



**MIDWEST  
RELIABILITY  
ORGANIZATION**

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# **Midwest Reliability Organization**

## **2018 Business Plan and Budget**

**Approved by:  
MRO Board of Directors**

**Date:  
June 22, 2017**

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## Introduction

The following table summarizes the 2018 Midwest Reliability Organization (MRO) budget.

TOTAL RESOURCES (in whole dollars)				
	2018 Budget	U.S.	Canada	Mexico
Statutory FTEs	45.00			
Non-statutory FTEs				
<b>Total FTEs</b>	45.00			
Statutory Expenses	\$ 12,018,566			
Non-Statutory Expenses	\$ -			
<b>Total Expenses</b>	\$ 12,018,566			
Statutory Inc(Dec) in Fixed Assets	\$ (291,830)			
Non-Statutory Inc(Dec) in Fixed Assets	\$ -			
<b>Total Inc(Dec) in Fixed Assets</b>	\$ (291,830)			
Statutory Working Capital Requirement	\$ (854,632)			
Non-Statutory Working Capital Requirement				
<b>Total Working Capital Requirement</b>	\$ (854,632)			
Total Statutory Funding Requirement	\$ 10,872,104			
Total Non-Statutory Funding Requirement	\$ -			
<b>Total Funding Requirement</b>	\$ 10,872,104			
<b>Statutory Funding Assessments</b>	\$ 10,730,106	\$ 8,940,888	\$ 1,789,219	-
<b>Non-Statutory Fees</b>				
NEL	289,292,028	241,683,330	47,608,698	-
NEL%	100.00%	83.54%	16.46%	0.00%

**Table 1. MRO 2018 Budget**

## Organizational Overview

MRO is a Delaware nonprofit<sup>1</sup> corporation that is a cross-border Regional Entity<sup>2</sup> operating under a delegation agreement<sup>3</sup> with the North American Electric Reliability Corporation (NERC). The MRO Region is located in the north central area of North America and includes areas in both the United States and Canada. MRO's Delegation Agreement was approved by the Federal Energy Regulatory Commission (FERC) pursuant to FERC's authority under the Federal Power Act (FPA)<sup>4</sup> and is effective through December 31, 2020.

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

<sup>2</sup> 16 U.S.C. § 824o(a)(7)

<sup>3</sup> Delegation Agreement

<sup>4</sup> 16 U.S.C. 824 o (e)(4)

MRO's Vision is to "Maintain and improve the quality of life through a highly reliable regional Bulk Power System." MRO's purpose is to "Strive to assure each Bulk Power System owner and operator within our region is a Highly Effective Reliability Organization."

## Membership and Governance

MRO membership is voluntary and at no cost and each member organization belongs to one of seven industry sectors. Members are encouraged to participate in MRO organizational groups. Adjunct members are entities that are not eligible to belong to an industry sector but have a material interest in reliability issues in the MRO Region. MRO has 54 members and 6 non-voting adjunct members.

MRO's Board of Directors is a combination of independent and stakeholder directors, with 17 directors elected by members from the 7 industry sectors and 2 independent directors elected by all members. Pursuant to MRO's Bylaws, no two industry sectors can control a vote. In addition, the board has adopted procedures to ensure it carries out its responsibilities free of conflicts of interest.

The board has four committees:

- Dispute Resolution Committee
- Finance and Audit Committee
- Governance and Personnel Committee
- Hearing Body Committee

The board's duties include, but are not limited to the following:

- Govern the corporation and oversee all of its activities
- Establish and oversee all organizational groups
- Oversee accomplishment of all functions set forth in any delegation or other agreement with NERC or any governmental entity related to development, monitoring and enforcement of Reliability Standards and related matters
- Establish and approve an annual budget
- Represent MRO in legal and regulatory proceedings and
- Hire the President and CEO

The board makes no determinations on compliance or enforcement matters. The Hearing Body fulfills the obligations to conduct hearings, a mandated function under NERC's Compliance Monitoring and Enforcement Program (CMEP) Hearing Procedures.

The board has established five primary organizational groups comprised of stakeholder members:

- Compliance Committee
- Operating Committee
- Planning Committee
- Security Advisory Council
- Standards Committee

Each organizational group's charter is published on MRO's website. Board-approved Policy and Procedure 3 sets out the processes for all organizational groups.

## Statutory Functional Scope

The primary purposes of MRO are to:

1. Determine compliance with Reliability Standards, including enforcement determinations, in a non-discriminatory manner consistent with the NERC Rules of Procedure.
2. Perform reliability assessments.
3. Provide independent technical analysis of system events and work with industry on recommendations and lessons learned.
4. Develop, propose, and/or adopt Regional Reliability Standards or variances to Reliability Standards pursuant to its Standards Process Manual, which has been approved by NERC and FERC.
5. Provide education and resources for MRO registered entities.
6. Perform other services consistent with its delegation agreement and the NERC Rules of Procedure.

## Business Plan and Budget Development and Key Assumptions for 2018

Each year, MRO prepares an annual Business Plan and Budget for the following calendar year. The Business Plan and Budget takes into account the ERO Enterprise Strategic Plan and Metrics 2017-2020, the Shared Business Plan and Budget Assumptions (2018-2020) and Key Focus Areas for 2018, and the MRO Strategic Plan. MRO staff develops the Business Plan and Budget with board and stakeholder input. The Business Plan and Budget process is a coordinated effort with NERC and the other Regional Entities (collectively the ERO Enterprise).

MRO's budget development employs both a "top-down" and a "bottom-up" approach. The top-down approach is initiated by MRO's President and CEO, who sets key parameters including headcount and a target overall budget. The bottom-up approach is initiated by MRO's vice presidents, who calculate budget amounts for their respective departments using a detailed, line-by-line zero-based budgeting approach. The bottom-up departmental budgets are aggregated and reconciled with the CEO's top-down budget.

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

The draft Business Plan and Budget is reviewed by the Finance and Audit Committee (FAC) and the board and then posted for stakeholder comment. The board considers the Business Plan and Budget at its June meeting, and upon approval, staff submits it to NERC for approval by NERC's Board of Trustees. Upon approval of NERC's Business Plan and Budget and all eight Regional Entities' Business Plans and Budgets, a filing is submitted to FERC for approval, which is typically obtained in October or November of the year preceding the budget year.

## Financial Policies and Controls

An independent auditing firm annually audits MRO's financial statements. The FAC Charter states: "The FAC evaluates the performance of the external auditor and, if so determined, recommends to the Board the reappointment of the external auditor or steps to replace the external auditor. Once hired, the independent auditor communicates directly with the FAC Chair and committee regarding audit matters." The FAC and MRO staff perform an annual review of the auditing firm's performance.

MRO's Purchase Requisition Policy and Contract Management Procedure govern the procurement of goods and services in excess of \$500. These protocols require that a purchase order be approved by MRO's Vice President Finance and Administration and the departmental vice president for all purchases in excess of \$500. Additionally, purchases in excess of \$10,000 must be approved by MRO's President and CEO.

MRO's Expense Statement Guidelines provide guidance on reasonable, reimbursable travel expenses. Expenses are reviewed for proper documentation and reasonableness by the employee's supervisor, the Accounting Specialist and MRO's Vice President Finance and Administration.

MRO utilizes a system to track and report time by program area, project, and registered entity, when applicable. This system is also used to report and approve expenses.

## **Accounting and Recordkeeping**

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

## **Organizational Structure and Staffing**

MRO has four departments, each of which is dedicated to one or more statutory functions or program areas and four general and administrative departments. Costs are tracked both by department and in the MRO Chart of Accounts.

MRO employees track the time spent working in each program area, and labor costs are charged to the appropriate program area.

The Compliance Monitoring and Regulatory Affairs Department encompasses MRO's audit, spot check, and self-certification activities and is managed by a vice president who is also responsible for Canadian Regulatory Affairs.

The Risk Assessment and Mitigation Department and Registration and Reliability Standards Department report to one vice president. These groups are responsible for risk assessments used to plan MRO's compliance activities, risk determinations and mitigation of noncompliance, and registration and certification of registered entities. These groups also lead MRO's outreach efforts related to entities' technical implementations to support compliance, reliability, and security.

The Enforcement Department is responsible for disposition and enforcement of noncompliance with Reliability Standards and is managed by a vice president.

MRO's Operations Department is responsible for reliability assessment, performance analysis, event analysis, situational awareness, infrastructure security, IT, and event planning functions. This department is managed by a vice president.

MRO's Vice President, General Counsel, Corporate Secretary and Director of External Affairs provides legal advice to MRO, serves as the corporate secretary, and leads MRO's communications efforts and external affairs function.

MRO's Information Technology Department is responsible for providing a secure network infrastructure and information technology systems to support the users. Systems include cyber and physical security.

MRO's Finance and Administration Department performs human resources, accounting, finance, budget, and treasury functions and is managed by a vice president.

The General and Administrative Department is led by MRO's President and CEO and includes normal administrative costs for the head of the organization.

## **Compensation Process and Standards of Conduct, Confidentiality and Conflict of Interest Policies**

MRO bases employee compensation on eight pay principles. The current compensation structure uses a five-tiered structure with each tier divided into four scales reflecting experience and degree of knowledge, skills and abilities. MRO periodically engages a third party compensation expert to review this structure.

Each MRO employee is required to annually sign a Standards of Conduct, Confidentiality and Conflict of Interest form, attesting that he or she has read and understood these policies and will always act in MRO's interests and avoid conduct that may compromise his or her MRO responsibilities. MRO employees are prohibited from having a financial interest in any registered entity in the MRO region.

## **2018 Goals and Key Deliverables**

MRO's business planning is driven by the annual strategic objectives, which are:

1. Simplification of regulation.
2. Risk-based methodologies are implemented with proper rigor and safeguards.
3. Improve clarity of standards and rules.
4. Greater consistency within MRO and across NERC/Regional Entities.
5. Coordinated communications around key policy matters.

In addition, each department and individual employee sets goals for the year.

MRO recognizes and supports NERC's Electric Reliability Organization (ERO) Enterprise Strategic Plan and Goals.

## **2018 Overview of Cost Impacts**

In developing the MRO 2018 Business Plan and Budget, MRO, NERC, and the other Regional Entities collaborated and agreed upon common operational and program assumptions that are contained in the Shared Business Plan and Budget Assumptions for the 2016-2019 Planning Period (2018 Budget Cycle), and which is provided as Exhibit A to the NERC 2018 Business Plan and Budget. MRO used these shared assumptions as well as the Electric Reliability Organization Enterprise Strategic Goals in developing this 2018 Business Plan and Budget. Prior to obtaining



final approval from its Board of Directors, MRO seeks NERC input and review of its annual Regional Entity Business Plan and Budget, including coordination of program requirements and any related key initiatives for the Electric Reliability Organization (ERO) Enterprise.

Overall, the MRO 2018 statutory expenses (\$11,726,737) increased by 4.0 percent from the 2017 statutory expenses (\$11,226,670). The 2018 statutory assessment (\$10,730,106) represents an increase of 2.0 percent from the 2017 assessment (\$10,494,345).

Significant statutory expense changes (including capital expenditures) include:

- Total Personnel expenses are increasing by 6.5 percent. Salary expenses increase by 6.4 percent because there are two additional FTEs reflected in the total personnel costs. Additional FTEs are a result of targeted outreach to improve prevention and shared responsibility efforts across the MRO footprint. Captured savings from facility and tax status change will offset investment towards additional FTEs by \$130,000. The benefits expense is increasing 8.9 percent, in part due to the additional FTEs and also because health plan expenses are trending at a 6 percent increase according to actuarial studies.
- Total Meeting and Travel expenses are increasing by 4.1 percent, primarily due to increased efforts in outreach and an increased number of audits and working group activities in 2018. Member travel is decreasing due to greater utilization of webinars and video conferencing.
- Total Operating Expenses are increasing by 2.1 percent. The Consultants and Contracts category is decreasing by \$138,950 due to hiring a CIP consultant in 2017 on a part-time basis. Additionally, major system and infrastructure updates were completed in 2017, reducing need for IT consulting and contracts as focus shifts to maintenance. Rent cost is increasing 4.5 percent and office costs are increasing 16.3 percent; these two increases are due to the additional costs associated with the expanded conference space and hosting all meetings and events onsite as well as the additional two FTEs.
- Depreciation expense is increasing 14.7 percent due to the start of depreciation on one-time asset purchases associated with Leasehold Improvements, Furniture and Fixtures, and Equipment purchased for the expanded conference space. Yet, fixed asset additions decreased because one-time asset purchases related to the facility expansion and reconfiguration were completed in 2017.

### **Other Non-Operating Expenses**

None

All statutory activity in the 2018 Business Plan and Budget aligns with NERC's ERO Enterprise Strategic Plan.

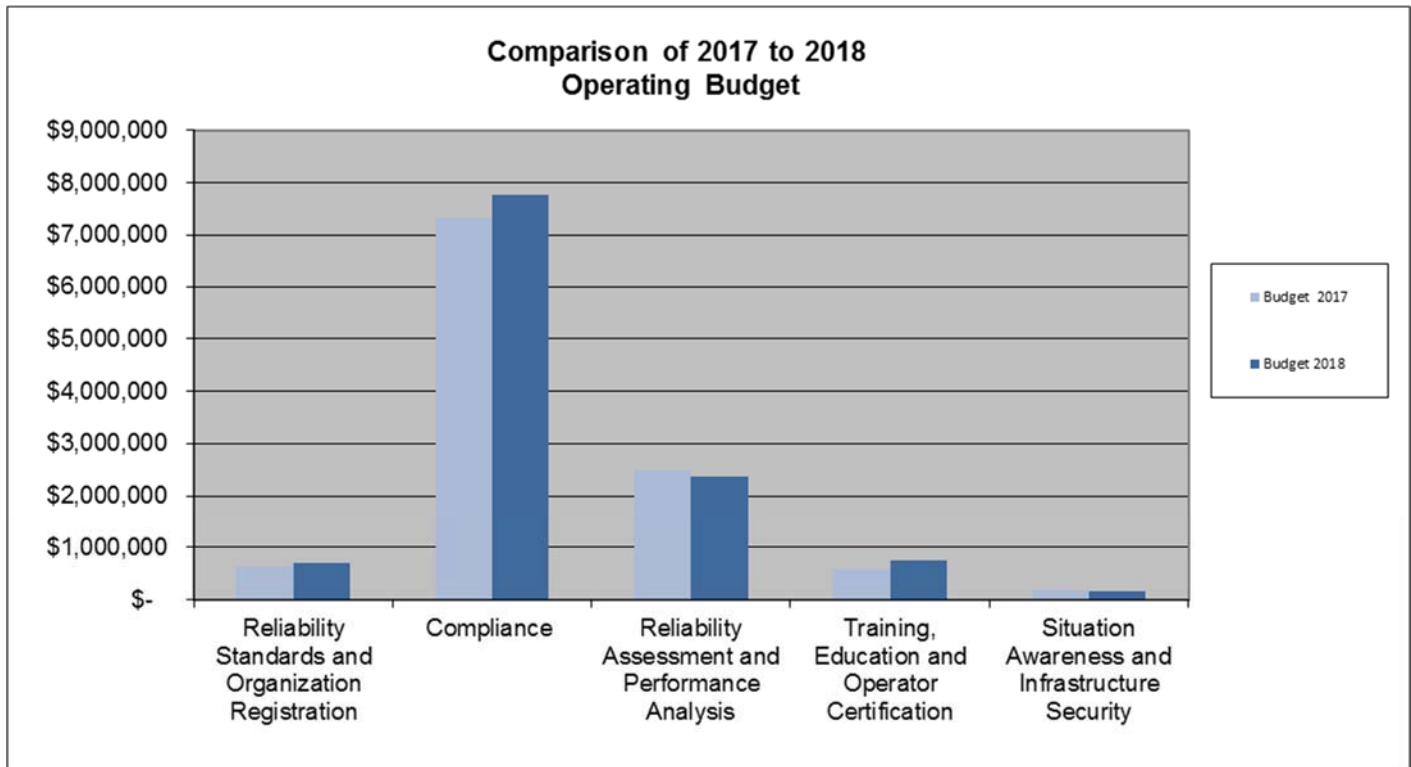
## Summary by Program

The following table and figure summarize and illustrate the MRO budget by program area.

Base Operating Budget	Budget 2017	Projection 2017	Budget 2018	Change	
				2018 Budget v 2017 Budget	% Change
Reliability Standards	633,865	633,865	696,449	62,584	9.9%
Compliance Enforcement and Organization Registration	7,313,627	7,313,627	7,756,470	442,843	6.1%
Reliability Assessments and Performance Analysis	2,498,586	2,498,586	2,361,808	(136,778)	-5.5%
Training, Education and Operator Certification	589,598	589,598	753,932	164,333	27.9%
Total Situation Awareness and Infrastructure Security	190,992	190,992	158,078	(32,915)	-17.2%
	11,226,668	11,226,668	11,726,736	500,068	4.5%
Working Capital Reserve	(566,073)	(566,073)	(854,632)	(288,559)	
<b>Total Funding</b>	<b>10,660,595</b>	<b>10,660,595</b>	<b>10,872,104</b>	<b>211,509</b>	<b>2.0%</b>

This table does not include an allocation of working capital requirements among the program areas. Combines Compliance Monitoring, Risk Assessment and Mitigation and Enforcement.

**Table 2. Budget by Program Area**



This graphical representation does not include an allocation of working capital requirements among the program areas.

**Figure 1. Budget by Program Area Chart**

The following table displays total FTEs by program area.

Total FTEs by Program Area	Budget	Projection	Direct FTEs	Shared	Total FTEs	Change
	2017	2017	2018 Budget	FTEs 2018 Budget <sup>1</sup>	2018 Budget	from 2017 Budget
<b>STATUTORY</b>						
<b>Operational Programs</b>						
Reliability Standards and Organization and Certification	1.96	1.96	2.01		2.01	0.05
Compliance	9.77	9.77	10.06		10.06	0.29
Compliance Risk Assessment and Mitigation	8.39	8.39	9.97		9.97	1.58
Compliance Enforcement	2.95	2.95	2.99		2.99	0.04
Training and Education	1.35	1.35	2.10		2.10	0.75
Reliability Assessment and Performance Analysis	6.42	6.42	6.13		6.13	(0.29)
Situation Awareness and Infrastructure Security	0.49	0.49	0.33		0.33	(0.16)
<b>Total FTEs Operational Programs</b>	<b>31.33</b>	<b>31.33</b>	<b>33.59</b>	<b>-</b>	<b>33.59</b>	<b>2.26</b>
<b>Administrative Programs</b>						
Technical Committees and Member Forums	-	-	-		-	-
General and Administrative	2.91	2.91	2.85		2.85	(0.06)
Legal and Regulatory	0.95	0.95	0.92		0.92	(0.03)
Information Technology	3.92	3.92	4.02		4.02	0.10
Human Resources	-	-	-		-	-
Finance and Accounting	3.89	3.89	3.62		3.62	(0.27)
<b>Total FTEs Administrative Programs</b>	<b>11.67</b>	<b>11.67</b>	<b>11.41</b>	<b>-</b>	<b>11.41</b>	<b>(0.26)</b>
<b>Total FTEs</b>	<b>43.00</b>	<b>43.00</b>	<b>45.00</b>	<b>-</b>	<b>45.00</b>	<b>2.00</b>

<sup>1</sup>A shared FTE is defined as an employee who performs both Statutory and Non-Statutory functions.

**Table 3. Total FTEs by Program Area**

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

## 2017 Budget and Projection and 2018 Budget Comparisons

The following table lists the 2017 budget and projection compared to the 2018 budget.

