,553	\$ (37,407)
Penalty Sanctions	48,871	48,871	-	55,994	7,123	32,965	23,029
Total NERC Funding	\$ 1,875,692	\$ 1,875,693	\$ -	\$ 1,798,139	\$ (77,553)	\$ 1,812,518	\$ (14,378)
Third-Party Funding	-	-	-	-	-	-	-
Testing Fees	1,670,000	1,670,000	-	1,867,972	197,972	1,867,972	-
Services & Software	-	-	-	-	-	-	-
Workshops	-	-	-	-	-	-	-
Interest	192	191	(1)	183	(9)	184	(2)
Miscellaneous	-	10	10	-	-	-	-
Total Funding (A)	\$ 3,545,884	\$ 3,545,894	\$ 9	\$ 3,666,294	\$ 120,409	\$ 3,680,674	\$ (14,380)
Expenses							
Personnel Expenses							
Salaries	\$ 903,106	\$ 828,793	\$ (74,313)	\$ 857,257	\$ (45,849)	\$ 817,272	39,985
Payroll Taxes	60,937	63,437	2,500	64,345	3,409	61,804	2,541
Benefits	146,059	127,156	(18,903)	133,991	(12,068)	133,991	0
Retirement Costs	101,437	79,729	(21,708)	94,860	(6,577)	90,958	3,903
Total Personnel Expenses	\$ 1,211,539	\$ 1,099,115	\$ (112,424)	\$ 1,150,454	\$ (61,085)	\$ 1,104,025	46,429
Meeting Expenses							
Meetings	\$ 59,931	\$ 49,643	\$ (10,288)	\$ 80,000	\$ 20,069	\$ 80,000	-
Travel	25,322	22,000	(3,322)	21,139	(4,183)	21,118	21
Conference Calls	29,320	40,552	11,232	36,500	7,180	36,500	-
Total Meeting Expenses	\$ 114,573	\$ 112,195	\$ (2,378)	\$ 137,639	\$ 23,066	\$ 137,618	21
Operating Expenses							
Consultants & Contracts	\$ 752,130	\$ 752,670	\$ 540	\$ 675,800	\$ (76,330)	\$ 871,600	(195,800)
Office Rent	-	-	-	-	-	-	-
Office Costs	93,178	103,147	9,969	95,773	2,596	95,773	-
Professional Services	-	-	-	-	-	-	-
Miscellaneous	500	500	-	500	-	500	-
Depreciation	-	1,919	1,919	1,919	1,919	1,919	-
Total Operating Expenses	\$ 845,808	\$ 858,236	\$ 12,428	\$ 773,992	\$ (71,815)	\$ 969,792	\$ (195,800)
Total Direct Expenses	\$ 2,171,919	\$ 2,069,545	\$ (102,374)	\$ 2,062,086	\$ (109,834)	\$ 2,211,435	\$ (149,350)
Indirect Expenses	\$ 1,678,797	\$ 1,693,704	\$ 14,907	\$ 1,737,034	\$ 58,237	\$ 1,756,355	\$ (19,321)
Other Non-Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses (B)	\$ 3,850,716	\$ 3,763,249	\$ (87,467)	\$ 3,799,119	\$ (51,597)	\$ 3,967,790	\$ (168,671)
Change in Assets	\$ (304,832)	\$ (217,356)	\$ 87,476	\$ (132,825)	\$ 172,006	\$ (287,117)	154,291
Fixed Assets							
Depreciation	-	(3,838)	(1,919)	(1,919)	(1,919)	(1,919)	-
Computer & Software CapEx	-	-	-	-	-	-	-
Furniture & Fixtures CapEx	-	-	-	-	-	-	-
Equipment CapEx	-	-	-	-	-	-	-
Leasehold Improvements	-	-	-	-	-	-	-
Allocation of Fixed Assets	\$ 100,210	\$ 120,522	20,312	115,031	\$ 14,821	\$ 116,126	(1,095)
Inc(Dec) in Fixed Assets (C)	\$ 100,210	\$ 116,684	\$ 18,393	\$ 113,112	\$ 12,902	\$ 114,207	\$ -
TOTAL BUDGET (=B + C)	\$ 3,950,926	\$ 3,879,933	\$ (69,074)	\$ 3,912,231	\$ (38,695)	\$ 4,081,997	\$ (169,766)
FTEs	7.97	7.34	(0.63)	7.38	(0.59)	7.38	-

Administrative Services

Administrative Services (in whole dollars)								
	Direct Expenses and Fixed Assets			FTEs			2016 Budget -Prior Draft	Variance to Prior Draft Over(Under)
	2015 Budget	2016 Budget	Increase (Decrease)	2015 Budget	2016 Budget	Increase (Decrease)		
General and Administrative	\$ 8,629,889	\$ 9,839,957	\$ 1,210,068	13.13	17.52	4.39	\$ 9,703,628	\$ (136,329)
Legal and Regulatory	4,448,015	3,505,966	(942,049)	15.01	12.22	(2.79)	3,715,224	209,258
Information Technology	10,514,943	12,156,674	1,641,731	19.70	22.13	2.43	12,155,865	(810)
Human Resources	1,158,304	1,510,177	351,872	2.81	2.77	(0.04)	1,510,076	(100)
Finance and Accounting	3,096,886	3,429,661	332,775	16.89	16.60	(0.29)	3,403,058	(26,603)
Total Administrative Services	\$ 27,848,038	\$ 30,442,435	\$ 2,594,397	67.54	71.23	3.69	\$ 30,487,852	\$ 45,417

Program Scope and Functional Description

NERC's Administrative Services area includes the budget for all business and administrative functions of the organization, including (1) technical committees and member forums; (2) General and Administrative, which includes Board fees and expenses, the president and chief executive officer (CEO), chief reliability officer (CRO) and support staff, communications, external affairs and governmental relations, and office rent; (3) Legal and Regulatory; (4) Information Technology; (5) Human Resources; (6) Finance and Accounting; and (7) other general administrative expenses necessary to support program area activities. These functions are necessary to the existence and functioning of the organization and support the performance of NERC's ERO statutory activities. The costs of the Administrative Services functions are allocated to the five statutory programs as indirect expenses. The resource requirements and comparative budget information for each of these functions are described below.

Technical Committees and Members' Forum Program

While NERC management and staff will continue to interact with and support numerous reliability-related forums (e.g., the North American Transmission Forum and Generator Forum), NERC's 2016 budget does not contain specific funding for any forum activities.

General and Administrative

Background and Scope

The General and Administrative area is responsible for the administration and general management of the organization. Expenses allocated in this area include office rent; personnel and related costs of the CEO, the CRO, the CEO's executive assistant, communications, external affairs and government relations staff, and costs related to the Board. No additional personnel are budgeted for 2016 beyond current staffing. The increase in FTEs in the General and Administrative area is due to a reallocation occurring in 2015 of personnel supporting the Member Representatives Committee and Regional Entity Management Group activities.

The following table details the Board costs included in the total costs of the General and Administrative area. The increase compared to 2015 is for search fees for a new trustee to replace an existing trustee who will have served a maximum term.

Board of Trustee Expenses	Budget 2015	Projection 2015	Budget 2016	2016 v 2015 Budget	Variance %
Meetings and Travel Expenses					
Quarterly Board Meetings	\$ 244,000	\$ 244,000	\$ 244,000	\$ -	
Trustee Travel	150,000	150,000	150,000	-	
Total Board of Trustees Meetings and Travel Expenses	394,000	394,000	394,000	-	
Professional Services					
Independent Trustee Fees	1,085,000	1,047,813	1,085,000	-	
Trustee Search Fees	-	61,232	100,000	100,000	
Total Board of Trustee Professional Services Expenses	1,085,000	1,109,045	1,185,000	100,000	
Total Board of Trustee Expenses	\$ 1,479,000	\$ 1,503,045	\$ 1,579,000	\$ 100,000	6.76%

Legal and Regulatory

Background and Scope

The Legal and Regulatory department's workload is derived from the following key NERC program areas: Compliance Analysis, Registration and Certification, Reliability Risk Management, Reliability Assessment and Performance Analysis, and Standards. In addition, the Legal and Regulatory department is also responsible for providing a wide range of legal support to the NERC management team regarding antitrust, corporate, commercial, insurance, contract, employment, real estate, copyright, tax, legislation, and other legal matters. The department also addresses legal and regulatory matters that arise in connection with the delegation agreements with the Regional Entities.

Resource Requirements

Due to process improvements and increased efficiency, the number of FTEs allocated to the department was reduced in 2016 compared to 2015.

Outside law firms and consultants supporting this area are budgeted and tracked as Professional Services. The Professional Services budget for 2016 was reduced by approximately 20% compared to the 2015 budget.

Information Technology

Background and Scope

NERC's IT department plan includes capital and operating expenses required to support, build, configure, and enhance ERO Enterprise applications, data analysis, and ongoing operations.

ERO Enterprise Applications

Three major categories of expense are included in the rolling three-year Enterprise Application budget and forecast:

1. **New Functionality** – As noted in the *2015 Business Plan and Budget*, IT strategy was to consider a Commercial Off-the-Shelf (COTS) product to reduce complexity and improve consistency across various NERC and Enterprise line-of-business applications. As such, during Q4 2014, IT implemented the CRM application (commonly referred to as xRM) as a platform for future ERO Enterprise applications. New application requests will be closely examined to determine if they be configured to run on top of the xRM application prior to considering other alternatives (e.g., other COTS applications) or, as a last resort, custom development. The xRM application was chosen due to its robust architecture and compatibility with NERC's existing environment.

- a. **Enhancement** – As enterprise applications are brought online and operational, ongoing upgrades will be required to enhance features, add functionality, and meet the dynamic needs of the ERO Enterprise to ensure the reliability of the BPS. The Bulk Electric System Notifications and Exceptions (BESnet) tool was brought online and made operational on July 1, 2014. During 2015, the Standards Balloting System (SBS), Reliability Assessment Data System (RADS) and Events Analysis will also come online. All of these systems will require enhancements to meet business requirements. Enhancements to these applications will follow a disciplined process for approval and implementation.
 - b. **Support** – Enterprise applications implemented for use by NERC, Regional Entities, and sometimes registered entities (e.g., BESnet, Standards Balloting System (SBS)) require ongoing support to ensure they are operational. Following industry-accepted support practices, funding for this line item is designed to ensure end-user application issues are resolved, identification of errors (along with application and database maintenance) is performed, and the application is maintained and available in support of the ERO Enterprise.
2. **ERO Data Analysis** – Data analysis expenses fall into three major categories: professional services, tools, and support costs.
- a. **Professional Services** – Professional services include vendor support for implementation and configuration of data analytics for the ERO Enterprise. Data analytics are used to describe, predict, and improve business performance, as well as identify and assess reliability risks.
 - b. **Tools** – Tools include software applications used to mine data from a single or multiple databases to create analytics (e.g., Microsoft’s Analytics Platform System for determining business performance or, in the context of the ERO Enterprise, possible risk to reliability.)
 - c. **Support** – Support includes ongoing upgrades and enhancements and vendor help desk support as required.
3. **Ongoing Operations** – NERC’s IT budget includes costs to support existing software applications, as well as consulting and vendor costs for network security testing and planning and website maintenance and development.
- a. **Compliance Database (CRATS/webCDMS+)** – The compliance database is used to track violations, mitigation plans, and reporting required by NERC as the certified ERO. In addition, the compliance database has additional modules included, such as the Standards, Technical Feasibility Exceptions (TFEs), and Registration module, which contains a list of all registered entities. Funding requirements include ongoing maintenance and enhancements to the compliance tools (CRATS and webCDMS+).
 - b. **Application Broker, Meeting Manager, ERO Membership, NERC My Account, UMP, RCIS, CIPIS, CRC** – NERC maintains a number of legacy applications. Many of the legacy applications were developed and implemented five to 10 years ago and are unable to take advantage of contemporary application development. They will have to be completely rewritten or may be able to leverage functionality available in the xRM application platform as a first option for replacement. Funding in 2016 is required for ongoing maintenance and enhancements until the applications can be rewritten or moved to the xRM platform or, in some cases, potentially divested or transferred to industry support.
 - c. **Quarterly Penetration, Vulnerability Testing all NERC Networks and Systems** – Expert consulting services to provide ongoing intrusion detection and vulnerability testing of the

NERC public website, NERC's network, applications, and systems is an essential requirement of ongoing operations. NERC is subject to frequent intrusion attempts where external parties try to gain access to our systems and infrastructure. Any vulnerability identified is documented and provided to NERC IT for rapid remediation.

- d. **NERC Security Program – Enhance Based on Internal Audit Recommendations** – NERC's IT department performs a number of technology initiatives to ensure the security of the network and infrastructure. However, in order to continually improve security, a more holistic approach is required that implements technology improvements and constructs an overarching security program to ensure all aspects of security have been considered, including information classification, review of retention policies, and enforcement of security guidelines. During 2015, IT I undertook an initiative to improve several processes and will continue to place a high emphasis on security over the coming years.
- e. **Document Management Program and Website Enhancement** – During late 2014 and early 2015, NERC completed the initial steps required to begin implementation of a document management program in the second half of 2015. IT will leverage SharePoint 2013 as a foundational COTS application. Add-on functionality will then be implemented into SharePoint to create a document management system using native Microsoft functionality for document storage and retrieval. Implementation of a document management system is a multiyear initiative designed to greatly reduce the manual, labor-intensive effort of managing thousands of documents by streamlining the storage, security, versioning, data classification, and archiving of NERC information. SharePoint 2013 will also serve as the repository for all documents, including those required by the Event Analysis application and the Reliability Assessment Data System.

Robust Planning for New Capital Projects

In connection with the 2016 business planning cycle, the company significantly improved its approach to evaluating potential capital investments in major enterprise software applications. The company has adopted an enterprise information technology investment planning methodology that ensures only projects with compelling and approved business cases are funded. The company uses a four gated approval process (Business Unit Sponsor-approval gate, NERC VP/CTO – approval gate, ERO Technology Leadership Team (NERC CEO and two Regional Entity CEOs) – approval gate and the full ERO-EMG (CEOs of NERC and each Regional Entities) approval gate). This gated process provides the required rigor and discipline to ensure only high value enterprise IT investments are pursued. In addition, all Enterprise IT investments are subject to ongoing oversight by a subgroup consisting of three members of the NERC Board of Trustee's Standards Oversight and Technology Committee.

