NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Agenda
Standards Oversight and Technology Committee

November 8, 2017 | 11:30 a.m.-12:15 p.m. Central

JW Marriott New Orleans
614 Canal Street
New Orleans, LA 70130

Conference Room: Ile De France Ballroom – 3rd Floor

Call to Order

Introductions and Chair's Remarks

NERC Antitrust Compliance Guidelines

Agenda Items

1. **Minutes* — Approve**
   a. August 3, 2017 Meeting
2. **Compliance Monitoring and Enforcement Program Technology Project* – Approve and Recommend to the Board of Trustees for Approval**
3. **Registered Entities and ERO Enterprise IT Applications* — Update**
4. **Information Technology Investment Review Policy and Procedure* — Review**
5. **2018-2020 Reliability Standards Development Plan* – Approve and Recommend to the Board of Trustees for Approval**
6. **Standards Efficiency Review* — Update**
7. **Reliability Standards Quarterly Status Report* — Review**
8. **Adjournment**

*Background materials included.

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Antitrust Compliance Guidelines

I. General

It is NERC's policy and practice to obey the antitrust laws and to avoid all conduct that unreasonably restrains competition. This policy requires the avoidance of any conduct that violates, or that might appear to violate, the antitrust laws. Among other things, the antitrust laws forbid any agreement between or among competitors regarding prices, availability of service, product design, terms of sale, division of markets, allocation of customers or any other activity that unreasonably restrains competition.

It is the responsibility of every NERC participant and employee who may in any way affect NERC's compliance with the antitrust laws to carry out this commitment.

Antitrust laws are complex and subject to court interpretation that can vary over time and from one court to another. The purpose of these guidelines is to alert NERC participants and employees to potential antitrust problems and to set forth policies to be followed with respect to activities that may involve antitrust considerations. In some instances, the NERC policy contained in these guidelines is stricter than the applicable antitrust laws. Any NERC participant or employee who is uncertain about the legal ramifications of a particular course of conduct or who has doubts or concerns about whether NERC's antitrust compliance policy is implicated in any situation should consult NERC's General Counsel immediately.

II. Prohibited Activities

Participants in NERC activities (including those of its committees and subgroups) should refrain from the following when acting in their capacity as participants in NERC activities (e.g., at NERC meetings, conference calls and in informal discussions):

- Discussions involving pricing information, especially margin (profit) and internal cost information and participants' expectations as to their future prices or internal costs.
- Discussions of a participant's marketing strategies.
- Discussions regarding how customers and geographical areas are to be divided among competitors.
- Discussions concerning the exclusion of competitors from markets.
- Discussions concerning boycotting or group refusals to deal with competitors, vendors or suppliers.

- Any other matters that do not clearly fall within these guidelines should be reviewed with NERC's General Counsel before being discussed.

III. Activities That Are Permitted

From time to time decisions or actions of NERC (including those of its committees and subgroups) may have a negative impact on particular entities and thus in that sense adversely impact competition. Decisions and actions by NERC (including its committees and subgroups) should only be undertaken for the purpose of promoting and maintaining the reliability and adequacy of the bulk power system. If you do not have a legitimate purpose consistent with this objective for discussing a matter, please refrain from discussing the matter during NERC meetings and in other NERC-related communications.

You should also ensure that NERC procedures, including those set forth in NERC's Certificate of Incorporation, Bylaws, and Rules of Procedure are followed in conducting NERC business.

In addition, all discussions in NERC meetings and other NERC-related communications should be within the scope of the mandate for or assignment to the particular NERC committee or subgroup, as well as within the scope of the published agenda for the meeting.

No decisions should be made nor any actions taken in NERC activities for the purpose of giving an industry participant or group of participants a competitive advantage over other participants. In particular, decisions with respect to setting, revising, or assessing compliance with NERC reliability standards should not be influenced by anti-competitive motivations.