Statement of Activities, Fixed Assets Expenditures and Change in Working Capital 2017 Budget & Projection, and 2018 Budget					
STATUTORY					
	2017 Budget	2017 Projection	Variance 2017 Projection v 2017 Budget Over(Under)	2018 Budget	Variance 2018 Budget v 2017 Budget Over(Under)
<b>Funding</b>					
<b>ERO Funding</b>					
NERC Assessments	\$ 10,494,345	\$ 10,494,345	\$ -	\$ 10,730,104	\$ 235,759
Penalty Sanctions	166,250	166,250	-	142,000	(24,250)
<b>Total NERC Funding</b>	<b>\$ 10,660,595</b>	<b>\$ 10,660,595</b>	<b>\$ -</b>	<b>\$ 10,872,104</b>	<b>\$ 211,509</b>
Membership Dues	-	-	-	-	-
Testing Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Workshops	-	-	-	-	-
Interest	-	-	-	-	-
Miscellaneous	-	-	-	-	-
<b>Total Funding (A)</b>	<b>\$ 10,660,595</b>	<b>\$ 10,660,595</b>		<b>\$ 10,872,104</b>	<b>\$ 211,509</b>
<b>Expenses</b>					
<b>Personnel Expenses</b>					
Salaries	\$ 5,874,689	\$ 5,874,689		\$ 6,250,448	\$ 375,759
Payroll Taxes	366,600	366,600		391,324	24,724
Benefits	608,751	608,751	-	663,221	54,470
Retirement Costs	1,195,387	1,195,387	-	1,259,803	64,416
<b>Total Personnel Expenses</b>	<b>\$ 8,045,427</b>	<b>\$ 8,045,427</b>		<b>\$ 8,564,796</b>	<b>\$ 519,369</b>
<b>Meeting Expenses</b>					
Meetings	\$ 85,000	\$ 85,000	\$ -	\$ 93,950	\$ 8,950
Travel	635,000	635,000	-	655,430	20,430
Conference Calls	-	-	-	-	-
<b>Total Meeting Expenses</b>	<b>\$ 720,000</b>	<b>\$ 720,000</b>	<b>\$ -</b>	<b>\$ 749,380</b>	<b>\$ 29,380</b>
<b>Operating Expenses</b>					
Consultants & Contracts	\$ 674,077	\$ 674,077	\$ -	\$ 535,127	\$ (138,950)
Office Rent	701,900	701,900	-	733,700	31,800
Office Costs	539,933	539,933	-	628,013	88,080
Professional Services	228,550	228,550	-	229,550	1,000
Miscellaneous	-	-	-	-	-
Depreciation	504,000	504,000	-	578,000	74,000
<b>Total Operating Expenses</b>	<b>\$ 2,648,460</b>	<b>\$ 2,648,460</b>	<b>\$ -</b>	<b>\$ 2,704,390</b>	<b>\$ 55,930</b>
<b>Total Direct Expenses</b>	<b>\$ 11,413,887</b>	<b>\$ 11,413,887</b>		<b>\$ 12,018,566</b>	<b>\$ 604,679</b>
<b>Indirect Expenses</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	
<b>Other Non-Operating Expenses</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Total Expenses (B)</b>	<b>\$ 11,413,887</b>	<b>\$ 11,413,887</b>		<b>\$ 12,018,566</b>	<b>\$ 604,679</b>
<b>Change in Assets</b>	<b>\$ (753,292)</b>	<b>\$ (753,292)</b>		<b>\$ (1,146,462)</b>	<b>\$ (393,170)</b>
<b>Fixed Assets</b>					
Depreciation	\$ (504,000)	\$ (504,000)	\$ -	\$ (578,000)	\$ (74,000)
Computer & Software CapEx	173,670	173,670	-	286,170	112,500
Furniture & Fixtures CapEx	-	-	-	-	-
Equipment CapEx	-	-	-	-	-
Leasehold Improvements	143,111	143,111	-	-	(143,111)
Allocation of Fixed Assets					
<b>Inc(Dec) in Fixed Assets (C)</b>	<b>(187,219)</b>	<b>(187,219)</b>	<b>-</b>	<b>(291,830)</b>	<b>(104,611)</b>
<b>TOTAL BUDGET (=B + C)</b>	<b>\$ 11,226,668</b>	<b>\$ 11,226,668</b>		<b>\$ 11,726,736</b>	<b>\$ 500,068</b>
<b>TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)</b>	<b>\$ (566,073)</b>	<b>\$ (566,073)</b>		<b>\$ (854,632)</b>	<b>\$ (288,559)</b>
<b>FTEs</b>	43.00	43.00	-	45.00	2.00

**Table 4. Budget and Projection Comparison, 2017 to 2018**

# Section A – Statutory Programs

## 2018 Business Plan and Budget



## Section A – Statutory Programs

### Reliability Standards, Organization Registration and Certification Program

The following table shows funding sources and related expenses for the Reliability Standards, Organization Registration and Certification Program.

Reliability Standards Program (in whole dollars)			
	2017 Budget	2018 Budget	Increase (Decrease)
Total FTEs	1.96	2.01	0.05
Direct Expenses	\$ 356,096	\$ 429,882	\$ 73,786
Indirect Expenses	\$ 289,481	\$ 284,030	\$ (5,451)
Other Non-Operating Expenses	\$ -	\$ -	\$ -
Inc(Dec) in Fixed Assets	\$ (11,712)	\$ (17,463)	\$ (5,750)
Total Funding Requirement	\$ 633,866	\$ 696,449	\$ 62,583

**Table A-1. Reliability Standards Budget**

#### Reliability Standards

##### Program Scope and Functional Description

The program supports NERC's efforts on the development of Reliability Standards. MRO does not envision the development of any Regional Reliability Standards in 2018. The workload around standards is expected to increase in 2018 as staff increases its participation in standards development including its support of the MRO Standards Committee.

##### Assumptions (2018-2020)

- The number of continent-wide Reliability Standards development projects is expected to remain relatively stable, except as required to address any new FERC directives to create or modify Reliability Standards, or industry submittals of standard authorization requests.
- Continent-wide Reliability Standards projects will consist primarily of conducting enhanced periodic reviews on existing Reliability Standards to improve their content and quality, respond to identified risks to reliability (including those that may be identified through the implementation of risk-based Compliance Monitoring and Enforcement), and address 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, Compliance Analysis and Certification, and Compliance Assurance) and support from across the ERO Enterprise.
- During the enhanced periodic review of Reliability Standards, any associated Regional Reliability Standards will be reviewed for potential incorporation as variances or as improvements to the continent-wide requirements. Regional and NERC Reliability Standards development processes may require modification to efficiently accomplish this task. Each Regional Entity will work with NERC and other Regional Entities as necessary on projects where there is a Regional Reliability Standard/variance.

- Regional Reliability Standards development activity is expected to remain low, driven by requests that the Regional Entity may receive or reliability issues that the Regional Entity may identify.
- In coordination with Standard Drafting Teams and consistent with current approaches, Regional Entities may support outreach during standard development and participate in the standard development activities as may be required to address reliability and stakeholder issues that may arise within their respective regions.
- Following FERC approval, NERC and the Regional Entities collectively will assist the transition of Reliability Standards to compliance monitoring and enforcement by supporting industry and auditor training or providing information regarding the intent of the Reliability Standard.
- The number of standard interpretations is expected to remain low. However, implementation guidance requests may increase.
- As noted in the assumptions for Information Technology (IT), Regional Entities will be asked to participate in teams to help develop application business requirements and test business functionality for ERO Enterprise applications projects. These teams will primarily be business area subject matter experts and IT staff. The success of the Compliance Monitoring and Enforcement Process Tool project will be dependent on Regional Entity participation. When planning, Regional Entities should consider allocating resources at an adequate level of participation to support the success of this project.

### **Key Focus Areas (2018)**

- Enhancing feedback loops, including audit and risk assessment experience, continent-wide and regional perspectives, lessons-learned, and events analysis for enhanced periodic reviews focused on conducting measured, in-depth reviews to improve Reliability Standards using the enhanced periodic review template. MRO expects increased resources in 2018 to be committed to this process as the results of Inherent Risk Assessments are used to further improve Standards.
- MRO expects increased resources in 2018 and beyond to be committed to Standard Drafting Teams to assist with addressing reliability issues and to ensure that new Standards are measurable from a compliance perspective.

## **Organization Registration and Certification**

### **Program Scope and Functional Description**

The MRO Organization Registration and Certification Department will continue to monitor activity in the Region and to register and certify entities in accordance with MRO Regional Entity procedures and the NERC ROP, including revisions to registrations and certifications. The level of activity is expected to increase in 2018.

### **Assumptions (2018-2020)**

- Modifications to the NERC Registry Criteria were approved, including the elimination of three functional entities (Purchasing-Selling Entities, Interchange Authorities, and Load-Serving Entities), the threshold criteria for Distribution Providers, and alignment of five registration categories with the BES definition.
- A NERC-led technical review panel has been established to allow entities to challenge the NERC Registration Criteria based on risk. Entities are allowed to make a technical risk-based case for deactivation, or request a subset list of Reliability Standards that they will

be mandated to comply with. The NERC-led review panel is responsible for making the technical determination of whether or not the entity should be allowed to deviate from the NERC Registration Criteria, and be subject to compliance with Standards that apply to a particular function.

- The results from the 2016 registration program review will result in modifications to the program in 2018. The recommendations from the Organization Registration Program review are summarized below and will be prioritized by the Organization Registration and Certification Group (ORCG) for work to be conducted in 2018:
  - NERC staff shall develop ERO Enterprise monitoring activities for 2018.
  - The NERC-led review panel should compile a list of possible ROP enhancements related to the NERC-led Review Panel processes and procedures.
  - NERC and the Regional Entities should develop and conduct outreach for industry to inform how the NERC-led Review Panel is conducted and how a submittal is processed.
  - NERC and the Regional Entities should conduct an in-depth review on Joint Registration Organizations (JROs)/Coordinated Functional Registrations (CFRs). This may include how a JRO/CFR works, what the obligations are, different models implemented across the ERO Enterprise, forms/formats and communication, and examples of how to document the agreements.
  - NERC should review its internal processes and procedures based on the recommendation from the independent audit.
  - NERC and the Regional Entity staff should work collaboratively with the ERO CMEP technology staff in reaching their milestones.
  - NERC and the Regional Entities should draft a more defined procedure for the ERO's role in changes to BES Element status.
  - NERC should review its website to 1) ensure the NERC Registration website is up to date, with documents in the appropriate locations and 2) ensure documents posted to the NERC Registration website are accurate. NERC should seek any ORCG input into ideas for clean-up and document migration.
  - NERC and the Regional Entities should prioritize any current or future identified issues and focus to resolve the higher priority issues in a timely manner and report progress to the ORCG.
- The activities associated with the implementation of the BES definition have decreased and, therefore, no additional resource demands are expected related to the BES definition. However, with applications for Self-Determined Notifications no longer being accepted through the ERO Enterprise BESnet application, Regional Entities will need to validate, with NERC oversight, their submittals to determine complete and proper application of the BES definition.
- Planned oversight activities for 2018 will be aligned with the ERO Enterprise Operating Model, which should not affect 2018 resource allocation and have little effect on overall NERC resource requirements. NERC understands that each Regional Entity will need to evaluate its individual resource needs and allocations.
- As noted in the assumptions for IT, Regional Entities will be asked to participate in teams to help develop application business requirements and to test business functionality for ERO Enterprise applications projects. These teams will primarily be business area subject matter experts, not IT staff. The success of the Entity Registration project, the Enterprise Reporting data warehouse project, and the Compliance Monitoring and Enforcement Process Tool project will be dependent on Regional Entity participation. When planning, Regional Entities should consider allocating resources at an adequate level of participation to support the success of these projects.



**Key Focus Areas (2018)**

- Recommendations from the 2016 review of the Certification program will be targeted for implementation in 2018. In addition, MRO expects to certify two new Transmission Operators in 2018. These activities will result in increased resources devoted to Certification implementation.
- Recommendations from the 2016 review of the Registration program, including the implementation of CFRs and JROs, will require increased resources for implementation in 2018.
- Participation on the NERC-led review panel, which may require four to six engagements per year, requires travel from each of the regional representatives.

MRO also plans to commit additional resources to Registration and Certification in 2018-2020 associated with the ERO CMEP Tools project.

**Resource Requirements**

An increase in resource requirements is projected for 2018.

**Personnel Expenses (Increase \$60k, 19.7%)**

The majority of the increase is seen in personnel expenses as senior staff collaborates with NERC as indicated in the Key Focus Areas (2018). MRO continues to facilitate participation of additional technical resources from the industry in drafting teams and in other areas to augment staff involvement, which has resulted in a relatively stabilized number of FTEs in prior years. MRO reimburses reasonable travel expenses for stakeholder participation.

**Meeting Expenses (Increase \$14k, 30.7%)**

MRO's increased participation in NERC-led activities will require increased travel expenses.

## Reliability Standards, Organization Registration and Certification Budget Details

The following table shows funding sources and related expenses for the Reliability Standards, Organization Registration, and Certification Program.

Statement of Activities, Fixed Assets Expenditures and Change in Working Capital					
2017 Budget & Projection, and 2018 Budget					
RELIABILITY STANDARDS AND ORGANIZATIONAL REGISTRATION					
	2017 Budget	2017 Projection	Variance 2017 Projection v 2017 Budget Over(Under)	2018 Budget	Variance 2018 Budget v 2017 Budget Over(Under)
<b>Funding</b>					
<b>ERO Funding</b>					
NERC Assessments	\$ 623,464	\$ 623,464		\$ 687,952	\$ 64,487
Penalty Sanctions	10,401	10,401		8,497	(1,903)
<b>Total NERC Funding</b>	<b>\$ 633,865</b>	<b>\$ 633,865</b>		<b>\$ 696,449</b>	<b>\$ 62,584</b>
Membership Dues	-	-	-	-	-
Testing Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Workshops	-	-	-	-	-
Interest	-	-	-	-	-
Miscellaneous	-	-	-	-	-
<b>Total Funding (A)</b>	<b>\$ 633,865</b>	<b>\$ 633,865</b>		<b>\$ 696,449</b>	<b>\$ 62,584</b>
<b>Expenses</b>					
<b>Personnel Expenses</b>					
Salaries	\$ 214,962	\$ 214,962	\$ -	\$ 258,356	\$ 43,394
Payroll Taxes	13,591	13,591	-	16,816	3,225
Benefits	26,474	26,474	-	31,169	4,695
Retirement Costs	50,081	50,081	-	59,003	8,922
<b>Total Personnel Expenses</b>	<b>\$ 305,108</b>	<b>\$ 305,108</b>	<b>\$ -</b>	<b>\$ 365,344</b>	<b>\$ 60,236</b>
<b>Meeting Expenses</b>					
Meetings	\$ 2,500	\$ 2,500	\$ -	\$ 1,400	\$ (1,100)
Travel	42,400	42,400	-	57,300	14,900
Conference Calls	-	-	-	-	-
<b>Total Meeting Expenses</b>	<b>\$ 44,900</b>	<b>\$ 44,900</b>	<b>\$ -</b>	<b>\$ 58,700</b>	<b>\$ 13,800</b>
<b>Operating Expenses</b>					
Consultants & Contracts	\$ -	\$ -	\$ -	\$ -	\$ -
Office Rent	-	-	-	-	-
Office Costs	6,088	6,088	-	5,838	(250)
Professional Services	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Depreciation	-	-	-	-	-
<b>Total Operating Expenses</b>	<b>\$ 6,088</b>	<b>\$ 6,088</b>	<b>\$ -</b>	<b>\$ 5,838</b>	<b>\$ (250)</b>
<b>Total Direct Expenses</b>	<b>\$ 356,096</b>	<b>\$ 356,096</b>	<b>\$ -</b>	<b>\$ 429,882</b>	<b>\$ 73,786</b>
<b>Indirect Expenses</b>	<b>\$ 289,481</b>	<b>\$ 289,481</b>	<b>\$ -</b>	<b>\$ 284,030</b>	<b>\$ (5,451)</b>
<b>Other Non-Operating Expenses</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Total Expenses (B)</b>	<b>\$ 645,577</b>	<b>\$ 645,577</b>	<b>\$ -</b>	<b>\$ 713,912</b>	<b>\$ 68,335</b>
<b>Change in Assets</b>	<b>\$ (11,712)</b>	<b>\$ (11,712)</b>	<b>\$ -</b>	<b>\$ (17,463)</b>	<b>\$ (5,750)</b>
<b>Fixed Assets</b>					
Depreciation	\$ -	\$ -	\$ -	\$ -	\$ -
Computer & Software CapEx	-	-	-	-	-
Furniture & Fixtures CapEx	-	-	-	-	-
Equipment CapEx	-	-	-	-	-
Leasehold Improvements	-	-	-	-	-
Allocation of Fixed Assets	\$ (11,712)	(11,712)	-	(17,463)	(5,750)
<b>Inc(Dec) in Fixed Assets ( C )</b>	<b>(11,712)</b>	<b>(11,712)</b>	<b>-</b>	<b>(17,463)</b>	<b>(5,750)</b>
<b>TOTAL BUDGET (=B + C)</b>	<b>\$ 633,865</b>	<b>\$ 633,865</b>	<b>\$ -</b>	<b>\$ 696,449</b>	<b>\$ 62,584</b>
<b>TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>FTEs</b>	1.96	1.96	-	2.01	0.05

Table A-2. Reliability Standards, Organization Registration and Certification Budget Detail

## Compliance Monitoring and Enforcement Program

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

Compliance Monitoring and Enforcement Program (in whole dollars)			
	2017 Budget	2018 Budget	Increase (Decrease)
Total FTEs	21.11	23.02	1.91
Direct Expenses	\$ 4,321,942	\$ 4,703,549	\$ 381,608
Indirect Expenses	\$ 3,117,832	\$ 3,252,919	\$ 135,087
Other Non-Operating Expenses	\$ -	\$ -	\$ -
Inc(Dec) in Fixed Assets	\$ (126,147)	\$ (199,998)	\$ (73,851)
Total Funding Requirement	\$ 7,313,627	\$ 7,756,470	\$ 442,844

**Table A-3. Compliance Monitoring and Enforcement Program Budget**

### Program Scope and Functional Description

In 2018, the MRO Compliance Monitoring and Enforcement Program (CMEP) will include performing CMEP activities with an expected 106 registered entities in the MRO Region. This work is performed by three departments: Compliance Monitoring, Risk Assessment and Mitigation, and Enforcement creating an effective “checks and balance” for making decisions about noncompliance and enforcement.

### **Compliance Monitoring Department and Regulatory Affairs**

The Compliance Monitoring and Regulatory Affairs Department is comprised of a 10.0 headcount, which includes audit and support staff with the competency to conduct oversight responsibilities. Compliance Monitoring staff is responsible for conducting compliance monitoring activities, including compliance audits, self-certifications, and spot checks. Additionally, Compliance Monitoring staff leads development of multi-year Compliance Oversight Plans (COPs). Development of initial three-year COPs for all MRO registered entities is anticipated to be completed in 2018.

With the implementation of multi-year COPs, there will be an increase in the number of compliance audits conducted in 2018. Though the scope of the compliance audits will typically be smaller, there will be an increase in the number of audits conducted and the number of audit reports issued. Self-certifications will continue to be drafted and issued on a quarterly basis in 2018. The number of registered entities subject to self-certifications is anticipated to remain stable in 2018. FTEs are also anticipated to remain stable in 2018.

In addition to the normal and ongoing compliance monitoring activities under the NERC CMEP, MRO Compliance Monitoring staff will be prepared to assist with other responsibilities in other functional areas depending on the needs of the organization. These activities are included in the business plan for 2018. Investigations, if any, will be handled by MRO’s Risk Assessment and Mitigation staff.

Compliance Monitoring staff also includes a CMEP Process Principal, responsible for development and implementation of MRO’s business processes related to its implementation of the CMEP. This position monitors the execution of CMEP processes to ensure the quality of MRO’s activities in these areas (CMEP Quality Assurance). This position is also responsible for participating in regional or NERC working groups to assist in the development and implementation

of ERO-wide CMEP-related processes, including the CMEP Tools project. It is anticipated that this individual will devote significant time to the CMEP Tools project in 2018.

### **Risk Assessment and Mitigation Department**

The Risk Assessment and Mitigation Department is comprised of an 11.0 headcount (including Registration and Certification staff), which includes four professional engineers, one certified system operator and other technical staff and two administrative staff.

The Risk Assessment and Mitigation Department leads the development of Inherent Risk Assessments (IRAs) for each registered entity in the region. The IRA is the technical underpinning for the development of the COP by the Compliance Monitoring staff. In 2016, MRO completed an initial IRA for each MRO registered entity. While there will be a need for periodic refreshes of IRAs, workload associated with this activity is expected to decrease.

When a potential issue of noncompliance is identified, Risk Assessment and Mitigation staff independently reviews the facts and circumstances surrounding each potential instance of noncompliance, and then determines whether there is an instance of noncompliance and if so, the risk posed by the instance of noncompliance. This risk determination is used by MRO Enforcement staff to determine the appropriate resolution of the instance of noncompliance.

The Risk Assessment and Mitigation staff works with the registered entity to develop an effective mitigation plan for each instance of noncompliance. The mitigation plan is designed to prevent recidivism. MRO has not had a repeat moderate or serious risk violation, within one year of mitigation completion of a previous moderate or serious risk violation, in the past three years.

Due to an increase in noncompliance in the MRO Region in 2016, workload associated with assessing the risk of noncompliance and associated mitigation activities is expected to increase in 2018.

Risk Assessment and Mitigation staff also reviews each BPS event, independent of the event analysis process, to assess risk and compliance with Reliability Standards.

Risk Assessment and Mitigation staff also serves as a technical resource for individual registered entities when an entity has questions about compliance. Support may involve one-on-one meetings with the registered entity or simply responding to an email. With the implementation of MRO's "HERO" outreach program, and a number of new Standards becoming effective in 2017, workload associated with this activity is expected to increase in 2018.