Recent examples of the results of this methodology include investments in an events analysis management system (EA System) and the reliability assessment data system (RADS):

- The EA System provides integration of events data systems, while enabling a more efficient and effective method for event data collection, tracking, analysis and reporting. This enhances the ability of the ERO and stakeholders to identify and focus on significant and emerging reliability risks. This tool will be used by NERC and the Regional Entities, providing a consistent experience for all ERO clients involved in the events analysis business process.
- The RADS system provides for a more efficient method for NERC to complete seasonal and long-term reliability assessment reports. Specifically, the RADS automates the importing of data, provides for ad hoc and pre-defined reporting and provides access to historical data. In fact, a recent benchmarking exercise indicated that RADS enabled a routine data import process to be completed in 22 minutes as compared to the historical time of 80 hours. This process

improvement will allow NERC's analysts and engineers to spend more time analyzing reliability risk related data instead of having to spend their time importing data.

During 2015, NERC also commenced implementation of a document management program. The implementation of a document management program supports a number of important business requirements, including:

- Ensuring proper classification and management of confidential information
- Addressing a number of internal audit recommendations/mitigates corporate risk
- Improving information access and search capabilities
- Facilitating working group, team, and stakeholder collaboration
- Supporting document retention policy and procedures
- Simplifying document retrieval
- Improving version control of documents
- Improving workflow control (review and approval of documents)
- Increasing efficiency and employee productivity

Implementation of the document management program is a multi-year initiative with significant funding requirements. The evaluation of the cost-benefit of the document management program indicated tremendous value to the organization, primarily in terms of addressing the business requirements set forth above. The cost benefit analysis of this project also demonstrated that NERC's projected average cost per user is comparable to market. In addition, assuming achievement of modest personnel efficiency gains (between 2-7 percent) from using the new system, the program will generate value in terms of increased resource availability well above anticipated costs. The project was reviewed in depth with the board of trustee's Standards Oversight and Technology Committee and Finance and Audit Committee, which, together with the Board of Trustees, authorized reserve funding at their May, 2015 meetings to commence initiation of the program.

Other proposed 2016 IT capital investments, including Enterprise Reporting, are focused on employee productivity and tools to enable more sophisticated data analysis supporting core business functions.

Resource Requirements

Personnel

The increase in FTEs resulted from the transfer of personnel from other departments to strengthen management oversight and execution.

Contract and Consulting Resources to Support Internal Operations

The 2016 budgeted amounts are set forth in Exhibit C, with a comparison to 2015 budgeted amounts. The increase in the 2016 budget compared to 2015 is primarily due to the inclusion of ongoing maintenance costs for recently added ERO Enterprise applications and costs for the document management program.

2016 IT Operating Expenses

A summary of the major categories of IT Operating Expenses are set forth in the following table:

Office Costs	Budget 2015	Budget 2016	Variance
Telephone	\$ 225,000	\$ 225,000	\$ -
Telephone - Answering Service	3,000	3,000	-
Internet	375,000	350,000	(25,000)
Computer Supplies and Maintenance			
Computers	9,000	25,000	16,000
Computer Supplies	100,100	96,100	(4,000)
Maintenance & Service Agreements	1,333,320	1,365,295	31,975
Software	88,000	59,000	(29,000)
Subscription and Publications	-	108,300	108,300
Dues		2,500	2,500
Express Shipping	10,000	5,000	(5,000)
Total Office Costs	\$ 2,143,420	\$ 2,239,195	\$ 95,775

Telephone Expenses

Office telephone costs are items associated with cellular phone, mobile laptop cellular air card, bonded T1 Voice over Internet Protocol (VoIP) data circuits, and conference calling expenses. NERC-issued cell phones are provided to employees to ensure access and productivity before, during, and after business hours. Mobile laptop cellular air cards are provided to ensure connectivity while traveling or in locations where wireless connectivity is unavailable. Wireless or cellular connectivity to the NERC network is enabled using virtual private network technology to ensure maximum security, logging, and encryption. Included in the line item “telephone” are those monthly costs associated with Internet access for systems, application, network, and security to enable IT resources to provide support and conduct emergency and non-emergency patching of systems, routers, firewalls, etc., as required to ensure the stability of the NERC technology environment. Conference calling is conducted via an external service provider in order to minimize internal hardware, IT support, and internal conference lines capable of providing access to an external audience. Information Technology conference calling, webinars, recorded events, etc., are included in the telephone cost line item. Bonded T1 circuits provide access for VoIP service for NERC desk phones in lieu of having an expensive, support-intensive in-house phone switch (e.g., Private Branch Exchange) that requires senior-level telecommunication resources to support and manage.

Internet Expense

Internet expense is comprised of data circuits, Plain Old Telephone Service (POTS), and redundant capability in the event of primary service provider failure.

Computers

Computers are items that do not meet the criteria to be considered a capital expense, such as desktop computers or iPads. Desktop computers enable conference webinars, Internet access, training room functionality, etc., for those instances in which a presenter does not have a computer device available to conduct presentations. In addition, on a case-by-case basis and as justified by extensive travel or consistent out-of-office meetings, NERC will provide an iPad with cellular data access for persons who require functionality but are unable to use a laptop for computing needs.

Computer Supplies

Computer supplies are expense items required for infrastructure support. They include computer monitors, mice, keyboards, cell phone cases, cables, encrypted hard drives, encrypted thumb drives, encryption keys, uninterruptible power supplies, privacy screens, phone headsets, docking stations, computer memory, and any other computer supplies or components required to support the technology infrastructure.

Maintenance and Service Agreements

Maintenance and service agreements comprise those items required to support internal and external access to routers, switches, firewalls, intrusion protection, file servers, audiovisual equipment, storage area networks, data backup services, network and security monitoring, co-location data center services, video conferencing, digital certificates, and development and virtualization software. Service agreements related to the co-location data center, offsite backup of over 200 terabytes of data, conference calling, and network and security monitoring consume a large portion of the maintenance and service agreements budget.

Software

Tools such as Adobe Creativity Suite, remote support tools, and various other IT support tools are included under this line item. The tools are primarily used for NERC infrastructure purposes to support and manage the application, server, and network environment.

Express Shipping

Express shipping is for shipping of IT computers and computer supplies.

2016 IT Fixed Asset (Capital) Expenses

The following table presents a summary of NERC's 2016 fixed asset (capital) budget compared to the 2015 budget:

NERC Capital Budget			
	2015 Budget	2016 Budget	Inc(Dec) v 2015
ERO Application Development	\$ 1,050,000	\$ 1,500,000	\$ 450,000
Document Management	-	465,000	465,000
ERO Data Analysis Tool	550,000	-	(550,000)
Generation Data Software	200,000	-	(200,000)
Other IT Hardware and Software	1,453,500	1,411,000	(42,500)
Network Devices and A/V	365,000	535,000	170,000
Total Capital Budget	\$ 3,618,500	\$ 3,911,000	\$ 292,500
Depreciation (excluded from Assessmen	(2,333,006)	(2,641,943)	(308,937)
Fixed Assets (net)	\$ 1,285,494	\$ 1,269,057	\$ (16,437)

As in prior years, the goal of the 2016–2018 planning period is to provide access, visibility, and analysis of data from many different sources across the ERO; this will require significant investment in hardware, software, and associated tools. The overarching theme is to securely gather, analyze, and maintain data across the ERO Enterprise to support ERO operations. Adding the capability to centralize and mine data—in addition to foundational elements such as the Microsoft xRM application, SharePoint 2013, and disaster recovery and enhanced security—sets the stage for vastly improved reporting and business intelligence. It also allows the capability for collaboration and sharing of information vital to the ERO's mission.

In addition to the investments described above to support efficiency and consistency across the Enterprise, the 2016 budget also includes the cost of security enhancements, network assets, software, servers, laptops, and other hardware to support daily operations.

Human Resources

Background and Scope

Human Resources (HR) manages all of NERC's HR functions, including new hires, benefits, and employee functions. This area also oversees NERC's employee performance appraisal and incentive structure process. Management has implemented a robust, objective, and auditable performance management system to track corporate and individual performance against pre-established goals, objectives, and measures. Each year NERC continues to refine and improve this system. In 2012, NERC implemented a new time-accounting system to facilitate tracking of time by functional activities or, where appropriate, specific projects, and continues to make refinements to the system.

Management Training and Development

NERC's executives and managers participate in ongoing training and development to improve managerial skills, knowledge sharing, and team performance. They also help facilitate succession planning and career development.

Staff Development

Management believes that access to knowledge is a key differentiator for NERC and that it ensures retention and high performance. NERC will continue to invest in learning opportunities for staff in several areas. First, HR will continue to host and optimize an e-learning platform, SkillSoft, to provide staff resources for improving soft and technical skills. Second, HR will provide staff development training through real-world access via tours of and training on control centers, electric substations, and power generation plants. Finally, staff will have 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 knowledge and skills development that will lead to improved staff performance.

Compensation Consulting

Consultants are periodically retained to examine appropriate compensation based on current market data. This ensures that decisions affecting compensation are made in light of the current market climate and that qualified employees are attracted and retained within a defined total remuneration range. NERC also periodically retains compensation subject matter experts to perform periodic assessments of the BOT compensation model to ensure alignment with market practices.

Surveys

NERC periodically retains a vendor to conduct Board of Trustees and committee effectiveness surveys to identify improvement opportunities. HR will also launch additional surveys as appropriate, based on business needs, which may include periodic internal climate surveys.

Succession Planning

Minimizing disruption of knowledge, skill, and experience of key staff is critical to the company's success. 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

Critical to an effective HR department is the use of electronic and automated products and services. HR will continue to operate, maintain, and investigate investment in additional electronic platforms for HR support services.

Resource Requirements

Personnel

No additional personnel are budgeted for this department in 2016.

Contractor Expenses

Contractor and consultant expenses are set forth in additional detail in Exhibit C. The increase over 2015 is primarily due to increased costs for additional staff training.

Miscellaneous Expenses

Miscellaneous expenses include community responsibility and employee engagement, the year-end employee appreciation event, and employee rewards and recognition.

Finance and Accounting

Background and Scope

NERC's Finance and Accounting department manages all finance and accounting functions, including employee payroll, 401(k), 457(b), and 457(f) plans, travel and expense reporting, monthly financial reporting, sales and use tax, meeting and events planning and services, insurance, internal auditing, and facilities management. This area also holds primary responsibility for the development of the annual business plan and budget, as well as NERC's proposed ERO risk management framework. Over the past several years, NERC's Finance and Accounting department implemented additional policies, procedures, and controls governing day-to-day practices including contract and personnel procurements, meetings, conference planning and travel, 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

Personnel

One additional FTE was added to this department in late 2014 to strengthen segregation of duties, cross training, and backup functions, as well as support succession-planning initiatives. The added FTE is offset by the updated vacancy rate.

Contractor Expenses

Approximately \$300k is budgeted for outside contractor and consulting support, representing a decrease compared to the 2015 budget. These costs are primarily for outside professional support for auditors to support various risk management and internal control initiatives, as well as to provide finance and accounting support.

Section A — 2016 Business Plan and Budget Program Area and Department Detail

Statement of Activities and Fixed Assets Expenditures								
2015 Budget & Projection, and 2016 Budget								
ADMINISTRATIVE SERVICES								
	2015 Budget	2015 Projection	Variance 2015 Projection v 2015 Budget Over(Under)	2016 Budget	Variance 2016 Budget v 2015 Budget Over(Under)	2016 Budget Draft 1	Variance to Prior Draft Over(Under)	
Funding								
ERO Funding								
NERC Assessments	\$ 626,997	\$ 626,997	\$ -	\$ 561,427	\$ (65,570)	\$ 175,000	\$ 386,427	
Penalty Sanctions	-	-	-	-	-	-	-	
Total NERC Funding	\$ 626,997	\$ 626,997	\$ -	\$ 561,427	\$ (65,570)	\$ 175,000	\$ 386,427	
Third-Party Funding	-	-	-	-	-	-	-	
Testing Fees	-	-	-	-	-	-	-	
Services & Software	-	-	-	-	-	-	-	
Workshops	-	-	-	-	-	-	-	
Interest	-	-	-	-	-	-	-	
Miscellaneous	-	-	-	-	-	-	-	
Total Funding (A)	\$ 626,997	\$ 626,997	\$ -	\$ 561,427	\$ (65,570)	\$ 175,000	\$ 386,427	
Expenses								
Personnel Expenses								
Salaries	\$ 10,078,982	\$ 11,050,223	\$ 971,241	\$ 11,054,511	\$ 975,529	\$ 11,130,114	(75,602)	
Payroll Taxes	564,567	656,558	91,991	662,269	97,702	672,885	(10,616)	
Benefits	1,299,268	1,348,538	49,270	1,369,805	70,538	1,390,423	(20,618)	
Retirement Costs	1,036,455	1,101,571	65,116	1,024,669	(11,787)	1,041,599	(16,930)	
Total Personnel Expenses	\$ 12,979,273	\$ 14,156,890	\$ 1,177,617	\$ 14,111,254	\$ 1,131,981	\$ 14,235,021	(123,767)	
Meeting Expenses								
Meetings	\$ 353,569	\$ 351,681	\$ (1,888)	\$ 315,000	\$ (38,569)	\$ 315,000	-	
Travel	629,982	651,240	21,258	653,945	23,963	653,286	658	
Conference Calls	61,512	62,110	598	63,300	1,788	63,300	-	
Total Meeting Expenses	\$ 1,045,063	\$ 1,065,031	\$ 19,968	\$ 1,032,245	\$ (12,818)	\$ 1,031,586	658	
Operating Expenses								
Consultants & Contracts	\$ 2,382,375	\$ 2,585,495	\$ 203,120	\$ 3,036,671	\$ 654,296	\$ 2,956,671	80,000	
Office Rent	2,987,777	2,987,777	-	3,054,287	66,510	3,054,287	-	
Office Costs	2,710,770	2,713,155	2,385	2,920,678	209,908	2,922,987	(2,308)	
Professional Services	2,261,280	1,961,280	(300,000)	2,334,300	73,020	2,334,300	-	
Miscellaneous	32,000	32,000	-	32,000	-	32,000	-	
Depreciation	1,749,842	1,751,253	1,411	1,920,234	170,392	1,920,234	-	
Total Operating Expenses	\$ 12,124,044	\$ 12,030,960	\$ (93,084)	\$ 13,298,171	\$ 1,174,126	\$ 13,220,479	\$ 77,692	
Total Direct Expenses	\$ 26,148,380	\$ 27,252,881	\$ 1,104,501	\$ 28,441,669	\$ 2,293,289	\$ 28,487,086	\$ (45,417)	
Indirect Expenses	\$ (26,279,380)	\$ (27,323,087)	\$ (1,043,707)	\$ (28,551,669)	\$ (2,272,289)	\$ (28,597,086)	\$ 45,417	
Other Non-Operating Expenses	\$ 131,000	\$ 70,206	\$ (60,794)	\$ 110,000	\$ (21,000)	\$ 110,000	-	
Total Expenses (B)	\$ -	\$ 0	\$ (0)	\$ -	\$ (0)	\$ -	\$ 0	
Change in Assets	\$ 626,997	\$ 626,997	\$ 0	\$ 561,427	\$ (65,569)	\$ 175,000	\$ 386,427	
Fixed Assets								
Depreciation	(1,749,842)	(1,751,253)	(1,411)	(1,920,234)	(170,392)	(1,920,234)	-	
Computer & Software CapEx	2,953,500	2,749,562	(203,938)	2,347,000	(606,500)	3,276,000	(929,000)	
Furniture & Fixtures CapEx	-	14,611	14,611	-	-	-	-	
Equipment CapEx	365,000	365,000	-	1,464,000	1,099,000	535,000	929,000	
Leasehold Improvements	-	566,361	566,361	-	-	-	-	
Allocation of Fixed Assets	(1,568,658)	(1,944,281)	(375,623)	(1,890,766)	(322,108)	(1,890,766)	-	
Inc(Dec) in Fixed Assets (C)	\$ -	\$ -	\$ -	\$ -	\$ 0	\$ -	\$ -	
TOTAL BUDGET (=B + C)	\$ -	\$ 0	\$ (0)	\$ -	\$ (0)	\$ -	\$ -	
FTEs	67.54	73.62	6.08	71.23	3.69	72.39	(1.15)	