Subject to the foregoing restrictions, participants in NERC activities may discuss:

- Reliability matters relating to the bulk power system, including operation and planning matters such as establishing or revising reliability standards, special operating procedures, operating transfer capabilities, and plans for new facilities.
- Matters relating to the impact of reliability standards for the bulk power system on electricity markets, and the impact of electricity market operations on the reliability of the bulk power system.
- Proposed filings or other communications with state or federal regulatory authorities or other governmental entities.
- Matters relating to the internal governance, management and operation of NERC, such as nominations for vacant committee positions, budgeting and assessments, and employment matters; and procedural matters such as planning and scheduling meetings.

DRAFT Minutes
Standards Oversight and Technology Committee

August 3, 2017 | 2:00–3:00 p.m. Eastern

Conference Call

Mr. Kenneth W. DeFontes, Jr., Acting Chair, called to order a duly noticed meeting of the Standards Oversight and Technology Committee (the "Committee") of the Board of Trustees ("Board") of the North American Electric Reliability Corporation ("NERC") on August 3, 2017, at 2:00 p.m. Eastern, and a quorum was declared present. The agenda is attached as **Exhibit A.**

Present at the meeting were:

Members
Kenneth W. DeFontes, Jr., Acting Chair
Frederick W. Gorbet
David Goulding
George S. Hawkins
Roy Thilly

Board Members
Gerry W. Cauley, President and Chief Executive Officer
Robert G. Clarke
Jan Schori

NERC Staff
Charles A. Berardesco, Senior Vice President, General Counsel, and Corporate Secretary
Tina Buzzard, Associate Director
Howard Gugel, Senior Director of Standards
Stan Hoptroff, Vice President, Chief Technology Officer, and Director of Information Technology
Mark Lauby, Senior Vice President and Chief Reliability Officer
Steven Noess, Director of Standards Development
Andy Rodriguez, Director, Business Process Improvements
Michael Walker, Senior Vice President and Chief Financial and Strategic Development Officer

Acting Chair's Remarks
Mr. DeFontes noted that due to two recent Trustee resignations, the Committee required a new chair, and that Mr. Thilly had asked him to chair this meeting.

NERC Antitrust Compliance Guidelines
Mr. DeFontes directed the participants' attention to the NERC Antitrust Compliance Guidelines included with the agenda materials, and stated that any additional questions regarding these guidelines should be directed to Mr. Berardesco.

Minutes
Upon motion duly made and seconded, the Committee approved the minutes of the May 10, 2017 meeting as presented at the meeting.

Registered Entities and ERO Enterprise IT Applications
Mr. Hoptroff provided an overview of the ERO Enterprise IT projects that were focused on registered entity interactions as well as the ERO Enterprise, referencing the detailed materials that had been included in the advance agenda package. With respect to the CMEP Technology program, he reviewed key goals and constraints and preliminary benefits (including real time access to information, improved analytics, and reduced application support costs). Mr. Hoptroff reviewed options considered by management, noting of the three, one was likely to be more costly than the recommended option. He noted that all of the Regional Entity chief executives support the project, which will be critical in enabling greater consistency across the ERO Enterprise. Mr. Hoptroff reviewed upcoming activity, including the issuance of an RFP, further analysis, and presentations to Board committees and the Board prior to commencement of the project. He reviewed the projected financials for the project, noting that benefits should exceed costs by 2021. Mr. Hoptroff reviewed the project management and risk mitigation approaches that will be undertaken by management. In the Committee discussion, it was noted that dedication of staff to the project will be critical for success.

Mr. Hoptroff also reviewed other projects, including entity registration, the misoperations portal, an upgrade of the NERC website and the E-ISAC portal project.

Cyber Security Supply Chain Risk Management Standard
Mr. Gugel provided an update on the development of the cyber security supply chain standard, noting that the standard would be submitted for Board approval in August, and further detail on the standard and related activities would be provided at the upcoming MRC meeting. He noted that the proposed standard does not address low risk assets, and that NERC would be focused on developing additional resources for consideration of such assets. Mr. Gugel reviewed the MRC policy input related to the standard and the preliminary implementation plan. The Committee requested a high level summary of the standard and the implementation plan.