Risk Assessment and Mitigation staff works with registered entities to provide educational workshops and webinars. Risk Assessment and Mitigation staff also regularly attends the Mid-Continent Compliance Forum (MCCF) to provide technical support to MCCF members, and also provides education to MRO stakeholders through articles published in the MRO newsletter.

### **Enforcement**

The Enforcement Department is comprised of a 3.0 headcount. Instances of noncompliance with Reliability Standards are reviewed by the Enforcement Department staff, who verify all relevant facts, review the risk determinations, and determine the appropriate enforcement actions for final disposition and resolution. Enforcement Department staff reports the status of all possible violations to NERC, negotiates settlement agreements and penalties, where appropriate, with registered entities, and coordinates review of settlement agreements by MRO's Hearing Body. Enforcement determinations are submitted to NERC for approval. For 2018, costs for this program are budgeted to remain stable with no increase in FTEs.

This three-step approach to the CMEP process, together with MRO's quality assurance oversight function, is designed to ensure accurate compliance and enforcement determinations by providing segregation of duties among those making the findings, those assessing risk, and those determining and negotiating penalties and sanctions.

MRO CMEP staff will continue to take a leadership role in transforming the CMEP work into more risk-informed, adaptive regulation.

## Compliance Monitoring, Risk Assessment and Mitigation

### Assumptions (2018-2020)

NERC and Regional Entity Business Plans and Budgets reflect a set of common assumptions developed jointly by NERC and the Regional Entities as part of the annual Business Plan and Budget process. NERC and the Regional Entities will also continue to work collaboratively to refine and revise procedures to eliminate duplication, increase operational efficiencies, enhance ERO-wide consistency, and achieve measureable reliability outcomes, consistent with their respective roles and responsibilities. The common assumptions for the Compliance Monitoring Program can be located in the Key Assumptions section of Exhibit A in NERC's 2018 Business Plan and Budget.

MRO will monitor compliance with Reliability Standards for each registered entity that has compliance responsibilities as defined in the Compliance Registry for MRO. In the United States, MRO monitors Reliability Standards according to Commission-approved Rules. In Manitoba, MRO monitors Reliability Standards under provincial law as implemented in the Manitoba Reliability Standards Regulation. In Saskatchewan, MRO carries out its compliance monitoring responsibilities according to an agreement with the Saskatchewan Electric Reliability Authority. 2018 key focus areas include:

- The implementation of more risk-informed CMEP required an increase of technical resources to complete and maintain the Inherent Risk Assessments (IRAs) for all registered entities in 2017-2019. In addition, Regional Entities will require resources to continuously update previously completed IRAs based on identified triggers and focus on creating compliance oversight plans that include compliance monitoring tools, the interval of compliance monitoring, and the Reliability Standards that are to be monitored.
- NERC and the Regional Entities will continue to evaluate business practices, implementation, and consistency of the CMEP work.
- NERC and the Regional Entities will continue to support the training and education requirements and guidelines necessary to meet the criteria set forth by the *ERO Enterprise Compliance Monitoring and Enforcement Manual* and the *Competency Guide*<sup>5</sup>.
- Planning and operating Reliability Standard violations are expected to remain constant as most registered entities have been audited and, thus, have a greater understanding of compliance expectations. In addition, MRO's outreach efforts including the development of Standard Application Guides has deepened the understanding of compliance expectations of registered entities. A modest increase may also occur as revisions of certain standards or new Reliability Standards become effective.
- Compliance personnel will need to continue support of the implementation of the CIP Reliability Standards.
- NERC will continue CIP V5 training, coordination, and facilitation with the ERO Enterprise CIP auditors and the industry. ERO Enterprise CIP subject matter experts will support these activities to ensure appropriate knowledge and guidance is developed, understood by industry, and administered.

<sup>5</sup> ERO Enterprise Compliance Monitoring and Enforcement Manual and the Competency Guide

- The allocation of resources in 2018 should be responsive to continued implementation by registered entities of new versions of the CIP Reliability Standards.
- Additional resources may be necessary for increased Physical Security compliance monitoring activities for CIP-014 and the compliance monitoring activities related to the Supply Chain Risk Management Reliability Standard (CIP-013).
- ERO Enterprise CMEP staff, particularly staff with visibility into risks existing in the field, will provide feedback to the ERO Enterprise. This feedback may include information on risks seen in the field that are not addressed by a standard, as well as information on where a standard is too broad. ERO Enterprise CMEP staff will participate in the development of a solution, regardless of whether the risk is addressed through a new or modified Reliability Standard, or other means.
- ERO Enterprise CMEP staff will provide input for standards development teams on the risks seen in the field relating to a standard under development, as well as for how a Reliability Standard would be monitored.
- As noted in the assumptions for IT, Regional Entities will be asked to participate in teams to help develop application business requirements and to test business functionality for ERO Enterprise applications projects. These teams will primarily be business area subject matter experts, not IT staff. The success of the Compliance Monitoring and Enforcement Process Tool project will be dependent on Regional Entity participation. When planning, Regional Entities should consider allocating resources at an adequate level of participation to support the success of this project.

### **Key Focus Areas (2018)**

- Monitoring and management of compliance monitoring and enforcement metrics in support of ERO Enterprise's Strategic Plan and CMEP Oversight Program.
- Ongoing implementation and oversight of the CMEP, including IRAs, consideration of internal controls, and ensuring that Compliance Oversight Plans are addressing the relevant risks.
- Implementation and oversight of the CIP V5, CIP-013 and CIP-014 compliance monitoring programs, while recognizing that a risk-informed focus will be used.
- Risk assessment and mitigation work associated with the increased number of noncompliance identified in 2016, as well as a possible high level of 2017 noncompliance associated with low impact CIP requirements
- Continued ERO Enterprise-wide collaboration and implementation of consistent compliance monitoring and enforcement practices focused on higher reliability risks.

### **Compliance Monitoring Explanation of Variances – 2018 Budget versus 2017 Budget**

#### **Annual Implementation Plan**

- Monitor compliance with all regulatory-approved Reliability Standards as defined in the NERC Annual Implementation Plan
- Continued implementation of more risk informed techniques into the compliance monitoring framework, customizing scope of individual compliance monitoring activities and consideration of registered entities' internal controls
- Per the NERC CMEP Implementation Plan, with the implementation of multi-year Compliance Oversight Plans (COPs), there will be an increase in the number of compliance audits conducted in 2018. Additionally, complementing audits, MRO has established rigorous quarterly guided self-certifications for those Reliability Standards and requirements that address higher risk areas.
- Unscheduled spot checks and/or compliance audits may be conducted if:
  - Entity registration changes (such as adding TOP, BA, RC function)
  - Evidence of compliance provided during an audit (or other discovery method) is found to be noncompliant and the entity is using another entity's program or process

- Inherent Risk Assessments identify an emerging risk
- Follow-up is needed as a result of self-certifications or events

### **Compliance Audits**

- 2018 variance: increased workload
- The rigor, scope, depth and recurrence of audits and spot checks will be driven by reliability risk. Beginning in 2017, oversight plans will be developed for registered entities according to their risk and the best CMEP tools. This is reflected in the annual implementation plan.
- As a result of implementation of multi-year COPs, there is an increase in the number of compliance audits conducted in 2018. Although the scope of these activities is generally smaller than in past years, the review and reporting requirements will increase.

### **Self-Certifications**

- 2018 variance: stable workload
- Quarterly guided self-certifications will continue to be conducted in 2018. The number of requirements for which self-certifications are issued, as well as the number of affected registered entities, are anticipated to be similar to 2017.

### **Spot Checks**

- 2018 variance: stable workload
- The completion of IRAs and subsequent implementation of multi-year COPs provides greater alignment between MRO and registered entities with regard to risk and should result in a more stable approach to compliance monitoring

### **Technical Feasibility Exceptions (TFEs)**

- 2018 variance: stable workload
- During 2018, MRO Compliance staff does not anticipate significant variation in effort associated with TFE processing.

### **Compliance Investigations (CIs) and Compliance Evaluations of Events**

- 2018 variance: stable workload
- Workload related to compliance evaluations of events is anticipated to remain consistent.
- MRO Risk Assessment and Mitigation staff are responsible for conducting a review of all reported events, and developing compliance assessments of those events for all Category 2 and above events.
- If a CI were initiated in the MRO region, MRO Risk Assessment and Mitigation staff would lead the investigation. This would be an increase in workload. At this time, there is no anticipation of a CI.

### **Compliance Findings Discovery**

- 2018 variance: increased workload
- For every potential noncompliance, MRO Risk Assessment and Mitigation performs a fact and circumstance review necessary to determine the potential and actual risk posed by the noncompliance, as well as appropriate mitigating activities.
- MRO expects an increase in workload associated with reviewing facts and circumstances around entity implementations of CIP v5, as well as risk determination work associated with the increased number of noncompliance discovered in 2016 and anticipated for 2017.

**Compliance Findings Record Development**

- 2018 variance: increased workload
- MRO's CMEP Quality Assurance (C-QA) program was fully implemented in 2016. The program seeks to ensure that all CMEP activities have sufficient technical rigor and discretion is applied without discrimination.
- MRO experienced increased instances of noncompliance in 2016 and expects a possible high number of instances of noncompliance associated with Low Impact CIP requirements in 2017. C-QA will see a corresponding increase in reviewing findings record development.

**Compliance Enforcement and Mitigation Explanation of Variances – 2018 Budget versus 2017 Budget****Mitigation Plan Acceptance and Verification of Completion**

- 2018 variance: increased workload

For every noncompliance identified, a description of mitigating activities/mitigation plan must be submitted. MRO Risk Assessment and Mitigation staff reviews each submission to assess whether the proposed actions will mitigate and prevent recurrence of the subject noncompliance. The development of the mitigating activities/mitigation plan provides the information necessary to determine the potential and actual risk to the reliability of the BES. MRO experienced increased instances of noncompliance in 2016 and expects a possible high number of instances of noncompliance associated with Low Impact CIP requirements in 2017.

**2018 Enforcement and Mitigation Program Goals and Key Deliverables**

- Ensure that professionally-trained staff is available to perform the required activities under the NERC Rules of Procedure
- Deliver consistent results when processing all instances of noncompliance and Possible Violations
- Process noncompliance and Possible Violations of standards in a fair, uniform, systematic, and timely manner
- Maintain internal controls for “one-up and next door” reviews to ensure all determinations receive adequate “due care” and review
- Provide security related outreach to MRO members

**Processing Instances of Noncompliance**

- 2018 variance: increased workload
- For every instance of noncompliance identified by MRO Compliance staff or a registered entity, MRO Risk Assessment and Mitigation staff performs a review to confirm its validity
- For Possible Violations deemed valid and subject to enforcement, MRO Enforcement staff prepares and issues a Notice of Possible Violation. If the Registered Entity is in violation of a standard, MRO Enforcement staff prepares a Notice of Alleged Violation that may include a Disposition Document for each alleged violation or a Notice of Find, Fix, Track and Report processing for each remediated issue. Where a Notice of Alleged Violation is issued, a proposed penalty is calculated and reviewed and considered by at least two MRO Enforcement staff. Upon acceptance or lapse of the required time for response to the Notice of Alleged Violation, MRO Enforcement staff prepares a Notice of Confirmed Violation. The drafting of these notices is an iterative process and requires resources. For more complex or significant matters, MRO Enforcement staff anticipates resolution through negotiated settlement. This process is sometimes lengthy and typically results in ongoing tracking and monitoring requirements for MRO and the registered entity to ensure completion of agreed-upon remedies. MRO encourages registered entities to make investments in reliable operations as an offset for proposed penalties. This results in



longer-term monitoring commitments in the enforcement process. MRO will continue to promote self-identification of noncompliance as a factor in determining how to resolve instances of noncompliance.

It is anticipated that a high percentage of self-identified instances of noncompliance will be resolved as compliance exceptions, thus relieving enforcement burden both the MRO and the registered entity.

### **Record Development and Maintenance**

- 2018 variance: increased workload
- Processes have been formalized and necessary documentation identified to complete the record
- The webCDMS application provides for a central repository accessible to each registered entity
- The aforementioned CMEP Tools project seeks to develop an ERO-wide software platform to support CMEP activities. Until completion and deployment of such a solution, MRO is continuing to maintain its current multi-year contract to utilize webCDMS.

### **Funding Requirements — Explanation of Increase (Decrease)**

#### **Resource Requirements**

Combined Compliance Monitoring and Enforcement Program.

#### **Personnel Expenses (Increase \$420k, 10.9%)**

- Increasing the headcount in this area by two. The cost impact of the additional FTEs is an increase of \$325k.
- The cost impact has been justified through staff's increased efforts in prevention through more outreach and CIP. Specifically, the RAM group has increased outreach hours from 3,000 hours in 2014 to an estimated 9,000 hours in 2017. The adverse consequence in this area is marked increase in the number of days in processing and response times in the CMEP area.
- In an effort to address these concerns, leadership has redeployed resources from other program areas. A number of internal processes have streamlined to increase efficiencies. At this time it is believed that MRO's productivity and resource utilization have been maximized, leaving additional staff as the only alternative if MRO continues to deliver the value that MRO strives for. Our culture, behaviors, and outcomes are built around a value proposition of shared accountabilities with registered entities.

#### **Consultant Contracts (Decrease \$74k, 43.8%)**

MRO has utilized outside consultants at times, which now is being supported by staff.

#### **Office Costs (Increase \$30k, 35.4%)**

An increase in office costs is a reflection of a higher FTE count.

## Compliance Monitoring and Enforcement Program Budget Detail

The following table shows funding sources and related expenses for the Compliance Monitoring and Enforcement Program.

Statement of Activities, Fixed Assets Expenditures and Change in Working Capital					
2017 Budget & Projection, and 2018 Budget					
COMPLIANCE MONITORING AND ENFORCEMENT PROGRAM					
	2017 Budget	2017 Projection	Variance 2017 Projection v 2017 Budget Over(Under)	2018 Budget	Variance 2018 Budget v 2017 Budget Over(Under)
<b>Funding</b>					
<b>ERO Funding</b>					
NERC Assessments	\$ 7,201,608	\$ 7,201,608		\$ 7,659,154	\$ 457,546
Penalty Sanctions	112,018	112,018		97,316	(14,703)
<b>Total NERC Funding</b>	<b>\$ 7,313,627</b>	<b>\$ 7,313,627</b>		<b>\$ 7,756,470</b>	<b>\$ 442,843</b>
Membership Dues	-	-	-	-	-
Testing Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Workshops	-	-	-	-	-
Interest	-	-	-	-	-
Miscellaneous	-	-	-	-	-
<b>Total Funding (A)</b>	<b>\$ 7,313,627</b>	<b>\$ 7,313,627</b>		<b>\$ 7,756,470</b>	<b>\$ 442,843</b>
<b>Expenses</b>					
<b>Personnel Expenses</b>					
Salaries	\$ 2,842,052	\$ 2,842,052	\$ -	\$ 3,165,100	\$ 323,048
Payroll Taxes	187,019	187,019	-	204,686	17,667
Benefits	298,571	298,571	-	329,896	31,325
Retirement Costs	535,130	535,130	-	583,137	48,007
<b>Total Personnel Expenses</b>	<b>\$ 3,862,772</b>	<b>\$ 3,862,772</b>	<b>\$ -</b>	<b>\$ 4,282,819</b>	<b>\$ 420,047</b>
<b>Meeting Expenses</b>					
Meetings	\$ 6,500	\$ 6,500	\$ -	\$ 7,500	\$ 1,000
Travel	199,900	199,900	-	204,830	4,930
Conference Calls	-	-	-	-	-
<b>Total Meeting Expenses</b>	<b>\$ 206,400</b>	<b>\$ 206,400</b>	<b>\$ -</b>	<b>\$ 212,330</b>	<b>\$ 5,930</b>
<b>Operating Expenses</b>					
Consultants & Contracts	\$ 169,000	\$ 169,000	\$ -	\$ 95,000	\$ (74,000)
Office Rent	-	-	-	-	-
Office Costs	83,770	83,770	-	113,400	29,630
Professional Services	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Depreciation	-	-	-	-	-
<b>Total Operating Expenses</b>	<b>\$ 252,770</b>	<b>\$ 252,770</b>	<b>\$ -</b>	<b>\$ 208,400</b>	<b>\$ (44,370)</b>
<b>Total Direct Expenses</b>	<b>\$ 4,321,942</b>	<b>\$ 4,321,942</b>	<b>\$ -</b>	<b>\$ 4,703,549</b>	<b>\$ 381,607</b>
<b>Indirect Expenses</b>	<b>\$ 3,117,832</b>	<b>\$ 3,117,832</b>	<b>\$ -</b>	<b>\$ 3,252,919</b>	<b>\$ 135,087</b>
<b>Other Non-Operating Expenses</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Total Expenses (B)</b>	<b>\$ 7,439,774</b>	<b>\$ 7,439,774</b>	<b>\$ -</b>	<b>\$ 7,956,468</b>	<b>\$ 516,694</b>
<b>Change in Assets</b>	<b>\$ (126,147)</b>	<b>\$ (126,147)</b>	<b>\$ -</b>	<b>\$ (199,998)</b>	<b>\$ (73,851)</b>
<b>Fixed Assets</b>					
Depreciation	-	-	-	-	-
Computer & Software CapEx	-	-	-	-	-
Furniture & Fixtures CapEx	-	-	-	-	-
Equipment CapEx	-	-	-	-	-
Leasehold Improvements	-	-	-	-	-
Allocation of Fixed Assets	\$ (126,147)	(126,147)	-	(199,998)	(73,851)
<b>Inc(Dec) in Fixed Assets ( C )</b>	<b>\$ (126,147)</b>	<b>\$ (126,147)</b>	<b>\$ -</b>	<b>\$ (199,998)</b>	<b>\$ (73,851)</b>
<b>TOTAL BUDGET (=B + C)</b>	<b>\$ 7,313,627</b>	<b>\$ 7,313,627</b>	<b>\$ -</b>	<b>\$ 7,756,470</b>	<b>\$ 442,843</b>
<b>TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>FTEs</b>	<b>21.11</b>	<b>21.11</b>	<b>-</b>	<b>23.02</b>	<b>1.91</b>

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

## Reliability Assessment and Performance Analysis Program

The following table lists the budget for the Reliability Assessment and Performance Analysis (RAPA) program.

Reliability Assessments and Performance Analysis (in whole dollars)			
	2017 Budget	2018 Budget	Increase (Decrease)
Total FTEs	6.42	6.13	(0.29)
Direct Expenses	\$ 1,588,751	\$ 1,548,845	\$ (39,906)
Indirect Expenses	\$ 948,199	\$ 866,220	\$ (81,979)
Other Non-Operating Expenses	\$ -	\$ -	\$ -
Inc(Dec) in Fixed Assets	\$ (38,364)	\$ (53,257)	\$ (14,893)
Total Funding Requirement	\$ 2,498,586	\$ 2,361,808	\$ (136,779)

**Table A-5. Reliability Assessment and Performance Analysis (RAPA) Budget**

### Program Scope and Functional Description

The objectives of the RAPA program are to:

1. Review Planning Coordinator assessments within the MRO Region from an operation and planning perspective. Ensure the assessments are technically sound and address appropriate risk areas.
2. Evaluate existing and planned generation and transmission facilities to identify key reliability issues and the risks and uncertainties affecting adequacy and security of the Bulk Electric System.
3. Review event analysis efforts by registered entities to ensure causes are identified and corrected and that lessons learned are shared with industry.
4. Facilitate data collection and the development of power flow and dynamics simulation models for the MRO Region and the Eastern Interconnection.
5. Perform legacy Regional Reliability Organization functions until those functions are assigned to registered entities through Reliability Standards.
6. Support MRO Planning and Operating Committees and the organizational groups reporting to those committees and participate in NERC technical groups.
7. Implement enhancements to improve ERO enterprise-wide efficiency and effectiveness of RAPA-related functions.

RAPA identifies reliability risks to the BPS in the MRO geography by reviewing and/or performing reliability assessments in accordance with the Delegation Agreement and NERC's Rules of Procedure.

### 2018 Key Assumptions

Regarding periodic assessments, Planning Coordinators in the MRO Region perform assessments of reliability and adequacy and report results of short-term, long-term and specific scenario assessments. MRO staff performs independent reviews of reports with supplemental analysis to ensure competence and rigor.

The MRO Planning and Operating committees have balanced stakeholder representation, report to the MRO Board and provide input to the staff reviews of the assessments.