Section B — Supplemental Financial Information

Breakdown by Statement of Activity Sections

The following detailed schedules support the consolidated Statement of Activities. All significant variances were described by program area in the preceding pages.

Table B-1
Working Capital and Operating Reserves Analysis

Working Capital and Operating Reserve Analysis						
Statutory						
	Total Reserves	Future Obligations Reserve ¹	Operating Contingency Reserve	Operator Certification	CRISP	Assessment Stabilization Reserve
Beginning Working Capital and Operating Reserves Balance	7,460,907	3,569,492	2,011,402	1,294,513	585,500	
Generation or (Use) from 2015 Operations						
From 2015 budgeted operations	206,564	62,000	717,701	(503,358)	(69,779)	
From 2015 approved use of reserves	(1,590,611)		(1,590,611)			
Proceeds from financing activities (non-current portion only)	1,266,667		1,266,667			
Debt Service	(421,667)		(421,667)			
Other adjustments to reserves	(608,337)	(593,418)	(14,919)			
Projected Working Capital and Operating Reserves - 12/31/15	6,313,523	3,038,074	1,968,573	791,155	515,721	-
Required Working Capital and Operating Reserves - 12/31/16	8,809,627	3,158,074	2,475,000	389,832	515,721	2,271,000
Adjustment in funding to achieve required reserve balance	380,490	120,000	506,427	(245,937)	-	
Penalty sanctions available 1-1-2016 (See Table B-2)						3,710,000
Less: Penalty sanction offset in 2016						(1,439,000)
Other adjustments to reserves	-	-	-			
Increase(decrease) in reserve balances	380,490	120,000	506,427	(245,937)	-	2,271,000
2016 Expenses and Capital Expenditures	67,066,665		57,579,668	1,513,978	7,973,019	
Less: Penalty Sanctions	(1,439,000)		(1,405,428)		(33,572)	
Adjustment to achieve desired reserve balance	380,490	120,000	506,427	(245,937)	-	
Less: Other Funding Sources	(8,981,710)		(882,863)	(1,268,040)	(6,830,807)	
Less: Proceeds from financing activities (non-current only)	(1,000,000)		(1,000,000)			
Plus: debt service	1,055,000		1,055,000			
2016 NERC Assessment	57,081,445	120,000	55,852,805	-	1,108,641	-

¹As further explained in the discussion of the Working Capital Reserve amount in Exhibit E, the Future Obligations Reserve offsets future, non-current liabilities. The calculation of Working Capital and Operating Reserve balances per 2014 audited financials and as projected for 2015 and 2016 is included with the Statements of Financial Position on page 90.

²On August XX, 2015, the NERC Board of Trustees approved the Working Capital and Operating Reserve Balance at 12/31/16.

Table B-2 Penalties

Penalty Sanctions

Until recently, penalty monies received prior to June 30 were to be used to offset assessments in the subsequent year's budget, as documented in *NERC Policy – Accounting, Financial Statement and Budgetary Treatment of Penalties Imposed and Received for Violations of Reliability Standard*, as well as Section 1107.2 of the Rules of Procedure. The NERC Board has approved an updated Working Capital and Operating Reserves Policy that has also been approved by FERC (pursuant to a required compliance filing). This updated Policy allows NERC to place penalty funds into a new Assessment Stabilization Reserve for use in future years to offset assessments. For the 2016 budget, penalty funds received prior to June 30, 2015 were deposited into this reserve account and a portion of those funds will be used to offset assessments for the 2016 budget with the remaining funds held for future assessment offsets.

All penalties received through June 30, 2015 are detailed below, including the amount and date received.

Allocation Method

Penalty sanctions received have been allocated to the following statutory programs to reduce assessments: Reliability Standards, Regional Entity Assurance and Oversight, Compliance Analysis, Registration and Certification, Compliance Enforcement, Reliability Assessments and Performance Analysis, Training and Education, Situational Awareness, Event Analysis and Investigations, the Critical Infrastructure Department, and the ES-ISAC. Penalty sanctions are allocated based on the number of FTEs in the program divided by the aggregate total FTEs in the programs receiving the allocation.

Penalty Sanctions	Date Received	Amount Received
Penalties received between 7/1/2014 and 5/19/2015		
	7/9/2014	1,000,000
	8/11/2014	1,500,000
	10/28/2014	125,000
	12/5/2014	1,000,000
	12/17/2014	100,000
	12/17/2014	85,000
	1/14/2015	400,000
	5/27/2015	500,000
		<u>\$ 4,710,000</u>
Adjustments		
Penalties received after 6/30/2014, but included in the 2015 Budget	7/9/2014	\$ (1,000,000)
Funding for assessments stabilization reserve		(2,271,000)
		<u>\$ 1,439,000</u>
Total Penalty Sanctions included in the 2016 Budget		<u>\$ 1,439,000</u>

Table B-3 Outside Funding

Outside Funding Breakdown By Program (Excluding Penalty Sanction)	Budget 2015	Projection 2015	Budget 2016	Variance 2016 Budget v 2015 Budget
Reliability Standards				
Workshops	\$ 104,000	\$ 104,000	\$ 105,000	\$ 1,000
Interest Allocation	587	587	445	(142)
Total	\$ 104,587	\$ 104,587	\$ 105,445	\$ 858
Compliance Analysis, Registration and Certification				
Interest Allocation	\$ 271	\$ 270	\$ 251	\$ (20)
Total	\$ 271	\$ 270	\$ 251	\$ (20)
Compliance Assurance				
Workshops	\$ -	\$ -	\$ -	\$ -
Interest Allocation	293	293	479	186
Total	\$ 293	\$ 293	\$ 479	\$ 186
Compliance Enforcement				
Interest Allocation	\$ 361	\$ 361	\$ 302	\$ (59)
Total	\$ 361	\$ 361	\$ 302	\$ (59)
Reliability Assessments and Performance Analysis				
pc_GAR Software	\$ 50,000	\$ 50,000	\$ 50,000	\$ -
Workshops	17,500	17,500	15,000	(2,500)
Interest Allocation	474	474	462	(12)
Total	\$ 67,974	\$ 67,974	\$ 65,462	\$ (2,512)
Training and Education				
Testing Fees and Certificate Renewals	\$ 1,070,000	\$ 1,070,000	\$ 1,267,972	\$ 197,972
CEH Fees	600,000	600,000	600,000	-
Interest Allocation	192	191	183	(9)
Total	\$ 1,670,192	\$ 1,670,191	\$ 1,868,155	\$ 197,963
Event Analysis				
Workshops	\$ 47,300	\$ 43,025	\$ 40,000	\$ (7,300)
Interest Allocation	226	226	274	48
Total	\$ 47,526	\$ 43,251	\$ 40,274	\$ (7,252)
Situation Awareness				
Workshops	\$ -	\$ -	\$ -	\$ -
Interest Allocation	147	147	137	(10)
Total	\$ 147	\$ 147	\$ 137	\$ (10)
ES-ISAC				
Third Party Funding (CRISP)	9,016,089	7,233,140	6,830,738	(2,185,351)
Workshops	72,500	72,500	70,000	(2,500)
Interest Allocation	451	1,609	468	17
Total	\$ 9,089,040	\$ 7,307,249	\$ 6,901,206	\$ (2,187,834)
Total Outside Funding	\$ 10,907,235	\$ 9,194,323	\$ 8,981,710	\$ (1,998,806)

Explanation of Significant Variances – 2016 Budget Compared to 2015 Budget

- Reliability Assessments and Performance Analysis – Nominal license fees charged to help defray a portion of the costs of operating, maintaining, and administering pc-GAR, a complex legacy software application used to provide industry with access to certain generator and transmission data. NERC expects development of a replacement software application for pc-GAR. Any fees for licensing of the pc-GAR software in 2016 will be used to offset development costs of the replacement application, as well operation and maintenance costs for the existing and replacement applications.

The reduction in workshop fees is due to the decision to not charge attendance fees at one of two meetings.

- Event Analysis – The reduction in workshop fees is based upon 2014 actual results.
- ES-ISAC – The decrease is related to third-party funding of CRISP. Workshop fees associated with the Grid Security Conference are budgeted to be slightly lower in 2016 based on 2014 actual results. This was previously budgeted under the Critical Infrastructure Department, which is now merged into the ES-ISAC.

**Table B-4
Personnel**

Personnel Expenses	Budget 2015	Projection 2015	Budget 2016	Variance 2016 Budget v 2015 Budget	Variance %
Total Salaries	\$ 27,580,677	\$ 27,807,341	\$ 28,842,336	\$ 1,261,660	4.6%
Total Payroll Taxes	1,673,628	1,826,683	1,871,367	197,739	11.8%
Total Benefits	3,547,178	3,381,238	3,579,280	32,103	0.9%
Total Retirement	3,001,829	2,743,101	2,990,823	(11,006)	-0.4%
Total Personnel Costs	<u>\$ 35,803,312</u>	<u>\$ 35,758,363</u>	<u>\$ 37,283,807</u>	<u>\$ 1,480,495</u>	<u>4.1%</u>
FTEs	192.30	192.03	192.47	0.17	0.1%
Cost per FTE					
Salaries	\$ 143,425	\$ 144,807	\$ 149,852	6,427	4.5%
Payroll Taxes	8,703	9,512	9,723	1,020	11.7%
Benefits	18,446	17,608	18,596	150	0.8%
Retirement	15,610	14,285	15,539	(71)	-0.5%
Total Cost per FTE	\$ 186,185	\$ 186,212	\$ 193,710	\$ 7,526	4.0%

Explanation of Significant Variances – 2016 Budget Compared to 2015 Budget

The increase in salaries, payroll taxes, and retirement expenses is due to the increase in budgeted salaries, the addition of more senior staff in 2015, and the need to pay higher market-based compensation than previously budgeted to attract and retain employees. The average cost per FTE is also affected by an increase in the across-the-board FTE adjustment to account for attrition and hiring delays. This reduced the total number of FTEs budgeted in all departments. Benefits are budgeted to increase based on the most recent market data as provided by NERC's insurance broker. Payroll taxes are increasing at a higher percentage due to an increase in the maximum salary subject to FICA taxes.

Table B-5*NOTE: This table has been replaced by Exhibit C.***Table B-6**
Rent

Rent	Budget 2015	Projection 2015	Budget 2016	Variance 2016 Budget v 2015 Budget	Variance %
Office Rent	\$ 2,887,777	\$ 2,887,777	\$ 2,954,287	\$ 66,510	2.30%
Utilities	-	-	-	-	-
Maintenance	100,000	100,000	100,000	-	0.00%
Total Office Rent	\$ 2,987,777	\$ 2,987,777	\$ 3,054,287	\$ 66,510	2.23%

The increase is related to the additional space in the Washington, DC, office for the separation of the ES-ISAC from other NERC operations and to a decrease in rent income from the subtenant in NERC's former Washington, DC, offices.

**Table B-7
Office Costs**

Office Costs	Budget 2015	Projection 2015	Budget 2016	Variance 2016 Budget v 2015 Budget	Variance %
Telephone	\$ 560,318	\$ 526,112	\$ 548,851	\$ (11,467)	-2.05%
Telephone Answering Srv	3,000	1,442	3,000	-	0.00%
Internet	403,357	389,163	375,900	(27,457)	-6.81%
Office Supplies	189,600	162,259	173,800	(15,800)	-8.33%
Computer Supplies and Maintenance					
Computers	9,000	11,000	25,000	16,000	177.78%
Computer Supplies	100,100	87,309	98,400	(1,700)	-1.70%
Maintenance & Service Agreements	1,749,979	1,757,959	1,874,871	124,892	7.14%
Software	140,680	98,440	117,500	(23,180)	-16.48%
Network Supplies		-	-	-	
Publications & Subscriptions	40,495	139,763	167,650	127,155	314.00%
Dues	53,000	59,120	48,050	(4,950)	-9.34%
Postage	12,300	9,450	16,350	4,050	32.93%
Express Shipping	38,500	25,647	28,200	(10,300)	-26.75%
Copying	65,000	105,116	105,000	40,000	61.54%
Reports	3,000	3,000	2,000	(1,000)	-33.33%
Stationary/Forms	5,000	5,000	2,500	(2,500)	-50.00%
Equipment Repair/Service Contracts	100,000	100,000	75,000	(25,000)	-25.00%
Bank Charges	20,000	20,000	42,500	22,500	112.50%
Taxes	5,000	-	5,000	-	0.00%
Merchant Card Fees	85,000	74,715	86,000	1,000	1.18%
Total Office Costs	\$ 3,583,328	\$ 3,575,494	\$ 3,795,572	\$ 212,243	5.92%

Explanation of Significant Variances – 2016 Budget Compared to 2015 Budget

The increase in Office Costs is primarily due higher Maintenance and Service agreement costs related to data storage requirements of CRISP, offset by a reduction in costs resulting from the decision to purchase the necessary hardware and software to back up NERC data and eliminate the monthly service to provide this capability. The increase in Publications and Subscriptions is based on 2015 projected costs and is primarily for information technology research and advisory services. The decreases in Internet and Equipment Repair/Service Contracts and the increase in Copying are based upon 2015 projected costs.