Reliability Standards Quarterly Status Report
Mr. Gugel presented the Reliability Standards Quarterly Status Report, referencing the detailed materials that had been included in the advance agenda package. He reviewed the status of FERC standards-related directives and the schedule for the upcoming submission of standards to the Board. Mr. Gugel summarized the Standards Committee report, including the schedule for development and submission of the Reliability Standards Development Plan. He also reviewed the status of the project to address Guidance and Technical Basis, and the information relating to the number of actual requirements in reliability standards.

Adjournment
There being no further business, and upon motion duly made and seconded, the meeting was adjourned.

Submitted by,

Charles A. Berardesco
Corporate Secretary

Agenda Item 2
Standards Oversight and
Technology Committee Meeting
November 8, 2017

Compliance Monitoring and Enforcement Program Technology Project

Action

Recommend approval of the Compliance Monitoring and Enforcement Program (CMEP) Technology Project by the NERC Board of Trustees (Board), on terms and conditions substantially consistent with the information provided to the SOTC.

Summary

The CMEP Technology Project is a strategic initiative designed to support the ERO Enterprise as it continues to evolve as a risk-informed regulator. The project is focused on the following key objectives:

- Implement auditing best practices and professional standards, where applicable, across planning, fieldwork, reporting, and quality assurance
- Align common CMEP business processes across the ERO Enterprise, increasing consistency for registered entities and improving ERO Enterprise operational efficiency and effectiveness
- Increase ERO Enterprise capabilities in support of the Risk-Based Compliance Oversight Framework, including enhanced quality assurance and oversight to ensure consistent application of the CMEP
- Automate workflows and enhance collaboration between registered entities and the ERO, further supporting the improvement of ERO Enterprise operational efficiency and effectiveness
- Share and analyze data and information supporting risk-informed compliance oversight across the ERO Enterprise within a single-technology platform, eliminating delays between systems, and reducing the need for manual communications
- Provide a single, common portal for registered entities, enabling consistency of experience
- Provide registered entities additional data and services in support of achieving their reliability goals, such as preserving and enhancing compliance data entry, increasing availability of information, and offering standards data and supporting information in ways that can be more easily consumed by third-party compliance tools
- Reduce IT application costs across the ERO Enterprise by $420k annually

This project supports three ERO Enterprise goals: implementation of a risk-informed CMEP (Goal 2), reduction of known risks to reliability (Goal 3), and improving the efficiency and effectiveness of the ERO (Goal 6).

NERC and the Regions continue to make progress on the selection and implementation of a new technology solution and process changes for CMEP. A number of registered entities representing diverse interests across North America, as well as trade organizations and the

Compliance and Certification Committee Program Alignment Working Group, reviewed and provided guidance on the prioritization of business requirements and suggested additional requirements. This guidance and requirements were included in a request for proposal (RFP) that was submitted to a select list of software vendors on September 19, 2017. Responses were received on October 13, 2017, and are in the process of being reviewed.

Based on preliminary information gathered from software vendors prior to issuance of the RFP, project financials are expected to be as follows:

- Estimated capital investment: $5.1M, completing in 2020
- Estimated annual operating costs: $780k/year ($420k per year less than current spend)
- Estimated productivity gains for approximately 200 ERO Enterprise staff: ~15 percent in 2022 and beyond
- Estimated break-even point based on hard cost reduction and estimated cost avoidance through partial productivity gains during project implementation: end of year 2021

For more detail, including financial model assumptions and suggested measurements for benefits not captured within the financial summary above, please see the current version of the CMEP Technology Project Business Case on NERC's website.