**Assumptions (2018-2020)**

- NERC and the Regional Entities will continue to focus resources on high quality reliability assessments that address goals and their associated contributing activities identified in the ERO Enterprise’s 2018-2020 Strategic Plan for Goal 3 – Identification and Mitigation of Significant Risks to Reliability and Goal 4 – Identification and Assessment of Emerging Risks to Reliability.
- NERC and the Regional Entities will continue to support a common approach for NERC reliability assessments and ensure consistent evaluation, aligned with the ROP Section 800, Reliability Assessment Guidebook, and the Reliability Assessment Oversight Plan to be developed in 2017.
- NERC and the Regional Entities will advance data management strategies and analytical capabilities for identifying and determining reliability risks and conducting reliability assessments by:
  - Integrating the analysis and measures of essential reliability services (ERS) into the Long-Term Reliability Assessment. The process encompasses new data collection and analysis approaches needed to address assessment objectives of identifying reliability issues due to a changing resource mix.
  - Providing technical resources to examine transmission and deliverability studies and providing high-level evaluation for the Long-Term Reliability Assessment.
  - Providing technical resources, advanced statistical analysis tools, objective expert input, and reliability leadership for the advancement of probabilistic analyses supporting the Long-Term Reliability Assessment.
  - Supporting the NERC Enterprise Reporting Project to ensure Reliability Assessment data is integrated and supported by analytical reporting, data checking, and validation tools.
- NERC and the Regional Entities will provide technical expertise, research, and feedback to the industry, as well as provide foundational technical efforts that support reliability planning-related standards development. In addition to providing feedback, NERC will also solicit industry’s help while leveraging any industry research.
- NERC and the Regional Entities may require contractor and consultant services to maintain continued support and technical expertise associated with activities listed in the above assumptions with supporting special assessment, scenario, or other technical research efforts. This could potentially impact both NERC and Regional Entity resource allocation including:
  - Contractor services may be necessary to support special assessment analyses (e.g., EPA 111(d) evaluation or ERS), scenario analyses (e.g., polar vortex-like severe event analyses and gas-electric interdependence), and other technical research efforts (e.g., similar to geomagnetic disturbances (GMDs) and FAC-003 Vegetation Management).
  - Contractor services may be needed to support research into GMDs and their impact on BPS operations (see FERC Order 830).
  - Contractor services may be needed to support increase in data analysis to support ERS measures, CPS1/CPS2 control performance, and frequency trending.
- As noted in the assumptions for IT, Regional Entities will be asked to participate in teams to help develop application business requirements and to test business functionality for ERO Enterprise applications projects. These teams will primarily be business area subject matter experts, not IT staff. The success of the Enterprise Reporting data warehouse project and the Compliance Monitoring and Enforcement Process Tool project will be dependent on Regional Entity participation.

**Key Focus Areas (2018)**

- NERC and the Regions will prioritize their work products according to the ERO Reliability Risk Priorities<sup>6</sup> developed by the RISC, including: 1) Changing Resource Mix (Risk Profile #1), 2) BPS Planning (Risk Profile #2), and 3) Resource Adequacy and Performance (Risk Profile #3).
- Ongoing support for the Planning and Operating Committees and associated subcommittees, working groups, and task forces.
- Develop Reliability Guidelines and Technical Reference Documents based on priority and risk.
- Produce three required reliability assessments reflective of the common approach developed for NERC reliability assessments to ensure consistent treatment of resource and reliability evaluations: 1) Long-Term Reliability Assessment (incorporated probabilistic assessment), 2) Summer Reliability Assessment, and 3) Winter Reliability Assessment.
- Conduct special reliability assessments, as necessary, directed at high priority risks identified by RISC.

**Performance Analysis****Assumptions (2018-2020)**

- Ongoing support for the technical committees and associated subcommittees, working groups, and task forces.
- NERC and the Regional Entities will continue to focus resources on system insights from high quality performance analysis, including:
  - Development and implementation of expanded and enhanced enterprise-based data collection and analysis systems, and capabilities for performance analyses. This area includes Transmission Availability Data System (TADS), Generating Availability Data System (GADS), Demand Response Availability Data System (DADS), Event Analysis, Alerts, substation equipment failure, and protection systems misoperations data.
    - Support of the integration of information systems for assessments and associated data requirements (in support of data cleansing, blending, and validation).
    - Maturing and developing interconnection-wide analysis groups to support the assessment of interconnection-wide risks, such as frequency response.
  - Providing technical resources, analytical tools, and expertise to perform analyses as needed, including supporting and identifying risk priorities for standards development, compliance, and enforcement activities.
- Support the NERC Enterprise Reporting Project to ensure Performance Analysis data is integrated into consolidated system and supported by analytical reporting tools, as well as feedback loops to other parts of the ERO Enterprise such as compliance, standards, enforcement, etc.
- As noted in the assumptions for IT, Regional Entities will be asked to participate in teams to help develop application business requirements and to test business functionality for ERO Enterprise applications projects. These teams will primarily be business area subject matter experts, not IT staff. The success of the Enterprise Reporting data warehouse project will be dependent on Regional Entity participation.

**Key Focus Areas (2018)**

- Ongoing support for the technical committees and associated subcommittees, working groups, and task forces.

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<sup>6</sup> ERO Reliability Risk Priorities

- High quality performance analysis, including:
  - Development and implementation of expanded and enhanced enterprise-based data collection and analysis systems, and capabilities for performance analyses. This area includes TADS, GADS, DADS, Event Analysis, Alerts, substation equipment failure, and protection system misoperations data.
  - Support of the integration of RAPA information systems for assessments and associated data requirements, supporting delivery of high-quality reports (e.g., long-term, short-term, special or scenario assessments, and State of Reliability Report).
  - Providing technical resources and expertise to perform analyses as needed, including supporting and identifying risk priorities for standards development, compliance, and enforcement activities and feedback loops to other parts of the ERO Enterprise such as compliance, standards, enforcement, etc.

## System Analysis

### Assumptions (2018-2020)

- NERC and the Regions are advancing their analytical capabilities to assess and report on the reliability of the BPS. Additionally, newer and maturing technologies, such as synchro-phasor measurement unit (PMU) technology, are enabling innovative approaches for event analysis, power system analysis, and model validation. NERC and the Regions are uniquely situated to perform analyses that require a wide-area view of the interconnections, as well as supporting industry in advancing software and analytical capabilities where appropriate. Support and leadership to the System Analysis Subcommittee and any of the subcommittees, working groups, and task forces will continue.
- NERC will advocate to improve existing commercially available software capabilities and perform power system analysis that create a more profound understanding of system behavior (e.g., inter-area oscillations, frequency response, system strength, voltage/reactive performance, signal processing, and signature detection).
- NERC will provide direction and oversight of the interconnection case-building designees in support of interconnection model building and wide-area system analysis:
  - Mature and develop interconnection-wide analysis groups to support the assessment of interconnection-wide risks:
    - Conduct special reliability assessments based on recommendation from load modeling task force modeling to capture the impact of composite load modeling on transmission and distribution system—for example, Fault Induced Delayed Voltage Recovery.
    - Require powerflow, short circuit, and stability analysis tools and objective expert input for transmission adequacy and deliverability assessments and studies.
  - NERC and the Regional Entities’ resources (through the case building designee agreements) will support the Planning Coordinators’ development of long-term sustainable interconnection-wide powerflow, short circuit, and dynamics cases that exhibit the accuracy and fidelity reflecting actual BES reliability performance and dynamic conditions.
- NERC and the Regional Entities will advance modeling improvement capabilities to ensure the power system planning and operation models closely resemble actual operating conditions.
  - Perform periodic model validation against measured quantities and operational practices of the power system.
  - Perform case quality and fidelity assessment on interconnection wide models:
    - Case data quality.
    - Case performance fidelity.

- Drive the advancement and use of dynamic load modeling on an interconnection-wide basis.
  - Formulate and guide the ERO Enterprise vision and associated activities to promote the advancement and use of dynamic load models and modeling practices.
  - Establish guidelines and technical reference documents related to dynamic load modeling practices, including explanations of existing dynamic load models and their structure, data sets, and parameter derivation.
  - Serve as the industry focal point and open forum for discussing dynamic load modeling practices for system planning and operations studies. Provide industry guidance and support to entities seeking direction on dynamic load modeling across North America.
- Drive the advancement and use of inverter-based modeling on interconnection wide basis.
  - Establish guidelines and technical reference documents related to inverter-based resource modeling on transmission and distribution system.
  - The recommended modeling practices for utility scale renewable energy resources using new inverter based technology.
- NERC will support the maintenance of the BESnet application and manage processing of the BES Exception Requests (ERs), including technical validation of review and approval of Regional ERs, periodic reviews of network changes affecting BES Exception determinations, recertification of previously approved BES ER, as well as requests for certain registration and certification reviews. The Regional Entities will continue to process BES ERs per guidelines established in the ROP. Recertification for exceptions begins in 2018.
- NERC and the Regional Entities will work collaboratively to enhance the ERO Enterprise’s capability for event and forensic analysis, including:
  - Development of a process to ensure the compilation and creation of steady state, short circuit, and dynamic simulation model cases for use in the investigation and analysis of major power system disturbance events.
  - Evaluation of event disturbances using phasor measurements and other methods to assess sufficiency of data and models.
- NERC will provide technical expertise, research, and feedback to the industry, as well as foundational technical efforts that support the key reliability planning-related standards development. In addition to providing feedback, NERC will also solicit industry’s help by using resources and leveraging any research that has been done by the industry.
- NERC and the Regional Entities may require contractor and consultant services to maintain continued support and technical expertise associated with activities listed in the above assumptions, supporting special assessment, scenario analysis, or other technical efforts, potentially impacting both NERC and Regional Entity resource allocation, including:
  - 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 reliability assessment analyses (e.g., Inertia Response and Primary Frequency Response Analysis, Voltage and reactive performance study, and Inter-Area Oscillation Analysis).
  - Contractor services are needed to support Dynamic model developments (e.g., Composite Load Modeling, utility scale renewable energy modeling and distributed energy resources). For 2018, the Load Modeling Task Force is requesting load model testing (approximately \$100k).
  - Contractor services are needed to support the Synchronized Measurement Subcommittee with a PMU-based assessment (approximately \$100k).
- As noted in the assumptions for IT, Regional Entities will be asked to participate in teams to help develop application business requirements and to test business functionality for

ERO Enterprise applications projects. These teams will primarily be business area subject matter experts, not IT staff. The success of the Enterprise Reporting data will be dependent on Regional Entity participation.

### **Key Focus Areas (2018)**

- **Stakeholder and Committee Support** - Ongoing support for the Planning and Operating Committees, and associated subcommittees, working groups, and task forces.
- **ERO Enterprise Technical Support** - Ongoing support for BES exception processing, Risk-Based Registration, Standards, and Compliance support.
- **Modeling Improvement Initiatives** - Perform periodic model validation against measured quantities and event models to ensure case quality and fidelity and also case creation for event analysis.
- **Power System Analysis** - Develop technical analyses in key reliability areas, resulting in technically accurate and comprehensive reports addressing areas of concern (e.g., frequency response, short circuit strength, inter-area oscillation, distributed energy resource and load composition changes, etc.) to evaluate the characteristics and performance of the BPS with changes to the resource mix and integration of new technologies:
  - **Synchrophasor technology** - Collect strategically selected PMU data in near real-time for improved situational awareness and monitoring, and to gather larger PMU datasets for advanced data analytics and modeling improvements. Expand use of synchrophasor technology for power plant model verification and compliance with MOD-026/-027 standards.
  - **Oscillation analysis** - Broaden understanding of inter-area, local, and forced oscillations in all interconnections; use wide-area synchrophasor data to provide industry with better understanding of phenomena, available tools, and findings.
  - **Load and distributed resource modeling** - Drive education of dynamic load modeling and development of improved dynamic load models; supporting compliance with TPL-001-4. Support study and policy development related to end-use load behavior; advocate for grid-friendly load response.
  - **Frequency response analysis and vision** - Meet regulatory requirements per BAL-003-1; exploratory understanding of frequency response; support interconnection-wide studies of frequency response.
  - **Case quality metrics, model validation and improvement** - Improve case quality and robustness, support industry developments for MOD-033 tools and processes feedback loop with MOD-032 designees. Proactively seek to address deficiencies in interconnection-wide models and eliminate incessant problems. Ensure models can recreate plant behavior.
  - **Event Forensics** - Support NERC Event Analysis in event of major grid disturbance; simulation and data analysis expertise across multiple platforms.
  - **System Strength & Reactive/Voltage Performance Analysis** - Support ERS measure with advanced studies of potential phenomena under future end states; perform assessment of short circuit ratio study and implications based on regional/local studies.
  - **Geomagnetic Disturbances** - Conduct research on geomagnetic disturbances to address FERC Order 830 (three to four-year research plan).
- **Technical Support, Standard Support, Implementation, and Outreach** - Provide technical expertise and unique insights to the industry. The department will also develop white papers, technical reports, and reference documents, as needed, to address emerging issues and industry concerns related to system planning and operations. The department will also develop and produce Reliability Guidelines for the Planning and Operating Committees. In addition to providing feedback, NERC will also solicit industry's help by using research work that has been done by the industry and academia.



- 2-3 in-person workshops.
- Participation at industry technical groups, such as Institute of Electrical and Electronics Engineers (IEEE), North American SynchroPhasor Initiative (NASPI), International Council on Large Electric Systems (CIGRE), Power Systems Engineering Research Center (PSERC), etc., as needed.
- **Advanced Software Capabilities** - In order to conduct analysis and produce results in a timely manner, additional and improved data collection, data management, and analytical tools will be required. Robust analytical tools will increase the effectiveness of NERC staff to functionally correlate disparate data sources to ensure full-scope analyses and assessments of situations relevant to reliability risks are performed more broadly than in historical NERC analyses and assessments. Using state of the art software and technology is crucial to effective analysis especially considering the size of the North American electric footprint.

## Event Analysis

### Assumptions (2018-2020)

- Ongoing support for the technical committees and associated subcommittees, working groups, and task forces. Regional Entity involvement is expected to remain at current levels with no additional resources required from the Regional Entities.
- Registered entity participation in the ERO Enterprise Event Analysis Process, which involves active participation by Regional Entity staffs, will continue at or above current levels through 2018-2020.
- 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.
- As noted in the assumptions for IT, Regional Entities will be asked to participate in teams to help develop application business requirements and to test business functionality for ERO Enterprise applications projects. These teams will primarily be business area subject matter experts, not IT staff. The success of the Enterprise Reporting data warehouse project will be dependent on Regional Entity participation.

### Key Focus Areas (2018)

- Ongoing support for the technical committees and associated subcommittees, working groups, and task forces.
- Support for ERO Enterprise data collection and analysis, as well as the Enterprise Reporting Project designed to transfer the data to an integrated platform.
- Support for critical infrastructure security by promoting rapid and appropriate sharing of situational awareness information regarding security occurrences.
- Analysis of significant events to identify gaps in standards, compliance monitoring effectiveness, registration, and risk controls effectiveness.
- Work on overcoming barriers to the timely release of BES reports to industry through a secure portal.
- Providing of lessons-learned and recommendations from events and identified risks.
- Continue to provide industry leadership in the analysis, understanding, and prevention of human error and improved human performance with regards to increased BPS reliability.

- Enhancement of risk analysis capabilities by integrating risk data sources, such as event analysis, TADS, GADS, and relay misoperations.
- Participation as appropriate in periodic wide-area security exercises (e.g., GridEx and feedback loops to other parts of the ERO Enterprise such as compliance, standards, enforcement, etc.).

**Resource Requirements**

MRO reimburses travel expenses for stakeholder participation on MRO and NERC committees. Also, actual travel reimbursement requests have decreased over time, although attendance has not decreased.

**Consultants and Contracts (Decrease \$20k, 27.4%)**

MRO has reduced its model building efforts significantly.

## Reliability Assessment and Performance Analysis Budget Detail

The following table lists funding sources and related expenses for the Reliability Assessment and Performance Analysis Program.

Statement of Activities, Fixed Assets Expenditures and Change in Working Capital					
2017 Budget & Projection, and 2018 Budget					
RELIABILITY ASSESSMENT and PERFORMANCE ANALYSIS					
	2017	2017	Variance	2018	Variance
Funding	Budget	Projection	2017 Projection v 2017 Budget Over(Under)	Budget	2018 Budget v 2017 Budget Over(Under)
<b>ERO Funding</b>					
NERC Assessments	\$ 2,464,519	\$ 2,464,519		\$ 2,335,894	\$ (128,625)
Penalty Sanctions	34,067	34,067		25,914	(8,153)
<b>Total NERC Funding</b>	<b>\$ 2,498,586</b>	<b>\$ 2,498,586</b>		<b>\$ 2,361,808</b>	<b>\$ (136,778)</b>
Membership Dues	-	-	-	-	-
Testing Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Workshops	-	-	-	-	-
Interest	-	-	-	-	-
Miscellaneous	-	-	-	-	-
<b>Total Funding (A)</b>	<b>\$ 2,498,586</b>	<b>\$ 2,498,586</b>		<b>\$ 2,361,808</b>	<b>\$ (136,778)</b>
<b>Expenses</b>					
<b>Personnel Expenses</b>					
Salaries	\$ 917,627	\$ 917,627	\$ -	\$ 923,220	\$ 5,593
Payroll Taxes	56,875	56,875	-	59,232	2,357
Benefits	88,481	88,481	-	92,750	4,269
Retirement Costs	225,268	225,268	-	230,343	5,075
<b>Total Personnel Expenses</b>	<b>\$ 1,288,251</b>	<b>\$ 1,288,251</b>	<b>\$ -</b>	<b>\$ 1,305,545</b>	<b>\$ 17,294</b>
<b>Meeting Expenses</b>					
Meetings	\$ 15,000	\$ 15,000	\$ -	\$ 7,500	\$ (7,500)
Travel	197,000	197,000	-	167,000	(30,000)
Conference Calls	-	-	-	-	-
<b>Total Meeting Expenses</b>	<b>\$ 212,000</b>	<b>\$ 212,000</b>	<b>\$ -</b>	<b>\$ 174,500</b>	<b>\$ (37,500)</b>
<b>Operating Expenses</b>					
Consultants & Contracts	\$ 72,000	\$ 72,000	\$ -	\$ 52,300	\$ (19,700)
Office Rent	-	-	-	-	-
Office Costs	16,500	16,500	-	16,500	-
Professional Services	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Depreciation	-	-	-	-	-
<b>Total Operating Expenses</b>	<b>\$ 88,500</b>	<b>\$ 88,500</b>	<b>\$ -</b>	<b>\$ 68,800</b>	<b>\$ (19,700)</b>
<b>Total Direct Expenses</b>	<b>\$ 1,588,751</b>	<b>\$ 1,588,751</b>	<b>\$ -</b>	<b>\$ 1,548,845</b>	<b>\$ (39,906)</b>
<b>Indirect Expenses</b>	<b>\$ 948,199</b>	<b>\$ 948,199</b>	<b>\$ -</b>	<b>\$ 866,220</b>	<b>\$ (81,979)</b>
<b>Other Non-Operating Expenses</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Total Expenses (B)</b>	<b>\$ 2,536,950</b>	<b>\$ 2,536,950</b>	<b>\$ -</b>	<b>\$ 2,415,065</b>	<b>\$ (121,885)</b>
<b>Change in Assets</b>	<b>\$ (38,364)</b>	<b>\$ (38,364)</b>	<b>\$ -</b>	<b>\$ (53,257)</b>	<b>\$ (14,893)</b>
<b>Fixed Assets</b>					
Depreciation	-	-	-	-	-
Computer & Software CapEx	-	-	-	-	-
Furniture & Fixtures CapEx	-	-	-	-	-
Equipment CapEx	-	-	-	-	-
Leasehold Improvements	-	-	-	-	-
Allocation of Fixed Assets	\$ (38,364)	(38,364)	\$ -	(53,257)	\$ (14,893)
<b>Inc(Dec) in Fixed Assets ( C )</b>	<b>\$ (38,364)</b>	<b>\$ (38,364)</b>	<b>\$ -</b>	<b>\$ (53,257)</b>	<b>\$ (14,893)</b>
<b>TOTAL BUDGET (=B + C)</b>	<b>\$ 2,498,586</b>	<b>\$ 2,498,586</b>	<b>\$ -</b>	<b>\$ 2,361,808</b>	<b>\$ (136,778)</b>
<b>TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>FTEs</b>	<b>6.42</b>	<b>6.42</b>	<b>-</b>	<b>6.13</b>	<b>(0.29)</b>

Table A-6. Reliability Assessment and Performance Analysis Budget Detail

## Training and Education Program

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

Training and Education (in whole dollars)			
	2017 Budget	2018 Budget	Increase (Decrease)
Total FTEs	1.35	2.10	0.75
Direct Expenses	\$ 398,278	\$ 475,429	\$ 77,151
Indirect Expenses	\$ 199,388	\$ 296,748	\$ 97,360
Other Non-Operating Expenses	\$ -	\$ -	\$ -
Inc(Dec) in Fixed Assets	\$ (8,067)	\$ (18,245)	\$ (10,178)
Total Funding Requirement	\$ 589,599	\$ 753,932	\$ 164,333

**Table A-7. Training and Education Budget**

### Program Scope and Functional Description

Maintaining the reliability and security of the BPS requires informed and trained Regional and registered entity personnel. Education and training, or outreach, is one of the primary objectives of MRO. The education and training program specifically pertains to the implementation of the CMEP, the application of Reliability Standards, reviewing reliability assessments, performing quality event analysis, identifying lessons learned from event analysis, and other related information pertinent to system reliability and compliance. The target audience for this program is registered entities. More emphasis on CIP and security has been the trend for the last several years.