Table B-8
Professional Services

Professional Services	Budget 2015	Projection 2015	Budget 2016	Variance 2016 Budget v 2015 Budget	Variance %
Independent Trustee Fees	\$ 1,085,000	\$ 1,047,813	\$ 1,085,000	\$ -	0.00%
Trustee Search Fee	-	61,232	100,000	100,000	
Outside Legal	930,000	419,512	730,000	(200,000)	-21.51%
Lobbying Fees	50,000	50,000	50,000	-	0.00%
Accounting & Auditing Fees	150,000	150,000	154,500	4,500	3.00%
Insurance Commercial	200,000	250,000	225,000	25,000	12.50%
Outside Services	196,280	172,235	164,800	(31,480)	-16.04%
Total Services	\$ 2,611,280	\$ 2,150,792	\$ 2,509,300	\$ (101,980)	-3.91%

The Professional Services budget includes trustee search fees, which is required in 2016 to replace a trustee whose term limit has been reached.³⁷ The reduction in outside legal fees is based on taking more work in-house and a reduction in projected outside legal needs due to the completion of certain contract negotiations. The increase in insurance is related to the retention of an outside insurance advisor to assist NERC in managing the company's insurance needs, which has become more complex. The projected reduction in outside service costs is primarily due to cost reductions achieved by a change in providers.

Table B-9
Miscellaneous

Miscellaneous Expenses	Budget 2015	Projection 2015	Budget 2016	Variance 2016 Budget v 2015 Budget	Variance %
Miscellaneous Expense	\$ 6,500	\$ 7,000	\$ 6,500	\$ -	0.00%
Employee Rewards and Recognition	10,000	10,000	10,000	-	0.00%
Community Resp & Employee Engagement	10,000	10,000	10,000	-	0.00%
Year-end Employee Recognition Event	10,000	10,000	10,000	-	0.00%
Total Miscellaneous Expenses	\$ 36,500	\$ 37,000	\$ 36,500	\$ -	0.00%

The 2016 Miscellaneous Expense budget is \$36,500, which is equal to the 2015 budget. This budget is intended to cover the cost of (1) token gifts to retiring employees, condolence flowers in the event of a death in the family of an employee, and similar types of miscellaneous expenses (\$6.5k); (2) funds to support Community Responsibility and Employee Engagement Committee activities (\$10k); (3) departmental and company team-building activities and employee rewards and recognition expenses that are not otherwise included in personnel expenses (\$10k); and (4) year-end employee recognition meal expenses (\$10k).

³⁷ Further information regarding the increase in Trustee fees may be found in the background materials to Agenda Item 2 on the August 14, 2013, Corporate Governance and Human Resources Committee agenda.³⁸

Table B-10
Other Non-Operating Expenses

Other Non-Operating Expenses	Budget 2015	Projection 2015	Budget 2016	Variance 2016 Budget v 2015 Budget	Variance %
Gain/Loss from Sale of Assets				\$ -	
Property Tax Expense	\$ 50,000	50,000	\$ 50,000	-	
Office Relocation	-			-	
Interest	81,000	20,206	60,000	(21,000)	
Total Other Non-Operating Expenses	\$ 131,000	\$ 70,206	\$ 110,000	\$ (21,000)	-16.03%

The decrease in budgeted interest expense is due to a lower outstanding debt balance than assumed in the 2015 budget. Due to budget underruns in 2014, the company did not draw on the loan to fund 2014 expenditures as planned in the 2014 budget.

Section C — Non-Statutory Activity

NERC has no non-statutory activities.

Section D — Supplemental Financial Statements

NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

STATEMENT OF FINANCIAL POSITION

	12/31/2014 Per Audit	12/31/2015 Projection	12/31/2016 - Projection
ASSETS			
Cash	38,810,796	38,414,704	37,723,429
Trade Accounts receivable, net of allowance for uncollectible accounts of \$0 and \$62,573 in 2013 and 2012	5,059,002	5,059,002	5,059,002
Prepaid expenses and other current assets	756,727	756,727	756,727
Security deposit	99,136	125,416	125,416
Plan Assets (457b and 457f)	522,756	793,956	793,956
Property and equipment	5,929,366	8,315,223	9,584,281
Total Assets	51,177,783	53,465,028	54,042,811
LIABILITIES AND NET ASSETS			
Liabilities			
Current Portion			
Accounts payable and accrued expenses (incl, vacation accrual)	4,876,284	4,876,284	4,876,284
Accrued Incentive Comp	4,054,329	4,622,109	4,760,772
Deferred rent-current	249,269	322,218	372,924
Deferred compensation-current	14,257	14,257	14,257
Capital lease obligations - current	56,457	-	-
Accrued retirement liabilities	1,907,562	1,696,250	1,753,137
Debt Service - Current Portion	421,667	1,055,000	1,168,472
Deferred income	6,228,959	6,228,959	6,228,959
Deferred revenue - penalties	-	-	-
Deferred revenue - CRISP	3,953,379	3,953,379	3,953,379
Regional assessments	11,438,455	11,438,455	11,438,455
Total Current Portion	33,200,618	34,206,910	34,566,638
Long-Term Portion			
Deferred compensation ¹	783,446	845,446	965,446
Capital Project Financing - non-current	456,806	1,301,805	1,633,333
Deferred rent - non-current	3,569,492	3,247,274	2,874,350
CRISP Insurance Reserve	500,000	500,000	500,000
Deferred Revenue - Assessment Stabilization Reserve	-	-	2,271,000
Capital lease obligations - non-current	216,481	165,843	159,745
Total Non-Current Portion	5,526,224	6,060,368	8,403,874
Total Liabilities	38,726,842	40,267,277	42,970,512
Net Assets - unrestricted	8,485,941	9,487,751	11,072,299
Net Assets - restricted	3,965,000	3,710,000	-
Total Liabilities and Net Assets	51,177,783	53,465,028	54,042,811

¹Includes 457b and 457f liabilities, life insurance for former executive, and retiree medical

Exhibit A – Common Assumptions

Shared Business Plan and Budget Assumptions NERC and the Regional Entities 2015–2018 Planning Period (2016 Budget Cycle)

Throughout 2014 and early 2015, NERC and the eight Regional Entities worked to develop a common operating model³⁸ with defined roles and responsibilities that align with business planning goals, objectives, metrics, and assumptions for the electric reliability organization (ERO) Enterprise for the 2015–2018 planning period (and specifically for the 2016 budget cycle). Recently, at its November 2014 meeting, the NERC Board of Trustees (Board) approved an updated version of the [ERO Enterprise Strategic Plan](#) with newly aligned goals, objectives, and deliverables for the 2015–2018 planning period. The ERO Enterprise’s annual strategic planning and performance monitoring processes will remain transparent with results reported out on a quarterly basis to NERC’s Corporate Governance and Human Resources Committee and Board in support of the ERO corporate oversight function.

As part of the updated strategic plan, NERC and the Regional Entities consolidated five goals within the existing focus areas of standards; compliance, registration, and certification; risks to reliability; and coordination and collaboration. They also identified a number of associated objectives and deliverables expected of the ERO Enterprise. They also added four overarching performance metrics to assess the overall effectiveness of the ERO Enterprise in addressing risk to the Bulk Electric System (BES) and improving BES reliability. These metrics concentrate on measuring progress in achieving reliability results, assuring standards and compliance effectiveness, improving risk mitigation, and program execution. The following set of common assumptions have been developed to guide ERO Enterprise resource projections³⁹ for the 2015-2018 business planning and budget (BP&B) period (and specifically for the 2016 budget cycle) in support of achievement of the goals and objectives set forth in the Strategic Plan.

Similar to prior planning cycles, the specific resource needs and budgets of NERC and the Regional Entities will be publicly posted and made available on NERC’s website for review and will be approved in open session by NERC’s Finance and Audit Committee as part of the annual BP&B processes. This is in addition to the process that the Regional Entities use to obtain review of their BP&Bs by both their board and stakeholders. NERC’s review of the Regional Entity BP&Bs will be primarily focused on ensuring alignment of activities with the Strategic Plan and adequacy of resources to support performance of delegated functions and key efforts. A [2016 BP&B schedule](#) has been developed to identify important meeting dates, review periods, posting dates, etc. associated with the development and completion of the NERC and Regional Entity BP&Bs.

These assumptions will continue to be refined based on comments received from stakeholders and the ongoing work conducted by NERC and Regional Entity leadership regarding specific goals, objectives, and supporting activities over the planning period.

Legal and Operating Framework

NERC and the Regional Entities will continue to work under the existing regulatory framework governing the establishment and enforcement of reliability standards for the bulk power system established by applicable governmental authorities in the United States, Canada, and portions of Mexico, as well as the authorizations contained in the FERC’s order approving NERC as the ERO. Because the Regional Delegation

³⁸

³⁹ NERC recognizes there are often unique factors that drive differences in each entity or organization’s final determination of its resource needs and budget. Regional Entity-specific assumptions are stated in each Regional Entity’s business plan and budget as appropriate.

Agreements (RDAs) expire on January 1, 2016, NERC and the Regional Entities will work collaboratively to identify any necessary revisions to the RDAs as renewal efforts continue in 2015.

NERC will enhance its oversight of the Regional Entities' performance of their delegated functions. NERC in collaboration with the Regional Entities will develop goals, measures, and reports to assess and evaluate the Regional Entities' performance of their RDAs, NERC's Rules of Procedure, the Compliance Monitoring and Enforcement Program, Commission requirements, and directives that are in effect pursuant to Section 8(c) of the RDAs. NERC will continue to provide feedback and direction to the Regional Entities on performance improvements. NERC and the Regional Entities will also continue to work collaboratively to refine and revise processes and procedures to eliminate duplication, increase operational efficiencies, enhance ERO-wide consistency, and achieve measureable reliability outcomes. NERC expects that the Regional Entities will continue to have the primary responsibility for day-to-day operations and interactions with Registered Entities.

Stakeholder Participation

NERC and the Regional Entities develop their business plans, budgets, and resource requirements based upon the assumption of continued stakeholder participation in support of key program areas, while recognizing that stakeholder resource limitations may affect specific levels of participation in any given activity. The availability and adequacy of industry resource support will be evaluated on an ongoing basis.

External Factors

Factors external to the ERO Enterprise have the potential to influence project prioritization, resource needs, and allocation. These factors include, but are not limited to, the following:

- FERC (or other governmental authorities) orders, directives, audits, and performance assessments;
- The implementation and deployment of the finalized EPA 111(d) and Ozone Rules and State Implementation Plans, which may have significant reliability and assessments impacts;
- The number and significance of changes to Balancing Authorities and Reliability Coordinators, prompting the need for associated certification and reliability plan assessments;
- An unanticipated rise in the rate and severity of entity violations;
- An unanticipated rise in the rate and severity of system events requiring formal investigations beyond historic volumes, and causal drivers of these events;
- New technologies and changes in resource or demand composition that require additional reliability studies and reliability risk analysis, including new techniques for conducting relevant assessments;
- Changes in applicable laws and regulations, including environmental laws and others;
- Priority risk activities identified by the Reliability Issues Steering Committee (RISC), committees of the Board, and through other stakeholder input;
- The ability of stakeholders to support the pace and scope of the various activities while implementing the results of earlier efforts.

Collaboration with the Trade Associations and Forums

The activities of the North American Transmission Forum (NATF), North American Generator Forum (NAGF), and other trade forums and associations are expected to complement ERO Enterprise activities and limit the need to add incremental resources to the NERC and Regional Entity BP&Bs that might

otherwise be required in the absence of these forums. In 2013, NERC entered into a memorandum of understanding with the NATF to help ensure that the common objectives of each organization are achieved in the most efficient and effective manner. There is mutual agreement, with no commitment of funds, to coordinate information sharing, engage in the development and maintenance of mutual reliability activities, and provide periodic reports to pertinent audiences. A similar agreement has been developed with the NAGF in 2014.

Increased collaboration between the NATF and NERC is expected to continue into 2016 so that NATF members can more fully support NERC efforts on projects, such as: protection systems misoperations reduction, physical security, various activities related to reliability assurance, improvement of modeling practices, and complementary efforts on addressing the geomagnetic disturbance challenges.

Key Assumptions by Program Area⁴⁰

Reliability Standards Program

- The number of continent-wide standards development projects will remain at the reduced “steady state” level to be achieved in 2015.
- Continent-wide standards projects will consist primarily of conducting enhanced periodic reviews to improve the content and quality of standards, responding to identified risks to reliability, and addressing FERC directives that may arise. This activity will require the allocation of technical resources from several internal NERC departments (e.g., Reliability Assessment and Performance Analysis (RAPA), Reliability Risk Management (RRM), Compliance Analysis and Certification (CAC), and Compliance Assurance) and support from across the enterprise.
- Regional standards will be reviewed for potential opportunities to incorporate them into their associated continent-wide standards as variances through scheduled enhanced periodic reviews. Regional and NERC standards development processes will have to be incorporated in order to accomplish this task. Each Regional Entity will work with NERC and possibly other Regional Entities on projects where there is a regional standard/variance. Regional standards development activity will be driven by requests the Regional Entity may receive or issues the Regional Entity may identify. Regional standards development activity is expected to remain low.
- In coordination with Standard Drafting Teams (SDTs) and consistent with current approaches, Regional Entities may support outreach during standard development. Additionally, following FERC approval, Regions will assist the transition of standards to compliance monitoring and enforcement supporting industry and auditor training, or providing information regarding the intent of the standard.
- The number of interpretations are expected to remain low. However, guidance requests associated with the implementation of Standards may increase.
- NERC standards staff will remain at the projected 2015 level.

