

**NERC**

NORTH AMERICAN ELECTRIC  
RELIABILITY CORPORATION

# 2016 Business Plan and Budget

Draft 1

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**RELIABILITY | ACCOUNTABILITY**



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## About NERC

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### 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)<sup>1</sup> 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 bulk power system - 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 (Reliability Standards) for the United States portion of the BPS, pursuant to section 215 of the Federal Power Act (§215). 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 BES 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 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. 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 of 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 eleven-member Board of Trustees (Board), comprised of ten 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.

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

Membership in NERC is open to any person or entity that has an interest in the reliability of the North American BES. Membership in NERC is voluntary and affords participants the opportunity to engage in the governance of the organization through election to the Member Representatives Committee (MRC).<sup>2</sup> More than six hundred entities and individuals are members of NERC.

## Scope of Oversight

As the international, multi-jurisdictional ERO in North America, NERC is authorized to:

- Propose, monitor compliance, 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 and cyber security 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 (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)<sup>3</sup>). 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.

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<sup>2</sup> 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.

<sup>3</sup> 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.

### **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<sup>4</sup> (the enterprise). In 2014, a common operating model, [Improving Coordinated Operations across the ERO Enterprise](#), was developed to define how NERC and the Regional Entities achieve excellence in the oversight and execution of statutory functions by collaborating and working together to mitigate reliability risks. The model also defines the division of the roles and 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,<sup>5</sup> 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 also 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, assessments are allocated to load-serving entities 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.

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<sup>4</sup> The term ERO Enterprise refers to NERC and the eight Regional Entities.

<sup>5</sup> 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	192.48			
Non-statutory FTEs				
<b>Total FTEs</b>	192.48			
Statutory Expenses	\$ 67,629,030			
Non-Statutory Expenses	\$ -			
<b>Total Expenses</b>	\$ 67,629,030			
Statutory Inc (Dec) in Fixed Assets	\$ 1,169,057			
Non-Statutory Inc (Dec) in Fixed Assets	\$ -			
<b>Total Inc (Dec) in Fixed Assets</b>	\$ 1,169,057			
Statutory Working Capital Requirement	\$ (281,323)			
Non-Statutory Working Capital Requirement				
<b>Total Working Capital Requirement</b>	\$ (281,323)			
<b>Proceeds from Financing Activities</b>	\$ 55,000			
Total Statutory Funding Requirement	\$ 68,571,764			
Total Non-Statutory Funding Requirement	\$ -			
<b>Total Funding Requirement</b>	\$ 68,571,764			
<b>Statutory Funding Assessments</b>	\$ 57,216,402	\$ 51,779,643	\$ 5,282,827	\$ 153,932
<b>Non-Statutory Fees</b>				
NEL	4,503,762,517	3,970,330,232	521,817,390	11,614,895
NEL%	100.00%	88.16%	11.59%	0.26%

### Strategic Goals, Objectives, and Metrics

Developing the common operating model for NERC and the Regional Entities further aligned 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](#) with newly aligned goals, objectives, and deliverables for the 2015 – 2018 planning period. Prior to its approval, NERC's Board requested stakeholder input on the plan as part of the November 2014 policy input request letter to the Member Representatives Committee (MRC). NERC posted the written comments which were received on the company website, and tracks and reports on corresponding actions in response to this input on an ongoing basis.

## Performance Metrics

The ERO Enterprise Strategic Plan includes five consolidated goals within the existing areas of standards; compliance, registration, and certification; risks to reliability; and coordination and collaboration. 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 designed to assess the overall effectiveness of the enterprise in addressing risk to, and improving reliability of, the Bulk Electric System (BES). These metrics concentrate on measuring reliability results, assuring standards and compliance effectiveness, and improving risk mitigation and program execution. The enterprise metrics 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
- Assure standards and compliance effectiveness
- Improve risk mitigation
- Execute effective ERO programs

In November 2014, the NERC Board approved the [2015 performance metrics](#). 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 the fourth quarter of 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 overall operational and financial performance, including any actions proposed to mitigate performance shortfalls.

## Stakeholder Engagement

As one of the enterprise's guiding principles, NERC and the Regional Entities involve stakeholders with knowledge and expertise on a collaborative basis in the early development of the strategic plan, in the identification of prioritized risk-based activities, and in the development of the 2016 - 2018 Business Plan and Budget. NERC obtained stakeholder input from a number of sources, including but not limited to the Reliability Issues Steering Committee (RISC), other standing committees of the Board, and the MRC's business planning and budget input group, which was specifically 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 cyberattacks 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 Electric Reliability Organization (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.



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, improve reliability performance, minimize the use of less-effective processes, and avoid using already limited resources on less-important issues.

In 2013, the RISC presented priority recommendations<sup>6</sup> 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 multi-year 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.<sup>7</sup>

The following list identifies the current risk projects that were selected from this collaborative risk-based 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 which may be initiated in 2016. The final 2016 list will be identified after risk control projects are compiled and as the RISC makes recommendation 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.

#### **The 2015 ERO Enterprise High-Priority Risk Projects are:**

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 magnitude and duration of their consequences.
3. **Cybersecurity Preparedness** - Threats to cyber systems with potential impacts to reliability remain a risk of significant importance to industry. NERC is committed to protecting the BES

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<sup>6</sup> See [http://www.nerc.com/comm/RISC/Related%20Files%20DL/RISC\\_Priority\\_Recommendations-Jul\\_26\\_2013.pdf](http://www.nerc.com/comm/RISC/Related%20Files%20DL/RISC_Priority_Recommendations-Jul_26_2013.pdf) for the complete report.

<sup>7</sup> 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.

against cybersecurity compromises that could lead to misoperation of devices resulting in instability of the bulk power system. Initiated in 2014, NERC's 2015 program 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](#) report, in the [RISC's ERO Reliability Risk Priorities: RISC Updates and Recommendations report](#), the [Cyber Attack Task Force final report](#), 2015 State of Reliability report, and in NERC's [ERO Top Priority Reliability Risks 2014-2017](#) report. This risk includes threats and vulnerabilities that result from compromise of technology or communications that support the reliable operations of the BES.

4. **Protection System Misoperations** – NERC's 2012 through 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, de-ratings, 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 forecasted 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.<sup>8</sup>

### **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 that require 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 proposed standard requires registered entities to prioritize their most critical assets based on vulnerability and other criteria. The proposed standard final ballot closed on May 5, 2014, with 86 percent approval from the ballot body. It was adopted by the Board on May 13, 2014, and was filed with FERC for approval on May 23, 2014. FERC approved this standard on November 20, 2014, with directives which were completed for filing in the second quarter of 2015.

NERC has 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

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<sup>8</sup> In addition to the foregoing risk-based activities, NERC also incorporates risk considerations into other program area activities as further described in Section A.

program, with activities through the enforcement date of the Version 5 standards, designed to improve 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 Information Sharing and Analysis Center for the electricity sector (ES-ISAC). The ES-ISAC directly benefits stakeholders to help improve BES security 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.

Through the ES-ISAC, NERC performs a program 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 reliability risk-based approaches.

NERC completed the design of the various components of the 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 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 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<sup>9</sup>; (4) compliance activities related to the successful transition to CIP Version 5; and (6) 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.

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<sup>9</sup> 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) review of self-determined notifications by entities; (3) review of entity-submitted exceptions to the BES definition by Regions and NERC, (4) consideration of reviews and appeals of BES determinations and associated registration aspects; (5) providing guidance regarding Reliability Standard applicability; and (6) managing 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 de-registered 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, the registration criteria have been revisited to adjust them with 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 removal of 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 status. 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 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,<sup>10</sup> a panel of independent experts also found that the 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 systems and processes to improve the efficiency of operations, and mitigate costs impacts on load serving and registered entities. Working collaboratively with the Regional Entities and under the oversight of NERC's Standards Oversight and Technology Committee, NERC has developed and refined a long term enterprise

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<sup>10</sup> [http://www.nerc.com/pa/Stand/Standards%20Development%20Plan%20Library/Standards\\_Independent\\_Experts\\_Review\\_Project\\_Report.pdf](http://www.nerc.com/pa/Stand/Standards%20Development%20Plan%20Library/Standards_Independent_Experts_Review_Project_Report.pdf)

information technology program through which enterprise software tools are developed to reduce combined information technology spending, improve productivity, event reporting, tracking and root cause analysis; streamline and improve registration, BES reliability assessments, data analysis and sharing. Concentrated efforts have also been made 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 further discussed below and in Section A, NERC management evaluates resource needs and allocation on an ongoing basis to insure that resources are allocated in an efficient and effective manner in support 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 cyber security 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 each entity considers in developing their respective business plans and budgets. The Regional Entities used these assumptions to evaluate their projected workload 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.<sup>11</sup> Exhibit B summarizes the major activities NERC proposes to undertake in 2016 and the approved Section 215 criteria applicable to such activities. (This information will be made available subsequent to the posting of the this initial draft of NERC's business plan and budget)

## **Overview of 2016 Budget and Funding Requirements**

NERC's 2016 combined expense and fixed asset (capital) budget is approximately \$68.8M, which represents an increase of approximately \$2.1M (3.2%) over 2015. Total expenses are increasing approximately \$2.3M (3.5%) over 2015. The total fixed asset (capital) budget, before accounting for depreciation,<sup>12</sup> is approximately \$3.8M, an increase of approximately \$192.5k over 2015. Approximately \$9.1M (13%) of NERC's 2016 budget is related to CRISP. In the absence of CRISP, the 2016 budget would increase approximately \$2.4M (3.6%) over 2015 (without CRISP). As further explained in Section A, Electricity Sector Information Sharing and Analysis Center (ES-ISAC) on page 62, 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 on page 18.

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<sup>11</sup> 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).

<sup>12</sup> 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.

Before application of the assessment offsets discussed in the following paragraph, NERC's total assessments are projected to increase \$2.7M (5.0%) over 2015. The primary difference between NERC's projected 3.2% 2016 budget increase and the projected 5.0% 2016 assessment increase results from eliminating of 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.<sup>13</sup> The 2016 assessment increases in both Canada and Mexico will therefore be lower than 5.0%, as discussed in more detail in the following paragraph. Other less significant factors contributing to this difference include depreciation adjustments, debt assumptions and projected reserve requirements, all of which impact assessments in U.S., Canada, and Mexico.

The allocation of assessments to U.S. entities will be dependent upon 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, as further discussed in the next paragraph.<sup>14</sup>

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.<sup>15</sup> 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, as well as to narrow the gap between annual percentage changes in NERC's budget and assessments. 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. It must be approved by NERC's Board, upon the recommendation of the Board's Finance and Audit Committee, as well as approved by the FERC.

For purposes of this initial draft of NERC's 2016 business plan and budget, management proposes an overall average assessment increase of 3.4%. This includes the release of \$839k in available penalty funds to offset U.S. assessments, with the remaining \$2.4M in available penalty funds held in the Assessment Stabilization Reserve (see page 13). The allocation of assessments to Canadian entities will be dependent upon 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.<sup>16</sup> For this initial 2016 budget draft, management assumed the dollar amount of Canadian compliance and enforcement credits remained consistent with 2015. Using the 2013 net energy for load data, the current assessment allocation between U.S., Canada and Mexico is \$51.8M, \$5.3M, and \$153.9k, respectively. This corresponds to an average percentage increase in assessments from 2015 of 3.5% for the U.S., 3.4% for Canada, and 2.5% for Mexico, as set forth in the table below. In the next draft of the 2016 budget, NERC plans to provide additional information in Appendix 2 showing NERC and Regional Entity assessments by Region and load serving entity.

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<sup>13</sup> 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

<sup>14</sup> [id.](#)

<sup>15</sup> Insert link to amended policy. The company has filed a petition with FERC for approval of this policy which is presently pending before the Commission, in Docket No. RR15-8-000, filed on March 6, 2015.

<sup>16</sup> Expanded Policy on allocation of Certain Compliance and Enforcement Costs, July 29, 2008

REGION	CHANGE IN NERC ASSESSMENTS				
		US	Canada	Mexico	
TOTAL					
		\$	\$	\$	\$
FRCC	99,940	90,320	-	-	
MRO	126,898	99,073	15,251	-	
NPCC	109,485	119,537	116,906	-	
RF	410,377	370,876	-	-	
SERC	451,551	407,702	-	-	
SPP RE	218,397	208,579	-	-	
TRE	150,245	135,783	-	-	
WECC	341,133	300,932	39,258	3,808	
<b>Total</b>	<b>1,908,027</b>	<b>1,732,803</b>	<b>171,415</b>	<b>3,808</b>	
<b>% Change</b>	<b>3.4%</b>	<b>3.5%</b>	<b>3.4%</b>	<b>2.5%</b>	

During 2016, NERC plans for additional resources to be reallocated to the compliance department to address key departmental initiatives (see Section A, Compliance Assurance). As the 2016 budget is finalized and we refine the allocation of assessments between the U.S., Canada, and Mexico, we expect the amount of credits to Canada for compliance and enforcement to increase. Therefore, the final Canadian assessment increase will likely be between 0-2% once the budget is finalized and the assessment allocations and credits are completed. Assessments in the U.S. and Mexico will then need to be increased slightly to make up for any further reduction in Canadian funding as a result of the anticipated increase in these credits.

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	2016	Variance	
	Budget	Budget	2016 Budget	% Inc 2016
			v 2015 Budget	over 2015
			Over(Under)	
<b>Funding</b>				
<b>ERO Funding</b>				
NERC Assessments	\$ 55,308,375	\$ 57,216,402	\$ 1,908,027	3.4%
Penalty Sanctions <sup>1</sup>	1,155,000	839,000	(316,000)	
<b>Total ERO (Assessment) Funding</b>	<b>\$ 56,463,375</b>	<b>\$ 58,055,402</b>	<b>\$ 1,592,027</b>	
Third-Party Funding (CRISP)	8,943,589	8,365,389	(578,199)	
Testing Fees	1,670,000	1,867,972	197,972	
Services & Software	50,000	50,000	-	
Workshops	241,300	230,000	(11,300)	
Interest	3,000	3,000	-	
Miscellaneous	-	-	-	
<b>Total Funding (A)</b>	<b>\$ 67,371,264</b>	<b>\$ 68,571,764</b>	<b>\$ 1,200,500</b>	<b>1.8%</b>
<b>Expenses</b>				
<b>Total Personnel Expenses</b>	<b>\$ 35,803,312</b>	<b>\$ 37,117,617</b>	<b>\$ 1,314,305</b>	<b>3.7%</b>
<b>Total Meeting Expenses</b>	<b>\$ 3,566,146</b>	<b>\$ 3,604,892</b>	<b>\$ 38,746</b>	<b>1.1%</b>
<b>Total Operating Expenses</b>	<b>\$ 25,863,357</b>	<b>\$ 26,796,521</b>	<b>\$ 933,164</b>	<b>3.6%</b>
<b>Total Direct Expenses</b>	<b>\$ 65,232,815</b>	<b>\$ 67,519,030</b>	<b>\$ 2,286,215</b>	<b>3.5%</b>
<b>Other Non-Operating Expenses</b>	<b>\$ 131,000</b>	<b>\$ 110,000</b>	<b>\$ (21,000)</b>	<b>-16.0%</b>
<b>Total Expenses (B)</b>	<b>\$ 65,363,815</b>	<b>\$ 67,629,030</b>	<b>\$ 2,265,215</b>	<b>3.5%</b>
<b>Change in Assets</b>	<b>\$ 2,007,449</b>	<b>\$ 942,734</b>	<b>\$ (1,064,715)</b>	
<b>Fixed Assets</b>				
Depreciation	\$ (2,333,006)	\$ (2,641,943)	\$ (308,936)	
Computer & Software CapEx	3,253,500	3,276,000	22,500	
Equipment CapEx	365,000	535,000	170,000	
<b>Inc(Dec) in Fixed Assets ( C )</b>	<b>1,285,494</b>	<b>1,169,057</b>	<b>(116,436)</b>	
<b>TOTAL BUDGET (=B + C)</b>	<b>\$ 66,649,309</b>	<b>\$ 68,798,087</b>	<b>\$ 2,148,779</b>	<b>3.2%</b>
<b>FTEs</b>	<b>192.3</b>	<b>192.5</b>	<b>0.19</b>	<b>0.1%</b>

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 included:

- 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 completed, resources are re-deployed 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.
- Market based compensation and salary increases. Executive and staff compensation and benefits are established based upon 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, the company has been able to hold premium increases down in recent years, but 2016 expectations are slightly higher.
- Inclusion of 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.
- As further explained in Section A, Electricity Sector Information Sharing and Analysis Center (ES-ISAC), the Electric Sector Coordinating Council (ESCC) is undertaking a strategic review of the ES-ISAC and will present its recommendations 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, both total ES-ISAC and CRISP resource 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 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.
- Meeting and Travel Expense
  - Forecast is kept flat and is based on 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.
- Contractors and Consultants
  - Contractor and consulting expenses are developed on a department-by-department basis and reflect both known and anticipated expenses, based on both historic and current information.

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

<b>Consultants &amp; Contracts</b>	<b>2015 Budget</b>	<b>2016 Budget</b>	<b>Inc(Dec) v 2015</b>
<b>Compliance Assurance</b>	388,000	200,000	(188,000)
<b>Reliability Risk Management</b>	0	56,000	56,000
<b>Compliance Investigation, Reg and Cert</b>	0	50,000	50,000
<b>Reliability Assessments and Performance Analysis</b>	955,450	1,084,039	128,589
<b>Situation Awareness</b>	1,077,321	1,211,475	134,154
<b>Critical Infrastructure Department</b>	426,800	0	(426,800)
<b>ES-ISAC</b>	8,329,390	8,329,390	0
<b>Training, Education and Operator Certification</b>	752,130	871,600	119,470
<b>General &amp; Administrative</b>	15,000	15,000	0
<b>Information Technology</b>	1,729,600	2,094,671	365,071
<b>Human Resources</b>	298,275	550,000	251,725
<b>Finance and Accounting</b>	339,500	297,000	(42,500)
<b>TOTAL CONSULTANTS AND CONTRACTS</b>	<b>14,311,466</b>	<b>14,759,175</b>	<b>447,708</b>

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 is largely for software and services supporting reliability data management and analysis. Situation Awareness costs are primarily related to licenses and services supporting 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. 2015 consulting costs for CID 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 \$7.7M 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 service 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 of 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 CCC audit plan.

### Fixed Asset (Capital) Budget and Capital Financing

NERC's 2016 capital budget is approximately \$3.8M (excluding depreciation), which represents an increase of approximately \$193k 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)
Geration Data Software	200,000	-	(200,000)
Other IT Hardware and Software	1,453,500	1,311,000	(142,500)
Network Devices and A/V	365,000	535,000	170,000
<b>Total Capital Budget</b>	<b>\$ 3,618,500</b>	<b>\$ 3,811,000</b>	<b>\$ 192,500</b>
Depreciation (excluded from Assessments)	(2,333,006)	(2,641,943)	(308,937)
<b>Fixed Assets (net)</b>	<b>\$ 1,285,494</b>	<b>\$ 1,169,057</b>	<b>\$ (116,437)</b>

NERC has budgeted 2.7M<sup>17</sup> 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 include \$1.5M in capital expenditures and \$1.2M in other IT operating costs. Senior management of NERC and the Regional Entities have 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. Further detail regarding updates to the Enterprise IT Strategy; the current status of the development of Enterprise

<sup>17</sup> 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 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 relate expenditures.

IT applications; applications that will be under development in 2016 and steps that are being taken to improve its oversight of the identification, development and execution of Enterprise IT applications may be found under the Information Technology Department section on page 74. 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 \$3.8M 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 operating reserve budget of \$6.3M for the combined four categories of operating reserves 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, does not require additional funding 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 \$410k, using available funds, and is not funded through assessments. The third category of operating reserves is the CRISP Operating Reserve and 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, have no impact on assessments and segregated from other reserves pursuant to the terms of the CRISP agreements. The 2016 CRISP budget has not been finalized with CRISP participants and for purposes of the initial draft of NERC's 2016 budget, the CRISP reserve is consistent with the 2015 reserve amount.