MRO will provide outreach to registered entities through workshops, conferences, and presentation opportunities at industry meetings and by providing lessons learned in MRO's newsletter and other publications. MRO will continue to identify additional outreach opportunities for registered entities.

### Key Focus Areas (2018)

In addition to the MRO management team participating in, and presenting at, various forums (such as the Transmission Forum, Generation Forum, MCCF, RTO/ISO, APDA, State Regulator meetings, etc.), MRO will provide workshops (one day Standards, CMEP, two Reliability, and a two-day Security). In addition, smaller workshops and/or webinars will be held for specific technical topics.

### Resource Requirements

For 2018, MRO will provide outreach to registered entities through workshops and other opportunities at industry meetings and by providing lessons learned in MRO's newsletter and other publications. MRO will continue to identify education options for registered entities in the MRO Region so that they can also accomplish the objectives of the NERC program through a third party.

### Personnel Expenses (Increase \$69k, 21.0%)

Increase in staff participation of the development and delivery of increased outreach efforts are medians as identified in our Key Focus Areas (2018).

## Training and Education Budget Detail

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

Statement of Activities, Fixed Assets Expenditures and Change in Working Capital 2017 Budget & Projection, and 2018 Budget					
TRAINING and EDUCATION					
	2017 Budget	2017 Projection	Variance 2017 Projection v 2017 Budget Over(Under)	2018 Budget	Variance 2018 Budget v 2017 Budget Over(Under)
<b>Funding</b>					
<b>ERO Funding</b>					
NERC Assessments	\$ 582,435	\$ 582,435		\$ 745,054	\$ 162,619
Penalty Sanctions	7,164	7,164		8,878	1,714
<b>Total NERC Funding</b>	<b>\$ 589,598</b>	<b>\$ 589,598</b>		<b>\$ 753,932</b>	<b>\$ 164,333</b>
Membership Dues	-	-	-	-	-
Testing Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Workshops	-	-	-	-	-
Interest	-	-	-	-	-
Miscellaneous	-	-	-	-	-
<b>Total Funding (A)</b>	<b>\$ 589,598</b>	<b>\$ 589,598</b>		<b>\$ 753,932</b>	<b>\$ 164,333</b>
<b>Expenses</b>					
<b>Personnel Expenses</b>					
Salaries	\$ 243,378	\$ 243,378	\$ -	\$ 289,237	\$ 45,859
Payroll Taxes	12,985	12,985	-	16,952	3,967
Benefits	22,934	22,934	-	31,774	8,840
Retirement Costs	47,081	47,081	-	57,066	9,985
<b>Total Personnel Expenses</b>	<b>\$ 326,378</b>	<b>\$ 326,378</b>	<b>\$ -</b>	<b>\$ 395,029</b>	<b>\$ 68,651</b>
<b>Meeting Expenses</b>					
Meetings	\$ 30,700	\$ 30,700	\$ -	\$ 36,000	\$ 5,300
Travel	41,200	41,200	-	44,400	3,200
Conference Calls	-	-	-	-	-
<b>Total Meeting Expenses</b>	<b>\$ 71,900</b>	<b>\$ 71,900</b>	<b>\$ -</b>	<b>\$ 80,400</b>	<b>\$ 8,500</b>
<b>Operating Expenses</b>					
Consultants & Contracts	\$ -	\$ -	\$ -	\$ -	\$ -
Office Rent	-	-	-	-	-
Office Costs	-	-	-	-	-
Professional Services	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Depreciation	-	-	-	-	-
<b>Total Operating Expenses</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Total Direct Expenses</b>	<b>\$ 398,278</b>	<b>\$ 398,278</b>	<b>\$ -</b>	<b>\$ 475,429</b>	<b>\$ 77,151</b>
<b>Indirect Expenses</b>	<b>\$ 199,388</b>	<b>\$ 199,388</b>	<b>\$ -</b>	<b>\$ 296,748</b>	<b>\$ 97,360</b>
<b>Other Non-Operating Expenses</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Total Expenses (B)</b>	<b>\$ 597,666</b>	<b>\$ 597,666</b>	<b>\$ -</b>	<b>\$ 772,177</b>	<b>\$ 174,511</b>
<b>Change in Assets</b>	<b>\$ (8,067)</b>	<b>\$ (8,067)</b>	<b>\$ -</b>	<b>\$ (18,245)</b>	<b>\$ (10,178)</b>
<b>Fixed Assets</b>					
Depreciation	-	-	-	-	-
Computer & Software CapEx	-	-	-	-	-
Furniture & Fixtures CapEx	-	-	-	-	-
Equipment CapEx	-	-	-	-	-
Leasehold Improvements	-	-	-	-	-
Allocation of Fixed Assets	\$ (8,067)	(8,067)	-	(18,245)	\$ (10,178)
<b>Inc(Dec) in Fixed Assets ( C )</b>	<b>\$ (8,067)</b>	<b>\$ (8,067)</b>	<b>\$ -</b>	<b>\$ (18,245)</b>	<b>\$ (10,178)</b>
<b>TOTAL BUDGET (=B + C)</b>	<b>\$ 589,598</b>	<b>\$ 589,598</b>	<b>\$ -</b>	<b>\$ 753,932</b>	<b>\$ 164,333</b>
<b>TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>FTEs</b>	<b>1.35</b>	<b>1.35</b>	<b>-</b>	<b>2.10</b>	<b>0.75</b>

**Table A-8. Training and Education Budget Detail**

## Situation Awareness and Infrastructure Security Program

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

Situation Awareness and Infrastructure Security (in whole dollars)			
	2017 Budget	2018 Budget	Increase (Decrease)
Total FTEs	0.49	0.33	(0.16)
Direct Expenses	\$ 121,550	\$ 114,313	\$ (7,237)
Indirect Expenses	\$ 72,370	\$ 46,632	\$ (25,739)
Other Non-Operating Expenses	\$ -	\$ -	\$ -
Inc(Dec) in Fixed Assets	\$ (2,928)	\$ (2,867)	\$ 61
Total Funding Requirement	\$ 190,992	\$ 158,078	\$ (32,915)

**Table A-9. Situation Awareness and Infrastructure Security Budget**

### Situation Awareness Program Scope and Functional Description

NERC and the Regions shall, through Reliability Coordinators and available tools, monitor present conditions on the BES and provide leadership coordination, technical expertise, and assistance to the industry in responding to events as necessary.

### Assumptions (2018-2020)

- Ongoing support for the technical committees and associated subcommittees, working groups, and task forces. In 2017, MRO established a Security Advisory Council. Initially, this was budgeted for in the Risk Assessment and Mitigation area, but MRO has determined that it is more closely related to Infrastructure Security and therefore will be moving the costs associated with that group from Compliance to the Infrastructure Security Program starting in 2018.
- Registered entity participation in the ERO Enterprise Event Analysis Process, which involves active participation by Regional Entity staffs, will continue at or above current levels through 2018-2020.
- NERC will continue to require the software application known as Situational Awareness for FERC, NERC, and Regional Entities, Version 2 (SAFNrv2) for situation awareness, and The Event Analysis Management System (TEAMS) for Events Analysis. The allocation of additional resource investments is expected to maintain 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.

- As noted in the assumptions for IT, Regional Entities will be asked to participate in teams to help develop application business requirements and to test business functionality for ERO Enterprise applications projects. These teams will primarily be business area subject matter experts, not IT staff. The success of the Enterprise Reporting data warehouse project will be dependent on Regional Entity participation. When planning, Regional Entities should consider allocating resources at an adequate level of participation to support the success of this project.

### **Key Focus Areas (2018)**

- Ongoing support for the technical committees and associated subcommittees, working groups, and task forces.
- Support for ERO Enterprise data collection and analysis, as well as the Enterprise Reporting Project designed to transfer the data to an integrated platform.
- Support for critical infrastructure security by promoting rapid and appropriate sharing of situational awareness information regarding security occurrences, and support of the MRO Security Advisory Council.
- Analysis of significant events to identify gaps in standards, compliance effectiveness, registration, and risk controls effectiveness.
- Work on overcoming barriers to the timely release of BES and security reports to industry through a secure portal.
- Providing of lessons learned and recommendations from events and identified risks.
- Enhancement of risk analysis capabilities by integrating risk data sources, such as event analysis, TADS, GADS, and protection system misoperations into situation awareness assessments.
- Participation as appropriate in periodic wide-area security exercises (e.g., GridEx, Monitoring and Situation Awareness Workshop, NERC HP Conference, feedback loops to other parts of the ERO Enterprise such as compliance, standards, enforcement, etc.).

### **Resource Requirements**

#### **Personnel Expenses Decrease \$30k, 31.7%)**

Personnel costs for 2018 decrease, reflecting the decrease in this program area's FTEs.

#### **Meeting Expenses (Increase \$23k, 109.4%)**

In 2017 MRO established a Security Advisory Council. Initially, this was budgeted for in the Risk Assessment and Mitigation area, but MRO has determined that it is more closely related to infrastructure security and, therefore, will be moving the costs associated with that group from Compliance to the Infrastructure Security Program starting in 2018.

## Situation Awareness and Infrastructure Security Budget Detail

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

Statement of Activities, Fixed Assets Expenditures and Change in Working Capital 2017 Budget & Projection, and 2018 Budget					
SITUATION AWARENESS and INFRASTRUCTURE SECURITY					
	2017 Budget	2017 Projection	Variance 2017 Projection v 2017 Budget Over(Under)	2018 Budget	Variance 2018 Budget v 2017 Budget Over(Under)
<b>Funding</b>					
<b>ERO Funding</b>					
NERC Assessments	\$ 188,392	\$ 188,392	\$ -	\$ 156,683	\$ (31,709)
Penalty Sanctions	2,600	2,600	-	1,395	(1,205)
<b>Total NERC Funding</b>	<b>\$ 190,992</b>	<b>\$ 190,992</b>		<b>\$ 158,078</b>	<b>\$ (32,915)</b>
Membership Dues	-	-	-	-	-
Testing Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Workshops	-	-	-	-	-
Interest	-	-	-	-	-
Miscellaneous	-	-	-	-	-
<b>Total Funding (A)</b>	<b>\$ 190,992</b>	<b>\$ 190,992</b>		<b>\$ 158,078</b>	<b>\$ (32,915)</b>
<b>Expenses</b>					
<b>Personnel Expenses</b>					
Salaries	\$ 68,496	\$ 68,496	\$ -	\$ 45,777	\$ (22,719)
Payroll Taxes	4,642	4,642	-	3,279	(1,363)
Benefits	6,937	6,937	-	4,993	(1,944)
Retirement Costs	14,275	14,275	-	10,414	(3,861)
<b>Total Personnel Expenses</b>	<b>\$ 94,350</b>	<b>\$ 94,350</b>	<b>\$ -</b>	<b>\$ 64,463</b>	<b>\$ (29,887)</b>
<b>Meeting Expenses</b>					
Meetings	\$ 200	\$ 200	\$ -	\$ 1,450	\$ 1,250
Travel	20,500	20,500	-	41,900	21,400
Conference Calls	-	-	-	-	-
<b>Total Meeting Expenses</b>	<b>\$ 20,700</b>	<b>\$ 20,700</b>	<b>\$ -</b>	<b>\$ 43,350</b>	<b>\$ 22,650</b>
<b>Operating Expenses</b>					
Consultants & Contracts	\$ -	\$ -	\$ -	\$ -	\$ -
Office Rent	-	-	-	-	-
Office Costs	6,500	6,500	-	6,500	-
Professional Services	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Depreciation	-	-	-	-	-
<b>Total Operating Expenses</b>	<b>\$ 6,500</b>	<b>\$ 6,500</b>	<b>\$ -</b>	<b>\$ 6,500</b>	<b>\$ -</b>
<b>Total Direct Expenses</b>	<b>\$ 121,550</b>	<b>\$ 121,550</b>	<b>\$ -</b>	<b>\$ 114,313</b>	<b>\$ (7,237)</b>
<b>Indirect Expenses</b>	<b>\$ 72,370</b>	<b>\$ 72,370</b>	<b>\$ -</b>	<b>\$ 46,632</b>	<b>\$ (25,739)</b>
<b>Other Non-Operating Expenses</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Total Expenses (B)</b>	<b>\$ 193,920</b>	<b>\$ 193,920</b>	<b>\$ -</b>	<b>\$ 160,945</b>	<b>\$ (32,976)</b>
<b>Change in Assets</b>	<b>\$ (2,928)</b>	<b>\$ (2,928)</b>	<b>\$ -</b>	<b>\$ (2,867)</b>	<b>\$ 61</b>
<b>Fixed Assets</b>					
Depreciation	-	-	-	-	-
Computer & Software CapEx	-	-	-	-	-
Furniture & Fixtures CapEx	-	-	-	-	-
Equipment CapEx	-	-	-	-	-
Leasehold Improvements	-	-	-	-	-
Allocation of Fixed Assets	\$ (2,928)	(2,928)	-	(2,867)	61
<b>Inc(Dec) in Fixed Assets ( C )</b>	<b>\$ (2,928)</b>	<b>\$ (2,928)</b>	<b>\$ -</b>	<b>\$ (2,867)</b>	<b>\$ 61</b>
<b>TOTAL BUDGET (=B + C)</b>	<b>\$ 190,992</b>	<b>\$ 190,992</b>	<b>\$ -</b>	<b>\$ 158,078</b>	<b>\$ (32,915)</b>
<b>TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>FTEs</b>	<b>0.49</b>	<b>0.49</b>	<b>-</b>	<b>0.33</b>	<b>(0.16)</b>

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



## Administrative Services

The following table outlines the budget for Administrative Services.

Administrative Services (in whole dollars)						
	Direct Expenses and Fixed Assets			FTEs		
	2017 Budget	2018 Budget	Increase (Decrease)	2017 Budget	2018 Budget	Increase (Decrease)
General and Administrative	\$1,005,377.00	\$986,938.00	-\$18,439.00	2.91	2.85	(0.06)
Legal and Regulatory	\$451,723.00	\$461,328.00	\$9,605.00	0.95	0.92	(0.03)
Information Technology	\$1,287,769.00	\$1,421,504.00	\$133,735.00	3.92	4.02	0.10
Human Resources, Finance and Accounting	\$1,695,182.00	\$1,584,948.00	(\$110,234.00)	3.89	3.62	(0.27)
Total Administrative Services	\$4,440,051.00	\$4,454,718.00	\$14,667.00	11.67	11.41	(0.26)

**Table A-11. Administrative Services Budget**

### Methodology for Allocation of Administrative Services Expenses to Programs

All expenses for the Administrative Services programs, referred to as indirect expenses, are allocated to the delegated program areas based on their respective number of FTEs. This allocation provides improved financial perspective for the delegated functions.

### Program Scope and Functional Description

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

## General and Administrative

The following table lists the General and Administrative budget.

<b>Administrative Services</b> (in whole dollars)			
	<b>2017 Budget</b>	<b>2018 Budget</b>	<b>Increase (Decrease)</b>
Total FTEs	11.67	11.41	(0.26)
Total Direct Expenses	\$ 4,627,270	\$ 4,746,548	\$ 119,278
Inc(Dec) in Fixed Assets	\$ (187,219)	\$ (291,830)	\$ (104,611)
Less: Other Funding Sources	\$ -	\$ -	\$ -
Total Allocation to Statutory Programs as Indirect Expenses	\$ 4,440,051	\$ 4,454,718	\$ 14,667
Funding Requirement for Working Capital	\$ (566,073)	\$ (854,632)	\$ (288,559)

**Table A-12. General and Administrative Budget**

### Program Scope and Functional Description

The General and Administrative Department, is led by MRO's President and CEO.

### Methodology for Allocation of Administrative Services Expenses to Programs

Expenses related to indirect programs are allocated proportionately to the direct programs for 2018 based on the number of FTEs in those programs.

### 2018 Key Assumptions

- Work related to NERC and Regional Entity initiatives may impact existing staff resources, training, and business travel costs.
- MRO will continue to reimburse approved stakeholder travel costs for participation on NERC committees and working groups.
- Any increase or decrease in assessments to achieve desired working capital reserve will be included in the General and Administrative area and will be allocated proportionately based on FTEs in the direct program areas.

### 2018 Goals and Key Deliverables

The MRO General and Administrative function ensures that there is adequate attention to the day-to-day management of the corporation, including facilities and maintenance, board governance, policies and procedures to maintain and enhance operation of the corporation, proper record-keeping, and related responsibilities under applicable regulations as well as MRO's Delegation Agreement.

### Funding Sources and Requirements — Explanation of Increase (Decrease)

#### Assessments

The MRO Board initially approved an Operating and Working Capital Reserves Policy on March 14, 2013, and reviews it on an annual basis. (See Section B for the current version.)

**Funding Sources**

In 2018, the expenses related to the indirect program areas are being allocated entirely to the direct programs, and therefore the indirect program areas have no ERO assessment revenue.  
Resource Requirements

**Consultants and Contracts (Decrease \$43k, 57.3%)**

Completed work on the shared Project Manager for the REMG initiatives.

## General and Administrative Budget Detail

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

Statement of Activities, Fixed Assets Expenditures and Change in Working Capital 2017 Budget & Projection, and 2018 Budget					
GENERAL and ADMINISTRATIVE					
	2017 Budget	2017 Projection	Variance 2017 Projection v 2017 Budget Over(Under)	2018 Budget	Variance 2018 Budget v 2017 Budget Over(Under)
<b>Funding</b>					
<b>ERO Funding</b>					
NERC Assessments	\$ (566,073)	\$ (566,073)	\$ -	\$ (854,632)	\$ (288,559)
Penalty Sanctions	-	-	-	-	-
<b>Total NERC Funding</b>	<b>\$ (566,073)</b>	<b>\$ (566,073)</b>	<b>\$ -</b>	<b>\$ (854,632)</b>	<b>\$ (288,559)</b>
Membership Dues	-	-	-	-	-
Testing Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Workshops	-	-	-	-	-
Interest	-	-	-	-	-
Miscellaneous	-	-	-	-	-
<b>Total Funding (A)</b>	<b>\$ (566,073)</b>	<b>\$ (566,073)</b>	<b>\$ -</b>	<b>\$ (854,632)</b>	<b>\$ (288,559)</b>
<b>Expenses</b>					
<b>Personnel Expenses</b>					
Salaries	\$ 573,621	\$ 573,621	\$ -	\$ 585,090	\$ 11,469
Payroll Taxes	25,338	25,338	-	25,565	227
Benefits	43,745	43,745	-	43,122	(623)
Retirement Costs	109,173	109,173	-	114,661	5,488
<b>Total Personnel Expenses</b>	<b>\$ 751,877</b>	<b>\$ 751,877</b>	<b>\$ -</b>	<b>\$ 768,438</b>	<b>\$ 16,561</b>
<b>Meeting Expenses</b>					
Meetings	\$ 30,000	\$ 30,000	\$ -	\$ 40,000	\$ 10,000
Travel	113,000	113,000	-	113,000	-
Conference Calls	-	-	-	-	-
<b>Total Meeting Expenses</b>	<b>\$ 143,000</b>	<b>\$ 143,000</b>	<b>\$ -</b>	<b>\$ 153,000</b>	<b>\$ 10,000</b>
<b>Operating Expenses</b>					
Consultants & Contracts	\$ 75,000	\$ 75,000	\$ -	\$ 32,000	\$ (43,000)
Office Rent	-	-	-	-	-
Office Costs	35,500	35,500	-	33,500	(2,000)
Professional Services	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Depreciation	-	-	-	-	-
<b>Total Operating Expenses</b>	<b>\$ 110,500</b>	<b>\$ 110,500</b>	<b>\$ -</b>	<b>\$ 65,500</b>	<b>\$ (45,000)</b>
<b>Total Direct Expenses</b>	<b>\$ 1,005,377</b>	<b>\$ 1,005,377</b>	<b>\$ -</b>	<b>\$ 986,938</b>	<b>\$ (18,439)</b>
<b>Indirect Expenses</b>	<b>\$ (1,005,377)</b>	<b>\$ (1,005,377)</b>	<b>\$ -</b>	<b>\$ (986,938)</b>	<b>\$ 18,439</b>
<b>Other Non-Operating Expenses</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Total Expenses (B)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Change in Assets</b>	<b>\$ (566,073)</b>	<b>\$ (566,073)</b>	<b>\$ -</b>	<b>\$ (854,632)</b>	<b>\$ (288,559)</b>
<b>Fixed Assets</b>					
Depreciation	-	-	-	-	-
Computer & Software CapEx	-	-	-	-	-
Furniture & Fixtures CapEx	-	-	-	-	-
Equipment CapEx	-	-	-	-	-
Leasehold Improvements	-	-	-	-	-
Allocation of Fixed Assets	\$ -	\$ -	-	-	-
<b>Inc(Dec) in Fixed Assets (C)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>TOTAL BUDGET (=B + C)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)</b>	<b>\$ (566,073)</b>	<b>\$ (566,073)</b>	<b>\$ -</b>	<b>\$ (854,632)</b>	<b>\$ (288,559)</b>
<b>FTEs</b>	<b>2.91</b>	<b>2.91</b>	<b>-</b>	<b>2.85</b>	<b>(0.06)</b>

**Table A-13. General and Administrative Budget Detail**

## Legal and Regulatory

The following table lists the Legal and Regulatory budget.