Compliance Monitoring and Enforcement, and Organization Registration and Certification Programs

⁴⁰ These statements, which are generally organized by program area, are intended to help generally guide resource allocation decision making in the development of the 2016 business plans and budgets.

Compliance and Enforcement

- The implementation of the risk-based CMEP, as transformed through the Reliability Assurance Initiative (RAI), will require the allocation of dedicated resources from both NERC and the Regional Entities for both compliance and enforcement.
 - Regional Entities should anticipate at least the same level of participation in implementing the risk-based CMEP as they did in developing it under RAI in 2014 and possibly more as they operationally implement its components for the first time in 2015.
- NERC and the Regional Entities are expected to utilize consistent compliance monitoring practices and focus on higher reliability risks to increase efficiency and mitigate overall compliance costs for registered entities.
- The *Compliance Auditor Capabilities and Competency Guide* is expected to be adopted in 2015. The Regional Entities will need to assess their existing resources, including potentially adjusting skill sets to meet these guidelines. This may require additional resources or a reallocation of resources to attain and maintain these competencies (see below).
- NERC and the Regional Entities are planning to support the training and education requirements and guidelines necessary to meet the criteria set forth by the *ERO Auditor Manual and Handbook* and the *Compliance Auditor Capabilities and Competency Guide*. Regional Entities will be expected to demonstrate the following:
 - Reliability Standards Audit Worksheets (RSAWs), bulletins, compliance analysis reports (CARs), training documents, and other related compliance guidance are provided to compliance personnel and other staff, as necessary.
 - Compliance Auditor job descriptions are reviewed and properly reflect the guidance provided in the *Compliance Auditor Capabilities and Competency Guide*.
 - A gap analysis has been performed to identify both individual training needs and organizational compliance resource needs to assure properly staffed engagements capable of performing work associated with identified engagement scope (e.g., appropriate individual and team knowledge, education and collective skills).
 - A process is in place for personnel to acknowledge their commitment to professional standards, ethical principles, and rules of conduct.
 - An assessment process is in place to evaluate audit team competencies and capability needs.
 - A training program is in place that addresses initial and continuing training for capability and competency development. Regional Entities will continue to budget with a strategic objective of acquiring, engaging, and retaining highly qualified talent suited to the mission.
- An assessment project was completed in 2014 to evaluate software systems used for compliance, registration, analysis and tracking, which may result in changing or replacing existing systems in the future. Until a decision is made by the EROEMG to change or replace existing systems, NERC and the Regional Entities should continue to maintain contractor and consultant services to support existing systems.

- Risk-based monitoring activities are expected to increase through implementation of the risk-based CMEP, but they should have little effect on overall resource requirements.
- Non-critical infrastructure protection (CIP) violations are expected to continue decreasing as most registered entities have been audited and the standards and RSAWs have matured.
- CIP compliance personnel will need to support the transition from the cyber-security Reliability Standards version 3 (V3) to V5 and provide support to entities undergoing a CIP audit:
 - NERC will lead the CIP V5 training development, coordination, and facilitation for the ERO CIP auditors and industry outreach. ERO CIP auditors will support these activities in collaboration with NERC, as needed, to ensure appropriate knowledge and guidance are developed, understood, and administered.
 - Potential increase in resources may be necessary to support compliance and enforcement activities related to CIP V5 Standards in 2016 and 2017.
 - Additional resource considerations should be given to managing the increased amount of Registered Entities applicable to the CIP Standards due to the addition of “low impact” requirements that are forecast to come into effect in 2017 and 2018.
 - Development of guidance documents for CIP V5 is expected to decrease in 2016.
 - Additional training requirements will be necessary to support the transition affecting the annual training commitments.
- Additional resources may be necessary for increased Physical Security activities as the CIP-014 Reliability Standard becomes effective. Similar to the cyber security Reliability Standards activities, industry and auditor training will be developed, along with increased guidance.
- As the depth of focused analysis of reliability performance and events across NERC improves, any identification of possible gaps in standards and compliance monitoring could potentially influence this program area.

Organization Registration and Certification

- Three central reforms have been identified as a result of the completion of the risk-based registration activity in 2014:
 - Modifications to the NERC Registry Criteria have been proposed, including the deactivation of three functional entities (Purchasing-Selling Entities, Interchange Authorities, and Load-Serving Entities), modifications to the threshold criteria for Distribution Providers, and alignment of five registration categories with the BES definition.
 - The risk-based application of Reliability Standards, which establishes subset lists of Reliability Standards for registered entity functions (e.g., Under-Frequency Load Shedding-only Distribution Providers), has been incorporated into the rules.
 - Procedural improvements to the registration process have been added.

These proposed reforms strengthen the registration process and are an important milestone in NERC’s approach to managing risks to reliability. Deployments of these revisions to the registration process will take place in 2015 and are outlined in an implementation plan; however, the implementation timelines are contingent on FERC’s response to the NERC filing.

- No further enhancements are anticipated to support the ongoing next phases of this activity.
- Based on the 2015 technical assessment of the Phase 2 registered functions (Transmission Operator, Transmission Owner, Generator Owner, and Generator Operator), support for the development of subsets of standards may be necessary.
- Certification program assessment will result in enhancements to the current program, targeted for implementation in 2016.
- Planned oversight activities for 2016 will be aligned with the ERO Enterprise Operating Model and may affect 2016 resource allocation, but they should have little effect on overall NERC resource requirements. NERC understands that each regional entity will need to evaluate their individual resource needs and allocations.

Reliability Assessment and Performance Analysis Program (RAPA)

- Regional Entity resources are needed to manage the process execution, technical validation of the definition and exception requests, self-determined notification submittals, and periodic reviews of network changes affecting BES determinations, as well as requests for registration and certification reviews.
- RAPA resources within Regional Entities and NERC will be required across the enterprise to jointly expand the assessment and performance analysis capabilities to accomplish the following:
 - Develop and implement expanded and enhanced enterprise-based data collection and analysis systems and capabilities for performance analyses.
 - Support the integration of RAPA information systems for assessments and associated data requirements, with focus on independent and technically sound reliability assessments supporting delivery of high quality reports (e.g., long-term reliability assessment, seasonal assessments, special or scenario assessments, and state of reliability report).
 - Continue the enhancement of the NERC oversight of Regional Entity delegated activities through quality and timeliness metrics supporting the effectiveness of ERO activities to improve system analysis, assessments, and reliability performance, as well as performance analyses models along with data characteristics reflecting the reliability behavior from the changing resource mix.
 - Develop assessment and performance analysis by expanding the use of advanced techniques and tools for resource analysis to perform probabilistic and scenario evaluations that address the impacts of integrating new technologies, changing resource mix or demand composition, and environmental-related regulations or legislation.
 - Effectively implement long-term reliability assessment coordination and collaboration efforts across NERC and the Regional Entities enabling them to independently evaluate the reliability characteristics and behavior of the bulk power system.
 - Provide technical resources and expertise to perform analyses as needed to support and determine risk priorities for standards development, compliance, and enforcement activities.
 - Develop appropriately tailored analysis and overall assessment, including guidance for registered entities, of high impact, low frequency bulk power system risks, including

physical security, geomagnetic disturbance (GMD) vulnerability, planning guides, and planning standards.

- Identification of the key reliability risks and appropriate risk control projects designed to enhance reliability or mitigate risks will be required.
- The group will support the development of long-term sustainable Interconnection-based models that exhibit the accuracy and fidelity reflecting actual bulk power system reliability performance and dynamic conditions. These models can integrate the reliability behavior of changing resource mixes and the technology of both generation and loads:
 - Metrics demonstrating the accuracy of the powerflow and dynamics models replicating actual system conditions and reliability behavior will be developed and tracked.
 - NERC and the Regional Entities will provide technical resources to oversee the effective and continuous improvement of the models that incorporate recognition of reliability behavior of loads and generation associated with the changing resource mix.
 - The compilation of long-term sustainable interconnection-wide powerflow and dynamics cases under Reliability Standards MOD-032 and MOD-033 will be supported.
 - Essential Reliability Services measures and framework for assessments will be developed, refined, and implemented.
- Contractor and consultant services may be necessary to maintain continued support and technical expertise associated with activities listed in the above assumptions and with supporting special assessment, scenario, or other technical research efforts. It could potentially impact both NERC and Regional Entity budgets:
 - If significant events occur, contractor services may be required to support wide-area system analyses and root cause evaluations.
 - Contractor services may be necessary to support special assessment analyses (e.g., EPA 111(d) evaluation or Essential Reliability Services), scenario analyses (e.g., polar vortex-like severe event analyses and gas-electric interdependence), and other technical research efforts (e.g., similar to GMD, and FAC-003 Vegetation Management).

Training, Education, and Operator Certification Program

- NERC will continue to budget for the unified learning management system (LMS) focused primarily on Regional Entity audit staff initially, with near-term consideration for risk-based compliance monitoring and enforcement related staff. Future inclusion of other ERO functional areas is expected as potential requirements present themselves during system development. NERC will work with the Regional Entities to consolidate training resources and promote better coordination, planning, delivery and management of training efforts across the enterprise without adversely impacting region-specific training requirements.
- The implementation of compliance auditor training and competencies are expected to influence the allocation of training resources throughout the enterprise. NERC will continue the development of compliance training modules with assistance of qualified subject matter experts from the Regional Entities and incorporation of outside expertise/services.

- Additional resources may be required, and increases to NERC and Regional Entity training budgets could be expected, to support certain training activities of the risk-based CMEP.
 - Regional Entities should allocate resources to meet the training requirements for the compliance and enforcement staff that are associated with the implementation of the risk-based CMEP.
- The Regional Entities, in collaboration with NERC, are expected to help assess and determine training needs. This includes flexibility in approach between Regional Entities, and anticipating areas of support for their staffs and stakeholders for standards, compliance monitoring and enforcement, situational awareness and event analysis, and information technology (IT). Addressing these needs will likely require additional resource allocation and budgeting considerations.
- NERC, in collaboration with Regional Entities, will develop and deliver additional CIP V5 training to support the transition for low impact entities. This may require consideration for additional funding of the NERC training and education budget.
- The Operating Personnel Certification program is expected to remain at a steady state with no additional resources required from the Regional Entities.
- Contractor and consultant services may be necessary to maintain the continued support and technical expertise associated with some enterprise training and education activities.

Situation Awareness and Infrastructure Security (Events Analysis)

- NERC will continue to budget and manage event analysis and situational awareness separate from the compliance and enforcement functions.
- Participation in the ERO event analysis process will continue at or above current levels through 2016.
- NERC will continue to budget and incur costs to operate and maintain the software applications and systems known as situational awareness for NERC, FERC, and the Regional Entities (Version 2 (SAFNrv2)). Additional resource investments may be required to enhance the capabilities of SAFNrv2 throughout the planning period. Any such investments will be NERC funded and not result in an allocation of cost to the Regional Entities.
- Regional Entities will continue to budget for event analysis and situational awareness activities based on their respective Region's historical workload, as they did in the past. Some Regional Entities will continue to allocate resources as part of the activities accounted for under their RAPA program, and should clearly delineate where the activities' resources are budgeted.
- Regional Entities will support critical infrastructure security activities in the context of situation awareness, using those designated resources, unless specifically budgeted and managed elsewhere.

ES-ISAC⁴¹

- NERC will continue to fund, operate and maintain the Electricity Sector Information Sharing and Analysis Center (ES-ISAC), with no increased cost to the Regional Entities.

⁴¹ NERC has dissolved the Critical Infrastructure Department (CID) and realigned those resources and functions mostly under ES-ISAC, with some under Compliance Assurance.

- NERC will continue to fund and conduct the Grid Security Exercise (GridEx) program, with no increased cost to the Regional Entities. Planning activities will occur during even-numbered years and execution of the exercise will take place in odd-numbered years.
- NERC will continue to fund and conduct the Grid Security Conference as an annual event. Other than funding registration fees for individual attendees from their Regional Entity, no Regional Entity funding is anticipated.
- The strategic review by the Electricity Subsector Coordinating Council (ESCC) of the ES-ISAC may affect resource and funding requirements.
- NERC will continue to manage CRISP and may advance other security management tools.

Information Technology and Project Management Office (PMO)

- NERC and the Regional Entities will collaboratively work to refine existing strategies and governance and procurement practices applicable to the development, operation, and maintenance of enterprise architecture, including software and data systems supporting both NERC and Regional Entity operations.
- NERC's BP&B will include ongoing funding support for the development, operation, and maintenance of NERC approved enterprise applications. Enterprise application funding in any given year will be subject to the budget and funding limits set forth in NERC's approved BP&B. Regional Entities should include appropriate funding for applications and supporting systems designed to satisfy Regional business needs (if not within the mutually agreed upon scope of the ERO Enterprise applications that are funded by NERC).
- Regional Entities may be required to allocate or augment business teams to help develop application business requirements and to test business functionality within the enterprise applications.
- Ongoing investments will be required to develop, implement, and maintain enhancements to the NERC and Regional Entity websites, ERO applications, and ERO data repositories, which are required to improve access to information and data. NERC and the Regional Entities will separately fund any enhancements to their own websites.
- NERC anticipates that NERC's management of NERCnet will be transferred to the Eastern Interconnect Data Sharing Network (EIDSN) during 2015. Entities currently using NERCnet may see an increase or decrease in their costs going forward depending upon EIDSN costs and billing arrangements. Users should consult with the EIDSN for further information.
- NERC may consider transitioning other tools to third party ownership, operation, and maintenance. NERC has not made a determination regarding which, if any, tools are likely to be transitioned or the timing of such transition. Any such transition will be accomplished in a collaborative manner with affected users, including advance notice and efforts to mitigate financial and operational impacts.

ERO Enterprise-wide Risk Management

- A common ERO Enterprise risk management framework will be developed and implemented to focus on identifying, assessing, prioritizing, and mitigating risks associated with the performance of both NERC and the Regional Entities. This will be a multi-year activity.