The fourth and final category of Operating Reserves is the Operating Contingency Reserve. This reserve includes funds for expenditures which were not anticipated at the time the company's budget was prepared or for which the timing was uncertain. NERC's current policy on Contingency Operating 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 Reserves are targeted for \$2.1M, or 3.6% 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 \$3.2M. For purposes of the initial draft of the company's 2016 business plan and budget, management proposes the release of \$839k in penalty funds to offset assessments, with the remaining \$2.4M of available funds held in the Assessment Stabilization Reserve. The use of \$839k to offset assessments in 2016 yields an average increase of 3.4% over the 2015 assessments. The Assessment Stabilization Reserve could be funded further by contributing any additional penalty funds received prior to June 30, 2015, which is the cut-off date for application of penalty funds which are applied in connection with the company's 2016 budget. Any 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 \$2.4M 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	8,326,310	(1,920,835)	-18.7%
Compliance Analysis, Certificaton and Registration	4,864,863	5,187,150	322,287	6.6%
Compliance Assurance	5,737,572	7,651,774	1,914,202	33.4%
Compliance Enforcement	5,806,866	5,816,736	9,870	0.2%
Reliability Assessments and Performance Analysis	9,825,750	10,414,850	589,101	6.0%
Training, Education and Operator Certification	3,950,926	4,081,997	131,071	3.3%
Reliability Risk Management				
Event Analysis	4,203,169	5,375,585	1,172,417	27.9%
Situation Awareness	3,646,902	3,706,052	59,150	1.6%
ES-ISAC (including CRISP)	18,366,117	18,237,633	(128,484)	-0.7%
<b>Total Budget</b>	<b>66,649,309</b>	<b>68,798,087</b>	<b>2,148,779</b>	<b>3.2%</b>

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 and interdepartmental transfers, 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 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
<b>STATUTORY</b>				
<b>Operational Programs</b>				
Reliability Standards	24.40	17.98	(6.4)	-26.3%
Compliance Analysis, Certification and Registration	11.25	11.07	(0.2)	-1.6%
Compliance Assurance	12.19	15.67	3.5	28.6%
Compliance Enforcement	15.01	13.37	(1.6)	-10.9%
Reliability Assessments and Performance Analysis	19.70	19.59	(0.1)	-0.5%
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	18.44	(0.3)	-1.7%
<b>Total FTEs Operational Programs</b>	<b>124.76</b>	<b>120.10</b>	<b>(4.7)</b>	<b>-3.7%</b>
<b>Administrative Programs</b>				
General & Administrative	13.13	17.52	4.4	33.4%
Legal and Regulatory	15.01	13.37	(1.6)	-10.9%
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%
<b>Total FTEs Administrative Programs</b>	<b>67.54</b>	<b>72.39</b>	<b>4.8</b>	<b>7.2%</b>
<b>Total FTEs</b>	<b>192.30</b>	<b>192.48</b>	<b>0.2</b>	<b>0.1%</b>

The increase in General and Administrative FTEs in the table below is due to reallocation of personnel to support the 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 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

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

Statement of Activities and Fixed Assets Expenditures 2015 and 2016 Budgets

STATUTORY

	2015 Budget	2015 Projection	Variance 2015 Projection v 2015 Budget		2016 Budget	Variance 2016 Budget v 2015 Budget		% Inc 2016 over 2015
			Over(Under)			Over(Under)		
<b>Funding</b>								
<b>ERO Funding</b>								
NERC Assessments	\$ 55,308,375	\$ 55,308,375	\$ -	\$ -	\$ 57,216,402	\$ 1,908,027		3.4%
Penalty Sanctions <sup>1</sup>	1,155,000	1,155,000	-	-	839,000	(316,000)		
<b>Total ERO (Assessment) Funding</b>	<b>\$ 56,463,375</b>	<b>\$ 56,463,375</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 58,055,402</b>	<b>\$ 1,592,027</b>		
Third-Party Funding (CRISP)	8,943,589	7,228,140	(1,715,449)		8,365,389	(578,199)		
Testing Fees	1,670,000	1,670,000	-		1,867,972	197,972		
Services & Software	50,000	50,000	-		50,000	-		
Workshops	241,300	241,300	-		230,000	(11,300)		
Interest	3,000	4,158	1,158		3,000	-		
Miscellaneous	-	-	-		-	-		
<b>Total Funding (A)</b>	<b>\$ 67,371,264</b>	<b>\$ 65,656,973</b>	<b>\$ (1,714,291)</b>		<b>\$ 68,571,764</b>	<b>\$ 1,200,500</b>		1.8%
<b>Expenses</b>								
<b>Personnel Expenses</b>								
Salaries	\$ 27,580,677	\$ 27,388,831	\$ (191,846)		\$ 28,675,229	\$ 1,094,553		
Payroll Taxes	1,673,628	1,806,463	132,835		1,863,684	190,056		
Benefits	3,547,178	3,380,013	(167,165)		3,580,519	33,341		
Retirement Costs	3,001,829	2,805,104	(196,725)		2,998,184	(3,645)		
<b>Total Personnel Expenses</b>	<b>\$ 35,803,312</b>	<b>\$ 35,380,411</b>	<b>\$ (422,901)</b>		<b>\$ 37,117,617</b>	<b>\$ 1,314,305</b>		3.7%
<b>Meeting Expenses</b>								
Meetings	\$ 1,050,000	\$ 1,051,303	\$ 1,303		\$ 1,081,500	\$ 31,500		
Travel	2,203,395	2,348,831	145,436		2,203,392	(3)		
Conference Calls	312,751	358,797	46,046		320,000	7,249		
<b>Total Meeting Expenses</b>	<b>\$ 3,566,146</b>	<b>\$ 3,758,931</b>	<b>\$ 192,785</b>		<b>\$ 3,604,892</b>	<b>\$ 38,746</b>		1.1%
<b>Operating Expenses</b>								
Consultants & Contracts	\$ 14,311,466	\$ 13,509,173	\$ (802,292.8)		\$ 14,759,175	\$ 447,709		
Office Rent	2,987,777	2,987,777	-		3,054,287	66,510		
Office Costs	3,583,328	3,552,416	(30,913)		3,795,317	211,989		
Professional Services	2,611,280	2,672,280	61,000		2,509,300	(101,980)		
Miscellaneous	36,500	39,500	3,000		36,500	-		
Depreciation	2,333,006	2,438,110	105,104		2,641,943	308,936		
<b>Total Operating Expenses</b>	<b>\$ 25,863,357</b>	<b>\$ 25,199,256</b>	<b>\$ (664,102)</b>		<b>\$ 26,796,521</b>	<b>\$ 933,164</b>		3.6%
<b>Total Direct Expenses</b>	<b>\$ 65,232,815</b>	<b>\$ 64,338,598</b>	<b>\$ (894,217)</b>		<b>\$ 67,519,030</b>	<b>\$ 2,286,215</b>		3.5%
<b>Indirect Expenses</b>								
Other Non-Operating Expenses	\$ 131,000	\$ 75,000	\$ (56,000)		\$ 110,000	\$ (21,000)		-16.0%
<b>Total Expenses (B)</b>	<b>\$ 65,363,815</b>	<b>\$ 64,413,598</b>	<b>\$ (950,217)</b>		<b>\$ 67,629,030</b>	<b>\$ 2,265,215</b>		3.5%
<b>Change in Assets</b>	<b>\$ 2,007,449</b>	<b>\$ 1,243,375</b>	<b>\$ (764,074)</b>		<b>\$ 942,734</b>	<b>\$ (1,064,715)</b>		
<b>Fixed Assets</b>								
Depreciation	\$ (2,333,006)	\$ (2,438,110)	(105,104)		\$ (2,641,943)	\$ (308,936)		
Computer & Software CapEx	3,253,500	3,758,757	505,257		3,276,000	22,500		
Furniture & Fixtures CapEx	-	-	-		-	-		
Equipment CapEx	365,000	559,743	194,743		535,000	170,000		
Leasehold Improvements	-	597,307	597,307		-	-		
Allocation of Fixed Assets	\$ -	\$ 0	\$ 0		\$ (0)	\$ (0)		
<b>Inc(Dec) in Fixed Assets ( C )</b>	<b>1,285,494</b>	<b>2,477,697</b>	<b>1,192,203</b>		<b>1,169,057</b>	<b>(116,436)</b>		
<b>TOTAL BUDGET (=B + C)</b>	<b>\$ 66,649,309</b>	<b>\$ 66,891,295</b>	<b>\$ 241,986</b>		<b>\$ 68,798,087</b>	<b>\$ 2,148,779</b>		3.2%
<b>TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)<sup>2</sup></b>	<b>\$ 721,955</b>	<b>\$ (1,234,322)</b>	<b>\$ (1,956,277)</b>		<b>\$ (226,323)</b>	<b>\$ (639,342)</b>		
<b>FTEs</b>	<b>192.3</b>	<b>190.7</b>	<b>(1.6)</b>		<b>192.5</b>	<b>0.19</b>		0.1%

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

Statement of Activities and Fixed Assets Expenditures 2015 and 2016 Budgets

TOTAL STATUTORY

Funding	2015	2015 CRISP	2015 Budget	2016	2016 CRISP	2016 Budget	Variance 2016 Budget		% Inc 2016
	Budget		w/o CRISP			Budget	w/o CRISP	v 2015 Budget w/o CRISP	
<b>Funding</b>									
<b>ERO Funding</b>									
NERC Assessments	\$ 55,308,375	\$ 860,938	\$ 54,447,437	\$ 57,216,402	\$ 712,720	\$ 56,503,682	\$	2,056,245	3.7%
Penalty Sanctions <sup>1</sup>	1,155,000	16,554	1,138,446	839,000	13,186	825,814		(312,632)	
<b>Total ERO (Assessment) Funding</b>	<b>\$ 56,463,375</b>	<b>\$ 877,492</b>	<b>\$ 55,585,883</b>	<b>\$ 58,055,402</b>	<b>\$ 725,906</b>	<b>\$ 57,329,496</b>	<b>\$</b>	<b>1,743,613</b>	
Third-Party Funding (CRISP)	8,943,589	8,943,589	-	8,365,389	8,365,389	-		-	
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	200	2,800		(158)	
Miscellaneous	-	-	-	-	-	-		-	
<b>Total Funding (A)</b>	<b>\$ 67,371,264</b>	<b>\$ 9,821,123</b>	<b>\$ 57,550,141</b>	<b>\$ 68,571,764</b>	<b>\$ 9,091,496</b>	<b>\$ 59,480,268</b>	<b>\$</b>	<b>1,930,127</b>	<b>2.9%</b>
<b>Expenses</b>									
<b>Personnel Expenses</b>									
Salaries	\$ 27,580,677	\$ 363,357	\$ 27,217,320	\$ 28,675,229	\$ 347,918	\$ 28,327,311	\$	1,109,991	
Payroll Taxes	1,673,628	20,990	1,652,638	1,863,684	21,089	1,842,595		189,957	
Benefits	3,547,178	33,953	3,513,225	3,580,519	33,464	3,547,055		33,830	
Retirement Costs	3,001,829	40,951	2,960,878	2,998,184	38,299	2,959,885		(993)	
<b>Total Personnel Expenses</b>	<b>\$ 35,803,312</b>	<b>\$ 459,251</b>	<b>\$ 35,344,061</b>	<b>\$ 37,117,617</b>	<b>\$ 440,770</b>	<b>\$ 36,676,846</b>	<b>\$</b>	<b>1,332,785</b>	<b>3.7%</b>
<b>Meeting Expenses</b>									
Meetings	\$ 1,050,000	\$ 15,000	\$ 1,035,000	\$ 1,081,500	15,000	1,066,500	\$	31,500	
Travel	2,203,395	30,000	2,173,395	2,203,392	20,274	2,183,118		9,723	
Conference Calls	312,751	5,000	307,751	320,000	2,000	318,000		10,249	
<b>Total Meeting Expenses</b>	<b>\$ 3,566,146</b>	<b>\$ 50,000</b>	<b>\$ 3,516,146</b>	<b>\$ 3,604,892</b>	<b>\$ 37,274</b>	<b>\$ 3,567,618</b>	<b>\$</b>	<b>51,472</b>	<b>1.4%</b>
<b>Operating Expenses</b>									
Consultants & Contracts	\$ 14,311,466	\$ 7,666,055	\$ 6,645,410.8	\$ 14,759,175	7,666,055	7,093,120	\$	447,709	
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	3,795,317	304,027	3,491,291		212,962	
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	
<b>Total Operating Expenses</b>	<b>\$ 25,863,357</b>	<b>\$ 8,321,055</b>	<b>\$ 17,542,302</b>	<b>\$ 26,796,521</b>	<b>\$ 8,145,332</b>	<b>\$ 18,651,190</b>	<b>\$</b>	<b>1,108,887</b>	<b>4.3%</b>
<b>Total Direct Expenses</b>	<b>\$ 65,232,815</b>	<b>\$ 8,830,306</b>	<b>\$ 56,402,509</b>	<b>\$ 67,519,030</b>	<b>\$ 8,623,376</b>	<b>\$ 58,895,654</b>	<b>\$</b>	<b>2,493,145</b>	<b>3.8%</b>
<b>Indirect Expenses</b>		<b>\$ 368,803</b>	<b>\$ (368,803)</b>	<b>\$ -</b>	<b>\$ 439,089</b>	<b>\$ (439,089)</b>	<b>\$</b>	<b>(70,286)</b>	
<b>Other Non-Operating Expenses</b>	<b>\$ 131,000</b>	<b>\$ -</b>	<b>\$ 131,000</b>	<b>\$ 110,000</b>	<b>-</b>	<b>110,000</b>	<b>\$</b>	<b>(21,000)</b>	<b>-16.0%</b>
<b>Total Expenses (B)</b>	<b>\$ 65,363,815</b>	<b>\$ 9,199,108</b>	<b>\$ 56,164,707</b>	<b>\$ 67,629,030</b>	<b>\$ 9,062,464</b>	<b>\$ 58,566,565</b>	<b>\$</b>	<b>2,401,859</b>	<b>3.7%</b>
<b>Change in Assets</b>	<b>\$ 2,007,449</b>	<b>\$ 622,014</b>	<b>\$ 1,385,435</b>	<b>\$ 942,734</b>	<b>\$ 29,031</b>	<b>\$ 913,703</b>	<b>\$</b>	<b>(471,732)</b>	
<b>Fixed Assets</b>									
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	3,276,000		3,276,000		122,500	
Furniture & Fixtures CapEx	-	-	-	-		-		-	
Equipment CapEx	365,000	-	365,000	535,000		535,000		170,000	
Leasehold Improvements	-	-	-	-		-		-	
Allocation of Fixed Assets		22,014	(22,014)	(0)	\$ 29,031	\$ (29,031)	\$	(7,017)	
<b>Inc(Dec) in Fixed Assets ( C )</b>	<b>1,285,494</b>	<b>122,014</b>	<b>1,163,479</b>	<b>1,169,057</b>	<b>29,031</b>	<b>1,140,026</b>	<b>\$</b>	<b>(23,453)</b>	
<b>TOTAL BUDGET (=B + C)</b>	<b>\$ 66,649,309</b>	<b>\$ 9,321,123</b>	<b>\$ 57,328,186</b>	<b>\$ 68,798,087</b>	<b>\$ 9,091,496</b>	<b>\$ 59,706,591</b>	<b>\$</b>	<b>2,378,406</b>	<b>3.6%</b>
<b>FTEs</b>	<b>192.3</b>	<b>1.9</b>	<b>190.4</b>	<b>192.5</b>	<b>1.8</b>	<b>190.6</b>	<b>\$</b>	<b>0.22</b>	<b>0.1%</b>



## 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 \$2.1M, or 3.1% over the current 2016 budget (total operating and fixed asset expenditures). The 2018 projected costs decrease \$482.9k, 0.7%, from the 2017 projection. Average 2017 assessments are projected to increase \$3.0M, 5.3%, over 2016. Average 2018 assessments are projected to remain flat compared to 2017. 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. These projections will be further updated in connection with NERC’s final 2016 business plan and budget.

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

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	
<b>Funding</b>								
<b>ERO Funding</b>								
NERC Assessments	\$ 57,216,402	\$ 60,247,144	\$ 3,030,742	5.30%	\$ 60,225,502	\$ (21,642)	0.0%	
Penalty Sanctions	839,000	-	(839,000)	-100.00%	-	-		
<b>Total NERC Funding</b>	<b>\$ 58,055,402</b>	<b>\$ 60,247,144</b>	<b>\$ 2,191,742</b>	<b>3.8%</b>	<b>\$ 60,225,502</b>	<b>\$ (21,642)</b>	<b>0.0%</b>	
Third-Party Funding (CRISP)	8,365,389	8,488,833	123,444	1.48%	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	3,544	544	18.14%	3,000	(544)	-15.4%	
Miscellaneous	-	-	-		-	-		
<b>Total Funding (A)</b>	<b>\$ 68,571,764</b>	<b>\$ 70,887,494</b>	<b>\$ 2,315,730</b>	<b>3.4%</b>	<b>\$ 70,935,307</b>	<b>\$ 47,814</b>	<b>0.1%</b>	
<b>Expenses</b>								
<b>Personnel Expenses</b>								
Salaries	\$ 28,675,229	\$ 29,174,986	\$ 499,757	1.7%	\$ 30,050,236	\$ 875,250	3.0%	
Payroll Taxes	1,863,684	1,904,835	41,151	2.2%	2,035,365	130,530	6.9%	
Benefits	3,580,519	4,015,474	434,955	12.1%	4,324,723	309,249	7.7%	
Retirement Costs	2,998,184	3,259,772	261,587	8.7%	3,357,565	97,793	3.0%	
<b>Total Personnel Expenses</b>	<b>\$ 37,117,617</b>	<b>\$ 38,355,067</b>	<b>\$ 1,237,451</b>	<b>3.3%</b>	<b>\$ 39,767,888</b>	<b>\$ 1,412,821</b>	<b>3.7%</b>	
<b>Meeting Expenses</b>								
Meetings	\$ 1,081,500	\$ 1,081,500	\$ -	0.0%	\$ 1,081,500	-	0.0%	
Travel	2,203,392	2,203,392	-	0.0%	2,203,392	-	0.0%	
Conference Calls	320,000	320,000	-	0.0%	320,000	-	0.0%	
<b>Total Meeting Expenses</b>	<b>\$ 3,604,892</b>	<b>\$ 3,604,892</b>	<b>\$ -</b>	<b>0.0%</b>	<b>\$ 3,604,892</b>	<b>\$ -</b>	<b>0.0%</b>	
<b>Operating Expenses</b>								
Consultants & Contracts	\$ 14,759,175	15,009,682	250,508	1.7%	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	3,795,317	3,795,317	-	0.0%	3,795,317	-	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%	
<b>Total Operating Expenses</b>	<b>\$ 26,796,521</b>	<b>\$ 26,421,645</b>	<b>\$ (374,876)</b>	<b>-1.4%</b>	<b>\$ 25,655,393</b>	<b>\$ (766,252)</b>	<b>-2.9%</b>	
<b>Total Direct Expenses</b>	<b>\$ 67,519,030</b>	<b>\$ 68,381,604</b>	<b>\$ 862,575</b>	<b>1.3%</b>	<b>\$ 69,028,173</b>	<b>\$ 646,569</b>	<b>0.9%</b>	
<b>Indirect Expenses</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>-</b>	<b>\$ -</b>	<b>\$ -</b>	<b>-</b>	
<b>Other Non-Operating Expenses</b>	<b>\$ 110,000</b>	<b>\$ 122,100</b>	<b>\$ 12,100</b>	<b>11.0%</b>	<b>140,250</b>	<b>18,150</b>	<b>14.9%</b>	
<b>Total Expenses (B)</b>	<b>\$ 67,629,030</b>	<b>\$ 68,503,704</b>	<b>\$ 874,675</b>	<b>1.3%</b>	<b>\$ 69,168,423</b>	<b>664,719</b>	<b>1.0%</b>	
<b>Change in Assets</b>	<b>\$ 942,734</b>	<b>\$ 2,383,789</b>	<b>\$ 1,441,055</b>	<b>152.9%</b>	<b>\$ 1,766,884</b>	<b>\$ (616,905)</b>	<b>-25.9%</b>	
<b>Fixed Assets</b>								
Depreciation	\$ (2,641,943)	\$ (2,103,670)	\$ 538,273	-20.4%	\$ (1,621,321)	\$ 482,348	-22.9%	
Computer & Software CapEx	3,276,000	3,822,000	546,000	16.7%	2,677,000	(1,145,000)	-30.0%	
Furniture & Fixtures CapEx	-	-	-		-	-		
Equipment CapEx	535,000	715,000	180,000	33.6%	230,000	(485,000)	-67.8%	
Leasehold Improvements	-	-	-		-	-		
Allocation of Fixed Assets	-	-	-		-	-		
<b>Inc(Dec) in Fixed Assets (C)</b>	<b>\$ 1,169,057</b>	<b>\$ 2,433,330</b>	<b>\$ 1,264,273</b>	<b>108.1%</b>	<b>\$ 1,285,679</b>	<b>\$ (1,147,652)</b>	<b>-47.2%</b>	
<b>TOTAL BUDGET (=B + C)</b>	<b>\$ 68,798,087</b>	<b>\$ 70,937,035</b>	<b>\$ 2,138,947</b>	<b>3.1%</b>	<b>\$ 70,454,102</b>	<b>\$ (482,933)</b>	<b>-0.7%</b>	
FTEs	192.48	192.48	-		192.48	-		

## Section A – 2015 Business Plan and Budget Program Area and Department Detail

### Reliability Standards

<b>Reliability Standards Program</b> (in whole dollars)			
	2015 Budget	2015 Budget	Increase (Decrease)
Total FTEs	24.40	17.98	(6.42)
Direct Expenses	\$ 4,800,751	\$ 3,972,198	\$ (828,553)
Indirect Expenses	\$ 5,139,603	\$ 4,281,116	\$ (858,487)
Other Non-Operating Expenses	\$ -	\$ -	\$ -
Inc(Dec) in Fixed Assets	\$ 306,791	\$ 72,997	\$ (233,794)
<b>TOTAL BUDGET</b>	<b>\$ 10,247,145</b>	<b>\$ 8,326,310</b>	<b>\$ (1,920,836)</b>

### 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 are 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 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 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(s), 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 foundational transformation work by addressing possible outstanding Paragraph 81 Phase 2 requirement candidates and 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 desire to make further improvements to the standards. If desired, the 2016–2018 Reliability Standards Development Plan (RSDP) 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 Bulk Power System (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.<sup>18</sup> 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.

Additionally, provided there is a desire to make further improvements to the standards, 2016 periodic reviews of the Reliability Standards will include: 1) a measured review of the content of standards, considering whether the requirements could more effectively mitigate risks to the Bulk Power System (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.

### **Resource Requirements**

#### **Personnel**

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

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 driven by a reduction in the number of new standards under development, a reduction in outstanding FERC directives and more efficient and effective workload and resource management. This freed up resources which could be allocated to other departments experiencing increased resource needs. For 2016, budgeted FTEs were reduced to reflect this resource reallocation and reduction in current department staffing levels. No additional personnel resources are planned for 2016. The departmental travel expenses are expected to be at 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, D.C. offices.