Legal and Regulatory (in whole dollars)			
	2017 Budget	2018 Budget	Increase (Decrease)
Total FTEs	0.95	0.92	(0.03)
Total Direct Expenses	\$ 451,723	\$ 461,328	\$ 9,605
Inc(Dec) in Fixed Assets	\$ -	\$ -	\$ -
Working Capital Requirement	\$ -	\$ -	\$ -

**Table A-14. Legal and Regulatory Budget**

### Program Scope and Functional Description

MRO has one internal corporate legal counsel to provide advice to the board, the President and CEO, and staff on legal and regulatory matters affecting MRO. MRO may use additional specialized legal resources on an as-needed basis, such as for corporate matters, employee benefit plan issues, and significant policy or regulatory matters.

### 2018 Key Assumptions

In the 2018 Budget, as in the 2013-2017 budgets, there are no specific funds for hearings under CMEP Rules; therefore, if there were a hearing, MRO would use its current budget resources and reserves to fund the expense.

### 2017 Goals and Key Deliverables

Legal and Regulatory functions are responsible for general corporate legal advice, legal training, and timely, accurate filings to regulatory authorities. This MRO staff person also supports the MRO Board Governance and Personnel Committee. External affairs and communications are also incorporated into this function including outreach to stakeholders and regulators (federal, state, and provincial). Outside legal resources are used exclusively for any hearings and to supplement internal resources as necessary due to the need for specialized advice or workflow volume.

Communications training is also part of the Legal and Regulatory function. Communications training is provided as part of MRO's Crisis Communication function. Internal legal counsel serves as the communication coordinator of the MRO Crisis Communication Team and the Vice President of Compliance Monitoring and Regulatory Affairs serves as the legal advisor.

### Funding Sources

In 2018, the expenses related to the indirect program areas are allocated entirely to the direct programs and therefore have no ERO assessment revenue.

## Legal and Regulatory Budget Detail

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

Statement of Activities, Fixed Assets Expenditures and Change in Working Capital 2017 Budget & Projection, and 2018 Budget					
LEGAL and REGULATORY					
	2017 Budget	2017 Projection	Variance 2017 Projection v 2017 Budget Over(Under)	2018 Budget	Variance 2018 Budget v 2017 Budget Over(Under)
<b>Funding</b>					
<b>ERO Funding</b>					
NERC Assessments	\$ -	\$ -	\$ -	\$ -	\$ -
Penalty Sanctions	-	-	-	-	-
<b>Total NERC Funding</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
Membership Dues	-	-	-	-	-
Testing Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Workshops	-	-	-	-	-
Interest	-	-	-	-	-
Miscellaneous	-	-	-	-	-
<b>Total Funding (A)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Expenses</b>					
<b>Personnel Expenses</b>					
Salaries	\$ 200,048	\$ 200,048	\$ -	\$ 207,980	\$ 7,932
Payroll Taxes	9,439	9,439	-	9,837	398
Benefits	13,591	13,591	-	13,920	329
Retirement Costs	37,820	37,820	-	38,916	1,096
<b>Total Personnel Expenses</b>	<b>\$ 260,898</b>	<b>\$ 260,898</b>	<b>\$ -</b>	<b>\$ 270,653</b>	<b>\$ 9,755</b>
<b>Meeting Expenses</b>					
Meetings	\$ -	\$ -	\$ -	\$ -	\$ -
Travel	8,000	8,000	-	12,000	4,000
Conference Calls	-	-	-	-	-
<b>Total Meeting Expenses</b>	<b>\$ 8,000</b>	<b>\$ 8,000</b>	<b>\$ -</b>	<b>\$ 12,000</b>	<b>\$ 4,000</b>
<b>Operating Expenses</b>					
Consultants & Contracts	\$ -	\$ -	\$ -	\$ -	\$ -
Office Rent	-	-	-	-	-
Office Costs	7,775	7,775	-	3,625	(4,150)
Professional Services	175,050	175,050	-	175,050	-
Miscellaneous	-	-	-	-	-
Depreciation	-	-	-	-	-
<b>Total Operating Expenses</b>	<b>\$ 182,825</b>	<b>\$ 182,825</b>	<b>\$ -</b>	<b>\$ 178,675</b>	<b>\$ (4,150)</b>
<b>Total Direct Expenses</b>	<b>\$ 451,723</b>	<b>\$ 451,723</b>	<b>\$ -</b>	<b>\$ 461,328</b>	<b>\$ 9,605</b>
<b>Indirect Expenses</b>	<b>\$ (451,723)</b>	<b>\$ (451,723)</b>	<b>\$ -</b>	<b>\$ (461,328)</b>	<b>\$ (9,605)</b>
<b>Other Non-Operating Expenses</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Total Expenses (B)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Change in Assets</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Fixed Assets</b>					
Depreciation	-	-	-	-	-
Computer & Software CapEx	-	-	-	-	-
Furniture & Fixtures CapEx	-	-	-	-	-
Equipment CapEx	-	-	-	-	-
Leasehold Improvements	-	-	-	-	-
Allocation of Fixed Assets	-	\$ -	-	-	-
<b>Inc(Dec) in Fixed Assets ( C )</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>TOTAL BUDGET (=B + C)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>FTEs</b>	<b>0.95</b>	<b>0.95</b>	<b>-</b>	<b>0.92</b>	<b>(0.03)</b>

Table A-15. Legal and Regulatory Budget Detail

## Information Technology

The following table lists the Information Technology budget.

<b>Information Technology</b> (in whole dollars)			
	<b>2017 Budget</b>	<b>2018 Budget</b>	<b>Increase (Decrease)</b>
Total FTEs	3.92	4.02	0.10
Total Direct Expenses	\$ 1,618,099	\$ 1,713,334	\$ 95,235
Inc(Dec) in Fixed Assets	\$ (330,330)	\$ (291,830)	\$ 38,500
Working Capital Requirement	\$ -	\$ -	\$ -

**Table A-16. Information Technology Budget**

### Program Scope and Functional Description

MRO's Information Technology (IT) program responds to business needs by providing the technology and communications tools for staff to perform Regional Entity functions.

#### Assumptions (2018-2020)

- NERC and the Regional Entities will work collaboratively 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 ERO TLT and ERO Technology Leadership Team (TLT) EMG-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.
- Regional Entities may be required to provide or augment business teams to help develop application business requirements and to test business functionality within the ERO Enterprise applications, such as the CMEP Technology Program Steering Committee.
- Ongoing investments will be required to develop, implement, and maintain enhancements to the NERC and Regional Entity websites, ERO Enterprise applications, and ERO Enterprise 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.

#### Key Focus Areas (2018)

- Following a disciplined process with appropriate ERO TLT approval, along with budgetary controls, the ERO Enterprise Project Management Office will deliver agreed upon ERO Enterprise IT applications designed to be used by NERC, the Regional Entities and, in some cases, registered entities. To ensure close coordination, collaboration, and efficiency, to the extent the agreed upon applications are in progress or widely available, NERC and the Regional Entities will not build or duplicate ERO Enterprise application functionality.

- NERC's BP&B will include ongoing funding support for the development, operation, and maintenance of NERC and Regional Entity 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.
- When no ERO Enterprise applications are available to satisfy the requirement, Regional Entities should provide a description of the maintenance and capital investment in software required in performance of their delegated functions. The NERC IT budget does not supplant Regional Entity need for IT expenditures for specific regional projects.

Key focus area projects include:

- Enhancing collaboration and information sharing by leveraging Microsoft's SharePoint platform. At the first phase (2015-2017) of the project, NERC is scheduled to deliver a Document Management system and NERC Intranet interface. The second phase includes delivery of enhancements to NERC's public facing website. The third phase is scheduled for 2018-2019 and will deliver NERC extranet, as well as replace email document collaboration with Microsoft's SharePoint collaboration System.
- Improving entity specific communication and information sharing across the ERO Enterprise. Plans include a new intelligent announcements and alert solution to be delivered in 2017-2019.
- Implementing new Enterprise-wide support tools for CMEP. Its first phase to deliver a centralized entity registration solution is scheduled for 2017. The second phase enables NERC Reliability Standards to be used as shared data and is scheduled for 2017-2019. The third phase delivering new solutions and retiring current solutions that support the CMEP is scheduled for 2017-2020.
- Consolidating data collected by NERC and making it available for analysis by authorized organizations. The build out of an ERO Enterprise Data Warehouse is currently underway. Additional data will be extracted, transformed, and loaded during 2017-2020. Data to be loaded includes generation, transmission, events, misoperations, and compliance data.

### **Funding Sources**

In 2018, the expenses related to indirect program areas are being allocated entirely to the direct programs, and therefore the indirect program areas have no ERO assessment revenue.

### **Resource Requirements**

To continue building and implementing enterprise applications, resources will be required from NERC and the Regions. New ERO applications will be centralized in one location to maximize efficiency of technology hardware, resources and data security.

NERC will continue to fund the development and maintenance of Enterprise applications. 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.



**Office Costs****Computer Supplies and Maintenance (Increase \$53k, 76.6%)**

- Laptop replacements (formerly in capital)
- Replacement phones
- Replacement of two printers

**Traning (Increase \$10k, 79%)**

- Additional training for IT staff in SharePoint, Net App, VMware, and Cisco

**Fixed Assets****Computer Equipment (Increase \$112K, 64.8%)**

MRO replaces the equipment that supports the virtual servers and storage area network every four to five years. This is the most expensive capital equipment we purchase – either to expand the system or replace major components, and it is configured in high availability at HQ and at the disaster recovery site so there are multiple sets of this equipment. In 2018 three servers will be replaced.

## Information Technology Budget Detail

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

Statement of Activities, Fixed Assets Expenditures and Change in Working Capital 2017 Budget & Projection, and 2018 Budget					
INFORMATION TECHNOLOGY					
	2017 Budget	2017 Projection	Variance 2017 Projection v 2017 Budget Over(Under)	2018 Budget	Variance 2018 Budget v 2017 Budget Over(Under)
<b>Funding</b>					
<b>ERO Funding</b>					
NERC Assessments	\$ -	\$ -	\$ -	\$ -	\$ -
Penalty Sanctions	-	-	-	-	-
<b>Total NERC Funding</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
Membership Dues	-	-	-	-	-
Testing Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Workshops	-	-	-	-	-
Interest	-	-	-	-	-
Miscellaneous	-	-	-	-	-
<b>Total Funding (A)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Expenses</b>					
<b>Personnel Expenses</b>					
Salaries	\$ 399,848	\$ 399,848	\$ -	\$ 374,791	\$ (25,057)
Payroll Taxes	29,685	29,685	-	28,467	(1,218)
Benefits	55,637	55,637	-	60,825	5,188
Retirement Costs	81,819	81,819	-	70,991	(10,828)
<b>Total Personnel Expenses</b>	<b>\$ 566,989</b>	<b>\$ 566,989</b>	<b>\$ -</b>	<b>\$ 535,074</b>	<b>\$ (31,915)</b>
<b>Meeting Expenses</b>					
Meetings	\$ -	\$ -	\$ -	\$ -	\$ -
Travel	8,000	8,000	-	10,000	2,000
Conference Calls	-	-	-	-	-
<b>Total Meeting Expenses</b>	<b>\$ 8,000</b>	<b>\$ 8,000</b>	<b>\$ -</b>	<b>\$ 10,000</b>	<b>\$ 2,000</b>
<b>Operating Expenses</b>					
Consultants & Contracts	\$ 329,110	\$ 329,110	\$ -	\$ 318,860	\$ (10,250)
Office Rent	-	-	-	-	-
Office Costs	210,000	210,000	-	271,400	61,400
Professional Services	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Depreciation	504,000	504,000	-	578,000	74,000
<b>Total Operating Expenses</b>	<b>\$ 1,043,110</b>	<b>\$ 1,043,110</b>	<b>\$ -</b>	<b>\$ 1,168,260</b>	<b>\$ 125,150</b>
<b>Total Direct Expenses</b>	<b>\$ 1,618,099</b>	<b>\$ 1,618,099</b>	<b>\$ -</b>	<b>\$ 1,713,334</b>	<b>\$ 95,235</b>
<b>Indirect Expenses</b>	<b>(1,618,099)</b>	<b>\$ (1,618,099)</b>	<b>\$ -</b>	<b>\$ (1,713,334)</b>	<b>\$ (95,235)</b>
<b>Other Non-Operating Expenses</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Total Expenses (B)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Change in Assets</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Fixed Assets</b>					
Depreciation	(504,000)	(504,000)	-	(578,000)	(74,000)
Computer & Software CapEx	173,670	173,670	-	286,170	112,500
Furniture & Fixtures CapEx	-	-	-	-	-
Equipment CapEx	-	-	-	-	-
Leasehold Improvements	-	-	-	-	-
Allocation of Fixed Assets	\$ 330,330	\$ 330,330	-	\$ 291,830	\$ (38,500)
<b>Inc(Dec) in Fixed Assets (C)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>TOTAL BUDGET (=B + C)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>FTEs</b>	<b>3.92</b>	<b>3.92</b>	<b>-</b>	<b>4.02</b>	<b>0.10</b>

**Table A-17. Information Technology Budget Detail**

## Human Resources, Finance and Accounting

The following table lists the Human Resources, Finance and Accounting budget.

Human Resources, Finance, and Accounting (in whole dollars)			
	2017 Budget	2018 Budget	Increase (Decrease)
Total FTEs	3.89	3.62	(0.27)
Total Direct Expenses	\$ 1,552,071	\$ 1,584,948	\$ 32,877
Inc(Dec) in Fixed Assets	\$ 143,111	\$ -	\$ (143,111)
Working Capital Requirement	\$ -	\$ -	\$ -

**Table A-18. Human Resources, Finance and Accounting Budget**

### Program Scope and Functional Description

#### Human Resources

The Human Resources function of MRO designs, plans, and implements Human Resource policies and procedures in adherence with applicable federal and state laws. The Human Resources function also organizes the recruitment efforts of the organization and coordinates onboarding, training, personnel development, and best practice employee retention initiatives.

MRO has developed a culture and talent management program that features an in-depth communication and training plan. New hire training initiatives and employee collaborations are planned to create an opportunity for peer-to-peer internal mentorship and team building. The program also facilitates MRO's enterprise-wide corporate compliance and ethics program. MRO reviewed and enhanced its employee engagement and culture enrichment activities in an effort to positively impact both the experience of new employees upon arrival at MRO, as well as the overall corporate culture to be an "employer of choice," and therefore support attraction and retention of qualified staff.

#### Finance and Accounting

The Finance and Accounting function directs the overall financial plans and accounting practices of the organization, oversees treasury, accounting, budget, tax, and audit activities, and oversees financial and accounting system controls and standards. The Finance and Accounting function also administrates employee benefit plans, and reports the overall outcome of MRO's annual activities to the MRO board.

#### 2018 Goals and Key Deliverables

- Forecasts and projections
- Payroll and expense administration
- Preparation of quarterly financial statements
- IRS reporting - Form 990
- Review and improve fiscal controls
- Annual independent audit initiated by the Regional Entity
- Enterprise-wide Corporate Compliance and Ethics Program

- Treasury functions with MRO board
- 401(k) and Retiree Medical Trust administration
- Finance and Accounting also coordinates all MRO internal and external meetings, workshops and events

## **ERO Enterprise-wide Risk Management**

### **Assumptions (2018-2020)**

- A common ERO Enterprise risk management framework commenced in 2014 to focus on identifying, assessing, prioritizing, and mitigating risks associated with the performance of both NERC and the Regional Entities. This multi-year activity is progressing as expected and will reach steady state by 2017.
- NERC's Director of Internal Audit and Corporate Risk Management is 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 Committee.
- NERC and the Regional Entities will continue to devote resources to implement this framework. The results will serve as an input into NERC's future audit plans, which are reviewed and approved by the NERC Board of Trustees Enterprise Risk Management Committee. Regional Entities may add risk management and internal control resources as needed.

### **Key Focus Areas (2018)**

- NERC and Regional Entities key focus areas include continued refinement, validation, and prioritization of inherent and residual risks; greater precision in the identification of risk mitigation activities and internal controls; and enhanced consolidated results for ERO EMG review and approval.

## **Funding Sources**

In 2018, the expenses related to indirect program areas are being allocated entirely to the direct programs and therefore have no ERO assessment revenue.

## **Resource Requirements**

MRO's efforts include maintenance of core employee benefits, offsets to non-core benefits when necessary, analysis of office and other operational costs, improving efficiencies, and establishing uniformity in methodologies of cost allocation. MRO staff further explores improved cost effectiveness of routine expenses, and pursues early detection and quick resolution of budget concerns, lessening the impact of cost adjustments. It is our intent to continuously detect and address any risks.

### **Fixed Assets**

#### **Leasehold Improvements (Decrease \$148K, 100%)**

This decrease is due to the one-time capital cost in 2017 from the facility reconfiguration.

## Human Resources, Finance, and Accounting Budget Detail

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

Statement of Activities, Fixed Assets Expenditures and Change in Working Capital 2017 Budget & Projection, and 2018 Budget					
HUMAN RESOURCES, FINANCE, and ACCOUNTING					
	2017 Budget	2017 Projection	Variance 2017 Projection v 2017 Budget Over(Under)	2018 Budget	Variance 2018 Budget v 2017 Budget Over(Under)
<b>Funding</b>					
<b>ERO Funding</b>					
NERC Assessments	\$ -	\$ -	\$ -	\$ -	\$ -
Penalty Sanctions	-	-	-	-	-
<b>Total NERC Funding</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
Membership Dues	-	-	-	-	-
Testing Fees	-	-	-	-	-
Services & Software	-	-	-	-	-
Workshops	-	-	-	-	-
Interest	-	-	-	-	-
Miscellaneous	-	-	-	-	-
<b>Total Funding (A)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Expenses</b>					
<b>Personnel Expenses</b>					
Salaries	\$ 414,657	\$ 414,657	\$ -	\$ 400,897	\$ (13,760)
Payroll Taxes	27,026	27,026	-	26,490	(536)
Benefits	52,381	52,381	-	54,772	2,391
Retirement Costs	94,740	94,740	-	95,272	532
<b>Total Personnel Expenses</b>	<b>\$ 588,804</b>	<b>\$ 588,804</b>	<b>\$ -</b>	<b>\$ 577,431</b>	<b>\$ (11,373)</b>
<b>Meeting Expenses</b>					
Meetings	\$ 100	\$ 100	\$ -	\$ 100	\$ -
Travel	5,000	5,000	-	5,000	-
Conference Calls	-	-	-	-	-
<b>Total Meeting Expenses</b>	<b>\$ 5,100</b>	<b>\$ 5,100</b>	<b>\$ -</b>	<b>\$ 5,100</b>	<b>\$ -</b>
<b>Operating Expenses</b>					
Consultants & Contracts	\$ 28,967	\$ 28,967	\$ -	\$ 36,967	\$ 8,000
Office Rent	701,900	701,900	-	733,700	31,800
Office Costs	173,800	173,800	-	177,250	3,450
Professional Services	53,500	53,500	-	54,500	1,000
Miscellaneous	-	-	-	-	-
Depreciation	-	-	-	-	-
<b>Total Operating Expenses</b>	<b>\$ 958,167</b>	<b>\$ 958,167</b>	<b>\$ -</b>	<b>\$ 1,002,417</b>	<b>\$ 44,250</b>
<b>Total Direct Expenses</b>	<b>\$ 1,552,071</b>	<b>\$ 1,552,071</b>	<b>\$ -</b>	<b>\$ 1,584,948</b>	<b>\$ 32,877</b>
<b>Indirect Expenses</b>	<b>\$ (1,552,071)</b>	<b>\$ (1,552,071)</b>	<b>\$ -</b>	<b>\$ (1,584,948)</b>	<b>\$ (32,877)</b>
<b>Other Non-Operating Expenses</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Total Expenses (B)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Change in Assets</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Fixed Assets</b>					
Depreciation	-	-	-	-	-
Computer & Software CapEx	-	-	-	-	-
Furniture & Fixtures CapEx	-	-	-	-	-
Equipment CapEx	-	-	-	-	-
Leasehold Improvements	143,111	143,111	-	-	(143,111)
Allocation of Fixed Assets	\$ (143,111)	\$ (143,111)	-	-	143,111
<b>Inc(Dec) in Fixed Assets ( C )</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>TOTAL BUDGET (=B + C)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>FTEs</b>	<b>3.89</b>	<b>3.89</b>	<b>-</b>	<b>3.62</b>	<b>(0.27)</b>

**Table A-19. Human Resources, Finance, and Accounting Budget Detail**

# Section B – Supplemental Financial Information

## 2018 Business Plan and Budget



## Section B – Supplemental Financial Information

### Reserve Balance

Table B-1 analyzes the working capital reserve for 2017 through 2018.