- NERC’s Director of Risk Management and Internal Controls will be responsible for the overall development of this framework, with the approval of the ERO Regional Executives and under the oversight of NERC’s Enterprise Wide Risk Management Committee.
- NERC will work, in collaboration with Regional Entities, to develop and implement this framework. Regional Entities may add risk management and internal control resources as need

Exhibit B – Application of NERC Section 215 Criteria

DISCUSSION OF HOW THE NERC MAJOR ACTIVITIES IN THE 2015 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

Introduction

This Exhibit discusses how the major activities in NERC’s 2016 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 of NERC conducted by the 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.¹ NERC submitted the written criteria to the Commission in a compliance filing dated February 21, 2013 in Docket No. FA11-21-000.² The Commission approved the NERC written criteria, with modifications, in an order issued in that docket on April 18, 2013.³ The NERC written criteria as used in this Exhibit incorporate the modifications specified in the Compliance Order.⁴

II. Reliability Standards Program 2016 Major Activities

The major activities of the Reliability Standards Program are described at page 20 of the 2016 Business Plan and Budget. The Reliability Standards Program carries out the ERO’s responsibility to develop, adopt, obtain approval of, and modify as and when appropriate, mandatory Reliability Standards for the reliable planning, operation, and critical infrastructure protection of the North American BES. The major activity areas for this program include (1) providing project management and leadership to the reliability standard development process to deliver high-quality, continent-wide reliability standards, including standard development outreach activities, facilitation of Standard Drafting Team activities, drafting support, assisting Standard 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. Additionally, the Reliability Standards Program provides technical advice and final quality review for Regional Entity Standards development processes, presents proposed Regional standards to the NERC

¹ *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.

² *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 (“February 1, 2013 Compliance Filing”).

³ *North American Electric Reliability Corporation, Order on Compliance*, 143 FERC ¶ 61,052 (2013) (“Compliance Order”).

⁴ 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.

Board, and prepares submissions for approval of regional standards to the applicable regulatory authorities in the U.S. and Canada. The Reliability Standards Program supports the Cost Effective Analysis Project carried out by industry technical experts to ensure that the standards development process produces cost effective new and revised Reliability Standards.

For 2016, the major activities of the Reliability Standards Program will seek to ensure that the Reliability Standards Development Plan is effectively executed and that NERC's Reliability Standards are focused on and appropriately mitigate significant risks to reliability. The Reliability Standards Program will be focused on supporting the Reliability Risk Management Process ("RRMP"), resolving outstanding and newly-issued FERC directives concerning Reliability Standards, and completing the transformation of the NERC Reliability Standards to steady state by early 2016. The major activities will include: (1) focusing on the selection of standards projects undertaken, including developing effective solutions to identified reliability risks, whether through a Reliability Standard or another approach or combination of approaches; (2) addressing FERC directives and responding to FERC orders through standards development projects as necessary, including identifying whether there is an equally effective and efficient way to address the concern that fostered the directive or determining whether there is technical justification that the directive is no longer needed; (3) completing the transformation of NERC's standards to steady state, including addressing possible outstanding Paragraph 81 Phase 2 requirements candidates and Independent Expert Review Panel recommendations for retirement, and conducting concurrent development of compliance guidance with Reliability Standards; (4) determining whether to make further improvements to Reliability Standards with respect to content, clarity of compliance expectations, results-based orientation, and number of requirements; and (5) facilitating smooth transitions to new standards such as CIP Version 5 and the Physical Security standard, including by working with other departments to develop guidelines, webinars and other activities to support auditor and industry training for the new standards. If it is determined that there is a desire to make further improvements to Reliability Standards, periodic reviews of the Reliability Standards in 2016 will include measured review of the content of standards, considering whether requirements could more effectively mitigate reliability risks; whether 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 in the standards are clear.

The major activities of the Reliability Standards Program satisfy the following criteria:

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

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

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

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

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

V: Is the activity one that is required or specified by, or carries out, the provisions of NERC's Rules of Procedure 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 Rules of Procedure provisions for these major activities 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 Monitoring and Enforcement and Organization Registration and Certification Program Area 2016 Major Activities

The major activities of the Compliance Monitoring and Enforcement and Organization Registration and Certification Program Area are described at pages 24, 29 and 33 of the 2016 Business Plan and Budget. This Program Area is comprised of three operational groups: (1) Compliance Assurance, (2) Compliance Analysis, Certification and Registration, and (3) Compliance Enforcement.

The Compliance Assurance group works collaboratively with the Regional Entities to ensure consistent and effective implementation of the Compliance Monitoring and Enforcement Program ("CMEP") across the entire ERO Enterprise. This group's activities include the following major activities and functions: (1) ensuring consistent and fair implementation of the CMEP and of the risk-based compliance monitoring program for reliability improvements, including developing and maintaining the necessary compliance-related processes, procedures, IT platforms, tools and templates; (2) development and delivery of comprehensive and ongoing training on risk-based compliance monitoring and enforcement for ERO Enterprise staff; (3) oversight of the Regional Entities' delegated compliance functions, including consistent and uniform CMEP planning, implementation, and reporting, compliance operations and coordination, and auditor training; (4) CIP Version 5 activities related to transition, training, and compliance design of ERO education programs that support industry compliance and the integration of risk assessment and internal controls; (5) CIP-014-1 training and outreach activities relating to effective implementation of the Physical Security Standard; (6) development of minimum baseline monitoring requirements; (7) development and maintenance of RSAWs; (8) support for Regional Entity and industry committees, working groups, and task forces, such as the Compliance and Certification

Committee; and (9) development and delivery, supported by Regional Entities, of guidance to the ERO Enterprise for Reliability Standards associated with risk elements and training for every Reliability Standard approved by FERC.

The Compliance Assurance group provides compliance information, statistics and perspectives to standard drafting team; collaborates with industry and the Standards department in the standards development process by providing draft RSAW guidance and input on the auditability and enforceability of draft standards; promotes registered entities' development of effective compliance programs and internal controls; and provides industry focused outreach events and webinars on the ERO Enterprise's approaches to risk-based CMEP activities. As part of the implementation of the risk-based CMEP, the Compliance Assurance group along with the Compliance Enforcement group regularly addresses continued training of ERO Enterprise staff, outreach to industry, oversight of Regional Entity implementation of risk-based processes, and development and benchmarking of objective metrics to support measures of success for the risk-based CMEP. During 2016, the Compliance Assurance group's implementation of the risk-based CMEP will evolve into evaluation of how risk-based compliance monitoring concepts are utilized, the determinations made when using these concepts, and the results of their practical application by Regional Entities. In addition, the Compliance Assurance group will continue to assist in the smooth transition from Version 3 to Version 5 of the CIP Standards by providing training, webinars and other forms of outreach.

The ongoing and new major activities of the Compliance Assurance group for 2016 will include: developing and implementing a training program to support implementation of the common audit procedures and the ERO Auditor Capabilities and Competencies Guide; working with the Compliance Enforcement and Information Technology departments and with Regional Entity staffs regarding improvements in the existing Compliance, Reporting, Analysis Tracking System and other compliance tools to support risk-based activities; making effective internal controls models and information available to industry; initiating compliance phase-in learning periods for new standards; transitioning to a single ERO approach to compliance monitoring and common audit planning, and consistent implementation of risk-based techniques and principles; consolidating to a common set of RSAWs, or successors, for all standards; creating technically sound training to support compliance methodologies and testing approaches for Reliability Standards; supporting the successful transition to CIP Version 5 Standards that become effective in 2016; and continuing to monitor and support effective implementation and monitoring of the Physical Security Reliability Standard.

The Compliance Analysis, Registration and Certification group is responsible for a range of requirements and activities embodied in Section 500 and Appendices 5A and 5B of the NERC ROP, including ensuring all entities impacting the BES are registered commensurate with risk; ensuring all Reliability Coordinators ("RC"), Balancing Authorities ("BA") and Transmission Operators ("TOP") are certified; ensuring industry maintains effective internal controls programs for reliability assurance risk, and ensuring that compliance gaps identified in reportable events are assessed and addressed if appropriate. Major activities of this group include (1) registration of BES users, owners, and operators who are responsible for compliance with FERC-approved Reliability Standards; (2) certification of RC, BA and TOP; (3) conducting compliance investigations to identify possible violations of Reliability Standards in response to complaints, BES disturbances or other similar triggers; (4) conducting compliance evaluations with Regional Entity staff to confirm that qualified events and disturbances are evaluated against relevant Reliability Standards and to ensure formal compliance monitoring occurs if indicated (5) processing complaints alleging violations of Reliability Standards; (6) conducting activities to reasonably assure the ERO that certain actions have been taken as reported in response to NERC Alerts or guidance

to industry; and (6) oversight of Regional Entity registration, certification, compliance, investigation and complaint programs and processes.

The Compliance Analysis, Registration and Certification group is involved in the design and implementation of the Risk Based Registration initiative, including the related registration criteria. The group is working on technical review and analysis to determine if further refinements are needed for Transmission Owners, TOP, Generation Owners and Generation Operators. The group is also working with the Regional Entities to further evaluate the current Certification program and to develop recommendations relating to any enhancements or changes (including discontinuation) to the program that are identified.

The major activities of the Compliance Analysis, Registration and Certification group for 2016 will include continuation of current initiatives as well as enhanced oversight and quality assurance reviews of Regional Entity performance of delegated registration, certification, investigations and complaint duties.

The Compliance Enforcement department is responsible for overseeing enforcement processes, the application of penalties or sanctions, and activities to mitigate and prevent recurrence of noncompliances with Reliability Standards. The Department 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. The Compliance Enforcement department monitors Regional Entities' enforcement processes and provides oversight over the outcomes of such processes, to ensure due process, identify best practices and process efficiency opportunities, and promote consistency among Regional Entities' business practices; collects and analyzes compliance enforcement data and trends to assist with identification of emerging risks and help to inform development of enforcement policy and processes; files notices of penalty ("NOP") and other submittals associated with noncompliances discovered through Regional Entity compliance, monitoring and enforcement activities; processes and files NOPs and other submittals discovered through NERC-led investigations and audits; collaborates with other NERC departments, including Compliance Assurance, Reliability Standards and Event Analysis; delivers training of the ERO Enterprise staff and outreach to registered entities on compliance and enforcement topics; and coordinates with the Regional Entities on implementation of risk-based processes.

During 2016, the Compliance Enforcement department will focus on the successful implementation of the risk-based CMEP. The Compliance Enforcement department will provide training to Regional Entity staff on the risk-based CMEP processes, including compliance exceptions and the self-logging program. Specific activities of the Compliance Enforcement department in 2016 will include refining and improving risk-based CMEP processes; implementing in a transparent manner an ERO Enterprise enforcement philosophy that is risk-focused and drives desired behaviors by registered entities; expanding the feedback loop of information from Compliance Enforcement to Reliability Standards and other program areas; and working closely with NERC's Compliance Assurance group and Information Technology department and with Regional Entity staffs regarding the improvements in the existing Compliance Reporting Analysis Tracking System and other compliance tools to support risk-based activities.

The major activities of the Compliance Monitoring and Enforcement and Organization Registration and Certification Program Area satisfy the following criteria:

I.A: Is the activity necessary or appropriate for Reliability Standards development projects

pursuant to the NERC Rules of Procedure?

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

II.B: Is the activity necessary or appropriate for the Certification of Reliability Coordinators, Transmission Operators and Balancing Authorities 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?

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?

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.

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

V: Is the activity one that is required or specified by, or carries out, the provisions of NERC’s Rules of Procedure 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 Rules of Procedure 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 Assessment and Performance Analysis Program 2016 Major Activities

The major activities of the Reliability Assessment and Performance Analysis (“RAPA”) Program are described at page 39 of the 2016 Business Plan and Budget. The RAPA Program carries out the ERO’s responsibility to conduct assessments of the reliability and adequacy of the BES to provide insight and guidance about reliability risks and performance improvements. The Program also identifies reliability performance issues and areas of concern (including equipment performance and reliability issues) for consideration in the development and modification of Reliability Standards or other initiatives to enhance reliability. RAPA focuses on developing a technical framework and understanding of the reliability risks facing the industry. The principal activity areas of the RAPA Program include: independent assessments and reports on the overall reliability, adequacy, and associated reliability risks that could impact the upcoming summer and winter seasons and the long-term (e.g. 10-year) planning horizon; development of focused reliability assessments based on emerging reliability risks and other reliability issues garnering an in-depth analysis; performance analysis and recommendations of historical reliability and associated trends, relying on data integrity and consistent methodology, supporting credible recommendations and guidance; reliability assessment and bulk system evaluation model development for analyzing steady-state and dynamic conditions, including frequency, Essential Reliability Services, and stability aspects; assurance oversight that electrical elements necessary for the reliable operation of the BPS are appropriately identified as BES Elements; reliability risk program management for identifying and improving key risk areas using analyses of reliability gaps, risks, controls, and management efforts, as well as integration with Reliability Issues Steering Committee, Long-Term Reliability Assessment, and State of Reliability reports; management of reliability risk program priorities to align with the Strategic Plan and business plan and budget for appropriate level of resources, timing, completion and execution; and establishing reliability leadership and consistent, technically sound guidance and recommendations that position industry and policy-makers to enhance reliability through effective outreach and communications.

The RAPA Program works with industry leaders to create a reliability strategy that is relevant, timely, and effective at addressing the most important reliability risks. RAPA’s efforts are focused on reliability risk analysis and management, including reliability risk management programs relating to changing resource mix, resource planning, protection system reliability, protection system misoperations, uncoordinated protection systems, extreme physical events, availability of real-time tools and monitoring (loss of situational awareness), and right-of-way clearances. RAPA also collects transmission outage, generator performance, and demand response data in a common format using various industry

databases, and uses the data to develop and report on transmission metrics that analyze outage frequency, duration, causes, and other factors related to transmission outages and generator performance. RAPA also collects and analyzes detailed information about individual outage events. Further, RAPA performs reliability assessments that evaluate the expected reliability behavior of the BPS through extensive deterministic and probabilistic analyses to identify potential reliability conditions that could compromise overall reliability. Each year, RAPA performs independent assessments and prepares reports on the overall reliability, adequacy and associated risks for the upcoming summer and winter seasons and the long term, ten year period. RAPA also conducts special reliability assessments as emerging risks and potential impacts to reliability are identified and identifies recommendations and guidance actions that may be warranted. Key special assessments in 2016 are expected to include a special assessment of the reliability implications of the U.S. EPA's final Clean Power Plan rule and a comprehensive Essential Reliability Services assessment. RAPA coordinates forecast reliability data between planning areas, the eight Regional Entities, and governmental organizations, and produces the Electricity Supply and Demand Database.