#### **Contractors and Consultants**

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

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<sup>18</sup>As 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 – 2015 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)
<b>Funding</b>					
<b>ERO Funding</b>					
NERC Assessments	\$ 9,911,464	\$ 9,911,464	\$ -	\$ 8,092,298	\$ (1,819,166)
Penalty Sanctions	231,095	231,095		128,563	(102,532)
<b>Total NERC Funding</b>	<b>\$ 10,142,558</b>	<b>\$ 10,142,559</b>	<b>\$ -</b>	<b>\$ 8,220,861</b>	<b>\$ (1,921,698)</b>
Third-Party Funding	-	-	-	-	-
Testing Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Workshops	104,000	104,000	-	105,000	1,000
Interest	587	587	-	449	(138)
Miscellaneous	-	-	-	-	-
<b>Total Funding (A)</b>	<b>\$ 10,247,145</b>	<b>\$ 10,247,146</b>	<b>\$ -</b>	<b>\$ 8,326,310</b>	<b>\$ (1,920,836)</b>
<b>Expenses</b>					
<b>Personnel Expenses</b>					
Salaries	\$ 3,082,972	\$ 2,275,214	\$ (807,758)	\$ 2,331,800	\$ (751,172)
Payroll Taxes	202,258	166,305	(35,953)	166,118	(36,140)
Benefits	441,383	316,306	(125,077)	327,239	(114,144)
Retirement Costs	346,269	243,966	(102,303)	260,144	(86,125)
<b>Total Personnel Expenses</b>	<b>\$ 4,072,883</b>	<b>\$ 3,001,791</b>	<b>\$ (1,071,092)</b>	<b>\$ 3,085,302</b>	<b>\$ (987,581)</b>
<b>Meeting Expenses</b>					
Meetings	\$ 194,056	\$ 194,056	\$ -	\$ 207,000	\$ 12,944
Travel	339,300	339,300	-	271,715	(67,585)
Conference Calls	117,736	100,000	(17,736)	133,000	15,264
<b>Total Meeting Expenses</b>	<b>\$ 651,092</b>	<b>\$ 633,356</b>	<b>\$ (17,736)</b>	<b>\$ 611,715</b>	<b>\$ (39,377)</b>
<b>Operating Expenses</b>					
Consultants & Contracts	\$ -	\$ -	\$ -	\$ -	\$ -
Office Rent	-	-	-	-	-
Office Costs	76,276	59,835	(16,441)	64,622	(11,654)
Professional Services	-	-	-	-	-
Miscellaneous	500	500	-	500	-
Depreciation	-	194,645	194,645	210,060	210,060
<b>Total Operating Expenses</b>	<b>\$ 76,776</b>	<b>\$ 254,980</b>	<b>\$ 178,204</b>	<b>\$ 275,182</b>	<b>\$ 198,406</b>
<b>Total Direct Expenses</b>	<b>\$ 4,800,751</b>	<b>\$ 3,890,127</b>	<b>\$ (910,624)</b>	<b>\$ 3,972,198</b>	<b>\$ (828,553)</b>
<b>Indirect Expenses</b>	<b>\$ 5,139,603</b>	<b>\$ 4,214,422</b>	<b>\$ (925,181)</b>	<b>\$ 4,281,116</b>	<b>\$ (858,487)</b>
<b>Other Non-Operating Expenses</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Total Expenses (B)</b>	<b>\$ 9,940,354</b>	<b>\$ 8,104,549</b>	<b>\$ (1,835,805)</b>	<b>\$ 8,253,314</b>	<b>\$ (1,687,040)</b>
<b>Change in Assets</b>	<b>\$ 306,791</b>	<b>\$ 2,142,597</b>	<b>\$ 1,835,805</b>	<b>\$ 72,997</b>	<b>\$ (233,795)</b>
<b>Fixed Assets</b>					
Depreciation	\$ -	\$ (194,645)	\$ (194,645)	\$ (210,060)	\$ (210,060)
Computer & Software CapEx	-	-	-	-	-
Furniture & Fixtures CapEx	-	-	-	-	-
Equipment CapEx	-	-	-	-	-
Leasehold Improvements	-	-	-	-	-
Allocation of Fixed Assets	\$ 306,791	315,097	8,306	283,056	(23,735)
<b>Inc(Dec) in Fixed Assets (C)</b>	<b>306,791</b>	<b>120,452</b>	<b>(186,339)</b>	<b>72,997</b>	<b>(233,794)</b>
<b>TOTAL BUDGET (=B + C)</b>	<b>\$ 10,247,145</b>	<b>\$ 8,225,002</b>	<b>\$ (2,022,144)</b>	<b>\$ 8,326,310</b>	<b>\$ (1,920,835)</b>
<b>FTEs</b>	<b>24.40</b>	<b>18.25</b>	<b>(6.15)</b>	<b>17.98</b>	<b>(6.42)</b>

## 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 three operational groups: (1) Compliance Assurance, (2) Compliance Analysis, Certification and Registration, and (3) Compliance Enforcement.

### Compliance Assurance

<b>Compliance Assurance</b> (in whole dollars)			
	<b>2015 Budget</b>	<b>2016 Budget</b>	<b>Increase (Decrease)</b>
Total FTEs	12.19	15.67	3.48
Direct Expenses	\$ 3,016,607	\$ 3,672,752	\$ 656,146
Indirect Expenses	\$ 2,567,695	\$ 3,732,255	\$ 1,164,560
Other Non-Operating Expenses	\$ -	\$ -	\$ -
Inc(Dec) in Fixed Assets	\$ 153,270	\$ 246,767	\$ 93,497
<b>TOTAL BUDGET</b>	<b>\$ 5,737,572</b>	<b>\$ 7,651,774</b>	<b>\$ 1,914,203</b>

### 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 Standards Audit Worksheets (RSAWs);
- Support for Regional Entity and industry committees, working groups, and task forces, such as the NERC Compliance and Certification Committee; and
- Development and delivery, supported by Regional Entities, of guidance 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 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 4<sup>th</sup> quarter of 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' 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 objective 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 departments' oversight plans. For Compliance Assurance, oversight activities will occur through a two-phased approach.

Phase one began during the first quarter of 2015. It is designed to establish conceptual consistency in the application of the ERO Enterprise's risk-based approach through review of each Region's risk-based process documentation to interpret and understand their conceptual intent of application and compare these concepts to the ERO Enterprise's guidance documents. This will involve dialogue and the collection and review of supporting regional process documents, such as policies, procedures, narratives, and flowcharts describing the Regional Entity's execution and application of the design for the ERO Enterprise's risk-based CMEP.

In phase two, Compliance Assurance's oversight will begin to evolve into a more traditional 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 the Regional Entities. Phase two oversight will continue throughout the remainder of 2015 and into 2016 and will focus on samples of compliance monitoring work by each Regional Entity while using their risk-based concepts.

### Critical Infrastructure Protection (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 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 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.
- 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 assure 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 assure 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.

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

**COMPLIANCE ASSURANCE**

	<b>2015 Budget</b>	<b>2015 Projection</b>	<b>Variance 2015 Projection v 2015 Budget Over(Under)</b>	<b>2016 Budget</b>	<b>Variance 2016 Budget v 2015 Budget Over(Under)</b>
<b>Funding</b>					
<b>ERO Funding</b>					
NERC Assessments	\$ 5,621,826	\$ 5,621,826	\$ -	\$ 7,539,302	\$ 1,917,476
Penalty Sanctions	115,453	115,453	-	112,081	(3,372)
<b>Total NERC Funding</b>	<b>\$ 5,737,279</b>	<b>\$ 5,737,279</b>	<b>\$ -</b>	<b>\$ 7,651,382</b>	<b>\$ 1,914,104</b>
Third-Party Funding	-	-	-	-	-
Testing Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Workshops	-	-	-	-	-
Interest	293	293	-	392	99
Miscellaneous	-	-	-	-	-
<b>Total Funding (A)</b>	<b>\$ 5,737,572</b>	<b>\$ 5,737,572</b>	<b>\$ -</b>	<b>\$ 7,651,774</b>	<b>\$ 1,914,202</b>
<b>Expenses</b>					
<b>Personnel Expenses</b>					
Salaries	\$ 1,783,650	\$ 2,145,435	\$ 361,785	\$ 2,362,252	\$ 578,602
Payroll Taxes	115,456	148,023	32,567	163,191	47,735
Benefits	220,692	252,290	31,598	288,548	67,856
Retirement Costs	200,525	231,843	31,318	264,123	63,598
<b>Total Personnel Expenses</b>	<b>\$ 2,320,322</b>	<b>\$ 2,777,591</b>	<b>\$ 457,269</b>	<b>\$ 3,078,113</b>	<b>\$ 757,791</b>
<b>Meeting Expenses</b>					
Meetings	\$ 70,000	\$ 70,000	\$ -	\$ 60,000	\$ (10,000)
Travel	198,000	300,000	102,000	276,065	78,065
Conference Calls	7,200	75,000	67,800	20,000	12,800
<b>Total Meeting Expenses</b>	<b>\$ 275,200</b>	<b>\$ 445,000</b>	<b>\$ 169,800</b>	<b>\$ 356,065</b>	<b>\$ 80,865</b>
<b>Operating Expenses</b>					
Consultants & Contracts	\$ 388,000	\$ 388,000	\$ -	\$ 200,000	\$ (188,000)
Office Rent	-	-	-	-	-
Office Costs	32,834	32,796	(39)	38,074	5,240
Professional Services	-	-	-	-	-
Miscellaneous	250	250	-	500	250
Depreciation	-	1,090	1,090	-	-
<b>Total Operating Expenses</b>	<b>\$ 421,084</b>	<b>\$ 422,136</b>	<b>\$ 1,052</b>	<b>\$ 238,574</b>	<b>\$ (182,510)</b>
<b>Total Direct Expenses</b>	<b>\$ 3,016,607</b>	<b>\$ 3,644,727</b>	<b>\$ 628,120</b>	<b>\$ 3,672,752</b>	<b>\$ 656,145</b>
<b>Indirect Expenses</b>	<b>\$ 2,567,695</b>	<b>\$ 3,362,300</b>	<b>\$ 794,605</b>	<b>\$ 3,732,255</b>	<b>\$ 1,164,560</b>
<b>Other Non-Operating Expenses</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Total Expenses (B)</b>	<b>\$ 5,584,302</b>	<b>\$ 7,007,028</b>	<b>\$ 1,422,726</b>	<b>\$ 7,405,007</b>	<b>\$ 1,820,705</b>
<b>Change in Assets</b>	<b>\$ 153,270</b>	<b>\$ (1,269,456)</b>	<b>\$ (1,422,726)</b>	<b>\$ 246,767</b>	<b>\$ 93,497</b>
<b>Fixed Assets</b>					
Depreciation	-	(1,090)	(1,090)	-	-
Computer & Software CapEx	-	-	-	-	-
Furniture & Fixtures CapEx	-	-	-	-	-
Equipment CapEx	-	-	-	-	-
Leasehold Improvements	-	-	-	-	-
Allocation of Fixed Assets	\$ 153,270	\$ 251,387	98,118	246,767	93,497
<b>Inc(Dec) in Fixed Assets ( C )</b>	<b>\$ 153,270</b>	<b>\$ 250,297</b>	<b>\$ 97,027</b>	<b>\$ 246,767</b>	<b>\$ 93,497</b>
<b>TOTAL BUDGET (=B + C)</b>	<b>\$ 5,737,572</b>	<b>\$ 7,257,324</b>	<b>\$ 1,519,753</b>	<b>\$ 7,651,774</b>	<b>\$ 1,914,202</b>
<b>FTEs</b>	<b>12.19</b>	<b>14.56</b>	<b>2.37</b>	<b>15.67</b>	<b>3.48</b>

## Compliance Analysis, Certification and Registration

Compliance Analysis, Certification and Registration (in whole dollars)			
	2015 Budget	2016 Budget	Increase (Decrease)
Total FTEs	11.25	11.07	(0.18)
Direct Expenses	\$ 2,353,718	\$ 2,376,906	\$ 23,189
Indirect Expenses	\$ 2,369,694	\$ 2,635,961	\$ 266,267
Other Non-Operating Expenses	\$ -	\$ -	\$ -
Inc(Dec) in Fixed Assets	\$ 141,451	\$ 174,283	\$ 32,832
TOTAL BUDGET	\$ 4,864,863	\$ 5,187,150	\$ 322,288

### Background and Scope

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 are identified in reportable events are assessed and addressed if appropriate. Specific activities of the department include:

- **Registration** – Identifies and registers BES users, owners, and operators who are responsible for compliance with the FERC-approved Reliability Standards. Organizations that are registered are included on the NERC Compliance Registry (NCR) and are responsible for knowing the content of and for complying with all applicable Reliability Standards. Maintains the current registration for the entire ERO for entities as they take on and drop functional responsibility.
- **Certification** – The process by which NERC evaluates and certifies the competency of reliability entities, i.e., those which 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/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 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 participate 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** – The confidential process by which NERC addresses formal complaints that allege the violation of Reliability Standards.
- **Reliability Assurance** – Conduct activities to reasonably assure the ERO 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** – Oversight of Regional Entity implementation of regional registration, compliance, certification, investigation, complaint programs and processes.

### **Stakeholder Engagement and Benefits**

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 assessment of information about the current Registration program attributes. NERC finalized the first phase of RBR with a filing with FERC in November of 2014, which FERC approved in March of 2015, with 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, preserving 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.

NERC and Regional Entities will have increased awareness of individual and aggregate entity risks to the reliability of the BES. They will have the ability to devote time and resources to registration and compliance monitoring and enforcement activities commensurate with the risks posed. Applicable governmental entities also will have increased awareness of entities subject to their respective jurisdictions and their role in ensuring reliability of the BES. All other stakeholders, including end-use customers, will be third-party beneficiaries of benefits from implementation of RBR.

### **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 the Commission with more information on Load Serving Entities and Distribution Providers.

The overall benefits of the RBR program include:

- Aligned entity registration and compliance burden to their risks and contributions to reliability, thereby reducing industry burden associated with registration and ensuring no gaps or duplication of compliance responsibilities, while sustaining continued reliability.
- 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 design of the RBR program.

As a part of Phase 2 of Risk-Based Registration (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 RBAG, 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, table top reviews, self-certifications and sampling of performance. This will enable NERC to assess the Regional Entity's performance to agreed-upon goals, and measures or parameters.

### **Resource Requirements**

#### **Personnel**

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

#### **Contractor Expenses**

\$50k in contractor expenses is budgeted for 2016 for outside technical support in connection with RBR implementation.

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

<b>Statement of Activities and Fixed Assets Expenditures</b>					
<b>2015 Budget &amp; Projection, and 2016 Budget</b>					
<b>COMPLIANCE ANALYSIS, CERTIFICATION and REGISTRATION</b>					
	2015 Budget	2015 Projection	Variance 2015 Projection v 2015 Budget Over(Under)	2016 Budget	Variance 2016 Budget v 2015 Budget Over(Under)
<b>Funding</b>					
<b>ERO Funding</b>					
NERC Assessments	\$ 4,758,043	\$ 4,758,043	\$ -	\$ 5,107,715	\$ 349,672
Penalty Sanctions	106,550	106,550	-	79,159	(27,391)
<b>Total NERC Funding</b>	<b>\$ 4,864,593</b>	<b>\$ 4,864,593</b>	<b>\$ -</b>	<b>\$ 5,186,874</b>	<b>\$ 322,281</b>
Third-Party Funding	-	-	-	-	-
Testing Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Workshops	-	-	-	-	-
Interest	270	270	-	277	7
Miscellaneous	-	-	-	-	-
<b>Total Funding (A)</b>	<b>\$ 4,864,863</b>	<b>\$ 4,864,863</b>	<b>\$ -</b>	<b>\$ 5,187,150</b>	<b>\$ 322,288</b>
<b>Expenses</b>					
<b>Personnel Expenses</b>					
Salaries	\$ 1,658,833	\$ 1,613,736	\$ (45,097)	\$ 1,644,792	\$ (14,041)
Payroll Taxes	105,003	107,306	2,303	109,404	4,401
Benefits	203,715	194,456	(9,259)	200,987	(2,728)
Retirement Costs	186,557	173,977	(12,580)	183,278	(3,279)
<b>Total Personnel Expenses</b>	<b>\$ 2,154,108</b>	<b>\$ 2,089,475</b>	<b>\$ (64,633)</b>	<b>\$ 2,138,461</b>	<b>\$ (15,647)</b>
<b>Meeting Expenses</b>					
Meetings	\$ 3,064.00	\$ 4,367	\$ 1,303	\$ 4,000	\$ 936
Travel	164,158	164,158	-	154,989	(9,169)
Conference Calls	3,588	3,000	(588)	2,000	(1,588)
<b>Total Meeting Expenses</b>	<b>\$ 170,810</b>	<b>\$ 171,525</b>	<b>\$ 715</b>	<b>\$ 160,989</b>	<b>\$ (9,821)</b>
<b>Operating Expenses</b>					
Consultants & Contracts	\$ -	\$ -	\$ -	\$ 50,000	\$ 50,000
Office Rent	-	-	-	-	-
Office Costs	28,550	27,682	(868)	26,956	(1,594)
Professional Services	-	-	-	-	-
Miscellaneous	250	250	-	500	250
Depreciation	-	1,057	1,057	-	-
<b>Total Operating Expenses</b>	<b>\$ 28,800</b>	<b>\$ 28,989</b>	<b>\$ 189</b>	<b>\$ 77,456</b>	<b>\$ 48,656</b>
<b>Total Direct Expenses</b>	<b>\$ 2,353,718</b>	<b>\$ 2,289,989</b>	<b>\$ (63,730)</b>	<b>\$ 2,376,906</b>	<b>\$ 23,188</b>
<b>Indirect Expenses</b>	<b>\$ 2,369,694</b>	<b>\$ 2,591,003</b>	<b>\$ 221,309</b>	<b>\$ 2,635,961</b>	<b>\$ 266,267</b>
<b>Other Non-Operating Expenses</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Total Expenses (B)</b>	<b>\$ 4,723,412</b>	<b>\$ 4,880,992</b>	<b>\$ 157,580</b>	<b>\$ 5,012,867</b>	<b>\$ 289,455</b>
<b>Change in Assets</b>	<b>\$ 141,451</b>	<b>\$ (16,129)</b>	<b>\$ (157,580)</b>	<b>\$ 174,283</b>	<b>\$ 32,833</b>
<b>Fixed Assets</b>					
Depreciation	-	(1,057)	(1,057)	-	-
Computer & Software CapEx	-	-	-	-	-
Furniture & Fixtures CapEx	-	-	-	-	-
Equipment CapEx	-	-	-	-	-
Leasehold Improvements	-	-	-	-	-
Allocation of Fixed Assets	\$ 141,451	\$ 193,720	52,269	174,283	32,832
<b>Inc(Dec) in Fixed Assets ( C )</b>	<b>\$ 141,451</b>	<b>\$ 192,664</b>	<b>\$ 51,213</b>	<b>\$ 174,283</b>	<b>\$ 32,832</b>
<b>TOTAL BUDGET (=B + C)</b>	<b>\$ 4,864,863</b>	<b>\$ 5,073,656</b>	<b>\$ 208,793</b>	<b>\$ 5,187,150</b>	<b>\$ 322,287</b>
<b>FTEs</b>	<b>11.25</b>	<b>11.22</b>	<b>(0.03)</b>	<b>11.07</b>	<b>(0.18)</b>

## Compliance Enforcement Department

<b>Compliance Enforcement</b> (in whole dollars)			
	<b>2015 Budget</b>	<b>2016 Budget</b>	<b>Increase (Decrease)</b>
Total FTEs	15.01	13.37	(1.64)
Direct Expenses	\$ 2,456,441	\$ 2,422,986	\$ (33,453)
Indirect Expenses	\$ 3,161,698	\$ 3,183,394	\$ 21,695
Other Non-Operating Expenses	\$ -	\$ -	\$ -
Inc(Dec) in Fixed Assets	\$ 188,727	\$ 210,356	\$ 21,629
<b>TOTAL BUDGET</b>	<b>\$ 5,806,866</b>	<b>\$ 5,816,736</b>	<b>\$ 9,871</b>

### 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 (risk-based CMEP.) 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 Entity’s enforcement processes and providing oversight over the outcome of such processes 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 policy 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, tutorials on the use of compliance and enforcement information available online, and efforts to support and encourage 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 risk to the reliability of the bulk power system while ensuring that enforcement actions are timely and transparent. NERC further promotes a culture of reliability excellence by examining registered entities' internal compliance programs and considering them as mitigating factors in penalty determination.