<b>Working Capital Reserve Analysis 2017-2018</b>	
<b>STATUTORY</b>	
Beginning Working Capital Reserve (Deficit), December 31, 2016	2,384,548
Plus: 2017 MRO Funding (from LSEs or designees)	10,660,595
Less: 2017 Projected expenses & capital expenditures	(11,226,670)
<b>Projected Working Capital Reserve (Deficit), December 31, 2017 <sup>1</sup></b>	<b>1,818,473</b>
Targeted Working Capital Reserve, December 31, 2018 (( $\$11,726,738 / 365$ days) X 30 days)	963,841
Less: Projected Working Capital Reserve, December 31, 2017	(1,818,473)
<b>Increase(decrease) in assessments to achieve targeted Working Capital Reserve</b>	<b>(854,632)</b>
2018 Expenses and Capital Expenditures	11,726,738
Less: Penalty Sanctions <sup>2</sup>	(142,000)
Less: Other Funding Sources	0
Adjustment to achieve targeted Working Capital Reserve	(854,632)
<b>2018 MRO Assessment</b>	<b>10,730,106</b>

<sup>1</sup> MRO's projected reserve December 31, 2017 assumes that there will not be a material difference between budgeted versus actual/projected results from 2017.

<sup>2</sup> Represents collections on or prior to June 30, 2017. See Table-B-2 for full disclosure.

**Table B-1. Working Capital Reserve Analysis 2017 - 2018**

#### Explanation of Changes in Reserve Policy from Prior Years

MRO's Finance and Audit Committee (FAC) resolved that 30 days of cash is sufficient based on MRO's cash flow risk, with the Board's approval in 2017 for working capital analysis 2017-2018. The certainty of MRO's funding stream supports that a 30-day reserve is reasonable for sustaining short-term contingencies. MRO resets its reserves at the beginning of each year to the approved policy.

## Breakdown by Statement of Activity Sections

Table B-2 lists all penalties, including date received and amount, received prior to June 30, 2017.

Penalty Sanctions Received On or Prior to June 30, 2017	Date Received	Amount Received
	Mar-17	\$ 142,000
<b>Total Penalties Received</b>		<u>\$ 142,000</u>

**Table B-2. Penalty Sanctions Received**

### Penalty Sanctions

Penalty monies received prior to June 30, 2017 are to be used to offset assessments in the 2018 Budget, as documented in the NERC Policy – Accounting, Financial Statement and Budgetary Treatment of Penalties Imposed and Received for Violations of Reliability Standards. Penalty monies received from July 1, 2016 through June 30, 2017 will be used to offset assessments in the 2018 Budget.

All penalties received prior to June 30, 2017 are listed above, including the amount and date received.

Allocation Method: Penalty sanctions received have been allocated to the following statutory programs to reduce assessments: Reliability Standards Organization Registration and Certification; Compliance Monitoring and Enforcement; Reliability Assessments and Performance Analysis; Training, Education and Operator Certification; and Situation Awareness and Infrastructure Security. Penalty sanctions are allocated based upon the number of FTEs in the Program divided by the aggregate total FTEs in the Programs receive the allocation.



Table B-3 lists the budget for Supplemental Funding.

Outside Funding Breakdown By Program (Excluding Penalty Sanction)	Budget 2017	Projection 2017	Budget 2018	Variance 2018 Budget v 2017 Budget
<b>Compliance Monitoring, Enforcement &amp; Org. Registration</b>	\$ -	\$ -	\$ -	\$ -
<b>Total</b>	\$ -	\$ -	\$ -	\$ -
<b>Reliability Assessment and Performance Analysis</b>				
<b>Total</b>	\$ -	\$ -	\$ -	\$ -
<b>Training and Education</b>				
Testing Fees and Certificate Renewals	\$ -	\$ -	\$ -	-
CEH Fees	-	-	-	-
Workshops	-	-	-	-
<b>Total</b>	\$ -	\$ -	\$ -	\$ -
<b>Situation Awareness and Infrastructure Security</b>				
FIST Royalties	\$ -	\$ -	\$ -	-
TSIN Fees				
<b>Total</b>	\$ -	\$ -	\$ -	\$ -
<b>General and Administrative</b>				
Interest Income	\$ -	\$ -	\$ -	-
<b>Total</b>	\$ -	\$ -	\$ -	\$ -
<b>Total Outside Funding</b>	\$ -	\$ -	\$ -	\$ -

**Table B-3. Supplemental Funding**

**Explanation of Significant Variances – 2018 Budget versus 2017 Budget**

MRO does not earn interest income. Our general banking account offsets the bank charges with any earned interest.

Table B-4 summarizes Personnel Expenses.

Personnel Expenses	Budget 2017	Projection 2017	Budget 2018	Variance 2018 Budget v 2017 Budget	Variance %
Total Salaries	\$ 5,874,689	\$ 5,874,689	\$ 6,250,448	\$ 375,759	6.4%
Total Payroll Taxes	366,600	366,600	391,324	24,724	6.7%
Total Benefits	608,751	608,751	663,221	54,470	8.9%
Total Retirement	1,195,387	1,195,387	1,259,803	64,416	5.4%
<b>Total Personnel Costs</b>	<b>\$ 8,045,427</b>	<b>\$ 8,045,427</b>	<b>\$ 8,564,796</b>	<b>\$ 519,369</b>	<b>6.5%</b>
FTEs	43.00	43.00	45.00	2.00	4.7%
Cost per FTE					
Salaries	\$ 136,621	\$ 136,621	\$ 138,899	2,278	1.7%
Payroll Taxes	8,526	8,526	8,696	171	2.0%
Benefits	14,157	14,157	14,738	581	4.1%
Retirement	27,800	27,800	27,996	196	0.7%
<b>Total Cost per FTE</b>	<b>\$ 187,103</b>	<b>\$ 187,103</b>	<b>\$ 190,329</b>	<b>\$ 3,226</b>	<b>1.7%</b>

**Table B-4. Personnel Expenses**

**Explanation of Significant Variances – 2018 Budget versus 2017 Budget**

**Personnel Expenses (Increase \$519K, 6.5%)**

- Salaries increase by 3 percent salary plus promotions
- Benefits and Retirement increase by 6 percent based on these increases
- Total Personnel expenses include a 4 percent cost impact due to two additional FTEs. Additional FTEs are a result of targeted outreach to improve prevention and shared responsibility efforts across the MRO footprint. Captured savings from facility and tax status change will offset investment towards the additional FTEs by \$130,000. The benefits expense is increasing 8.9 percent, in part due to the additional FTEs and also because health plan expenses are trending at a 6 percent increase according to actuarial studies.

Table B-5 lists the budget for Meeting Expenses.

Meeting Expenses	Budget 2017	Projection 2017	Budget 2018	Variance 2018 Budget v 2017 Budget	Variance %
Meeting Expenses	\$ 85,000	\$ 85,000	\$ 93,950	\$ 8,950	10.5%
Travel	635,000	635,000	655,430	20,430	3.2%
Conference Calls	-	-	-	-	
<b>Total Meeting Expenses</b>	<b>\$ 720,000</b>	<b>\$ 720,000</b>	<b>\$ 749,380</b>	<b>\$ 29,380</b>	<b>4.1%</b>

**Table B-5. Meeting Expenses**

**Explanation of Significant Variances – 2018 Budget versus 2017 Budget**

**Meeting Expenses (Increase \$9k, 10.5%)**

There is an increase in the number of meetings and outreach efforts planned in 2018; however, budgeted meeting expenses are approximately the same as in the 2017 budget because of efficiencies and cost savings realized from hosting meetings at MRO. Reimbursement for stakeholder participant travel expenses will increase.

**Travel Expenses (Increase \$20k, 3.2%)**

Reflects an increase in the number of on-site audits for 2018 and an increased number of working groups in a number of the program areas.

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

Consultants	Budget 2017	Projection 2017	Budget 2018	Variance 2018 Budget v 2017 Budget	Variance %
<b>Consultants</b>					
Reliability Standards and Organization Registration and Certification Compliance	\$ -	\$ -	\$ -	\$ -	-
Compliance	77,000	77,000	3,000	(74,000)	-96%
Reliability Assessment and Performance Analysis (Alert)	8,000	8,000	-	(8,000)	-100%
Event Analysis	-	-	-	-	-
Training and Education	-	-	-	-	-
Situation Awareness and Infrastructure Security Committee and Member Forums	-	-	-	-	-
General and Administrative	75,000	75,000	32,000	(43,000)	-57%
Legal and Regulatory	-	-	-	-	-
Information Technology	241,000	241,000	197,000	(44,000)	-18%
Human Resources	-	-	-	-	-
Accounting and Finance	-	-	-	-	-
<b>Consultants Total</b>	<b>\$ 401,000</b>	<b>\$ 401,000</b>	<b>\$ 232,000</b>	<b>\$ (169,000)</b>	<b>-42%</b>
<b>Contracts</b>					
Outsource Standards Tracking Software Applications	\$ -	\$ -	\$ -	\$ -	-
<b>Subtotal - Reliability Standards Contracts</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>-</b>
Outsource Compliance Information Tracking Applications	-	-	-	-	-
<b>Subtotal - Compliance and Organization Registration and Certification Contracts</b>	<b>\$ 92,000</b>	<b>\$ 92,000</b>	<b>\$ 92,000</b>	<b>\$ -</b>	<b>0%</b>
	<b>\$ 92,000</b>	<b>\$ 92,000</b>	<b>\$ 92,000</b>	<b>\$ -</b>	<b>0%</b>
Model Series Development (MRO's portion of expenses of the MMWG/ERAG)	\$ 30,100	\$ 30,100	\$ 28,500	(1,600)	-5%
Model Building	-	-	-	-	-
PTI Software	16,300	16,300	15,100	(1,200)	-7%
Proposed Frequency Response Study	17,600	17,600	8,700	(8,900)	-51%
<b>Subtotal - Reliability Assessments Contracts</b>	<b>\$ 64,000</b>	<b>\$ 64,000</b>	<b>\$ 52,300</b>	<b>\$ (11,700)</b>	<b>-18%</b>
Cisco	7,800	7,800	7,800	-	0%
Barracuda	1,800	1,800	1,800	-	0%
EFT Maintenance	4,200	4,200	7,700	3,500	83%
Antivirus	-	-	4,000	4,000	-
PhishMe	-	-	10,000	10,000	-
Varonis File Maintenance	8,500	8,500	6,000	(2,500)	-29%
Lyrus	1,400	1,400	1,400	-	0%
VMWare Support	-	-	17,000	17,000	-
SmartPhone Maintenance	1,600	1,600	2,000	400	25%
Server Support	10,000	10,000	-	(10,000)	-100%
Great Plains	4,000	4,000	4,000	-	0%
Budget Maestro	-	-	800	800	-
Lync Monitoring	14,400	14,400	14,400	-	0%
NetApp Multistore-Security software for SAN	800	800	-	(800)	-100%
Load Balancer Support	-	-	5,900	5,900	-
Network Monitor	700	700	2,650	1,950	279%
Somus HW Support	1,300	1,300	2,500	1,200	92%
Symantec Maintenance	-	-	2,000	2,000	-
Anitspam Service	1,500	1,500	-	(1,500)	-100%
Imperva	2,500	2,500	3,200	700	28%
Multi factor	3,300	3,300	6,000	2,700	82%
Cisco Amp	3,000	3,000	6,000	3,000	100%
AV Maintenance	20,000	20,000	12,000	(8,000)	-40%
Misc Items	1,310	1,310	4,710	3,400	260%
<b>Subtotal - Information Technology Contracts</b>	<b>\$ 88,110</b>	<b>\$ 88,110</b>	<b>\$ 121,860</b>	<b>\$ 33,750</b>	<b>38%</b>
401K / 457b, 457f 3rd Party Administrator	-	-	-	-	-
FSA 3rd Party Administrator	2,707	2,707	2,707	-	0%
Transportation 3rd Party Administrator	3,125	3,125	3,125	-	0%
Benefits 3rd Party Administrator	4,135	4,135	4,135	-	0%
Payroll 3rd Party Administrator	19,000	19,000	21,000	2,000	11%
HR-Employment Costs	-	-	6,000	6,000	-
<b>Subtotal - HR and Finance Contracts</b>	<b>\$ 28,967</b>	<b>\$ 28,967</b>	<b>\$ 36,967</b>	<b>\$ 8,000</b>	<b>28%</b>
<b>Contracts Total</b>	<b>\$ 273,077</b>	<b>\$ 273,077</b>	<b>\$ 303,127</b>	<b>\$ 30,050</b>	<b>11%</b>
<b>Total Consulting and Contracts</b>	<b>\$ 674,077</b>	<b>\$ 674,077</b>	<b>\$ 535,127</b>	<b>\$ (138,950)</b>	<b>-21%</b>
Check Totals:	\$ 674,077	\$ 674,077	\$ 535,127		
Difference:	\$ -	\$ -	\$ -		

Table B-6. Consultants and Contracts

**Explanation of Significant Variances – 2018 Budget versus 2017 Budget****Compliance Monitoring and Enforcement (Decrease \$74k, 96.1%)**

MRO has utilized outside consultants at times; this is now being supported by staff.

**General and Administrative (Decreased \$43k, 57.3%)**

Completed work on the shared Project Manager for the REMG initiatives.

Table B-7 lists the budget for Office Rent.

Office Rent	Budget 2017	Projection 2017	Budget 2018	Variance 2018 Budget v 2017 Budget	Variance %
Office Rent	\$ 690,400	\$ 690,400	\$ 718,700	\$ 28,300	4.1%
Utilities	6,500	6,500	7,000	500	7.7%
Maintenance	5,000	5,000	8,000	3,000	60.0%
<b>Total Office Rent</b>	<b>\$ 701,900</b>	<b>\$ 701,900</b>	<b>\$ 733,700</b>	<b>\$ 31,800</b>	<b>4.53%</b>

**Table B-7. Office Rent**

**Explanation of Significant Variances – 2018 Budget versus 2017 Budget**

The 2018 annual lease cost has a 2.0 percent projected increase impact based on prior year actual costs, which includes the new leased space. Operating costs and real estate taxes also have an increase of 2.0 percent, which is reflective of historical trends. Utilities and maintenance costs increase by 30 percent, which reflects the expanded area. The combined total rent increase is \$31,800 or 4.5 percent.

Table B-8 lists the budget for Office Costs.

Office Costs	Budget 2017	Projection 2017	Budget 2018	Variance 2018 Budget v 2017 Budget	Variance %
Phone Service					
Data Circuit (qmo)	\$ 60,000	\$ 60,000	\$ 60,000	\$ -	0.00%
Webex	6,300	6,300	7,500	1,200	19.05%
Voice Circuits	18,000	18,000	18,000	-	0.00%
Business Cable	2,000	2,000	2,500	500	25.00%
Disaster Recovery Site	19,000	19,000	19,000	-	0.00%
Internet/Cell	46,388	46,388	43,988	(2,400)	-5.17%
Office Supplies	31,450	31,450	33,000	1,550	4.93%
Employee Member Events	20,000	20,000	18,500	(1,500)	-7.50%
Employee Related Expense (Drug Testing, Finder Fees Etc)	16,500	16,500	16,500	-	0.00%
Computer Supplies and Maintenance	68,500	68,500	121,000	52,500	76.64%
Publications & Subscriptions	5,225	5,225	6,175	950	18.18%
Professional Dues	15,470	15,470	16,900	1,430	9.24%
Postage	2,700	2,700	2,700	-	0.00%
Temporary Services	-	-	-	-	-
Finance-Filing/Reg Fees	3,000	3,000	3,000	-	0.00%
Equipment Repair/Service Contracts	13,500	13,500	12,700	(800)	-5.93%
Bank Charges	23,000	23,000	21,000	(2,000)	-8.70%
Presentation & Publicity & Supplies Promotional	5,000	5,000	5,000	-	0.00%
Departmental Functional Training	126,900	126,900	161,550	34,650	27.30%
Insurance Expense	57,000	57,000	59,000	2,000	3.51%
<b>Total Office Costs</b>	<b>\$ 539,933</b>	<b>\$ 539,933</b>	<b>\$ 628,013</b>	<b>\$ 88,080</b>	<b>16.31%</b>

**Table B-8. Office Costs**

**Explanation of Significant Variances – 2018 Budget versus 2017 Budget (Increase \$88k, 16.3%)**

- Computer Supplies and Maintenance (Increase \$53k, 76.6 percent)
  - Laptop replacements (formerly in capital)
  - Replacement phones
  - Replacement of two printers
- Departmental functional training (Increase \$35k, 27.3 percent)
  - RAM executive utility training
  - IT additional training in SharePoint, Net App, VMware, and Cisco

Table B-9 lists the budget for Professional Services.

Professional Services	Budget 2017	Projection 2017	Budget 2018	Variance 2018 Budget v 2017 Budget	Variance %
Independent Trustee Fees	\$ 125,050	\$ 125,050	\$ 125,050	\$ -	0.00%
Outside Legal	50,000	50,000	50,000	\$ -	0.00%
Accounting and Auditing Fees	28,500	28,500	29,500	\$ 1,000	3.51%
Actuarial Fees	25,000	25,000	25,000	\$ -	0.00%
<b>Total Services</b>	<b>\$ 228,550</b>	<b>\$ 228,550</b>	<b>\$ 229,550</b>	<b>\$ 1,000</b>	<b>0.44%</b>

**Table B-9. Professional Services**

**Explanation of Significant Variances – 2018 Budget versus 2017 Budget**

**Professional Services (Increase \$1k, 0.4%)**

In 2018 professional services are flat compared to the 2017 budget.



Table B-10 lists the budget for Miscellaneous.

Miscellaneous Expenses	Budget 2016	Projection 2016	Budget 2017	Variance 2017 Budget v 2016 Budget	Variance %
	\$ -	\$ -	\$ -	\$ -	-
					-
					-
<b>Total Miscellaneous Expenses</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>100.00%</b>

Table B-10. Miscellaneous

**Explanation of Significant Variances – 2018 Budget versus 2017 Budget**

MRO has not budgeted any Miscellaneous Expenses in 2017 or 2018.

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

Other Non-Operating Expenses	Budget 2017	Projection 2017	Budget 2018	Variance 2018 Budget v 2017 Budget	Variance %
Interest Expense	\$ -	\$ -	\$ -	\$ -	
Line of Credit Payment		-		-	
Office Relocation	-	-	-	-	
<b>Total Non-Operating Expenses</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>100.00%</b>

**Table B-11. Other Non-Operating Expenses**

**Explanation of Significant Variances – 2018 Budget versus 2017 Budget**

MRO has not budgeted any Non-Operating Expenses in 2017 or 2018.

Table B-12 lists the budget for Fixed Assets.

Fixed Assets	Budget 2017	Projection 2017	Budget 2018	Variance 2018 Budget v 2017 Budget	Variance %
Depreciation	\$ (504,000)	\$ (504,000)	\$ (578,000)	\$ (74,000)	14.7%
Computer Equipment	144,500	144,500	270,000	125,500	86.9%
Capitalized Software	29,170	29,170	16,170	(13,000)	-44.6%
Furniture and Equipment	-	-	-	-	
Leasehold Improvements	143,111	143,111	-	(143,111)	-100.0%
<b>Total Change in Fixed Assets</b>	<b>\$ (187,219)</b>	<b>\$ (187,219)</b>	<b>\$ (291,830)</b>	<b>\$ (104,611)</b>	<b>55.9%</b>

Table B-12. Fixed Assets

### Explanation of Significant Variances – 2018 Budget versus 2017 Budget

#### Depreciation (Increase \$74k, 14.7%)

The 2018 costs increase as equipment purchases made in late 2016 and 2017 are now being depreciated.

#### Computer Equipment (Increase \$126k, 86.9%)

MRO replaces the equipment that supports the virtual servers and storage area network every four to five years. This is the most expensive capital equipment we purchase – either to expand the system or replace major components, and it is configured in high availability at HQ and at the disaster recovery site so there are multiple sets of this equipment. In 2018 three servers will be replaced.