The RAPA Program works closely with other organizations such as the Electric Power Research Institute, Department of Energy, Institute of Electrical and Electronics Engineers, Institute of Nuclear Power Operations, North American Transmission Forum, North American Generation Forum, Canadian Electricity Association, Interstate Natural Gas Association of America, and Natural Gas Supply Association, on a number of energy industry reliability issues such as geomagnetic disturbances, vegetation management, variable generation integration, and interdependency of gas and electric systems.

The ongoing and new major activities of the RAPA Program for 2016 include: issuing reliability reports, guidelines, recommendations and alerts as needed; preparing the long-term and seasonal reliability assessments; conducting special assessments addressing key reliability issues, including special assessment reports as noted above; preparing an annual State of Reliability Report; providing oversight of the Generating Availability System, Transmission Data Availability System and Demand Response Availability System, along with the Spare Equipment Database; strengthening data collection and validation processes by designing, creating, testing and implementing data systems for reliability assessment, system analysis and risk analysis; providing periodic updates on trends and measures of BES reliability; developing a risk registry and a systematic prioritization process consistent with the RISC framework and supporting BES risk profile measurement and assessment of standards; executing integrated risk control strategies and plans across the organization to address the highest priority existing or emerging risks to BES reliability, and explicitly measure the results; supporting NERC Reliability Standard development and responses to FERC directives by providing technical and system analysis expertise; supporting the technical foundation development for Reliability Standards to address deficiencies or needs revealed by RAPA; advancing NERC's analytical capability for identifying and determining reliability risks and conducting various reliability assessments; providing support and leadership to the NERC Planning Committee and to the subcommittees, working groups and task forces of NERC standing committees; developing a structured approach to evaluate and improve system models, model validation, system analysis, and assessments; assisting in the development of approaches to registration and maintenance of the actively monitored standards list based on reliability trends, risks, and historical information to ensure that the compliance focus remains on the most critical entities and associated Reliability Standards; conducting major event investigations, analysis, and reporting of major findings and recommendations that will improve reliability; building and sustaining an enterprise RAPA team that encompasses risk-informed approaches and structured methodology to identify and address reliability risks; and implementing effective oversight and tracking of various technical aspects of reliability, including frequency response performance, application of the TPL footnote b adoption, and

root cause applications to assessment and analyses. In addition, RAPA will continue to perform reviews, evaluations and confirmations of proposed changes to BES elements by registered entities.

The RAPA Program's top reliability risk projects for 2016 are expected to include: Essential Reliability Services Special Assessment Phase II (scenario analyses of different levels of Essential Reliability Services); development of standardized powerflow models and dynamic modeling components; load composition modeling analysis (working with the Planning Committee to develop a guideline for performing analysis of loads to determine system needs for various essential reliability services); model validation of powerflow and dynamics analysis models; frequency response; support for IEEE 547-Standards for interconnecting distributed resources with electric power systems; gas system coordination guidelines; environmental regulations special assessment; protection system reliability analysis; guidelines for coordination of protection systems and other devices (including coordination of the design and operation of transmission system protection, generator protection and control, special protection systems, and under-frequency and under-voltage load shedding programs); emergency transformer replacement (encouraging industry participation in coordination support programs such as the Spare Equipment Database and the Spare Transformer Equipment Program); and system performance improvement (working with industry to minimize setting errors, maintain microprocessor-based relay firmware, and apply power line communication-aided protection).

The major activities of the RAPA 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?

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 Bulk Power System based on such measurements; and/or identifying approaches to mitigating or eliminating such risks?

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

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 Bulk Power System?

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 Bulk Power System based on such measurements; and/or identifying approaches to mitigating or eliminating such risks?

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 Bulk Power System?

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 Rules of Procedure 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 Rules of Procedure provisions for this major activity 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. Reliability Risk Management (Situation Awareness and Event Analysis) 2016 Major Activities

The major activities of the Reliability Risk Management (“RRM”) group, which is comprised of the Situation Awareness Department and the Event Analysis Department, are described at pages 52 and 56 of the 2016 Business Plan and Budget. The RRM group carries out the ERO’s responsibility to perform assessments (including real-time and near-real-time assessments) of the reliability and adequacy of the BES. The four primary functions of the RRM group are BES awareness, event analysis and determination of root and contributing causes, assessment of human performance challenges that affect BES reliability and identification of improvement opportunities, and support of the NERC Operating Committee. Through awareness and continuous assessment, RRM identifies potential reliability risks to the BES, ensures that industry is well informed of system events, emerging trends, risk analysis, and lessons learned, and provides data and analysis to inform other aspects of NERC’s statutory functions.

The Situation Awareness department along with the Regional Entities monitors BES conditions, significant occurrences and emerging risks, and threats across the 14 Reliability Coordinator regions in North America. Situation Awareness also supports development and publication of NERC Alerts and awareness products, and facilitates information sharing among industry, Regions and government during crisis situations and major system disturbances. Situation is engaged in enhancement, replacement, streamlining or modification of several reliability-related situation awareness and monitoring tools, including SAFNRv2, replacement of the current secure alert tool, and retirement of the NERCnet –

Interconnection Security Network and initiation of service using a new communication network developed, sponsored and managed by the Eastern Interconnection Data Sharing Network consortium. The Situation Awareness Department uses the following reliability-related tools to support its activities: Resource Adequacy (ACE Frequency) Tool; Inadvertent Interchange; Frequency Monitoring and Analysis Tool; Intelligent Alarms Tool; Area Interchange Error Modeling Tool; and Genscape (PowerIQ and PowerRT tools).

The ongoing and new major activities of the Situation Awareness department for 2016 include: ensuring that the ERO is aware of all BES events above a threshold of impact; ensuring 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 to the BES, including any expected actions; conducting the annual NERC Monitoring and Situational Awareness Conference and Human Performance Conference; and administering the NERC Alerts process as specified in §810 of the Rules of Procedure 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.

The Event Analysis department performs assessments of the reliability and adequacy of the BES to identify potential issues of concern related to system, equipment, entity, and human performance that may indicate a need to develop remediation strategies, action plans, or data used to revise Reliability Standards or consider new Reliability Standards. Event Analysis conducts analyses to determine the causes of events, promptly assures tracking of corrective actions to prevent recurrence, and provides lessons learned to the industry. Event Analysis analyzes all reportable events for sequence of events, root cause, risks to reliability, and mitigation and ensures that the industry is well-informed of system events, emerging trends, risk analysis, lessons learned, and expected actions. Additionally, Event Analysis identifies human error risks and precursor factors that allow human error to affect BES reliability, and educates industry regarding such risks, precursors, and related mitigation methods. Event analysis also supports compliance and standards training initiatives and trending and analysis to identify emerging reliability risks to the BES. Event Analysis works in collaboration with and supports the activities of the NERC Operating Committee's Event Analysis Subcommittee, the North American Transmission Forum, the North American Generator Forum, and other industry groups.

The ongoing and new major activities for 2016 for the Event Analysis department 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) refining risk-based methodologies to support better identification of reliability risks, including use of more sophisticated cause codes for analysis; (4) ensuring consistency in reporting and analysis to support wide area assessments of significant reliability trends and risks; (5) conducting training (webinars, workshops and conference support) to inform industry and the ERO of lessons learned, root cause analysis, trends, human performance, and cold weather preparedness and recommendations; (6) developing reliability recommendations and alerts as needed; (7) tracking industry accountability for critical reliability recommendations; (8) ensuring that industry is well informed of system events, emerging trends, risk analysis, lessons learned, and expected actions; (9) conducting major event analysis and reporting of major findings and recommendations that will improve reliability; and (10) advancing the quality and

usefulness of reliability assessments and event analysis data. The Event Analysis department will also support several top priority reliability risk projects being led by the RAPA program.

The major activities of the RRM 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 Bulk Power System 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 Bulk Power System 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 Bulk Power System major events, off-normal occurrences and near miss events, and other Bulk Power System monitoring activities?

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 Bulk Power System 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 Bulk Power System in connection with Bulk Power System major events and off-normal occurrences, but not real-time operational control of the Bulk Power System?

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

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

V: Is the activity one that is required or specified by, or carries out, the provisions of NERC's Rules of Procedure 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 Rules of Procedure provisions for these major activities are §807, 808, 810 and 1001 and Appendix 8.)

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. Electricity Sector Information Sharing and Analysis Center 2016 Major Activities

The major activities of the Electricity Sector Information Sharing and Analysis Center ("ES-ISAC") are described at page 59 of the 2016 Business Plan and Budget. During 2015, NERC combined the Critical Infrastructure Department into the ES-ISAC for operational and financial reporting purposes. The primary function of ES-ISAC is the rapid and secure sharing of information with the electric industry and governmental entities regarding real and potential security threats to the electricity sector and methods and tools to avoid or mitigate the potential impact from these threats. ES-ISAC facilitates sector coordination regarding physical security and cybersecurity events affecting the BES. ES-ISAC develops alerts and notifications for distribution to registered entities and uses its secure portal to receive voluntary reports from industry members.

ES-ISAC manages and executes NERC's responsibilities in the Cybersecurity Risk Information Sharing Program ("CRISP") and acts as the program manager for CRISP. ES-ISAC also maintains a seat on the operations floor of the National Cybersecurity and Communications Integration Center within the Department of Homeland Security, which is the hub for real-time, classified threats and vulnerability work. The ES-ISAC maintains other information-sharing relationships through the U.S. and Canadian governments and coordinates information sharing with agencies in Australia, New Zealand, and the United Kingdom.

ES-ISAC also supports an annual grid security conference and a biennial Grid Security Exercise. ES-ISAC works with industry and governmental entities to examine critical infrastructure protection policy issues and provides staff support to the NERC Critical Infrastructure Protection Committee. ES-ISAC also conducts Cyber Risk Preparedness Assessments ("CRPA") for registered entities.

The ongoing and new major activities of the ES-ISAC for 2016 include: improving the usability and functionality of the information-sharing portal, including continuing development of a new portal platform; increasing analytical capabilities, portal monitoring, and information sharing; continuing to conduct CRPAs for registered entities, preparing a CRPA toolkit to allow industry to conduct self-assessments of cyber risk preparedness, and conducting training and education sessions on the toolkit; developing and licensing cyber awareness and continuous monitoring tools and services; continuing to act as program manager for CRISP; conducting periodic webinars relating to reporting in response to the NERC Aurora Alerts; and continuing to maintain a detailed understanding of emerging vulnerabilities and threats within both the BES community and the broad industrial control systems community, including through the use of intelligence services from specialized security information services providers.

The major activities of the ES-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 Bulk Power System based on such measurements; and/or identifying approaches to mitigating or eliminating such risks? (2) Monitoring, event analysis and investigation of Bulk Power System major events, off-normal occurrences and near-miss events?

III.D: Is the activity necessary or appropriate for awareness of circumstances on the Bulk Power 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 Bulk Power System.

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 Bulk Power System?

V: Is the activity one that is required or specified by, or carries out, the provisions of NERC's Rules of Procedure 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 Rules of Procedure provisions for these major activities are §810 and 1003.)

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. Training, Education, and Operator Certification Program 2016 Major Activities

The major activities of the Training, Education, and Operator Certification Program are described at page 66 of the 2016 Business Plan and Budget. The major activities of this program include oversight and coordination of the delivery of training programs to NERC and Regional Entity staff, including compliance auditors, relating to their job responsibilities; as well as training and education for industry participants on the requirements of Reliability Standards, the Reliability Standards development process, the compliance monitoring and enforcement process (including risk-based compliance monitoring and enforcement), registration and certification; and event analysis, cause analysis, and lessons learned. The Training and Education Program supports the ERO's responsibilities to develop, adopt, and obtain approval of Reliability Standards and to monitor, enforce and achieve compliance with the mandatory standards. The Training and Education Program also supports NERC's System Operator Certification and Continuing Education ("SOCCED") Programs, which ensure that personnel operating the BES have the skills, training and qualifications needed to operate the BES reliably. This Program maintains the credentials required to work in system control centers across North America for over 6,000 system operators. The Training and Education Program prepares operators for complying with requirements of Reliability Standards and appropriately operating the BES during normal and emergency operations.

The major activities of the Training, Education, and Operator Certification Program for 2016 include providing training and education for ERO personnel and industry in the following areas: Reliability Standards compliance, emerging cyber-related issues; auditor skills and consistent audit and investigation techniques and standards compliance reviews, including risk-based compliance monitoring and enforcement and other improvements in compliance and enforcement practices; lessons learned and trends from events, and identified themes from trending and common cause analysis; effective root, apparent and common cause analysis methods; effective compliance cultures with practices, procedures and controls to address reliability risks; human performance fundamentals; and developing and incorporating a systematic approach to ongoing training. In addition, the Training, Education, and Operator Certification Program will continue to work with industry stakeholders and the System Operator Certification exam vendor to create certification exams that will promote reliability of the BPS.

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

V: Is the activity one that is required or specified by, or carries out, the provisions of NERC’s Rules of Procedure 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 Rules of Procedure provision for these major activities are §600 and 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 applicable provisions of Commission orders?

VIII. Administrative Services 2016 Major Activities

NERC's Administrative Services Departments are Technical Committees and Member Forums (for which no funding for activities is budgeted for 2016), General and Administrative, Legal and Regulatory, Information Technology ("IT"), Human Resources, and Finance and Accounting. The major activities of these departments are described at pages 70, 71, 77 and 78 of the 2016 Business Plan and Budget. General and Administrative includes the administration and general management of the organization, the Chief Executive Officer and Chief Reliability Officer, Board of Trustees fees and expenses, communications, external affairs and government relations, and office rent. Legal and Regulatory provides legal support to the organization, including to management, and the Reliability Standards, Compliance Analysis, Registration, and Certification, Reliability Risk Management, and RAPA Programs, as well as general corporate legal support. IT supports NERC's computing, Internet, database and electronic data storage and maintenance, and telecommunications needs, programs, applications and infrastructure, including management of the development and implementation of new software applications and infrastructure. The capital expenditure projects managed by IT represent capital expenditures in hardware, software and associated tools to securely gather, store, analyze and maintain data across the ERO Enterprise to support the ERO's operations, as well as necessary acquisition and replacement of computers, servers and related devices. Human Resources manages all of NERC's human resources functions, including new hires, benefits, employee functions, succession planning, and the employee performance appraisal and incentive structure processes, as well as management and staff training and development activities. Human Resources also obtains compensation studies and other compensation consulting services when needed. Finance and Accounting manages all finance and accounting functions of NERC, including payroll, 401(k), 457(b) and 457(f) plans, travel and expense reporting, monthly financial reporting, sales and use tax, meetings and events planning and services, insurance, internal audit, facilities management, development of the annual business plan and budget, and the ERO risk management framework.