## **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. In 2015 and 2016, the ERO Enterprise will focus on the successful implementation of the risk-based CMEP. NERC is duplicating the information accumulated in the RAI page in 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**

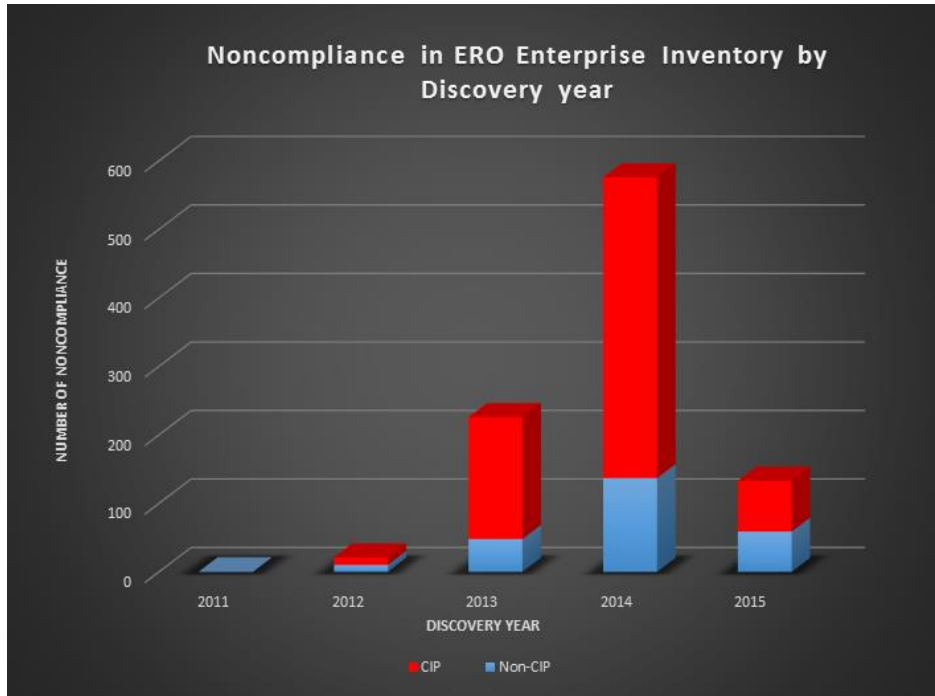
In an effort to improve the efficiency of enforcement processing throughout the ERO Enterprise, NERC developed a series of key enforcement processing metrics, which are tracked and analyzed throughout the year. In addition, in 2012, 2013, and 2014, NERC established corporate goals to reduce the number 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 noncompliance<sup>19</sup> represent 0.43% of the total violations submitted to the ERO Enterprise from 2007 through December 31, 2014.

The targets and thresholds for processing and 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.

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<sup>19</sup> 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, a 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’ 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 risk-based 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.

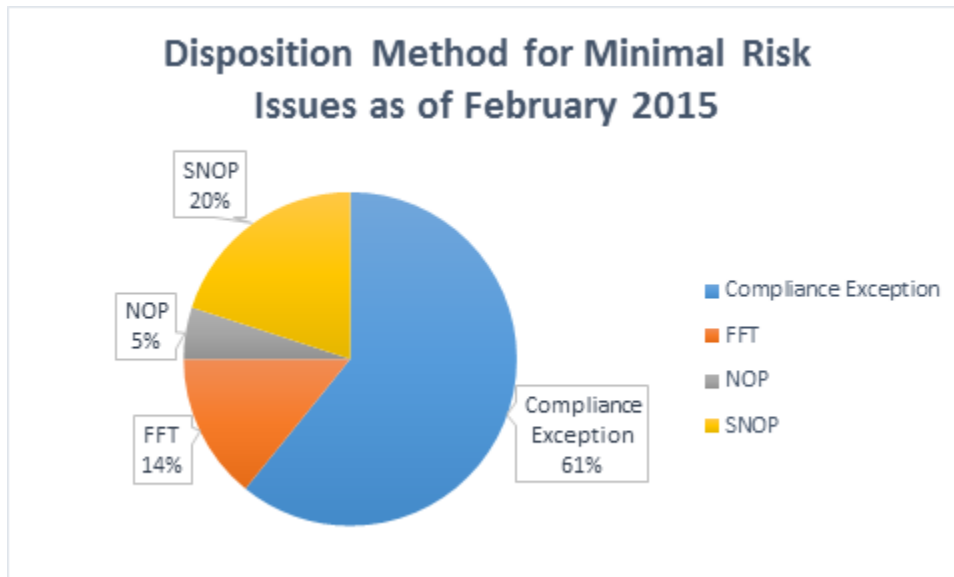
**Compliance Exceptions**

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 exercise of discretion by the ERO Enterprise is informed by the facts and circumstances of the noncompliance, the risk posed by the noncompliance to the reliability of the bulk power system, and the deterrent effect of an enforcement action or penalty, among other things. Compliance exception treatment is available for those issues that pose a minimal risk to the bulk power system and which 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 bulk power system) was limited to allow the testing of the new process. In 2013, 43% of noncompliance was disposed through the FFT process. In 2014, 34% of noncompliance was 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. 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, NERC will, in addition to offering regular feedback to the Regional Entities, 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 assessment of risk-based CMEP implementation. NERC will publish that report during the first quarter of 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:

- Refine and improve the risk-based CMEP processes;
- Implement in a transparent manner an ERO enterprise enforcement philosophy that is risk-focused and drives desired behaviors by registered entities;
- Expand 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**

The efforts to improve the efficiency and effectiveness of Enforcement department operations and reduce back log has 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.

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

Statement of Activities and Fixed Assets Expenditures					
2015 Budget & Projection, and 2016 Budget					
COMPLIANCE ENFORCEMENT					
	2015 Budget	2015 Projection	Variance 2015 Projection v 2015 Budget Over(Under)	2016 Budget	Variance 2016 Budget v 2015 Budget Over(Under)
<b>Funding</b>					
<b>ERO Funding</b>					
NERC Assessments	\$ 5,664,344	\$ 5,664,344	\$ -	\$ 5,720,803	\$ 56,459
Penalty Sanctions	142,161	142,161	-	95,598	(46,563)
<b>Total NERC Funding</b>	<b>\$ 5,806,505</b>	<b>\$ 5,806,505</b>	<b>\$ -</b>	<b>\$ 5,816,402</b>	<b>\$ 9,896</b>
Third-Party Funding	-	-	-	-	-
Testing Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Workshops	-	-	-	-	-
Interest	361	361	-	334	(27)
Miscellaneous	-	-	-	-	-
<b>Total Funding (A)</b>	<b>\$ 5,806,866</b>	<b>\$ 5,806,866</b>	<b>\$ -</b>	<b>\$ 5,816,736</b>	<b>\$ 9,869</b>
<b>Expenses</b>					
<b>Personnel Expenses</b>					
Salaries	\$ 1,785,495	\$ 1,750,189	\$ (35,306)	\$ 1,777,015	\$ (8,481)
Payroll Taxes	110,866	118,701	7,835	119,666	8,800
Benefits	254,644	235,961	(18,683)	243,495	(11,149)
Retirement Costs	200,635	190,033	(10,602)	198,234	(2,401)
<b>Total Personnel Expenses</b>	<b>\$ 2,351,641</b>	<b>\$ 2,294,884</b>	<b>\$ (56,757)</b>	<b>\$ 2,338,409</b>	<b>\$ (13,231)</b>
<b>Meeting Expenses</b>					
Meetings	\$ 2,000	\$ 2,000	\$ -	\$ 2,500	\$ 500
Travel	57,900	56,000	(1,900)	56,679	(1,221)
Conference Calls	2,900	1,500	(1,400)	1,200	(1,700)
<b>Total Meeting Expenses</b>	<b>\$ 62,800</b>	<b>\$ 59,500</b>	<b>\$ (3,300)</b>	<b>\$ 60,379</b>	<b>\$ (2,421)</b>
<b>Operating Expenses</b>					
Consultants & Contracts	\$ -	\$ -	\$ -	\$ -	\$ -
Office Rent	-	-	-	-	-
Office Costs	41,500	24,859	(16,641)	23,575	(17,925)
Professional Services	-	-	-	-	-
Miscellaneous	500	1,000	500	500	-
Depreciation	-	1,790	1,790	122	122
<b>Total Operating Expenses</b>	<b>\$ 42,000</b>	<b>\$ 27,649</b>	<b>\$ (14,351)</b>	<b>\$ 24,197</b>	<b>\$ (17,803)</b>
<b>Total Direct Expenses</b>	<b>\$ 2,456,441</b>	<b>\$ 2,382,033</b>	<b>\$ (74,408)</b>	<b>\$ 2,422,986</b>	<b>\$ (33,454)</b>
<b>Indirect Expenses</b>	<b>\$ 3,161,698</b>	<b>\$ 3,145,229</b>	<b>\$ (16,470)</b>	<b>\$ 3,183,394</b>	<b>\$ 21,695</b>
<b>Other Non-Operating Expenses</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Total Expenses (B)</b>	<b>\$ 5,618,139</b>	<b>\$ 5,527,262</b>	<b>\$ (90,877)</b>	<b>\$ 5,606,380</b>	<b>\$ (11,759)</b>
<b>Change in Assets</b>	<b>\$ 188,727</b>	<b>\$ 279,604</b>	<b>\$ 90,877</b>	<b>\$ 210,356</b>	<b>\$ 21,629</b>
<b>Fixed Assets</b>					
Depreciation	-	(1,790)	(1,790)	(122)	(122)
Computer & Software CapEx	-	-	-	-	-
Furniture & Fixtures CapEx	-	-	-	-	-
Equipment CapEx	-	-	-	-	-
Leasehold Improvements	-	-	-	-	-
Allocation of Fixed Assets	\$ 188,727	\$ 235,158	46,431	210,478	21,751
<b>Inc(Dec) in Fixed Assets ( C )</b>	<b>\$ 188,727</b>	<b>\$ 233,368</b>	<b>\$ 44,641</b>	<b>\$ 210,356</b>	<b>\$ 21,629</b>
<b>TOTAL BUDGET (=B + C)</b>	<b>\$ 5,806,866</b>	<b>\$ 5,760,630</b>	<b>\$ (46,236)</b>	<b>\$ 5,816,736</b>	<b>\$ 9,870</b>
<b>FTEs</b>	<b>15.01</b>	<b>13.62</b>	<b>(1.39)</b>	<b>13.37</b>	<b>(1.64)</b>

## Reliability Assessments and Performance Analysis

Reliability Assessments and Performance Analysis (in whole dollars)			
	2015 Budget	2016 Budget	Increase (Decrease)
Total FTEs	19.70	19.59	(0.11)
Direct Expenses	\$ 5,456,456	\$ 5,827,097	\$ 370,641
Indirect Expenses	\$ 4,149,598	\$ 4,665,318	\$ 515,721
Other Non-Operating Expenses	\$ -	\$ -	\$ -
Inc(Dec) in Fixed Assets	\$ 219,696	\$ (77,566)	\$ (297,262)
TOTAL BUDGET	\$ 9,825,750	\$ 10,414,850	\$ 589,100

### 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 or modifications to mandatory Reliability Standards, or other initiatives such as guidelines, alert(s), webinar, etc., all focused on enhancing the overall reliability. The department focuses on developing a technical framework and understanding of the reliability risks facing the industry, and to provide guidance and insights to entities across North America. The department relies on its own engineering and analysis expertise, as well as regional and stakeholder resources. RAPA is responsible for:

- Independent assessments and reports on the overall reliability, adequacy, and associated reliability risks that could impact the short-term and the long-term (e.g., ten-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 RISC, 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.
- 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 industry 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 enhancing the overall approach to identify these reliability risks and implement appropriate mitigation or management efforts is based on strong expertise and fundamental technical analysis of reliability behavior, leverage of reliability assessment, performance analysis, and event analyses, 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. Accordingly, specific areas of reliability risk in 2016 have been identified. 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 within 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 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, 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 project plan is developed that 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 (RAPA, Reliability Risk Management (RRM), Standards, Compliance Assurance) 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**

*ERO Risk Profile: 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.

- Project: Essential Reliability Services Special Assessment Phase II – 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 Coordination Guidelines – RRM and RAPA

**Program: Resource Planning**

*ERO Risk Profile: Poor 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 CO<sub>2</sub> 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. Forecasts show potential deficiencies in reserve margins as early as 2015 in the Electric Reliability Council of Texas (ERCOT) and Midwest Independent Transmission System Operator, Inc. (MISO). While entities are aware of this issue and are taking action, the amount of time required to implement solutions may be too long to provide relief in the near term, and taking a reactive approach would be inadequate.

- Project: Environmental Regulations Special Assessment – RAPA

**Program: Protection System Reliability**

*ERO Risk Profile: Protection System Failures* 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**

*ERO Risk Profile: Protection System Failures*

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. However, failures to trip and slow trips can damage 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 Guidelines – RAPA
- Project: Analysis of Protection System Misoperations – RAPA
- Project: System Protection Initiative – RAPA
- Project: Protection System Education – RRM

**Program: Uncoordinated Protection Systems**

*ERO Risk Profile: Protection System Failures*

Protection Systems serve a vital role in defense against system disturbance events. 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. 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: Guidelines for Coordination of Protection Systems and Other Devices – RAPA
- Project: System Protection Initiative – RAPA

**Program: Extreme Physical Events**

*ERO Risk Profiles: Extreme Physical Events – Acts of Nature, Extreme Physical Events – Man-made*

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

*ERO Risk Profile: Loss of Situational Awareness*

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 system 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**

*ERO Risk Profile: Failure to Maintain and Manage BPS Assets*

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 or 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 multi-year 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 level, provide 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 Events Analysis to develop a linkage between their various databases. Specific equipment outages will be linked to disturbance reports filed with NERC, enabling better association of transmission and generation outages system events. 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 data bases. This is expected to improve across the ERO enterprise both depth of event analyses, as well as expand the quality of data gathered for sophisticated statistical and probabilistic analyses leading 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 upcoming summer or winter seasons. 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 North American BPS. These analyses provide a technical platform for important policy discussions on challenges facing the interconnected North American BES, as well as focused recommendations that improve the overall reliability or lessen reliability risks.

Each year, NERC is responsible for independently assessing and reporting on the overall reliability, adequacy, and associated risks that could impact the upcoming summer and winter seasons and the long-term, ten-year period. 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 approach.

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, as well as loads, to include greater focus on probabilistic approaches to conducting assessments as well as focusing seasonal assessments on a short term horizon to encompass more other than peak condition reserve margin analyses.

Key assessments include:

- Long-Term Reliability Assessment (supplemented by the Probabilistic Assessment conducted biennially)
- Summer and Winter 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
- 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 staff, and stakeholders, focuses on the continued development of effective Essential Reliability Services (ERS). These efforts are expected to lead to a broad set of recommendations by the end of 2015 that will culminate the initial efforts to define the ERS elements, evaluate the results of initial metrics and data compilation of actual performance, and refinement about ongoing assessment of ERS conditions within the Bulk Power System. These recommendations are expected to drive a variety of modifications to the reliability assessment activities, the performance analysis efforts, the system analysis efforts, as well as potential other related adaptations to reflect the significantly changing resource mix and load reliability behavior.

### **Reliability Initiatives and System Analysis**

A deep understanding of the technical performance behavior of the North American grid provides a sound technical foundation for identifying those crucial aspects of performance that are important to sustaining overall reliability. This understanding 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.

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. Toward these ends, 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.

### **Bulk Electric System (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 resulting from 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. Outside experts may be needed to conduct technical reviews of BES exception requests.

## **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.
  - a. One ten-year Long-Term Reliability Assessment
  - b. Two seasonal assessments: Summer and Winter
  - c. Reliability assessment report on geomagnetic disturbance (GMD) BES effects and vulnerability assessment
  - d. Special Assessments addressing key reliability risks (Risk Projects)
    - Essential Reliability Services Phase II
    - Phase II Special Reliability Assessment on the EPA Clean Power Plan
  - e. One annual State of Reliability report
  - f. Oversight of Generating, Transmission, and Demand Response Availability Data Systems (GADS, TADS, and DADS), along with reliability metrics, misoperations, and the Spare Equipment Database
  - g. Strengthen data collection and validation processes by designing, creating, testing, and implementing data checking systems for reliability assessment, system analysis, and risk analysis
  - h. Provide periodic updates on trends and measures of BES reliability
2. Develop a risk registry and systematic prioritization process consistent with the RISC framework and support BES risk profile measurement and assessment of standards.
3. 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.
4. Support NERC Reliability Standard development and response to FERC directives by providing technical and system analysis expertise.
5. Support the technical foundation development for Reliability Standards to address deficiencies or needs revealed by RAPA.
6. Advance NERC's analytical capability for identifying and determining reliability risks and conducting various reliability assessments.
  - a. Integrate ERS analysis and measures into the Long-Term Reliability Assessment (encompasses 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 required advanced statistical analysis tools.
7. Provide support and leadership to (1) the Planning Committee and (2) standing committees' subcommittees, working groups, and task forces serving the standing committees.
  8. Develop a structured approach to evaluate and improve system models, model validation, system analysis, and assessments.
  9. Assist in the development of approaches to registration and maintenance of the actively monitored 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.
  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 method 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.

**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 deliver the second part of its Special Assessment on Essential Reliability Services. 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 at 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 validation of 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 Coordination Guidelines**

The Reliability Assessments team, in cooperation with the Event Analysis team, will collaborate with stakeholders to develop a guidelines for operations and emergency coordination with gas suppliers and transporters. (RAPA)

**Project: Environmental Regulations Special Assessment**

The Reliability Assessments team will publish a special assessment on the potential impact of emerging and proposed environmental regulations to the reliability of the BPS. This will focus on new and existing source CO<sub>2</sub> requirements identified in 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 and leverage the existing body of work developed by NERC’s Special Protection and Control Subcommittee to develop a report on appropriate approaches to coordinate 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 the 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 \$1255k, representing an approximate \$300k increase over the 2015 budget. The 2016 contractor and consulting resources are described below and are grouped into four categories:

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. ERS assessment analyses consultants
3. Licensing and Support of Existing Databases
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 the Reliability Assessment Database applications.

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

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)
<b>Funding</b>					
<b>ERO Funding</b>					
NERC Assessments	\$ 9,571,195	\$ 9,571,195	\$ -	\$ 10,209,260	\$ 638,065
Penalty Sanctions	186,581	186,581	-	140,101	(46,480)
<b>Total NERC Funding</b>	<b>\$ 9,757,776</b>	<b>\$ 9,757,776</b>	<b>\$ -</b>	<b>\$ 10,349,361</b>	<b>\$ 591,585</b>
Third-Party Funding	-	-	-	-	-
Testing Fees	-	-	-	-	-
Services & Software	50,000	50,000	-	50,000	-
Workshops	17,500	17,500	-	15,000	(2,500)
Interest	474	474	-	489	15
Miscellaneous	-	-	-	-	-
<b>Total Funding (A)</b>	<b>\$ 9,825,750</b>	<b>\$ 9,825,750</b>	<b>\$ -</b>	<b>\$ 10,414,850</b>	<b>\$ 589,101</b>
<b>Expenses</b>					
<b>Personnel Expenses</b>					
Salaries	\$ 2,833,480	\$ 2,807,673	\$ (25,807)	\$ 2,879,571	\$ 46,091
Payroll Taxes	176,963	188,280	11,317	193,310	16,346
Benefits	356,502	336,484	(20,018)	349,129	(7,372)
Retirement Costs	317,664	299,309	(18,355)	321,491	3,826
<b>Total Personnel Expenses</b>	<b>\$ 3,684,609</b>	<b>\$ 3,631,746</b>	<b>\$ (52,863)</b>	<b>\$ 3,743,500</b>	<b>\$ 58,891</b>
<b>Meeting Expenses</b>					
Meetings	\$ 90,018	\$ 90,018	\$ -	\$ 110,000	\$ 19,982
Travel	313,993	313,993	-	334,242	20,249
Conference Calls	31,500	31,500	-	27,000	(4,500)
<b>Total Meeting Expenses</b>	<b>\$ 435,511</b>	<b>\$ 435,511</b>	<b>\$ -</b>	<b>\$ 471,242</b>	<b>\$ 35,731</b>
<b>Operating Expenses</b>					
Consultants & Contracts	\$ 955,450	\$ 1,100,780	\$ 145,330	\$ 1,084,039	\$ 128,589
Office Rent	-	-	-	-	-
Office Costs	152,386	137,904	(14,482)	141,792	(10,593)
Professional Services	-	-	-	-	-
Miscellaneous	500	500	-	500	-
Depreciation	228,000	274,510	46,510	386,024	158,024
<b>Total Operating Expenses</b>	<b>\$ 1,336,336</b>	<b>\$ 1,513,694</b>	<b>\$ 177,358</b>	<b>\$ 1,612,355</b>	<b>\$ 276,020</b>
<b>Total Direct Expenses</b>	<b>\$ 5,456,456</b>	<b>\$ 5,580,951</b>	<b>\$ 124,495</b>	<b>\$ 5,827,097</b>	<b>\$ 370,641</b>
<b>Indirect Expenses</b>	<b>\$ 4,149,598</b>	<b>\$ 4,484,607</b>	<b>\$ 335,009</b>	<b>\$ 4,665,318</b>	<b>\$ 515,721</b>
<b>Other Non-Operating Expenses</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Total Expenses (B)</b>	<b>\$ 9,606,054</b>	<b>\$ 10,065,558</b>	<b>\$ 459,504</b>	<b>\$ 10,492,416</b>	<b>\$ 886,362</b>
<b>Change in Assets</b>	<b>\$ 219,696</b>	<b>\$ (239,808)</b>	<b>\$ (459,504)</b>	<b>\$ (77,566)</b>	<b>\$ (297,262)</b>
<b>Fixed Assets</b>					
Depreciation	(228,000)	(274,510)	(46,510)	(386,024)	(158,024)
Computer & Software CapEx	200,000	688,836	488,836	-	(200,000)
Furniture & Fixtures CapEx	-	-	-	-	-
Equipment CapEx	-	-	-	-	-
Leasehold Improvements	-	-	-	-	-
Allocation of Fixed Assets	\$ 247,696	\$ 335,298	\$ 87,602	308,459	\$ 60,763
<b>Inc(Dec) in Fixed Assets ( C )</b>	<b>\$ 219,696</b>	<b>\$ 749,624</b>	<b>\$ 529,928</b>	<b>\$ (77,566)</b>	<b>\$ (297,262)</b>
<b>TOTAL BUDGET (=B + C)</b>	<b>\$ 9,825,750</b>	<b>\$ 10,815,182</b>	<b>\$ 989,432</b>	<b>\$ 10,414,850</b>	<b>\$ 589,101</b>
<b>FTEs</b>	<b>19.70</b>	<b>19.42</b>	<b>(0.28)</b>	<b>19.59</b>	<b>(0.11)</b>

## 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: (1) Situation Awareness (also sometime referred to as Bulk Power System Awareness) and (2) 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)
Total FTEs	6.10	5.53	(0.57)
Direct Expenses	\$ 2,446,801	\$ 2,309,418	\$ (137,383)
Indirect Expenses	\$ 1,284,901	\$ 1,317,266	\$ 32,366
Other Non-Operating Expenses	\$ -	\$ -	\$ -
Inc(Dec) in Fixed Assets	(84,800)	79,368	164,167
<b>TOTAL BUDGET</b>	<b>\$ 3,646,902</b>	<b>\$ 3,706,052</b>	<b>\$ 59,150</b>

### 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 BES' 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 bulk power system 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 represent conditions and occurrences that have little or no reliability impact, either positive or adverse, on the BES. However, being continually cognizant of the short term condition of the BES and the signatures associated with the entire range of reliability performance helps the ERO to identify significant occurrences and events more quickly, accurately, completely, 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 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 FNet<sup>20</sup> 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 bulk power system 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, together with a comparison to 2015 budgeted amounts.