#### Leasehold Improvements (Decrease \$143k, 100%)

This decrease is due to the one-time capital cost in 2017 from the facility reconfiguration.

Table B-13 compares the 2018 budget with projections for 2019-2020.

Statement of Activities, Fixed Assets Expenditures and Change in Working Capital 2019 and 2020 Projections							
	2018 Budget	2019 Projection	\$ Change 19 v 18	% Change 19 v 18	2020 Projection	\$ Change 20 v 19	% Change 20 v 19
<b>Funding</b>							
<b>ERO Funding</b>							
NERC Assessments	\$ 10,730,104	\$ 12,078,538		12.57%	\$ 12,440,894	\$ 362,356	2.9%
Penalty Sanctions	142,000	-		-100.00%	-	-	
<b>Total NERC Funding</b>	<b>\$ 10,872,104</b>	<b>\$ 12,078,538</b>	<b>\$ 1,206,434</b>	<b>11.1%</b>	<b>\$ 12,440,894</b>	<b>\$ 362,356</b>	<b>2.9%</b>
Membership Dues	-	-	-	-	-	-	-
Testing Fees	-	-	-	-	-	-	-
Services & Software	-	-	-	-	-	-	-
Workshops	-	-	-	-	-	-	-
Interest	-	-	-	-	-	-	-
Miscellaneous	-	-	-	-	-	-	-
<b>Total Funding (A)</b>	<b>\$ 10,872,104</b>	<b>\$ 12,078,538</b>	<b>\$ 1,206,434</b>	<b>11.1%</b>	<b>\$ 12,440,894</b>	<b>\$ 362,356</b>	<b>3.0%</b>
<b>Expenses</b>							
<b>Personnel Expenses</b>							
Salaries	\$ 6,250,448	\$ 6,437,961	\$ 187,513	3.0%	\$ 6,631,100	\$ 193,139	3.0%
Payroll Taxes	391,324	403,064	11,740	3.0%	415,156	12,092	3.0%
Benefits	663,221	683,118	19,897	3.0%	703,611	20,494	3.0%
Retirement Costs	1,259,803	1,297,597	37,794	3.0%	1,336,525	38,928	3.0%
<b>Total Personnel Expenses</b>	<b>\$ 8,564,796</b>	<b>\$ 8,821,740</b>	<b>\$ 256,944</b>	<b>3.0%</b>	<b>\$ 9,086,392</b>	<b>\$ 264,652</b>	<b>3.0%</b>
<b>Meeting Expenses</b>							
Meetings	\$ 93,950	\$ 96,769	\$ 2,819	3.0%	\$ 99,672	2,903	3.0%
Travel	655,430	675,093	19,663	3.0%	695,346	20,253	3.0%
Conference Calls	-	-	-	-	-	-	-
<b>Total Meeting Expenses</b>	<b>\$ 749,380</b>	<b>\$ 771,861</b>	<b>\$ 22,481</b>	<b>3.0%</b>	<b>\$ 795,017</b>	<b>\$ 23,156</b>	<b>3.0%</b>
<b>Operating Expenses</b>							
Consultants & Contracts	\$ 535,127	\$ 551,181	16,054	3.0%	\$ 567,716	16,535	3.0%
Office Rent	733,700	755,711	22,011	3.0%	778,382	22,671	3.0%
Office Costs	628,013	646,853	18,840	3.0%	666,259	19,406	3.0%
Professional Services	229,550	236,437	6,887	3.0%	243,530	7,093	3.0%
Miscellaneous	-	-	-	-	-	-	-
Depreciation	578,000	595,340	17,340	3.0%	613,200	17,860	3.0%
<b>Total Operating Expenses</b>	<b>\$ 2,704,390</b>	<b>\$ 2,785,522</b>	<b>\$ 81,132</b>	<b>3.0%</b>	<b>\$ 2,869,087</b>	<b>\$ 83,566</b>	<b>3.0%</b>
<b>Total Direct Expenses</b>	<b>\$ 12,018,566</b>	<b>\$ 12,379,123</b>	<b>\$ 360,557</b>	<b>3.0%</b>	<b>\$ 12,750,497</b>	<b>\$ 371,374</b>	<b>3.0%</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>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>-</b>	<b>\$ -</b>	<b>\$ -</b>	<b>-</b>
<b>Total Expenses (B)</b>	<b>\$ 12,018,566</b>	<b>\$ 12,379,123</b>	<b>\$ 360,557</b>	<b>3.0%</b>	<b>\$ 12,750,497</b>	<b>\$ 371,374</b>	<b>3.0%</b>
<b>Change in Assets</b>	<b>\$ (1,146,462)</b>	<b>\$ (300,585)</b>	<b>\$ 845,877</b>	<b>-73.8%</b>	<b>\$ (309,603)</b>	<b>\$ (9,018)</b>	<b>3.0%</b>
<b>Fixed Assets</b>							
Depreciation	\$ (578,000)	\$ (595,340)	\$ (17,340)	3.0%	\$ (613,200)	\$ (17,860)	3.0%
Computer & Software CapEx	286,170	294,755	8,585	3.0%	303,598	8,843	3.0%
Furniture & Fixtures CapEx	-	-	-	-	-	-	-
Equipment CapEx	-	-	-	-	-	-	-
Leasehold Improvements	-	-	-	-	-	-	-
Allocation of Fixed Assets	-	-	-	-	-	-	-
<b>Inc(Dec) in Fixed Assets ( C )</b>	<b>\$ (291,830)</b>	<b>\$ (300,585)</b>	<b>\$ (8,755)</b>	<b>3.0%</b>	<b>\$ (309,602)</b>	<b>\$ (9,018)</b>	<b>0.0%</b>
<b>TOTAL BUDGET (=B + C)</b>	<b>\$ 11,726,736</b>	<b>\$ 12,078,538</b>	<b>\$ 351,802</b>	<b>3.0%</b>	<b>\$ 12,440,894</b>	<b>\$ 371,374</b>	<b>3.1%</b>
<b>TOTAL CHANGE IN WORKING CAPITAL (=A-B-C)</b>	<b>\$ (854,632)</b>	<b>\$ -</b>	<b>\$ 854,632</b>	<b>-100.0%</b>	<b>\$ -</b>	<b>\$ -</b>	<b>178.0%</b>
<b>FTEs</b>	<b>45.00</b>	<b>45.00</b>	<b>-</b>	<b>-</b>	<b>45.00</b>	<b>-</b>	<b>-</b>

Table B-13. Budget 2018 Compared with 2019-2020 Projections

**Explanation of 2018, 2019, 2020 Projections**

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

- FTEs remain flat
- Three percent escalation rate applied to expense categories
- Total budget increase of \$352k in 2019
- Total budget increase of \$371k in 2020
- Zero penalties budgeted

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## Section C – Non-Statutory Activities

### 2018 Business Plan and Budget

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## **Section C – Non-Statutory Activities**

### **2018 Non-Statutory Business Plan and Budget**

MRO has no non-statutory activities.

# Section D – Additional Consolidated Financial Statements

## 2018 Business Plan and Budget





# Section D – Additional Consolidated Financial Statements

## 2018 Consolidated Statement of Activities by Program, Statutory and Non-Statutory

Function	2018 Business Plan and Budget		Function in Disposition Agreement												
	Total	Statutory Total	Non-Statutory Total	Statutory Total	Reliability Standards Registration (Section 302 & 303)	Compliance (Section 408)	Reliability Assessment and Performance Analysis (Section 800)	Training and Education (Section 403/404)	Situation Awareness and Infrastructure Security (Section 100)	Committee and Member Forums	General and Administrative	Legal and Regulatory	Information Technology	Human Resources	Accounting and Finance
<b>EPO Funding</b>															
NERC Assessments	10,730,104	10,730,104	-	10,730,104	687,252	7,659,154	2,332,894	74,054	156,683	-	854,632	-	-	-	-
Priority Sectors	142,000	142,000	-	142,000	8,927	97,316	23,914	8,378	1,395	-	-	-	-	-	-
<b>Total NERC Funding</b>	<b>10,872,104</b>	<b>10,872,104</b>	<b>-</b>	<b>10,872,104</b>	<b>696,179</b>	<b>7,756,470</b>	<b>2,356,808</b>	<b>78,232</b>	<b>158,078</b>	<b>-</b>	<b>(854,632)</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
Member Ship Dues	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Testing fees	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Software	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Services & software	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Travel	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Interest	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Miscellaneous	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Funding (A)</b>	<b>10,872,104</b>	<b>10,872,104</b>	<b>-</b>	<b>10,872,104</b>	<b>696,179</b>	<b>7,756,470</b>	<b>2,356,808</b>	<b>78,232</b>	<b>158,078</b>	<b>-</b>	<b>(854,632)</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Expenses</b>															
<b>Personnel Expenses</b>															
Salaries	6,250,448	6,250,448	-	6,250,448	218,356	3,165,100	93,220	289,237	45,777	585,090	207,580	374,791	-	400,897	-
Payroll taxes	391,324	391,324	-	391,324	16,816	204,686	59,232	18,952	3,279	23,965	9,237	28,467	-	26,490	-
Benefits	1,679,031	1,679,031	-	1,679,031	50,003	334,316	103,674	57,774	10,775	134,922	48,775	107,775	-	107,775	-
Retirement	1,269,031	1,269,031	-	1,269,031	43,033	334,316	203,143	37,262	10,844	134,922	38,816	70,885	-	70,885	-
Other Personnel Expenses	8,564,796	8,564,796	-	8,564,796	363,544	4,282,819	1,355,545	393,029	64,863	768,038	270,635	533,074	-	577,411	-
Meeting Expenses	69,965	69,965	-	69,965	1,400	3,500	7,600	36,600	1,460	48,000	-	-	-	100	-
Travel	655,430	655,430	-	655,430	57,200	209,800	187,000	44,400	41,900	113,000	12,000	10,000	-	5,000	-
Conference Calls	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Meeting Expenses</b>	<b>799,380</b>	<b>799,380</b>	<b>-</b>	<b>799,380</b>	<b>58,700</b>	<b>212,300</b>	<b>174,500</b>	<b>80,400</b>	<b>43,300</b>	<b>133,000</b>	<b>12,000</b>	<b>10,000</b>	<b>-</b>	<b>5,000</b>	<b>-</b>
<b>Operating Expenses</b>															
Consultants & Contracts	535,127	535,127	-	535,127	-	95,000	52,300	-	-	32,000	-	314,860	-	36,967	-
Office Rent	733,700	733,700	-	733,700	-	-	-	-	-	-	-	-	-	733,700	-
Office Costs	628,013	628,013	-	628,013	5,828	119,400	16,500	-	6,500	33,900	3,625	271,400	-	177,200	-
Professional Services	229,550	229,550	-	229,550	-	-	-	-	-	-	-	175,000	-	54,500	-
Depreciation	578,000	578,000	-	578,000	-	-	-	-	-	-	-	578,000	-	-	-
<b>Total Operating Expenses</b>	<b>2,704,390</b>	<b>2,704,390</b>	<b>-</b>	<b>2,704,390</b>	<b>3,828</b>	<b>209,400</b>	<b>68,800</b>	<b>-</b>	<b>6,500</b>	<b>65,900</b>	<b>178,675</b>	<b>1,164,260</b>	<b>-</b>	<b>1,009,217</b>	<b>-</b>
<b>Total Direct Expenses</b>	<b>12,018,566</b>	<b>12,018,566</b>	<b>-</b>	<b>12,018,566</b>	<b>479,932</b>	<b>4,205,149</b>	<b>1,945,945</b>	<b>479,479</b>	<b>114,131</b>	<b>966,938</b>	<b>(61,228)</b>	<b>1,713,139</b>	<b>-</b>	<b>1,939,929</b>	<b>-</b>
<b>Indirect Expenses</b>															
Other Non-Operating Expenses	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Change in Assets	(1,146,462)	(1,146,462)	-	(1,146,462)	(17,463)	(199,998)	(53,257)	(8,245)	(2,867)	(854,632)	-	-	-	-	-
<b>Fund Assets</b>															
Depreciation	(578,000)	(578,000)	-	(578,000)	-	-	-	-	-	-	-	(578,000)	-	-	-
Computer & Software CapEx	286,170	286,170	-	286,170	-	-	-	-	-	-	-	286,170	-	-	-
Furniture & Fixture CapEx	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Capital Improvements	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Leased Improvements	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Allocation of Fund Assets	(0)	(0)	-	(0)	(17,463)	(199,998)	(53,257)	(8,245)	(2,867)	-	-	291,830	-	-	-
<b>Indirects in Fund Assets (C)</b>	<b>(291,830)</b>	<b>(291,830)</b>	<b>-</b>	<b>(291,830)</b>	<b>(17,463)</b>	<b>(199,998)</b>	<b>(53,257)</b>	<b>(8,245)</b>	<b>(2,867)</b>	<b>-</b>	<b>-</b>	<b>291,830</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>TOTAL BUDGET (A+B-C)</b>	<b>11,226,736</b>	<b>11,226,736</b>	<b>-</b>	<b>11,226,736</b>	<b>696,449</b>	<b>7,756,470</b>	<b>2,356,808</b>	<b>78,232</b>	<b>158,078</b>	<b>-</b>	<b>(854,632)</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>TOTAL CHANGE IN WORKING CAPITAL (A+B-C)</b>	<b>(854,632)</b>	<b>(854,632)</b>	<b>-</b>	<b>(854,632)</b>	<b>-</b>	<b>-</b>	<b>0</b>	<b>-</b>	<b>0</b>	<b>-</b>	<b>(854,632)</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>FTEs</b>	45.00	45.00	-	45.00	2.01	28.02	6.13	2.10	0.33	2.85	0.92	4.02	-	3.62	-
<b>Indirect Costs Allocation</b>															
Allocation of Fund Assets	-	-	-	-	250,930	3,239,910	866,230	295,745	46,032	846,598	(461,328)	(1,713,139)	-	(1,564,948)	-
<b>Priority Sectors Allocation</b>															
Interest Income Allocation	-	-	-	-	8,927	97,316	23,914	8,378	1,395	-	-	-	-	-	-
<b>Other Non-Operating Expenses</b>															

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

## Statement of Financial Position

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

- As of December 31, 2016, per audit
- As of December 31, 2017, projected
- As of December 31, 2018, as budgeted

Statement of Financial Position			
2016 Audited, 2017 Projection, and 2018 Budget			
STATUTORY			
	(Per Audit)	Projected	Budget
	31-Dec-16	31-Dec-17	31-Dec-18
<b>ASSETS</b>			
Cash	3,755,883	3,002,591	1,998,129
Restricted Cash	166,275	142,000	-
Other Receivables	317	-	-
Prepaid expenses and other current assets	345,447	190,000	196,000
Security deposit	39,858	39,858	39,858
Restricted Cash - non-current	-	-	-
Property and equipment and capitalized software	1,819,854	2,419,086	1,897,802
Total Assets	<b>6,127,634</b>	<b>5,793,535</b>	<b>4,131,789</b>
<b>LIABILITIES AND NET ASSETS</b>			
Liabilities			
Accounts payable and accrued expenses	1,883,374	1,516,118	1,230,288
Postretirement medical benefit obligation	507,557	605,000	690,000
Deferred assessments - non-current	-	-	-
Deferred rent - non-current	500,325	500,325	500,325
Total Liabilities	<b>2,891,256</b>	<b>2,621,443</b>	<b>2,420,613</b>
Net Assets - unrestricted	3,236,378	3,172,092	1,711,176
Total Liabilities and Net Assets	<b>6,127,634</b>	<b>5,793,535</b>	<b>4,131,789</b>

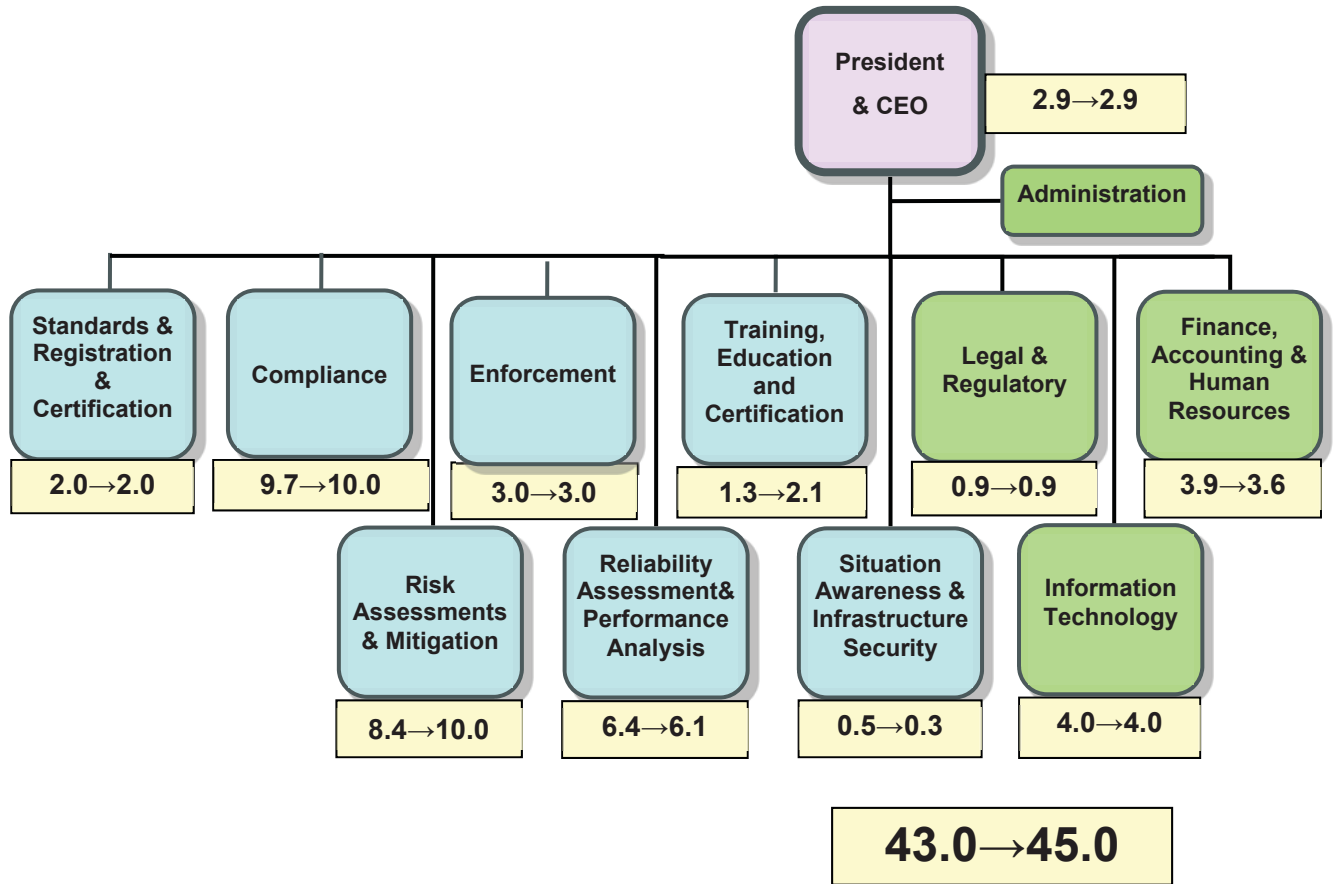
**Table D-2. Statement of Financial Position, Three-Year Comparison**

# Appendix A

## Organization Chart

The MRO Organization Chart is shown below.

**2017 to 2018 Full Time Equivalent (FTE) Comparison Organization Chart**



**FTE Trend from 2016 to 2020**

2016	2017	2018	2019 Estimate	2020 Estimate
43.0	43.0	45.0	45.0	45.0

Figure 2. Organization Chart

## Appendix B

This section lists acronyms used in this document.

Acronym	Definition
APDA	American Power Dispatchers Association
BA	Balancing Authority
BES	Bulk Electric System
BPS	Bulk Power System
CFR	Coordinated Functional Registration
CIP	Critical Infrastructure Protection
CMEP	Compliance Monitoring and Enforcement Program
EMS	Energy Management System
ERAG	Eastern Interconnection Reliability Assessment Group
ERO	Electric Reliability Organization
FAC	Finance and Audit Committee
FERC	Federal Energy Regulatory Commission
FPA	Federal Power Act
FTE	Full-Time Equivalent
IRA	Inherent Risk Assessment
IT	Information Technology
MCCF	Mid-Continent Compliance Forum
MRO	Midwest Reliability Organization
NERC	North American Electric Reliability Corporation
OC	Operating Committee
PC	Planning Committee
RAPA	Reliability Assessment and Performance Analysis
RC	Reliability Coordinator
RE	Regional Entity
RTO	Regional Transmission Organization
SC	Standards Committee
SCADA	Supervisory Control and Data Acquisition
SME	Subject Matter Expert
TFE	Technical Feasibility Exception
TOP	Transmission Operator

## Appendix C

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