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 Rules of Procedure (ROP)?

II.A: Is the activity necessary or appropriate for the identification and registration of users, owners, and operators of the Bulk Power System 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 Bulk Power System in connection with Bulk Power System major events and off-normal occurrences, but not real-time operational control of the Bulk Power System?

V: Is the activity one that is required or specified by, or carries out, the provisions of NERC's Rules of Procedure 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 Rules of Procedure provision for the 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 Rules of Procedure (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 System⁴⁶ based on such measurements; and/or identifying approaches to mitigating or eliminating such risks?
 2. Monitoring, event analysis and investigation of Bulk Power System 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 Bulk Power System that are required to comply with

⁴⁶ 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.

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 Reliability Coordinators, Transmission Operators and Balancing Authorities 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?⁴⁷
- D. Is the activity necessary or appropriate for conducting, participating in or overseeing compliance monitoring and enforcement activities pursuant to the NERC ROP and (through the Regional Entities) the Commission-approved delegation agreements?
- E. Is the activity necessary or appropriate for information gathering, collection and analysis activities to obtain information to monitor and enforce compliance with Reliability Standards, including evaluating the effectiveness of current compliance monitoring and enforcement processes, the need for new or revised compliance monitoring and enforcement processes, and the need for new or different means of training and education on compliance with Reliability Standards, such as:
 - 1. Measuring reliability performance – past, present and future; publishing or disseminating the results of such measurements; analyzing the results of such measurements; identifying and analyzing risks to reliability of the Bulk Power System based on such measurements; and/or identifying approaches to mitigating or eliminating such risks?
 - 2. Monitoring, event analysis and investigation of Bulk Power System 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 Bulk Power System major events, off-normal occurrences and near miss events, and other Bulk Power System monitoring activities?

⁴⁷ 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.

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

Exhibit C – Contractor and Consulting Costs

Program	Consultants & Contracts	2015 BUDGET	2016 BUDGET	Inc(Dec) v 2015
Compliance Assurance	Reliability Assurance Initiative	388,000	200,000	(188,000)
	Compliance Assurance	388,000	200,000	(188,000)
Reliability Risk Mgmt	Reliability Assurance Project Support	-	56,000	56,000
	Reliability Risk Management	-	56,000	56,000
Compliance Investigation, Reg and Cert				
	Risk-based Registration Phase 2 - Consulting Support	-	50,000	50,000
	Compliance Investigation, Reg and Cert	-	50,000	50,000
Reliability Assessments and System Analysis				
	Reliability affects of GMD	242,500	100,000	(142,500)
	Vegetation Research (FAC 3)	242,500	-	(242,500)
	Reliability consulting support	169,750	475,000	305,250
	GADS/TADS/DADS/SED	300,700	509,039	208,339
	Reliability Assessments and Performance Analysis	955,450	1,084,039	128,589
Situation Awareness				
	Reliability Tools	472,212	576,300	104,088
	Secure Alerting System	-	141,000	141,000
	SAFNR - Phase II	459,609	438,200	(21,409)
	NERCnet	145,500	-	(145,500)
	Communication network (NERCnet replacement)	-	55,975	55,975
	Situation Awareness	1,077,321	1,211,475	134,154
ES-ISAC				
	CIPC Support	184,300	-	(184,300)
	GridEx Support	242,500	-	(242,500)
	Program-Level Capabilities	499,500	499,500	-
	Software & Services	113,285	113,285	-
	Events & Outreach	50,550	50,550	-
	CRISP	7,666,055	5,888,594	(1,777,461)
	Total ES-ISAC	8,756,190	6,551,929	(2,204,261)
Operator Certification				
	System Operator Testing Expenses	57,618	59,400	1,782
	System Operator Examination Development	66,176	69,000	2,824
	Job Task Analysis	25,784	-	(25,784)
	Database Development	19,400	24,000	4,600
	Database Maintenance	23,746	25,200	1,454
	SOCCEd Database Improvement Project (funded from Working Capital generated from fees in excess of expenses)	200,000	150,000	(50,000)
	Total System Operator Certification	392,724	327,600	(65,124)
Training & Education				
	Continuing Education Program	163,930	133,200	(30,730)
	Web-based course hosting (Learning Management System)	29,800	55,000	25,200
	Course development and Support - External Training	136,576	125,000	(11,576)
	NERC Staff Technical Training	29,100	35,000	5,900
	Total Continuing Education, Training & Education	359,406	348,200	(11,206)
		-	-	-
	Training, Education and Operator Certification	752,130	675,800	(76,330)

Exhibit B — Application of NERC Section 215 Criteria

Program	Consultants & Contracts	2015 BUDGET	2016 BUDGET	Inc(Dec) v 2015
General & Administrative				
	Communications support	15,000	15,000	-
	General & Administrative	15,000	95,000	80,000
Information Technology				
	ERO Application Development & Support	829,350	988,671	159,321
	ERO Data Analysis	100,000	100,000	-
	Applications Enhancements, Consulting and Help Desk Support	800,250	1,006,000	205,750
	Information Technology	1,729,600	2,094,671	365,071
Human Resources				
	Training and Development	150,350	325,000	174,650
	Compensation Consulting	29,100	100,000	70,900
	Employee, industry and Board Surveys	43,650	50,000	6,350
	HR Consulting Services	75,175	75,000	(175)
	Human Resources	298,275	550,000	251,725
Finance and Accounting				
	Internal Controls and Outside Auditor Consulting Support	242,500	200,000	(42,500)
	Finance and Accounting Support	97,000	97,000	-
	Finance and Accounting	339,500	297,000	(42,500)
	TOTAL CONSULTANTS AND CONTRACTS	14,311,466	12,865,914	(1,445,553)

Exhibit D – Capital Financing

The company successfully closed on its capital financing program on January 10, 2014. The interest rate is floating and equal to LIBOR plus 275 basis points, which yielded a rate of 2.91% at closing.⁴⁸ The total size of the non-revolving credit facility is \$7.5M, with the total authorized borrowings each year limited to the amount approved by the Board of Trustees and FERC in that year's business plan and budget for IT hardware and the costs of developing software applications. Consistent with the terms of the loan documentation and its Board and FERC-approved 2014 budget, the company made an initial draw of \$1.265M at the end of January 2014 related to 2013 expenditures. The company recorded new capital investments of approximately \$1.65M in 2013 related to the development of software applications and IT hardware,⁴⁹ a portion of which was financed with the proceeds from this initial draw. This borrowing is amortized over three years, commencing January 31, 2014, and can be prepaid without penalty. A balance of \$1.416M was available for draw during 2014, which was also consistent with NERC's 2014 approved budget. However, the company had sufficient funds available to pay for budgeted capital improvements without having to draw on this credit facility.

As further discussed in the Introduction and Executive Summary, Section A, General and Administrative and set forth in the table below, NERC has a 2016 proposed IT capital budget of approximately \$3.9M, \$1.5M of which it is proposing to finance.

NERC Capital Budget			
	2015 Budget	2016 Budget	Inc(Dec) v 2015
ERO Application Development	\$ 1,050,000	\$ 1,500,000	\$ 450,000
Document Management	-	465,000	465,000
ERO Data Analysis Tool	550,000	-	(550,000)
Generation Data Software	200,000	-	(200,000)
Other IT Hardware and Software	1,453,500	1,411,000	(42,500)
Network Devices and A/V	365,000	535,000	170,000
Total Capital Budget	\$ 3,618,500	\$ 3,911,000	\$ 292,500
Depreciation (excluded from Assessment)	(2,333,006)	(2,641,943)	(308,937)
Fixed Assets (net)	\$ 1,285,494	\$ 1,269,057	\$ (16,437)

The table below sets forth the projected principal and interest repayment schedule for the amounts financed to date and the additional planned \$1.5M in capital financing. This projection assumes an average interest rate of 3.5% over the term of the financing, which is consistent with the 2014 budget. Management is recommending that 3.5% continue to be used given the potential for interest rate increases during 2016. The actual interest rate and interest rate expense will be reflected in the quarterly budget to actual variance reports the company posts on its website, reviews in open session with the NERC Finance and Audit Committee, and files with FERC. Any variations in interest expense will be captured and reported as a contribution to operating reserves, the expenditures of which are subject to the terms of the company's Working Capital and Operating Reserve Policy.

⁴⁸ The interest rate at closing was lower than projected for purposes of the 2014 budget. As detailed in the company's approved 2014 *Business Plan and Budget*, any difference between actual and budgeted interest expense for draws under the credit facility becomes an addition to the company's Unforeseen Contingency Operating Reserve balance.

⁴⁹ This capital investment amount is exclusive of approximately \$640k in expenses which were incurred in 2013 in the development of the Events Information Data System application and expensed rather than capitalized, as further discussed in the [company's Q1 2014 budget variance](#) report presented to the NERC Finance and Audit Committee.

		YEAR-END OUTSTANDING DEBT BALANCE				
Borrowing		2014	2015	2016	2017	2018
\$ 1,265,000	2013 Expenditure / Closed 2014	\$ 878,472	\$ 456,806	\$ 35,139	\$ -	\$ -
1,900,000	2015 Budgeted	-	-	1,266,667	633,333	-
1,500,000	2016 Budgeted	-	-	1,500,000	1,000,000	500,000
1,500,000	2017 Projected	-	-	-	1,500,000	1,000,000
1,500,000	2018 Projected	-	-	-	-	1,500,000
Total Outstanding Balance		\$ 878,472	\$ 456,806	\$2,801,806	\$3,133,333	\$3,000,000

		ANNUAL PAYMENTS FOR DEBT SERVICE				
Borrowing		2014	2015	2016	2017	2018
\$ 1,265,000	2013 Expenditure / Closed 2014	\$ 386,528	\$ 421,667	\$ 421,667	\$ 35,139	\$ -
1,900,000	2015 Budgeted	-	-	633,333	633,333	633,333
1,500,000	2016 Budgeted	-	-	-	500,000	500,000
1,500,000	2017 Projected	-	-	-	-	500,000
1,500,000	2018 Projected	-	-	-	-	-
	Interest Expense	29,367	28,000	60,000	72,100	90,250
Total Principal and Interest Costs		\$ 415,895	\$ 449,667	\$1,115,000	\$1,240,572	\$1,723,583

Exhibit E – Working Capital and Operating Reserve Amounts

In February 2015, the NERC Board approved an amendment to the Company's Working Capital and Operating Reserve Policy. A number of changes were made to the policy, including:

- Clarifying the definition of working capital to represent funding needed for cash flow purposes due to the timing of the receipt of funds and the payment of expenses.
- Creating four separate categories of operating reserves:
 1. A new subcategory of reserves entitled **Future Obligation Reserve** for funds that are being held to satisfy obligations that will be settled in a future year. Examples include leases, certain contracts, and credit agreements. These reserves were previously within the definition of working capital and are more accurately classified as a form of operating reserve.
 2. Continuation of a separate category of reserves for the Operator Certification Program called the **Operator Certification Reserve**.
 3. Elimination of the Known and Unforeseen Contingency categories of operating reserves and creating a single category of contingency reserves called the **Operating Contingency Reserve**.
 4. Creation of a separate category of reserves for CRISP called the **CRISP Reserve**.

Working Capital

Based on its 2015 cash flow projection and taking into account the historic manner in which NERC's assessments have been billed and paid, NERC does not anticipate needing access to working capital in 2016 to meet monthly cash flow needs. In the unlikely event NERC experiences a temporary cash flow shortage, it has the ability to either request authorization from the Finance and Audit Committee and Board of Trustees to temporarily access operating contingency reserve funds, or draw on its \$4M line of credit, as long as NERC is in compliance with the covenants under its bank credit agreement.

Operating Reserves

Total operating reserves are projected to be \$8.8M among all four categories. The Future Obligation Reserve is budgeted to be \$3.2M and is primarily funds held to offset future liabilities under lease agreements for the Atlanta and Washington, DC, offices. System Operator Certification Reserves are budgeted at \$390k and the Operating Contingency Reserve is budgeted for \$2.5M. The CRISP Reserve (budgeted at \$516k) is held pursuant to the terms of the Master Services Agreement between NERC and participating utilities, which calls for a separate third-party funded reserve established to fund certain contingencies in connection with CRISP.

In addition to the foregoing reserves, the amended policy also provides for the creation of an **Assessment Stabilization Reserve**. The goal of the Assessment Stabilization Reserve is to mitigate assessment volatility and have changes in annual assessments track, within a reasonable band, changes in the company's total annual budget, with the total budget reflecting prudent fiscal discipline and good stewardship of resources. Assessment stabilization funds will be used when available to help stabilize assessments and mitigate year-to-year swings in assessments. Those swings primarily result from the application of penalty funds, but could also result from other factors like surplus funds available from a prior period, the need to replenish the Operating Contingency Reserve, or significant but relatively short-term operating or capital spending needs. NERC is proposing to place \$2.3M of the total \$3.7M in penalty funds that have been received to date in the Assessments Stabilization Reserve and utilize the balance of \$1.4k to reduce 2016 U.S. assessments. The amount of penalty funds contributed to the Assessment Stabilization Reserve, as well as the amount of penalty funds applied to reduce 2016 assessments in the United States, will be further reviewed by the NERC Finance and Audit Committee and determined by NERC's Board, taking into account the 2016-2018 budget projections presented in this draft. Any changes to the proposed

contribution to the Assessment Stabilization Reserve and/or penalty funds applied to reduce 2016 U.S. assessments will be presented in the final draft of NERC's *2016 Business Plan and Budget*.