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<sup>20</sup> 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 – 2015 Business Plan and Budget Program Area and Department Detail

<b>Statement of Activities and Fixed Assets Expenditures</b>					
<b>2015 Budget &amp; Projection, and 2016 Budget</b>					
<b>SITUATION AWARENESS</b>					
	<b>2015</b>	<b>2015</b>	<b>Variance</b>	<b>2016</b>	<b>Variance</b>
	<b>Budget</b>	<b>Projection</b>	<b>2015 Projection</b>	<b>Budget</b>	<b>2016 Budget</b>
			<b>v 2015 Budget</b>		<b>v 2015 Budget</b>
			<b>Over(Under)</b>		<b>Over(Under)</b>
<b>Funding</b>					
<b>ERO Funding</b>					
NERC Assessments	\$ 3,588,981	3,588,981	\$ -	\$ 3,666,356	\$ 77,375
Penalty Sanctions	57,774	57,774	-	39,558	(18,216)
<b>Total NERC Funding</b>	<b>\$ 3,646,755</b>	<b>\$ 3,646,755</b>	<b>\$ -</b>	<b>\$ 3,705,914</b>	<b>\$ 59,159</b>
Third-Party Funding	-	-	-	-	-
Testing Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Workshops	-	-	-	-	-
Interest	147	147	0	138	(8)
Miscellaneous	-	-	-	-	-
<b>Total Funding (A)</b>	<b>\$ 3,646,902</b>	<b>\$ 3,646,902</b>	<b>\$ 0</b>	<b>\$ 3,706,052</b>	<b>\$ 59,150</b>
<b>Expenses</b>					
<b>Personnel Expenses</b>					
Salaries	\$ 849,802	\$ 743,157	\$ (106,645)	\$ 764,342	\$ (85,460)
Payroll Taxes	55,831	57,261	1,430	58,235	2,404
Benefits	112,106	96,266	(15,840)	100,493	(11,613)
Retirement Costs	95,226	77,708	(17,518)	85,123	(10,103)
<b>Total Personnel Expenses</b>	<b>\$ 1,112,965</b>	<b>\$ 974,392</b>	<b>\$ (138,573)</b>	<b>\$ 1,008,192</b>	<b>\$ (104,773)</b>
<b>Meeting Expenses</b>					
Meetings	\$ 5,000	\$ 5,000	\$ -	\$ 6,500	\$ 1,500
Travel	45,882	45,882	-	32,972	(12,910)
Conference Calls	2,610	1,000	(1,610)	1,000	(1,610)
<b>Total Meeting Expenses</b>	<b>\$ 53,492</b>	<b>\$ 51,882</b>	<b>\$ (1,610)</b>	<b>\$ 40,472</b>	<b>\$ (13,020)</b>
<b>Operating Expenses</b>					
Consultants & Contracts	\$ 1,077,321	\$ 1,286,655	\$ 209,334	\$ 1,211,475	\$ 134,154
Office Rent	-	-	-	-	-
Office Costs	41,025	38,158	(2,867)	41,052	27
Professional Services	-	-	-	-	-
Miscellaneous	500	500	-	500	-
Depreciation	161,498	7,107	(154,390)	7,727	(153,771)
<b>Total Operating Expenses</b>	<b>\$ 1,280,343</b>	<b>\$ 1,332,420</b>	<b>\$ 52,077</b>	<b>\$ 1,260,754</b>	<b>\$ (19,590)</b>
<b>Total Direct Expenses</b>	<b>\$ 2,446,801</b>	<b>\$ 2,358,694</b>	<b>\$ (88,107)</b>	<b>\$ 2,309,418</b>	<b>\$ (137,383)</b>
<b>Indirect Expenses</b>	<b>\$ 1,284,901</b>	<b>\$ 1,283,955</b>	<b>\$ (945)</b>	<b>\$ 1,317,266</b>	<b>\$ 32,366</b>
<b>Other Non-Operating Expenses</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Total Expenses (B)</b>	<b>\$ 3,731,701</b>	<b>\$ 3,642,649</b>	<b>\$ (89,052)</b>	<b>\$ 3,626,684</b>	<b>\$ (105,017)</b>
<b>Change in Assets</b>	<b>\$ (84,800)</b>	<b>\$ 4,253</b>	<b>\$ 89,052</b>	<b>\$ 79,368</b>	<b>\$ 164,167</b>
<b>Fixed Assets</b>					
Depreciation	(161,498)	(7,107)	154,390	(7,727)	153,771
Computer & Software CapEx	-	23,000	23,000	-	-
Furniture & Fixtures CapEx	-	-	-	-	-
Equipment CapEx	-	-	-	-	-
Leasehold Improvements	-	-	-	-	-
Allocation of Fixed Assets	\$ 76,698	\$ 95,997	19,299	87,094	10,396
<b>Inc(Dec) in Fixed Assets ( C )</b>	<b>\$ (84,800)</b>	<b>\$ 111,890</b>	<b>\$ 196,689</b>	<b>\$ 79,368</b>	<b>\$ 164,167</b>
<b>TOTAL BUDGET (=B + C)</b>	<b>\$ 3,646,902</b>	<b>\$ 3,754,539</b>	<b>\$ 107,637</b>	<b>\$ 3,706,052</b>	<b>\$ 59,150</b>
<b>FTEs</b>	<b>6.10</b>	<b>5.56</b>	<b>(0.54)</b>	<b>5.53</b>	<b>(0.57)</b>

## Event Analysis Department

Event Analysis (in whole dollars)			
	2015 Budget	2016 Budget	Increase (Decrease)
Total FTEs	9.38	11.06	1.68
Direct Expenses	\$ 2,303,098	\$ 2,639,231	\$ 336,134
Indirect Expenses	\$ 1,975,798	\$ 2,634,533	\$ 658,735
Other Non-Operating Expenses	\$ -	\$ -	\$ -
Inc(Dec) in Fixed Assets	\$ (75,728)	\$ 101,821	\$ 177,549
TOTAL BUDGET	\$ 4,203,169	\$ 5,375,585	\$ 1,172,417

### 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 assures 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, as well as 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.<sup>21</sup> 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

<sup>21</sup> The core process for Event Analysis is outlined in the Board-approved process: Electric Reliability Organization Event Analysis Process - Version 2 (July 2013).



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 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 which 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 (approximately 135 annually) 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 2016–2017, as identified and described under the Reliability Assessment and Performance Analysis department section of this business plan and budget.

## **Resource Requirements**

### **Personnel**

Additional resources were allocated to the department in 2016 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 contractors and consultants 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.

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

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)
<b>Funding</b>					
<b>ERO Funding</b>					
NERC Assessments	\$ 4,066,804	\$ 4,066,804	\$ -	\$ 5,256,193	\$ 1,189,389
Penalty Sanctions	88,839	88,839	-	79,116	(9,723)
<b>Total NERC Funding</b>	<b>\$ 4,155,643</b>	<b>\$ 4,155,643</b>	<b>\$ -</b>	<b>\$ 5,335,309</b>	<b>\$ 1,179,666</b>
Third-Party Funding	-	-	-	-	-
Testing Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Workshops	47,300	47,300	-	40,000	(7,300)
Interest	226	226	-	276	50
Miscellaneous	-	-	-	-	-
<b>Total Funding (A)</b>	<b>\$ 4,203,169</b>	<b>\$ 4,203,169</b>	<b>\$ -</b>	<b>\$ 5,375,585</b>	<b>\$ 1,172,416</b>
<b>Expenses</b>					
<b>Personnel Expenses</b>					
Salaries	\$ 1,447,159	\$ 1,649,379	\$ 202,220	\$ 1,708,129	\$ 260,969
Payroll Taxes	92,831	110,521	17,690	113,987	21,156
Benefits	173,284	190,198	16,914	200,987	27,703
Retirement Costs	162,193	169,040	6,847	190,248	28,055
<b>Total Personnel Expenses</b>	<b>\$ 1,875,467</b>	<b>\$ 2,119,138</b>	<b>\$ 243,671</b>	<b>\$ 2,213,350</b>	<b>\$ 337,882</b>
<b>Meeting Expenses</b>					
Meetings	\$ 79,228	\$ 79,228	\$ -	\$ 81,500	\$ 2,272
Travel	114,500	114,500	-	152,333	37,833
Conference Calls	10,000	10,000	-	14,000	4,000
<b>Total Meeting Expenses</b>	<b>\$ 203,728</b>	<b>\$ 203,728</b>	<b>\$ -</b>	<b>\$ 247,833</b>	<b>\$ 44,105</b>
<b>Operating Expenses</b>					
Consultants & Contracts	\$ -	\$ -	\$ -	\$ 56,000	\$ 56,000
Office Rent	-	-	-	-	-
Office Costs	29,736	44,922	15,186	49,181	19,445
Professional Services	-	-	-	-	-
Miscellaneous	500	500	-	500	-
Depreciation	193,667	193,667	0	72,367	(121,299)
<b>Total Operating Expenses</b>	<b>\$ 223,903</b>	<b>\$ 239,089</b>	<b>\$ 15,186</b>	<b>\$ 178,048</b>	<b>\$ (45,855)</b>
<b>Total Direct Expenses</b>	<b>\$ 2,303,098</b>	<b>\$ 2,561,955</b>	<b>\$ 258,857</b>	<b>\$ 2,639,231</b>	<b>\$ 336,133</b>
<b>Indirect Expenses</b>	<b>\$ 1,975,798</b>	<b>\$ 2,535,581</b>	<b>\$ 559,783</b>	<b>\$ 2,634,533</b>	<b>\$ 658,735</b>
<b>Other Non-Operating Expenses</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Total Expenses (B)</b>	<b>\$ 4,278,897</b>	<b>\$ 5,097,536</b>	<b>\$ 818,639</b>	<b>\$ 5,273,764</b>	<b>\$ 994,867</b>
<b>Change in Assets</b>	<b>\$ (75,728)</b>	<b>\$ (894,367)</b>	<b>\$ (818,639)</b>	<b>\$ 101,821</b>	<b>\$ 177,549</b>
<b>Fixed Assets</b>					
Depreciation	(193,667)	(193,667)	(0)	(72,367)	121,299
Computer & Software CapEx	-	217,102	217,102	-	-
Furniture & Fixtures CapEx	-	-	-	-	-
Equipment CapEx	-	-	-	-	-
Leasehold Improvements	-	-	-	-	-
Allocation of Fixed Assets	\$ 117,939	\$ 189,576	71,638	174,189	56,250
<b>Inc(Dec) in Fixed Assets (C)</b>	<b>\$ (75,728)</b>	<b>\$ 213,011</b>	<b>\$ 288,739</b>	<b>\$ 101,821</b>	<b>\$ 177,549</b>
<b>TOTAL BUDGET (=B + C)</b>	<b>\$ 4,203,169</b>	<b>\$ 5,310,547</b>	<b>\$ 1,107,379</b>	<b>\$ 5,375,585</b>	<b>\$ 1,172,417</b>
<b>FTEs</b>	<b>9.38</b>	<b>10.98</b>	<b>1.60</b>	<b>11.06</b>	<b>1.68</b>

## Electricity Sector Information Sharing and Analysis Center (ES-ISAC)<sup>22</sup>

ES-ISAC (in whole dollars)			
	2015 Budget	2016 Budget	Increase (Decrease)
Total FTEs	18.76	18.44	(0.32)
Direct Expenses	\$ 14,078,643	\$ 13,599,920	\$ (478,724)
Indirect Expenses	\$ 3,951,596	\$ 4,390,888	\$ 439,291
Other Non-Operating Expenses	\$ -	\$ -	\$ -
Inc(Dec) in Fixed Assets	\$ 335,877	\$ 246,825	\$ (89,052)
TOTAL BUDGET	\$ 18,366,117	\$ 18,237,633	\$ (128,484)

### Background and Scope

The ES-ISAC was formed in 1998 when the U.S. Secretary of Energy requested that NERC serve as the ISAC<sup>23</sup> for the electricity sub-sector.<sup>24</sup> 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 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 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

<sup>22</sup> In 2015, NERC combined its Critical Infrastructure Department (CID) into the ES-ISAC for both operational and financial reporting purposes.

<sup>23</sup> 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.

<sup>24</sup> 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.

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.

### **Stakeholder Engagement and Benefit**

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.

### **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.<sup>25</sup> 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

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<sup>25</sup> 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>

better functional alignment among the auditors and more efficient management of the compliance oversight and audit assurance function.

- Finalized and put in place 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.
- Exercised 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. This physical separation is expected to be completed by the summer of 2015.
- 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 is being 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.

### **Key Efforts Underway**

Senior management will continue to focus on enhancing the effectiveness and capabilities 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.

CRISP became fully operational in 2015. 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. In Q4, 2014 NERC assumed the role of program manager of CRISP. 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. NERC has been working with PNNL to develop a 2016 budget. Between May and July NERC will be working with CRISP participants to finalize the 2016 CRISP budget. For purposes of the initial draft of the 2016 NERC and ES-ISAC budget, CRISP funding was kept at the same level as 2015. The percentage allocation of CRISP funding requirements from assessments and from CRISP participants was also kept the same as 2015. This information will be updated in connection with the finalization of the 2016 CRISP budget and included in the final draft of the NERC and ES-ISAC 2016 business plan and budget which will be posted on July 15, 2015 for stakeholder review and comment.

During 2015, the Electricity Sector Coordinating Council (ESCC)<sup>26</sup> initiated a strategic review of the ES-ISAC. The objective of this initiative is to gain a better understanding of the ES-ISAC operations and

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<sup>26</sup> 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 ESCC 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.

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. The ESCC is scheduled to issue a report in mid-June, 2015 (the "ESCC Report"). The findings and recommendations contained in the ESCC Report will be considered by NERC management in the finalization of the company's 2016 business plan and budget for the ES-ISAC, as well as in connection with long term planning and budgeting initiatives. Due to timing and depending upon the nature and extent of the recommendations, it is unclear whether sufficient time will be available to review and update the NERC and ES-ISAC 2016 business plan and budget to address any additional resource requirements which NERC considers appropriate in light of these recommendations. To the extent necessary and appropriate, incremental resource and funding needs can be addressed through a future amendment to NERC's 2016 business plan and budget, as well as in connection with the development of future NERC business plans and budgets, keeping in mind that the development of NERC's 2017 business and budget gets underway during Q4 2015 with the updates to the ERO Enterprise Strategic Plan.

### **2016 Goals and Deliverables**

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

1. Additional management and staff resources to support ongoing operations and strategic initiatives. During 2015 NERC increased ES-ISAC resource allocation, primarily through reallocation of existing open budgeted FTEs from departments with reduced staffing needs due to efficiency gains and process improvements.<sup>27</sup>
2. Improve the usability and functionality of the information-sharing portal. 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.
3. Increase analytical capabilities, portal monitoring, and information sharing.

### **Resource Requirements**

#### **Personnel**

During 2015, as part of a periodic review of resource needs and resource allocation, NERC allocated additional resources support to the ES-ISAC. NERC also recruited and appointed a senior vice president in charge of ES-ISAC operations. 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. NERC management is deferring its recommendations regarding further personnel additions pending review of the ESCC Report.

#### **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. The 2016 budget for this items was kept the same as 2015 pending review of the ESCC Report.

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<sup>27</sup> Departments with reduced staffing needs included the legal, enforcement and standards departments.

## **Program Level Support**

### **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.

**Statement of Activities and Fixed Assets Expenditures**  
**2015 Budget & Projection and 2015 Budget**  
**ES-ISAC**

Funding	2015	2015	2015 Projection	2016	2016 Budget
	Budget	Projection	v 2015 Budget Over(Under)	Budget	v 2015 Budget Over(Under)
<b>Funding</b>					
<b>ERO Funding</b>					
NERC Assessments *	\$ 9,671,899	9,671,899	\$ -	\$ 9,669,923	\$ (1,976)
Penalty Sanctions	177,676	177,676	-	131,860	(45,816)
<b>Total NERC Funding</b>	<b>\$ 9,849,577</b>	<b>\$ 9,849,575</b>	<b>\$ -</b>	<b>\$ 9,801,783</b>	<b>\$ (47,792)</b>
Third-Party Funding (CRISP)	8,943,589	7,228,140	(1,715,449)	8,365,389	(578,199)
Testing Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Workshops	72,500	72,500	-	70,000	(2,500)
Interest	451	1,609	1,158	461	10
<b>Total Funding (A)</b>	<b>\$ 18,866,117</b>	<b>\$ 17,151,824</b>	<b>\$ (1,714,291)</b>	<b>\$ 18,237,633</b>	<b>\$ (628,482)</b>
<b>Expenses</b>					
<b>Personnel Expenses</b>					
Salaries	\$ 3,157,196	\$ 2,826,837	\$ (330,359)	\$ 3,259,944	\$ 102,748
Payroll Taxes	188,916	192,351	3,435	205,086	16,169
Benefits	339,525	298,500	(41,025)	345,227	5,701
Retirement Costs	354,866	251,777	(103,089)	362,987	8,121
<b>Total Personnel Expenses</b>	<b>\$ 4,040,504</b>	<b>\$ 3,569,465</b>	<b>\$ (471,039)</b>	<b>\$ 4,173,243</b>	<b>\$ 132,739</b>
<b>Meeting Expenses</b>					
Meetings	\$ 193,134	\$ 193,134	\$ -	\$ 215,000	\$ 21,866
Travel	314,358	314,358	-	249,993	(64,365)
Conference Calls	46,385	46,385	-	22,000	(24,385)
<b>Total Meeting Expenses</b>	<b>\$ 553,877</b>	<b>\$ 553,877</b>	<b>\$ -</b>	<b>\$ 486,993</b>	<b>\$ (66,884)</b>
<b>Operating Expenses</b>					
Consultants & Contracts	\$ 8,756,190	\$ 7,556,479	\$ (1,199,711)	\$ 8,329,390	\$ (426,800)
Office Rent	-	\$ -	-	-	-
Office Costs	377,072	\$ 393,517	16,445	391,304	14,232
Professional Services	350,000	\$ 411,000	61,000	175,000	(175,000)
Miscellaneous	1,000	\$ 1,000	-	500	(500)
Depreciation	-	\$ 11,072	11,072	43,489	43,489
<b>Total Operating Expenses</b>	<b>\$ 9,484,262</b>	<b>\$ 8,373,068</b>	<b>\$ (1,111,194)</b>	<b>\$ 8,939,683</b>	<b>\$ (544,579)</b>
<b>Total Direct Expenses</b>	<b>\$ 14,078,643</b>	<b>\$ 12,496,410</b>	<b>\$ (1,582,233)</b>	<b>\$ 13,599,920</b>	<b>\$ (478,724)</b>
<b>Indirect Expenses</b>	<b>\$ 3,951,596</b>	<b>\$ 3,978,876</b>	<b>\$ 27,280</b>	<b>\$ 4,390,888</b>	<b>\$ 439,291</b>
<b>Other Non-Operating Expenses</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Total Expenses (B)</b>	<b>\$ 18,030,240</b>	<b>\$ 16,475,287</b>	<b>\$ (1,554,953)</b>	<b>\$ 17,990,808</b>	<b>\$ (39,432)</b>
<b>Change in Assets</b>	<b>\$ 835,877</b>	<b>\$ 676,537</b>	<b>\$ (159,338)</b>	<b>\$ 246,825</b>	<b>\$ (589,050)</b>
<b>Fixed Assets</b>					
Depreciation	-	(11,072)	(11,072)	(43,489)	(43,489)
Computer & Software CapEx	100,000	5,257	(94,743)	-	(100,000)
Furniture & Fixtures CapEx	-	-	-	-	-
Equipment CapEx	-	194,743	194,743	-	-
Leasehold Improvements	-	-	-	-	-
Allocation of Fixed Assets	\$ 235,877	\$ 297,487	61,609	290,314	54,437
<b>Inc(Dec) in Fixed Assets ( C )</b>	<b>\$ 335,877</b>	<b>\$ 486,415</b>	<b>\$ 150,537</b>	<b>\$ 246,825</b>	<b>\$ (89,052)</b>
<b>TOTAL BUDGET (=B + C)</b>	<b>\$ 18,366,117</b>	<b>\$ 16,961,701</b>	<b>\$ (1,404,416)</b>	<b>\$ 18,237,633</b>	<b>\$ (128,484)</b>
<b>FTEs</b>	<b>18.76</b>	<b>17.23</b>	<b>(1.53)</b>	<b>18.44</b>	<b>(0.32)</b>

## Training, Education, and Operator Certification

Training, Education and Operator Certification (in whole dollars)			
	2015 Budget	2016 Budget	Increase (Decrease)
Total FTEs	7.97	7.38	(0.59)
Direct Expenses	\$ 2,171,919	\$ 2,211,435	\$ 39,516
Indirect Expenses	\$ 1,678,797	\$ 1,756,355	\$ 77,559
Other Non-Operating Expenses	\$ -	\$ -	\$ -
Inc(Dec) in Fixed Assets	\$ 100,210	\$ 114,207	\$ 13,997
<b>TOTAL BUDGET</b>	<b>\$ 3,950,926</b>	<b>\$ 4,081,997</b>	<b>\$ 131,071</b>

### 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<sup>28</sup>

The Training and Education Program (Programs 600 and 900) 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 address the Training and Education Program's activities in these areas.

<sup>28</sup> The Compliance Assurance and Human Resources departments are also engage in training initiatives.

## Key Efforts Underway

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

1. Risk-based Compliance Monitoring and Enforcement
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 standard 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, and
- Developing and incorporating a systematic approach to ongoing training.

NERC will continue to provide learning opportunities through workshops hosted by the Regional Entities, and 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 bulk power. The Continuing Education (CE) program will review and enhance the program manual. As the CE Program continues to gain experience, 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.

### **Contractor Expenses**

The total proposed consulting and contractor budget is approximately \$120K higher 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 described above.
- 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.<sup>29</sup>
- 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, 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.

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<sup>29</sup> 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.

**Statement of Activities and Fixed Assets Expenditures**  
**2015 Budget & Projection, and 2016 Budget**  
**TRAINING, EDUCATION and OPERATOR CERTIFICATION**

Funding	2015	2015	Variance	2016	Variance
	Budget	Projection	2015 Projection v 2015 Budget Over(Under)	Budget	2016 Budget v 2015 Budget Over(Under)
<b>Funding</b>					
<b>ERO Funding</b>					
NERC Assessments	\$ 1,826,822	\$ 1,826,822	\$ -	\$ 1,779,553	\$ (47,269)
Penalty Sanctions	48,871	48,871	-	32,965	(15,906)
<b>Total NERC Funding</b>	<b>\$ 1,875,692</b>	<b>\$ 1,875,693</b>	<b>\$ -</b>	<b>\$ 1,812,518</b>	<b>\$ (63,175)</b>
Third-Party Funding	-	-	-	-	-
Testing Fees	1,670,000	1,670,000	-	1,867,972	197,972
Services & Software	-	-	-	-	-
Workshops	-	-	-	-	-
Interest	192	191	(1)	184	(7)
Miscellaneous	-	-	-	-	-
<b>Total Funding (A)</b>	<b>\$ 3,545,884</b>	<b>\$ 3,545,884</b>	<b>\$ (1)</b>	<b>\$ 3,680,674</b>	<b>\$ 134,789</b>
<b>Expenses</b>					
<b>Personnel Expenses</b>					
Salaries	\$ 903,106	\$ 762,284	\$ (140,822)	\$ 817,272	\$ (85,834)
Payroll Taxes	60,937	58,486	(2,451)	61,804	867
Benefits	146,059	122,442	(23,617)	133,991	(12,068)
Retirement Costs	101,437	75,891	(25,546)	90,958	(10,479)
<b>Total Personnel Expenses</b>	<b>\$ 1,211,539</b>	<b>\$ 1,019,103</b>	<b>\$ (192,436)</b>	<b>\$ 1,104,025</b>	<b>\$ (107,514)</b>
<b>Meeting Expenses</b>					
Meetings	\$ 59,931	\$ 59,931	\$ -	\$ 80,000	\$ 20,069
Travel	25,322	28,822	3,500	21,118	(4,204)
Conference Calls	29,320	28,900	(420)	36,500	7,180
<b>Total Meeting Expenses</b>	<b>\$ 114,573</b>	<b>\$ 117,653</b>	<b>\$ 3,080</b>	<b>\$ 137,618</b>	<b>\$ 23,045</b>
<b>Operating Expenses</b>					
Consultants & Contracts	\$ 752,130	\$ 746,014	\$ (6,116)	\$ 871,600	\$ 119,470
Office Rent	-	-	-	-	-
Office Costs	93,178	97,202	4,024	95,773	2,596
Professional Services	-	-	-	-	-
Miscellaneous	500	500	-	500	-
Depreciation	-	1,919	1,919	1,919	1,919
<b>Total Operating Expenses</b>	<b>\$ 845,808</b>	<b>\$ 845,635</b>	<b>\$ (173)</b>	<b>\$ 969,792</b>	<b>\$ 123,985</b>
<b>Total Direct Expenses</b>	<b>\$ 2,171,919</b>	<b>\$ 1,982,391</b>	<b>\$ (189,528)</b>	<b>\$ 2,211,435</b>	<b>\$ 39,516</b>
<b>Indirect Expenses</b>	<b>\$ 1,678,797</b>	<b>\$ 1,630,346</b>	<b>\$ (48,450)</b>	<b>\$ 1,756,355</b>	<b>\$ 77,559</b>
<b>Other Non-Operating Expenses</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Total Expenses (B)</b>	<b>\$ 3,850,716</b>	<b>\$ 3,612,737</b>	<b>\$ (237,979)</b>	<b>\$ 3,967,790</b>	<b>\$ 117,074</b>
<b>Change in Assets</b>	<b>\$ (304,832)</b>	<b>\$ (66,853)</b>	<b>\$ 237,978</b>	<b>\$ (287,117)</b>	<b>\$ 17,715</b>
<b>Fixed Assets</b>					
Depreciation	-	(3,838)	(1,919)	(1,919)	(1,919)
Computer & Software CapEx	-	-	-	-	-
Furniture & Fixtures CapEx	-	-	-	-	-
Equipment CapEx	-	-	-	-	-
Leasehold Improvements	-	-	-	-	-
Allocation of Fixed Assets	\$ 100,210	\$ 121,895	21,685	116,126	\$ 15,916
<b>Inc(Dec) in Fixed Assets ( C )</b>	<b>\$ 100,210</b>	<b>\$ 118,057</b>	<b>\$ 19,766</b>	<b>\$ 114,207</b>	<b>\$ 13,997</b>
<b>TOTAL BUDGET (=B + C)</b>	<b>\$ 3,950,926</b>	<b>\$ 3,730,794</b>	<b>\$ (218,213)</b>	<b>\$ 4,081,997</b>	<b>\$ 131,071</b>
<b>FTEs</b>	<b>7.97</b>	<b>7.06</b>	<b>(0.91)</b>	<b>7.38</b>	<b>(0.59)</b>

## Administrative Services

	Administrative Services (in whole dollars)					
	Direct Expenses and Fixed Assets			FTEs		
	2015 Budget	2016 Budget	Increase (Decrease)	2015 Budget	2016 Budget	Increase (Decrease)
General and Administrative	\$ 8,629,889	\$ 9,703,628	\$ 1,073,739	13.13	17.52	4.39
Legal and Regulatory	4,448,015	3,715,224	(732,791)	15.01	13.37	(1.64)
Information Technology	10,514,943	12,155,865	1,640,922	19.70	22.13	2.43
Human Resources	1,158,304	1,510,076	351,772	2.81	2.77	(0.04)
Finance and Accounting	3,096,886	3,403,058	306,172	16.89	16.60	(0.29)
<b>Total Administrative Services</b>	<b>\$ 27,848,038</b>	<b>\$ 30,487,852</b>	<b>\$ 2,639,814</b>	<b>67.54</b>	<b>72.39</b>	<b>4.85</b>

### 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 is described further 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 %
<b>Meetings and Travel Expenses</b>					
Quarterly Board Meetings	\$ 244,000	\$ 244,000	\$ 244,000	\$ -	
Trustee Travel	150,000	150,000	150,000	-	
<b>Total Board of Trustees Meetings and Travel Expenses</b>	<b>394,000</b>	<b>394,000</b>	<b>394,000</b>	<b>-</b>	
<b>Professional Services</b>					
Independent Trustee Fees	1,085,000	1,085,000	1,085,000	-	
Trustee Search Fees	-	-	100,000	100,000	
<b>Total Board of Trustee Professional Services Expenses</b>	<b>1,085,000</b>	<b>1,085,000</b>	<b>1,185,000</b>	<b>100,000</b>	
<b>Total Board of Trustee Expenses</b>	<b>\$ 1,479,000</b>	<b>\$ 1,479,000</b>	<b>\$ 1,579,000</b>	<b>\$ 100,000</b>	<b>6.76%</b>

## 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 Legal and Regulatory department is extensively involved with the preparation of the Five-Year ERO Performance Assessment, which was filed with FERC on July, 21, 2014. The department also addresses legal and regulatory matters that arise in connection with the delegation agreements with the Regional Entities.

### Resource Requirements

No additional personnel are budgeted in 2016 for this department.

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

## Information Technology

### Background and Scope

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

### ERO Enterprise Applications

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

- 1. New Functionality** - As noted in the 2015 Business Plan & Budget, IT strategy was to consider a Commercial Off-the-Shelf (COTS) product in order 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 foundational platform for future ERO Enterprise applications. New application requests will be closely examined to



determine if it can 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 the robust architecture and compatibility with NERC's existing environment.

- a. **Enhancement.** As enterprise applications are brought online and operational, ongoing, approved upgrades will be required to, enhance features, add functionality and meet the dynamic needs of the ERO enterprise to ensure the reliability of the North American bulk power system. The Bulk Electric System Notifications and Exceptions (BESnet) tool was brought online and operational on July 1, 2014, along with the Standards Balloting System (SBS) in March of 2015. As more applications are brought online in 2015, such as the Reliability Assessment Data System (RADS) and Events Analysis, those, in addition to BESnet and SBS will require enhancements to meet business requirements. Enhancements to those 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 for business usage. 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 for the Tool.** 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 in order to create analytics (e.g., Microsoft's Analytics Platform System in order to determine business performance, or in the context of the ERO enterprise, possible risk to reliability.)
  - c. **Support.** Support includes ongoing upgrades and enhancements, along with 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 to include reporting required by NERC as the certified ERO. In addition, the compliance database has additional modules included such as the Standards, Technical Feasibility Exceptions (TFE's) 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 ten years ago and are unable to take advantage of contemporary application development and will have to be completely re-written, 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 re-written, or moved to the xRM platform, or, in some cases, potentially divested or transferred to industry support.

- c. **Quarterly Penetration, Vulnerability Testing all NERC network and systems.** Expert consulting services required to provide ongoing intrusion detection and vulnerability testing of the NERC public website, NERC's network, applications, and systems is an essential requirement of on-going operations. Multiple attempts are made to gain access, and 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 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. SharePoint 2013 will be leveraged as a foundational COTS application from which to implement add-on functionality to create a document management system using native Microsoft functionality for document storage and retrieval. Implementation of a document management system is a multi-year 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. Additionally, as noted, SharePoint 2013, will also serve as the repository for all documents, to include those required by the Events Analysis application, and Reliability Assessment Data System.

## 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)
<b>Total Office Costs</b>	<b>\$ 2,143,420</b>	<b>\$ 2,239,195</b>	<b>\$ 95,775</b>

**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, and cost is minimized by leveraging pooled minutes. Individual NERC employees are provided with a basic pooled cell phone plan of 450 minutes, including a basic-level subscription for texting and data. This plan is designed to ensure persons who travel frequently have additional cell phone minutes by taking advantage of limited usage by employees who travel less frequently. In addition, employees are encouraged to connect via wireless whenever possible to reduce cellular charges for data usage. The basic texting plan is provided for those instances when calling or email is not optimal. Cellular calling costs are included in the telephone expense item.

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. In addition, IT support persons are required to be available for support 24 x 7 x 365, which in almost all instances requires them to have access to systems and network via secure Internet connectivity. 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 and include computer monitors, mice, keyboard, cell phones cases, cables, encrypted hard drives, encrypted thumb drives, encryption keys, uninterruptible power supplies (UPS), 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, storage area network, 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
ERO Application Development	\$ 1,050,000	\$ 1,500,000
Document Management	-	465,000
ERO Data Analysis Tool	550,000	-
Geration Data Software	200,000	-
Other IT Hardware and Software	1,453,500	1,311,000
Network Devices and A/V	365,000	535,000
<b>Total Capital Budget</b>	<b>3,618,500</b>	<b>3,811,000</b>
Depreciation (excluded from Assessments)	(2,333,006)	(2,641,943)
<b>Fixed Assets (net)</b>	<b>1,285,494</b>	<b>1,169,057</b>

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, disaster recovery and enhanced security, sets the stage for vastly improved reporting, business intelligence, and 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, 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, as well as facilitating 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 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 periodic 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, 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 back-up functions, as well as support succession planning initiatives.

#### **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 – 2015 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	2015	Variance	2016	Variance	
	Budget	Projection	2015 Projection	Budget	2016 Budget	v 2015 Budget
			v 2015 Budget			v 2015 Budget
			Over(Under)			Over(Under)
<b>Funding</b>						
<b>ERO Funding</b>						
NERC Assessments	\$ 626,997	\$ 626,997	\$ -	\$ 175,000	\$ (451,997)	
Penalty Sanctions	-	-	-	-	-	
<b>Total NERC Funding</b>	<b>\$ 626,997</b>	<b>\$ 626,997</b>	<b>\$ -</b>	<b>\$ 175,000</b>	<b>\$ (451,997)</b>	
Third-Party Funding	-	-	-	-	-	
Testing Fees	-	-	-	-	-	
Services & Software	-	-	-	-	-	
Workshops	-	-	-	-	-	
Interest	-	-	-	-	-	
Miscellaneous	-	-	-	-	-	
<b>Total Funding (A)</b>	<b>\$ 626,997</b>	<b>\$ 626,997</b>	<b>\$ -</b>	<b>\$ 175,000</b>	<b>\$ (451,997)</b>	
<b>Expenses</b>						
<b>Personnel Expenses</b>						
Salaries	\$ 10,078,982	\$ 10,814,927	\$ 735,945	\$ 11,130,114	\$ 1,051,131	
Payroll Taxes	564,567	659,229	94,662	672,885	108,318	
Benefits	1,299,268	1,337,110	37,842	1,390,423	91,156	
Retirement Costs	1,036,455	1,091,560	55,105	1,041,599	5,144	
<b>Total Personnel Expenses</b>	<b>\$ 12,979,273</b>	<b>\$ 13,902,826</b>	<b>\$ 923,553</b>	<b>\$ 14,235,021</b>	<b>\$ 1,255,748</b>	
<b>Meeting Expenses</b>						
Meetings	\$ 353,569	\$ 353,569	\$ -	\$ 315,000	\$ (38,569)	
Travel	629,982	671,818	41,836	653,286	23,304	
Conference Calls	61,512	61,512	-	63,300	1,788	
<b>Total Meeting Expenses</b>	<b>\$ 1,045,063</b>	<b>\$ 1,086,899</b>	<b>\$ 41,836</b>	<b>\$ 1,031,586</b>	<b>\$ (13,477)</b>	
<b>Operating Expenses</b>						
Consultants & Contracts	\$ 2,382,375	\$ 2,431,245	\$ 48,870	\$ 2,956,671	\$ 574,296	
Office Rent	2,987,777	2,987,777	-	3,054,287	66,510	
Office Costs	2,710,770	2,695,539	(15,231)	2,922,987	212,216	
Professional Services	2,261,280	2,261,280	-	2,334,300	73,020	
Miscellaneous	32,000	34,500	2,500	32,000	-	
Depreciation	1,749,842	1,751,254	1,412	1,920,234	170,392	
<b>Total Operating Expenses</b>	<b>\$ 12,124,044</b>	<b>\$ 12,161,595</b>	<b>\$ 37,551</b>	<b>\$ 13,220,479</b>	<b>\$ 1,096,435</b>	
<b>Total Direct Expenses</b>	<b>\$ 26,148,380</b>	<b>\$ 27,151,320</b>	<b>\$ 1,002,940</b>	<b>\$ 28,487,086</b>	<b>\$ 2,338,706</b>	
<b>Indirect Expenses</b>	<b>\$ (26,279,380)</b>	<b>\$ (27,226,320)</b>	<b>\$ (946,940)</b>	<b>\$ (28,597,086)</b>	<b>\$ (2,317,706)</b>	
<b>Other Non-Operating Expenses</b>	<b>\$ 131,000</b>	<b>\$ 75,000</b>	<b>\$ (56,000)</b>	<b>\$ 110,000</b>	<b>\$ (21,000)</b>	
<b>Total Expenses (B)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ (0)</b>	<b>\$ -</b>	<b>\$ (0)</b>	
<b>Change in Assets</b>	<b>\$ 626,997</b>	<b>\$ 626,997</b>	<b>\$ 0</b>	<b>\$ 175,000</b>	<b>\$ (451,997)</b>	
<b>Fixed Assets</b>						
Depreciation	(1,749,842)	(1,751,254)	(1,412)	(1,920,234)	(170,392)	
Computer & Software CapEx	2,953,500	2,824,563	(128,938)	3,276,000	322,500	
Furniture & Fixtures CapEx	-	-	-	-	-	
Equipment CapEx	365,000	365,000	-	535,000	170,000	
Leasehold Improvements	-	597,307	597,307	-	-	
Allocation of Fixed Assets	(1,568,658)	(2,035,616)	(466,958)	(1,890,766)	(322,108)	
<b>Inc(Dec) in Fixed Assets (C)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 0</b>	
<b>TOTAL BUDGET (=B + C)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ (0)</b>	<b>\$ -</b>	<b>\$ (0)</b>	
<b>FTEs</b>	<b>67.54</b>	<b>72.83</b>	<b>5.29</b>	<b>72.39</b>	<b>4.85</b>	



## 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 <sup>1</sup>	Operating Contingency Reserve	Operator Certification	CRISP	Assessment Stabilization Reserve
<b>Beginning Working Capital and Operating Reserves Balance</b>	<b>7,460,907</b>	<b>3,569,492</b>	<b>2,011,402</b>	<b>1,294,513</b>	<b>585,500</b>	
<b>Generation or (Use) from 2015 Operations</b>						
From 2015 budgeted operations	153,735		631,147	(482,347)	4,936	
From 2015 approved use of reserves			(1,388,057)			
Proceeds from financing activities (non-current portion only)	1,266,667		1,266,667			
Debt Service	(421,667)		(421,667)			
Other adjustments to reserves	(519,698)	(493,418)	(26,280)			
<b>Projected Working Capital and Operating Reserves - 12/31/15</b>	<b>7,939,944</b>	<b>3,076,074</b>	<b>2,073,211</b>	<b>812,166</b>	<b>590,436</b>	<b>-</b>
<b>Required Working Capital and Operating Reserves - 12/31/16</b> <sup>2</sup>	<b>8,641,564</b>	3,196,074	2,073,211	410,843	590,436	2,371,000
Adjustment in funding to achieve required reserve balance	(281,323)	120,000	-	(401,323)	-	
Penalty sanctions available 1-1-2016 (See Table B-2)						3,210,000
Less: Penalty sanction offset in 2016						(839,000)
Other adjustments to reserves	-	-	-	-	-	
<b>Increase(decrease) in reserve balances</b>	<b>(281,323)</b>	<b>120,000</b>	<b>-</b>	<b>(401,323)</b>	<b>-</b>	<b>2,371,000</b>
2016 Expenses and Capital Expenditures	68,798,087		58,037,227	1,669,364	9,091,496	
Less: Penalty Sanctions	(839,000)		(825,814)		(13,186)	
Adjustment to achieve desired reserve balance	(281,323)	120,000	-	(401,323)	-	
Less: Other Funding Sources	(10,516,561)		(882,931)	(1,268,041)	(8,365,589)	
Less: Proceeds from financing activities (non-current only)	(1,000,000)		(1,000,000)			
Plus: debt service	1,055,000		1,055,000			
<b>2016 NERC Assessment</b>	<b>57,216,202</b>	<b>120,000</b>	<b>56,383,482</b>	<b>-</b>	<b>712,720</b>	<b>-</b>

<sup>1</sup>As 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 X.

<sup>2</sup>On 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

Penalty monies received prior to June 30, 2014, are to be used to offset assessments in the 2015 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. Penalty monies received from July 1, 2014, through June 30, 2015, will be used to offset assessments in the 2016 budget.

All penalties received as of May 19, 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 upon 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
<b>Penalties received between 7/1/2014 and 5/19/2015</b>		
	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
		<u>\$ 4,210,000</u>
<b>Adjustments</b>		
Penalties received after 6/30/2014, but included in the 2015 Budget	7/9/2014	\$ (1,000,000)
Funding for assessments stabilization reserve		(2,371,000)
		<u>\$ 839,000</u>
<b>Total Penalty Sanctions included in the 2016 Budget</b>		<u>\$ 839,000</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
<b>Reliability Standards</b>				
Workshops	\$ 104,000	\$ 104,000	\$ 105,000	\$ 1,000
Interest Allocation	587	587	449	(138)
<b>Total</b>	<b>\$ 104,587</b>	<b>\$ 104,587</b>	<b>\$ 105,449</b>	<b>\$ 862</b>
<b>Compliance Analysis, Registration and Certification</b>				
Interest Allocation	\$ 271	\$ 270	\$ 277	\$ 6
<b>Total</b>	<b>\$ 271</b>	<b>\$ 270</b>	<b>\$ 277</b>	<b>\$ 6</b>
<b>Compliance Assurance</b>				
Workshops	\$ -	\$ -	\$ -	\$ -
Interest Allocation	293	293	392	98
<b>Total</b>	<b>\$ 293</b>	<b>\$ 293</b>	<b>\$ 392</b>	<b>\$ 98</b>
<b>Compliance Enforcement</b>				
Interest Allocation	\$ 361	\$ 361	\$ 334	\$ (27)
<b>Total</b>	<b>\$ 361</b>	<b>\$ 361</b>	<b>\$ 334</b>	<b>\$ (27)</b>
<b>Reliability Assessments and Performance Analysis</b>				
pc_GAR Software	\$ 50,000	\$ 50,000	\$ 50,000	\$ -
Workshops	17,500	17,500	15,000	(2,500)
Interest Allocation	474	474	489	16
<b>Total</b>	<b>\$ 67,974</b>	<b>\$ 67,974</b>	<b>\$ 65,489</b>	<b>\$ (2,484)</b>
<b>Training and Education</b>				
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	184	(7)
<b>Total</b>	<b>\$ 1,670,192</b>	<b>\$ 1,670,191</b>	<b>\$ 1,868,156</b>	<b>\$ 197,965</b>
<b>Event Analysis</b>				
Workshops	\$ 47,300	\$ 47,300	\$ 40,000	\$ (7,300)
Interest Allocation	226	226	276	51
<b>Total</b>	<b>\$ 47,526</b>	<b>\$ 47,526</b>	<b>\$ 40,276</b>	<b>\$ (7,249)</b>
<b>Situation Awareness</b>				
Workshops	\$ -	\$ -	\$ -	\$ -
Interest Allocation	147	147	138	(8)
<b>Total</b>	<b>\$ 147</b>	<b>\$ 147</b>	<b>\$ 138</b>	<b>\$ (8)</b>
<b>ES-ISAC</b>				
Third Party Funding (CRISP)	9,016,089	7,228,140	8,365,389	(650,699)
Workshops	72,500		70,000	(2,500)
Interest Allocation	451	1,609	461	10
<b>Total</b>	<b>\$ 9,089,040</b>	<b>\$ 7,229,749</b>	<b>\$ 8,435,850</b>	<b>\$ (653,190)</b>
<b>Total Outside Funding</b>	<b>\$ 10,907,235</b>	<b>\$ 9,121,098</b>	<b>\$ 10,516,361</b>	<b>\$ (464,099)</b>

### **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 increase 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 upon 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 %
<b>Total Salaries</b>	\$ 27,580,677	\$ 27,388,831	\$ 28,675,229	\$ 1,094,553	4.0%
<b>Total Payroll Taxes</b>	1,673,628	1,806,463	1,863,684	190,056	11.4%
<b>Total Benefits</b>	3,547,178	3,380,013	3,580,519	33,341	0.9%
<b>Total Retirement</b>	3,001,829	2,805,104	2,998,184	(3,645)	-0.1%
<b>Total Personnel Costs</b>	<u>\$ 35,803,312</u>	<u>\$ 35,380,411</u>	<u>\$ 37,117,617</u>	<u>\$ 1,314,305</u>	<u>3.7%</u>
<b>FTEs</b>	192.30	190.73	192.48	0.18	0.1%
<b>Cost per FTE</b>					
Salaries	\$ 143,425	\$ 143,600	\$ 148,977	5,551	3.9%
Payroll Taxes	8,703	9,471	9,682	979	11.3%
Benefits	18,446	17,721	18,602	156	0.8%
Retirement	15,610	14,707	15,576	(34)	-0.2%
<b>Total Cost per FTE</b>	<b>\$ 186,185</b>	<b>\$ 185,500</b>	<b>\$ 192,837</b>	<b>\$ 6,653</b>	<b>3.6%</b>

**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 FTEs, budgeted salary increases, 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. In addition to the increase in the number of FTEs on staff, benefits are budgeted to increase based upon 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%
<b>Total Office Rent</b>	<b>\$ 2,987,777</b>	<b>\$ 2,987,777</b>	<b>\$ 3,054,287</b>	<b>\$ 66,510</b>	<b>2.23%</b>

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	\$ 533,014	\$ 548,596	\$ (11,722)	-2.09%
Telephone Answering Srv	3,000	1,581	3,000	-	0.00%
Internet	403,357	336,616	375,900	(27,457)	-6.81%
Office Supplies	189,600	159,100	173,800	(15,800)	-8.33%
Computer Supplies and Maintenance					
Computers	9,000	9,000	25,000	16,000	177.78%
Computer Supplies	100,100	109,200	98,400	(1,700)	-1.70%
Maintenance & Service Agreements	1,749,979	1,750,395	1,874,871	124,892	7.14%
Software	140,680	109,200	117,500	(23,180)	-16.48%
Network Supplies		-	-	-	
Publications & Subscriptions	40,495	138,310	167,650	127,155	314.00%
Dues	53,000	55,100	48,050	(4,950)	-9.34%
Postage	12,300	9,300	16,350	4,050	32.93%
Express Shipping	38,500	29,100	28,200	(10,300)	-26.75%
Copying	65,000	104,500	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	80,000	86,000	1,000	1.18%
<b>Total Office Costs</b>	<b>\$ 3,583,328</b>	<b>\$ 3,552,416</b>	<b>\$ 3,795,317</b>	<b>\$ 211,989</b>	<b>5.92%</b>

**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 upon 2015 projected costs, and is primarily for information technology research and advisory services. The decreases in Internet and Equipment Repair/Service Contracts and the decrease 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	\$ 1,085,000	\$ 1,085,000	\$ -	0.00%
Trustee Search Fee	-	-	100,000	100,000	
Outside Legal	930,000	780,000	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	411,000	225,000	25,000	12.50%
Outside Services	196,280	196,280	164,800	(31,480)	-16.04%
<b>Total Services</b>	<b>\$ 2,611,280</b>	<b>\$ 2,672,280</b>	<b>\$ 2,509,300</b>	<b>\$ (101,980)</b>	<b>-3.91%</b>

The Professional Services budget includes trustee search fees, which is required in 2016 to replace a trustee whose term limit has been reached.<sup>30</sup> 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 the company 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	\$ 6,500	\$ 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%
<b>Total Miscellaneous Expenses</b>	<b>\$ 36,500</b>	<b>\$ 36,500</b>	<b>\$ 36,500</b>	<b>\$ -</b>	<b>0.00%</b>

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 expense (\$10k); and (4) year-end employee recognition meal expenses (\$10k).

<sup>30</sup> 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.



**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	25,000	60,000	(21,000)	
<b>Total Other Non-Operating Expenses</b>	<b>\$ 131,000</b>	<b>\$ 75,000</b>	<b>\$ 110,000</b>	<b>\$ (21,000)</b>	<b>-16.03%</b>

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**

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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
<b>ASSETS</b>			
Cash	38,810,796	38,179,348	37,455,366
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	99,136	99,136
Plan Assets (457b and 457f)	522,756	693,956	693,956
Property and equipment	5,929,366	8,407,063	9,576,120
<b>Total Assets</b>	<b>51,177,783</b>	<b>53,195,231</b>	<b>53,640,307</b>
<b>LIABILITIES AND NET ASSETS</b>			
Liabilities			
<b>Current Portion</b>			
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	299,209	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
<b>Total Current Portion</b>	<b>33,200,618</b>	<b>34,183,901</b>	<b>34,566,638</b>
<b>Long-Term Portion</b>			
Deferred compensation <sup>1</sup>	783,446	783,446	783,446
Capital Project Financing - non-current	456,806	1,301,805	1,633,333
Deferred rent - non-current	3,569,492	3,270,283	2,897,359
CRISP Insurance Reserve	500,000	500,000	500,000
Deferred Revenue - Assessment Stabilization Reserve	-	-	2,371,000
Capital lease obligations - non-current	216,481	216,481	216,481
<b>Total Non-Current Portion</b>	<b>5,526,224</b>	<b>6,072,015</b>	<b>8,401,619</b>
<b>Total Liabilities</b>	<b>38,726,842</b>	<b>40,255,915</b>	<b>42,968,257</b>
Net Assets - unrestricted	8,485,941	9,729,316	10,672,050
Net Assets - restricted	3,965,000	3,210,000	-
<b>Total Liabilities and Net Assets</b>	<b>51,177,783</b>	<b>53,195,231</b>	<b>53,640,308</b>
<sup>1</sup> Includes 457b liability, life insurance for former executive, and retiree medical			
<b>Working Capital</b>	<b>7,460,907</b>	<b>6,601,176</b>	<b>8,641,564</b>
Future Obligations Reserve	3,569,492	3,076,074	3,196,074
Operating Contingency Reserve	2,011,402	2,122,500	2,073,211
Operator Certification	1,294,513	812,166	410,843
CRISP	585,500	590,436	590,436
Assessment Stabilization	-	-	2,371,000

NORTH AMERICAN ELECTRIC RELIABILITY COPORATION

Statement of Activities, Fixed Asset Expenditures and Change in Working Capital by Program 2016 Budget	Statutory Activities															
	Statutory Total	Reliability Standards	Compliance Analysis&Cert	Compliance Assurance	Compliance Enforcement	Reliability Assessment and Performance Analysis	Operator Certification	Training and Continuing Education	Event Analysis	Situation Awareness	ES-ISAC	General and Administrative (includes Executive and Govt Relations)	Legal and Regulatory	Information Technology	Human Resources	Accounting and Finance
<b>Funding</b>																
<b>ERO Funding</b>																
NERC Assessments	57,216,402	8,092,298	5,107,715	7,539,302	5,720,803	10,209,260		1,779,553	5,256,193	3,666,356	9,669,923	175,000	-	-	-	-
Penalty Sanctions	839,000	128,563	79,159	112,081	95,598	140,101		32,965	79,116	39,558	131,860	-	-	-	-	-
<b>Total NERC Funding</b>	<b>58,055,402</b>	<b>8,220,861</b>	<b>5,186,874</b>	<b>7,651,382</b>	<b>5,816,402</b>	<b>10,349,361</b>		<b>1,812,518</b>	<b>5,335,309</b>	<b>3,705,914</b>	<b>9,801,783</b>	<b>175,000</b>	-	-	-	-
Third-Party Funding (CRISP)	8,365,389										8,365,389					
Testing Fees	1,867,972						1,267,972	600,000								
Services & Software	50,000					50,000										
Workshops	230,000	105,000				15,000			40,000							70,000
Interest	3,000	449	277	392	334	489	69	115	276	138	461					
Miscellaneous	-															
<b>Total Funding (A)</b>	<b>68,571,764</b>	<b>8,326,310</b>	<b>5,187,150</b>	<b>7,651,774</b>	<b>5,816,736</b>	<b>10,414,850</b>	<b>1,268,041</b>	<b>2,412,633</b>	<b>5,375,585</b>	<b>3,706,052</b>	<b>18,237,633</b>	<b>175,000</b>	-	-	-	-
<b>Expenses</b>																
<b>Personnel Expenses</b>																
Salaries	28,675,229	2,331,800	1,644,792	2,362,252	1,777,015	2,879,571	265,559	551,712	1,708,129	764,342	3,259,944	3,196,769	2,229,716	2,974,925	742,020	1,986,683
Payroll Taxes	1,863,684	166,118	109,404	163,191	119,666	193,310	20,208	41,597	113,987	58,235	205,086	177,311	134,775	206,604	26,978	127,216
Benefits	3,580,519	327,239	200,987	288,548	243,495	349,129	50,247	83,744	200,987	100,493	345,227	393,229	243,495	401,973	50,247	301,480
Retirement Costs	2,998,184	260,144	183,278	264,123	198,234	321,491	29,596	61,362	190,248	85,123	362,987	196,238	248,865	331,544	43,689	221,262
<b>Total Personnel Expenses</b>	<b>37,117,617</b>	<b>3,085,302</b>	<b>2,138,461</b>	<b>3,078,113</b>	<b>2,338,409</b>	<b>3,743,500</b>	<b>365,609</b>	<b>738,416</b>	<b>2,213,350</b>	<b>1,008,192</b>	<b>4,173,243</b>	<b>3,963,547</b>	<b>2,856,851</b>	<b>3,915,047</b>	<b>862,934</b>	<b>2,636,642</b>
<b>Meeting Expenses</b>																
Meetings	1,081,500	207,000	4,000	60,000	2,500	110,000	55,000	25,000	81,500	6,500	215,000	299,000	4,000	7,500	2,000	2,500
Travel	2,203,392	271,715	154,989	276,065	56,679	334,242	7,381	13,737	152,333	32,972	249,993	444,067	93,137	56,451	8,719	50,912
Conference Calls	320,000	133,000	2,000	20,000	1,200	27,000	500	36,000	14,000	1,000	22,000	19,200	6,400	31,500	1,000	5,200
<b>Total Meeting Expenses</b>	<b>3,604,892</b>	<b>611,715</b>	<b>160,989</b>	<b>356,065</b>	<b>60,379</b>	<b>471,242</b>	<b>62,881</b>	<b>74,737</b>	<b>247,833</b>	<b>40,472</b>	<b>486,993</b>	<b>762,267</b>	<b>103,537</b>	<b>95,451</b>	<b>11,719</b>	<b>58,612</b>
<b>Operating Expenses</b>																
Consultants & Contracts	14,759,175		50,000	200,000		1,084,039	496,000	375,600	56,000	1,211,475	8,329,390	15,000		2,094,671	550,000	297,000
Office Rent	3,054,287											3,054,287				
Office Costs	3,795,317	64,622	26,956	38,074	23,575	141,792	42,694	53,080	49,181	41,052	391,304	508,027	54,337	2,239,195	9,423	112,005
Professional Services	2,509,300										175,000	1,285,000	700,000		51,000	298,300
Miscellaneous	36,500	500	500	500	500	500		500	500	500	500	5,500	500	500	25,000	500
Depreciation	2,641,943	210,060			122	386,024		1,919	72,367	7,727	43,489	485,964	120	1,431,112	2,900	139
<b>Total Operating Expenses</b>	<b>26,796,521</b>	<b>275,182</b>	<b>77,456</b>	<b>238,574</b>	<b>24,197</b>	<b>1,612,355</b>	<b>538,694</b>	<b>431,099</b>	<b>178,048</b>	<b>1,260,754</b>	<b>8,939,683</b>	<b>5,353,778</b>	<b>754,956</b>	<b>5,765,478</b>	<b>638,323</b>	<b>707,943</b>
<b>Total Direct Expenses</b>	<b>67,519,030</b>	<b>3,972,198</b>	<b>2,376,906</b>	<b>3,672,752</b>	<b>2,422,986</b>	<b>5,827,097</b>	<b>967,184</b>	<b>1,244,251</b>	<b>2,639,231</b>	<b>2,309,418</b>	<b>13,599,920</b>	<b>10,079,592</b>	<b>3,715,344</b>	<b>9,775,977</b>	<b>1,512,976</b>	<b>3,403,197</b>
<b>Indirect Expenses</b>	-	4,281,116	2,635,961	3,732,255	3,183,394	4,665,318	658,633	1,097,722	2,634,533	1,317,266	4,390,888	(10,189,592)	(3,715,344)	(9,775,977)	(1,512,976)	(3,403,197)
<b>Other Non-Operating Expenses</b>	<b>110,000</b>	-	-	-	-	-	-	-	-	-	-	110,000	-	-	-	-
<b>Total Expenses (B)</b>	<b>67,629,030</b>	<b>8,253,314</b>	<b>5,012,867</b>	<b>7,405,007</b>	<b>5,606,380</b>	<b>10,492,416</b>	<b>1,625,817</b>	<b>2,341,973</b>	<b>5,273,764</b>	<b>3,626,684</b>	<b>17,990,808</b>	-	-	-	-	-
<b>Change in Assets</b>	<b>942,734</b>	<b>72,997</b>	<b>174,283</b>	<b>246,767</b>	<b>210,356</b>	<b>(77,566)</b>	<b>(357,776)</b>	<b>70,660</b>	<b>101,821</b>	<b>79,368</b>	<b>246,825</b>	<b>175,000</b>	-	-	-	-
<b>Fixed Assets</b>																
Depreciation	(2,641,943)	(210,060)	-	-	(122)	(386,024)	-	(1,919)	(72,367)	(7,727)	(43,489)	(485,964)	(120)	(1,431,112)	(2,900)	(139)
Computer & Software CapEx	3,276,000													3,276,000		
Furniture & Fixtures CapEx	-															
Equipment CapEx	535,000													535,000		
Leasehold Improvements	-															
Allocation of Fixed Assets	(0)	283,056	174,283	246,767	210,478	308,459	43,547	72,579	174,189	87,094	290,314	485,964	120	(2,379,888)	2,900	139
<b>Incl(Dec) in Fixed Assets (C)</b>	<b>1,169,057</b>	<b>72,997</b>	<b>174,283</b>	<b>246,767</b>	<b>210,356</b>	<b>(77,566)</b>	<b>43,547</b>	<b>70,660</b>	<b>101,821</b>	<b>79,368</b>	<b>246,825</b>	-	-	-	-	-
<b>TOTAL BUDGET (=B + C)</b>	<b>68,798,087</b>	<b>8,326,310</b>	<b>5,187,150</b>	<b>7,651,774</b>	<b>5,816,736</b>	<b>10,414,850</b>	<b>1,669,364</b>	<b>2,412,633</b>	<b>5,375,585</b>	<b>3,706,052</b>	<b>18,237,633</b>	-	-	-	-	-
<b>FTEs</b>	<b>192.48</b>	<b>17.98</b>	<b>11.07</b>	<b>15.67</b>	<b>13.37</b>	<b>19.59</b>	<b>2.77</b>	<b>4.61</b>	<b>11.06</b>	<b>5.53</b>	<b>18.44</b>	<b>17.52</b>	<b>13.37</b>	<b>22.13</b>	<b>2.77</b>	<b>16.60</b>

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## Exhibit A – Common Assumptions

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### 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 model<sup>31</sup> 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 projections<sup>32</sup> 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 Agreements (RDAs)

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<sup>31</sup> [ERO Enterprise Operating Model](#)

<sup>32</sup> 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 BP&B as appropriate.

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 Area<sup>33</sup>**

#### **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**

##### ***Compliance and Enforcement***

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<sup>33</sup> 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 BP&Bs.

- 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-ISAC<sup>34</sup>**

- 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.
- 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.

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<sup>34</sup> NERC has dissolved the Critical Infrastructure Department (CID) and realigned those resources and functions mostly under ES-ISAC, with some under Compliance Assurance.

### **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

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## Exhibit B – Application of NERC Section 215 Criteria

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[This Exhibit will be updated in the final 2016 BP&B. No material changes expected.]

### 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

#### I. Introduction

This Exhibit discusses how the major activities in NERC’s 2015 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.<sup>35</sup> NERC submitted the written criteria to the Commission in a compliance filing dated February 21, 2013, in Docket No. FA11-21-000.<sup>36</sup> The Commission approved the NERC written criteria, with modifications, in an order issued in that docket on April 18, 2013.<sup>37</sup> The NERC written criteria as used in this Exhibit incorporate the modifications specified in the Compliance Order.<sup>38</sup>

#### II. Reliability Standards Program 2015 Major Activities

The major activities of the Reliability Standards Program are described on pages 1-4 of the 2015 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 quality review for Regional Entity Standards development processes, presents proposed regional standards to the NERC Board, and

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<sup>35</sup> *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.

<sup>36</sup> *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”).

<sup>37</sup> *North American Electric Reliability Corporation, Order on Compliance*, 143 FERC ¶ 61,052 (2013) (“Compliance Order”).

<sup>38</sup> 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.

develops and supports regulatory filings for approval of regional standards. The Reliability Standards Program supports the Cost-Effective Analysis Process to ensure that the standards development process produces standards that cost-effectively address reliability gaps.

The Reliability Standards Program is involved in and supports cross-departmental and collaborative projects, including the Risk-Based Registration project; the concurrent development of RSAWs with the associated Reliability Standards; conducting, in conjunction with other departments, technical analysis needed as a foundation for standards projects; and submitting newly identified reliability risks to the Reliability Issues Steering Committee (RISC) for verification prior to initiation of a standards project.

For 2015, the major activities of the Reliability Standards Program will seek to ensure that the Reliability Standards Development Plan is effectively executed and that the Reliability Standards developed will appropriately mitigate risks to reliability. The major activities will include: (1) supporting the Reliability Risk Management Process, including focusing on the selection of standards projects undertaken; (2) addressing FERC directives and responding to FERC orders through standards development projects as necessary; (3) transforming NERC's standards to steady state, including addressing possible outstanding Paragraph 81 Phase 2 requirements candidates for retirement and Independent Expert Review Panel candidates for retirement; (4) improving the quality and content of standards to determine the specific criteria for determining whether a Reliability Standard is of sufficient content and quality to be deemed steady state; and (5) facilitating smooth transitions to new standards such as CIP Version 5 and the Physical Security standard by working with other departments to develop guidelines, webinars, and other activities to support auditor and industry training on the new standards.

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.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 the Requirements of Reliability Standard applicable to the reliability functions for which they are registered?

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 2015 Major Activities**

The major activities of the Compliance Monitoring and Enforcement and Organization Registration and Certification Program Area are described on pages 8-10, 13-15, and 19-23 of the 2015 Business Plan and Budget. This Program Area is comprised of three operational groups: (1) Regional Entity Assurance and Oversight, (2) Compliance Analysis, Certification and Registration, and (3) Compliance Enforcement.

The Regional Entity Assurance and Oversight 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) oversight of the Regional Entities’ delegated compliance functions, including consistent and uniform CMEP planning, implementation, and reporting, compliance operations and coordination, and auditor training; (3) 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; (4) development of minimum baseline monitoring requirements; (5) development and maintenance of RSAWs; (6) support for Regional Entity and industry committees, working groups, and task forces, such as the Compliance and Certification Committee; and (7) supporting standards development and education. Regional Entity Assurance and Oversight provides information, statistics, and perspectives to Standard Drafting Teams and collaborates in the development of draft RSAWs during the standard development process. This program also supports and promotes the development by registered entities of effective compliance programs and internal controls.

The Regional Entity Assurance and Oversight group participates in and supports the implementation of RAI, including development of a single ERO methodology for registered entity risk assessments and evaluation and testing of registered entity internal controls; implementation of an auditor manual with an approved auditor handbook and checklist; and process improvements associated with coordination of compliance and enforcement activities for multi-region registered entities.

The ongoing and new major activities of the Regional Entity Assurance and Oversight group for 2015 include: developing a training program to support implementation of the common audit procedures and the ERO



Auditor Capabilities and Competencies Guide; replacing/enhancing NERC’s existing Compliance, Reporting, Analysis Tracking System (CRATS) and other compliance tools to support RAI 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 implementing RAI techniques and principles consistently; consolidating to a common set of RSAWs, or successors, for all standards; enhancing the design of regional compliance audits to evaluate regional staffing, deployment of tools, and testing of compliance activities; increasing the frequency of audits to validate the implementation of RAI program designs; and creating technically sound training to support compliance methodologies and testing approaches for Reliability Standards.

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; ensuring Reliability Coordinators (RC), Balancing Authorities (BA) and Transmission Operators (TOP) are certified; supporting standards development and compliance monitoring; ensuring that industry maintains effective internal controls programs for reliability assurance risk; and ensuring that program gaps are assessed in all reportable events and addressed if appropriate. Major activities of this group include (1) registration of BES users, owners, and operators; (2) certification of RC, BA and TOP; (3) compliance investigations to identify possible violations of Reliability Standards; (4) processing complaints alleging violations of Reliability Standards; (5) technical assurance, including developing quarterly gap and risk assessment reports and recommended responses, and conducting inquiries and spot checks based on quarterly gap analysis; and (6) oversight of Regional Entity registration, certification, investigation, and complaint programs.

The Compliance Analysis, Registration and Certification Group is principally involved in the design and implementation of the Risk-Based Registration initiative, including the related registration criteria to identify users, owners, and operators of the BES that have a material impact on reliability and to ensure that the right entities are subject to the right set of applicable Reliability Standards, based on a consistent and common approach to risk assessment and registration across the ERO Enterprise.

The ongoing and new major activities of the Compliance Analysis, Registration and Certification Group for 2015 include: deploying a sustainable Risk-Based Registration design that incorporates evaluation of the reliability risks and benefits provided by an entity to ensure reliability; identifying a corresponding properly scoped set of Reliability Standard requirements; developing an implementation plan with business practices and IT requirements that addresses unintended industry burden, while preserving an adequate level of reliability; aligning changes to the registration criteria with other NERC activities; assessing the current certification program for opportunities to mature the program; incorporating changes in registration from the enhanced BES definition; providing support for the continued development of RSAWs; aiding in the BES definition exception submittal process; aiding in the review of registrations appeals and enforcement mitigation; assisting with training modules for investigations, certifications, and registrations; and providing analysis in support of projects addressing top reliability risks.

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 department works collaboratively with the Regional Entities to ensure consistent and effective implementation of the CMEP. Compliance 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. The department 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; it files notices of penalty and other submittals associated with noncompliance discovered through Regional Entity compliance, monitoring, and enforcement activities; it processes and files notices of penalty and other submittals discovered through NERC-led

investigations and audits; and it collaborates with other NERC departments, including Reliability Standards and Regional Entity Oversight and Assurance.

The Compliance Enforcement department works with the Regional Entities to reduce the number of violations in inventory, particularly those older than 24 months; ongoing identification and implementation of enforcement process improvements, including FFT and self-reporting; promoting self-identification, prompt mitigation of noncompliance, and timely completion of mitigating activities (including through development of the *ERO Enterprise Self-Report User Guide* and the *ERO Enterprise Mitigation Plan Guide*); and other RAI activities.

New and ongoing major activities of this department in 2015 will include continuing to identify processing efficiencies and enhancements to enforcement activities; consolidating new enforcement processes, including enhancements to the FFT program, self-reporting, and RAI activities and related process improvements; ensuring timely processing of violations, particularly those that pose greater risk and can provide lessons learned to industry; and ensuring early dissemination of violation information to registered entities to enable them to learn from prior events and violations and take preventative actions to eliminate similar risks.

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 2015 Major Activities**

The major activities of the Reliability Assessment and Performance Analysis (RAPA) Program are described on pages 25-34 of the 2015 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. RAPA 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. 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; performance analysis and recommendations of historical reliability and associated trends, relying on data integrity and consistent methodology, leading to credible recommendations/guidance; reliability assessment and bulk system evaluation model development for analyzing steady-state and dynamic conditions; assurance that electrical elements necessary for the reliable operation of the BPS are appropriately identified as BES Elements; reliability risk program management for improving key risk areas using analyses of reliability gaps, risks, controls, and management efforts; determination 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; and providing 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 is engaged in reliability risk analysis and identification of top reliability risks and in supporting and implementing the Reliability Risk Management Process to identify, measure, prioritize, and

develop strategies for managing and disseminating information on areas of reliability risk. Current programs focused on managing the top-priority reliability risks address the changing resource mix, resource planning, protection system reliability, uncoordinated protection systems, extreme physical events, availability of real-time tools and monitoring, protection system misoperations, and right-of-way clearances. RAPA works on a number of these programs in collaboration with other NERC departments and conducts analyses to understand the technical performance of the BES to guide recommendations and insights that enhance system performance and reliability. Additionally, RAPA continues to be heavily involved in the development and implementation of the revised BES definition and the BES Exception procedure (Appendix 5C of the NERC ROP), both of which became effective in mid-2014 and involve reviews, evaluations, and confirmations of proposed changes to BES elements by registered entities.

The ongoing and new major activities of the RAPA Program for 2015 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 a report on Geomagnetic Disturbance BES effects and a vulnerability assessment; 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 and management for reliability assessment and risk analysis; providing periodic updates on trends and measures of BES reliability; developing a risk registry and a systematic prioritization process with the RISC; 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 reliability assessments and performance analysis; providing support and leadership to the NERC Planning Committee, and to subcommittees, working groups and tasks 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 reliability assessment and performance analysis 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.

The RAPA Program's top reliability risk projects for 2015 are expected to include the following: Essential Reliability Services Special Assessment Phase II (scenario analyses of different levels of Essential Reliability Services; development of standardized power flow models and dynamic modeling components; support for IEEE 1574 relating to rules that establish frequency and voltage disturbance ride-through obligations for distributed energy resources; load composition modeling analysis; development of guidelines for operations and emergency coordination with gas suppliers and transporters; special assessment of potential impacts to BPS reliability of emerging and proposed environmental regulations; analysis of single-point-of-failure data reported in response to FERC Order No. 754; development of a best practices document for coordination of protection systems and other devices including under-frequency and under-voltage load-shedding devices, and associated modeling for assessing coordination; development and promotion of coordinated industry support programs such as the Spare Equipment Database Program, Spare Transformer Equipment Program, and Recovery Transformer Program; and development of good industry practices and guidelines to aid in proper application of protection systems.

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?

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) 2015 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 on pages 38-40 and 43–45 of the 2015 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. These activities are carried out to identify potential issues of concern relating to system, equipment, entity, and human performance that may indicate a possible need to develop new or modified Reliability Standards.

The Situation Awareness department works with registered entities to monitor present conditions on the BES using various software tools and applications; communicates and coordinates with Regional Entities and registered entities to notify them of disturbances that could negatively impact the BES; and, in the event of significant BES disturbances, facilitates the coordination of communications between registered entities and applicable governmental authorities. The Situation Awareness department is involved in the operation and maintenance of the Situation Awareness for NERC, FERC, and Regions software application and the secure alert tool. The Situation Awareness department uses the following reliability-related tools to support its activities: Resource Adequacy (ACE Frequency) Tool, Inadvertent Interchange, Frequency Modeling and Analysis Tool, Intelligent Alarms Tool, Automated Reliability Reports, and Area Interchange Modeling Tool.

The ongoing and new major activities of the Situational Awareness department for 2015 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; enhancing tracking of notification of expected actions in response to emerging actions to promote greater industry accountability; and issuing timely updates regarding progress toward resolving issues identified in Recommendations and Essential Actions.

The Event Analysis department performs assessments of the reliability and adequacy of the BES, including analyses to determine the causes of events, promptly assuring tracking of corrective actions to prevent recurrence, and providing lessons learned to the industry. Event Analysis assures that the industry is well informed of system events, emerging trends, risk analysis, lessons learned, and expected actions. Event Analysis also supports the development of Reliability Standards and monitoring and enforcing compliance with Reliability Standards. 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.

The ongoing and new major activities for 2015 for the Event Analysis department include: (1) working with Regional Entities to obtain and review information from registered entities regarding 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 more effective and efficient 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 the annual NERC Human Performance Conference and the NERC Monitoring and Situation Awareness Conference; (6) conducting training (webinars, workshops and conference

support) to inform industry and the ERO of lessons learned, root cause analysis, cause coding, human performance, and cold weather preparedness and recommendations; (7) developing reliability recommendations and alerts as needed; (8) tracking industry accountability for critical reliability recommendations; (9) ensuring that industry is well informed of system events, emerging trends, risk analysis, lessons learned, and expected actions; (10) conducting major event analysis and reporting of major findings and recommendations that will improve reliability; and (11) 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. Critical Infrastructure Department 2015 Major Activities**

The major activities of the Critical Infrastructure Department (CID) are described on pages 48–50 of the 2015 Business Plan and Budget. These activities include supporting the development and administration of the Critical Infrastructure Protection (CIP) standards, conducting security outreach visits, providing training and exercise opportunities on CIP topics, and coordinating between industry and governmental entities on CIP matters. CID conducts the Security Reliability Program (formerly known as the Sufficiency Review Program), which provides timely and actionable advice to registered entities in support of CIP standards and is currently focused on the transition from the CIP Version 3 to CIP Version 5 standards. CID also conducts the periodic Grid Security Exercises and Grid Security Conferences. Further, CID supports the activities of the NERC Critical Infrastructure Protection Committee (CIPC) and its task forces and working groups.

CID’s 2015 ongoing and new major activities include: holding the annual Grid Security Conference, which focuses on physical and cybersecurity issues facing the Electricity Sub-sector and builds on NERC’s mission to ensure the reliability of the North American BES through education and training; conducting the biennial Grid Security Exercise (GridEx III), which focuses on analyzing industry’s response to a physical security and cybersecurity scenario and gathering lessons learned; coordinating with government departments and agencies on critical infrastructure policy issues; supporting NERC External Affairs and CEO in preparation for public presentations and follow-on actions; supporting CIP standards development and implementation through outreach presentations, webinars, and other training opportunities; and supporting the activities of the CIPC and its subgroups, including working through the CIPC to address emerging risk issues and support risk projects in 2015 as needed.

The major activities of CID 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?

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.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. Electricity Sector Information Sharing and Analysis Center 2015 Major Activities**

The major activities of the Electricity Sector Information Sharing and Analysis Center (ES-ISAC) are described on pages 53-58 and Exhibit F of the 2015 Business Plan and Budget. 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, mitigation development, and mitigation delivery for physical security, cybersecurity, and all hazards events. ES-ISAC develops alerts and notifications for distribution to registered entities and uses its secure portal to receive 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 maintains a seat on the operations floor of the National Cybersecurity and Communications Integration Center within the Department of Homeland Security. ES-ISAC also conducts Cyber Risk Preparedness Assessments (CRPA) for registered entities.

The ongoing and new major activities of the ES-ISAC for 2015 include: improving the usability and functionality of the information-sharing portal; preparing a CRPA toolkit to allow industry to conduct self-assessments of cyber risk preparedness, and conducting training and education sessions on the toolkit; and increasing analytical capabilities (including cyber awareness monitoring), portal monitoring, and information sharing. ES-ISAC will act as program manager for CRISP, enter into and manage a master services agreement with participating electric utilities, oversee the installation of the passive information sharing devices (ISDs) at utility sites and the associated monitoring activities, enter into and manage sub-contracts as necessary, serve as the central point for coordination and collaborative analysis of CRISP data, and share CRISP reporting and data with the registered users of the ES-ISAC portal. In carrying out its activities, the ES-ISAC use various software integration support services, the analyst workbench toolset, the Contested Operational Network for Reporting and Defense system for secure bi-directional communications, and certain intelligence reporting services. Additionally, the ES-ISAC will conduct periodic webinars relating to reporting in response to the NERC Aurora Alerts. Finally, through an annual member conference, the ES-ISAC will continue to offer workshops and other industry training and collaboration capabilities such as the CRPA.

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

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.)

### **VIII. Training, Education, and Operator Certification Program 2015 Major Activities**

The major activities of the Training, Education, and Operator Certification Program are described on pages 61-62 of the 2015 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 for industry participants on the Reliability Standards development process, the requirements of Reliability Standards, and the compliance monitoring and enforcement process. Training is also provided on registration and certification and on 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 for over 6,000 system operators to work in system control centers across North America.

The major activities of the Training, Education, and Operator Certification Program for 2015 include providing training and education for ERO personnel and industry in the following areas: auditor training; standards and compliance training; registration and certification (for registered entities); continuing education for system operators and other industry personnel as appropriate and related to reliability functions; and event analysis, cause analysis, and lessons learned. Training offered in 2015 will focus on standards compliance and emerging cyber-related issues potentially affecting BES reliability; consistent audit and investigation techniques and standards compliance reviews, including the RAI, FFT, and other improvements in compliance and enforcement practices; other auditor skills; development and implementation of clear and technically sound Reliability Standards; lessons learned and trends from events, trending and common cause analyses; effective compliance cultures to address reliability risks; effective root, apparent and common cause analytical methods; improvements to registered entity self-reporting and self-certification; entity registration processes, issues and alternatives; human performance fundamentals; and systematic approaches to training.

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 FERC orders?

## **IX. Administrative Services 2015 Major Activities**

NERC’s Administrative Services departments are Technical Committees and Member Forums (for which no activities are budgeted for 2015), General and Administrative, Legal and Regulatory, Information Technology (IT), Human Resources, and Finance and Accounting. The major activities of these departments are described on pages 66, 70, 73-77, 80-81, and 84 of the 2015 Business Plan and Budget. General and Administrative includes the administration and general management of the organization, the Chief Executive Officer, Board of Trustees fees and expenses, communications and public relations, and office rent. Legal and Regulatory provides legal support to the organization, including to the Board, executive 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, and the employee performance appraisal and incentive structure processes. Finance and Accounting manages all finance and accounting functions of NERC, including payroll, 401(k) and 457(b) 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 this major activity (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?

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?

**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’s 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 distinct from one another. 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 System<sup>39</sup> 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 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,

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<sup>39</sup> 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.

- qualifications, 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?<sup>40</sup>
  - 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?
    - 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

<sup>40</sup> 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.

- 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 for maintaining 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
<b>Compliance Assurance</b>	Reliability Assurance Initiative	388,000	200,000	(188,000)
	<b>Compliance Assurance</b>	<b>388,000</b>	<b>200,000</b>	<b>(188,000)</b>
		-	-	-
<b>Reliability Risk Mgmt</b>	Reliability Assurance Project Support	-	56,000	56,000
	<b>Reliability Risk Management</b>	<b>-</b>	<b>56,000</b>	<b>56,000</b>
<b>Compliance Investigation, Reg and Cert</b>				
	Risk-based Registration Phase 2 - Consulting Support	-	50,000	50,000
	<b>Compliance Investigation, Reg and Cert</b>	<b>-</b>	<b>50,000</b>	<b>50,000</b>
<b>Reliability Assessments and Performance Analysis</b>				
	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
	<b>Reliability Assessments and Performance Analysis</b>	<b>955,450</b>	<b>1,084,039</b>	<b>128,589</b>
<b>Situation Awareness</b>				
	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
	<b>Situation Awareness</b>	<b>1,077,321</b>	<b>1,211,475</b>	<b>134,154</b>
<b>ES-ISAC</b>				
	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	7,666,055	-
	<b>Total ES-ISAC</b>	<b>8,756,190</b>	<b>8,329,390</b>	<b>(426,800)</b>

**Exhibit C – Contractor and Consulting Costs**

<b>Program</b>	<b>Consultants &amp; Contracts</b>	<b>2015 BUDGET</b>	<b>2016 BUDGET</b>	<b>Inc(Dec) v 2015</b>
<b>Operator Certification</b>				
	System Operator Testing Expenses	57,618	69,000	11,382
	System Operator Examination Development	66,176	59,400	(6,776)
	Job Task Analysis	25,784	-	(25,784)
	Database Development	19,400	30,000	10,600
	Database Maintenance	23,746	37,600	13,854
	SOCED Database Improvement Project (funded from Working Capital generated from fees in excess of	200,000	300,000	100,000
	<b>Total System Operator Certification</b>	<b>392,724</b>	<b>496,000</b>	<b>103,276</b>
<b>Training &amp; Education</b>				
	Continuing Education Program	163,930	160,600	(3,330)
	Web-based course hosting (Learning Management	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
	<b>Total Continuing Education, Training &amp; Education</b>	<b>359,406</b>	<b>375,600</b>	<b>16,194</b>
		-	-	-
	<b>Training, Education and Operator Certification</b>	<b>752,130</b>	<b>871,600</b>	<b>119,470</b>
<b>General &amp; Administrative</b>				
	Communications support	15,000	15,000	-
	<b>General &amp; Administrative</b>	<b>15,000</b>	<b>15,000</b>	<b>-</b>
<b>Information Technology</b>				
	ERO Application Development & Support	829,350	988,671	159,321
	ERO Data Analysis	100,000	100,000	-
	Applications Enhancements, Consulting and Help Desk	800,250	1,006,000	205,750
	<b>Information Technology</b>	<b>1,729,600</b>	<b>2,094,671</b>	<b>365,071</b>
<b>Human Resources</b>				
	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)
	<b>Human Resources</b>	<b>298,275</b>	<b>550,000</b>	<b>251,725</b>
<b>Finance and Accounting</b>				
	Internal Controls and Outside Auditor Consulting Support	242,500	200,000	(42,500)
	Finance and Accounting Support	97,000	97,000	-
	<b>Finance and Accounting</b>	<b>339,500</b>	<b>297,000</b>	<b>(42,500)</b>
	<b>TOTAL CONSULTANTS AND CONTRACTS</b>	<b>14,738,266</b>	<b>14,759,175</b>	<b>20,908</b>

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## Exhibit D – Capital Financing

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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.<sup>41</sup> 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,<sup>42</sup> 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 \$3.8M, \$1.5M of which it is proposing to finance.

### NERC Capital Budget

	2015	2016
ERO Application Development	\$ 1,050,000	\$ 1,500,000
Document Management	-	465,000
ERO Data Analysis Tools	550,000	-
Generation Data Software	200,000	-
Other IT Hardware and Software	1,453,500	1,311,000
Network devices and A/V	365,000	535,000
<b>Total Capital Budget</b>	<b>\$ 3,618,500</b>	<b>\$ 3,811,000</b>
Depreciation (excluded from assessments)	(2,333,006)	(1,391,745)
<b>Fixed Assets (net)</b>	<b>\$ 1,285,494</b>	<b>\$ 2,419,255</b>

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

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<sup>41</sup> 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.

<sup>42</sup> 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.

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.

		YEAR-END OUTSTANDING DEBT BALANCE				
		2014	2015	2016	2017	2018
<b>Borrowing</b>						
\$ 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
<b>Total Outstanding Balance</b>		<b>\$ 878,472</b>	<b>\$ 456,806</b>	<b>\$2,801,806</b>	<b>\$3,133,333</b>	<b>\$3,000,000</b>

		ANNUAL PAYMENTS FOR DEBT SERVICE				
		2014	2015	2016	2017	2018
<b>Borrowing</b>						
\$ 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
<b>Total Principal and Interest Costs</b>		<b>\$ 415,895</b>	<b>\$ 449,667</b>	<b>\$1,115,000</b>	<b>\$1,240,572</b>	<b>\$1,723,583</b>

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## Exhibit E – Working Capital and Operating Reserve Amounts

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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 \$6.3M 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, D.C. offices. System Operator Certification Reserves are budgeted at \$411k and the Operating Contingency Reserve is budgeted for \$2.1M. The CRISP Reserve (budgeted at \$590k) 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. For purposes of the initial draft of the company's 2016 business plan and budget, NERC is proposing to place \$2.4M of the total \$3.2M in penalty funds which have been received to date in the Assessments Stabilization Reserve and utilize the balance of \$839k to reduce 2016 U.S. assessments. The amount of penalty funds which are contributed to the Assessment

Stabilization Reserve, as well as the amount of penalty funds which are applied to reduce 2016 assessments in the U.S. 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.

NERC has a total of \$3.2M in penalty funds that could be applied toward assessments with any remaining funds deposited in the new Assessment Stabilization Reserve. The following shows various levels of penalty fund usage and the impact on assessments.

- Using \$802k (25%) of available penalty funds yields a 3.5% increase in assessments
- Using \$839k (26%) of available penalty funds yields a 3.4% increase in assessments (assumed herein)
- Using \$959k (30%) of available penalty funds yields a 3.2% increase in assessments (tracks budget)
- Using \$1.6M (50%) of available penalty funds yields a 2.1% increase in assessments
- Using all \$3.2M penalty funds yields a 0.8% decrease in assessments