Agenda Item 3
Standards Oversight and
Technology Committee Meeting
November 8, 2017

Registered Entities and ERO Enterprise IT Applications

Action
Update

Summary
At the August SOTC open meeting, management provided an update on software application projects currently planned or underway for the following groups:

- Registered Entities
- ERO Enterprise
- Electricity Information Sharing and Analysis Center (E-ISAC)

Projects currently underway include the implementation of a new portal platform for the E-ISAC, a new system to support Entity Registration for those registered entities participating in Coordinated Functional Registrations, a new portal for submitting and managing misoperations data, and search improvements to NERC's public-facing website.

In 2018, and the coming years, management will continue to place emphasis on IT project cost benefits, registered entity and Regional Entity applications and infrastructure, NERC's public-facing website, and the CMEP Technology Project. In addition, management will continue to focus on improving and enhancing the ERO's analytical capabilities through enhancing the gathering, refining, and managing of reliability data.

The 2017 budget and 2018 budget submission is primarily focused on Entity Registration and CMEP, as discussed above. Items forecasted in the 2019–2020 budget include additional functionality for Entity Registration, the CMEP Technology Project, Wind GAR, Alerts, and replacement of the Reliability Coordinator Information System.

Further, management will continue to manage and deliver IT software application projects supporting NERC's E-ISAC business needs. Projects include the delivery of enhancements to a new stakeholder and member portal for the E-ISAC, additional tools for communications, e.g., two-way radio frequency devices, and additional tools and equipment for data analytics.

In addition, NERC has developed an Information Technology Investment Review Policy and Procedure that includes a method for both identifying and evaluating the benefits of proposed IT software application investments and for post completion verification of expected benefits to the ERO Enterprise. This approach will be applied to evaluate projects going forward and will be refined and updated, as additional experience is gained using the approach. Further background regarding the Information Technology Investment Review Policy and Procedure is included under agenda item 4.

Agenda Item 4
Standards Oversight and
Technology Committee Meeting
November 8, 2017

Information Technology Investment Review Policy and Procedure

Action
Review

Summary
Over the past several years, senior management has significantly enhanced the governance, policies, procedures, internal controls and associated documentation applicable to the oversight, authorization and implementation of investments in information technology software applications, including investments in ERO Enterprise software applications. Examples include (1) the formation of an ERO Enterprise Technology Leadership Team (TLT) comprised of the president and chief executive officer of NERC and representative chief executive officers designated by the Regional Entities, which both approves and monitors the progress, of investments in ERO Enterprise software applications; (2) the establishment of a dedicated IT project management office and associated enhancements to project evaluation, implementation and management procedures and controls; (3) the establishment of formal vendor and contract authorization and approval processes and documentation under the oversight of the company's chief financial officer; (4) enhancements in documentation included in NERC's annual business plan and budget which must be approved by both the NERC board and FERC as a prerequisite to the funding of proposed investments receiving TLT approval; (5) enhanced public quarterly variance reporting to the NERC finance and audit committee and (6) post implementation project reviews by NERCs' internal audit department.

As part of natural maturation of these efforts and the company's ongoing commitment to transparency and accountability, management has developed an Information Technology Investment Review Policy and Procedure applicable to the evaluation of NERC investments in Information Technology software applications, including investments in ERO Enterprise software applications. The method was developed using industry benchmarks and input from the Gartner Group, an IT Industry research and advisory firm. Gartner has a dedicated practice focused on IT investment benefits realization which NERC engaged to assist in the creation of our policy and procedure.

This policy and procedure also incorporates the company's recommended method for pre- and post-investment evaluation of the costs and benefits of software application investments. The development of this method was both contemplated and required under the ERO Enterprise's 2017 Efficiency and Effectiveness Metric 7.b.2., which calls for management to develop a method to measure and track the cost benefit of ERO Enterprise IT projects. This method will also be used to conduct an assessment of the quantitative and qualitative value, including productivity gains, from operational enterprise software applications, as contemplated by the proposed 2018 ERO Enterprise's proposed 2018 Efficiency and Effectiveness Metric 7.b.1.

One of the key intents of this new policy and procedure is to ensure alignment of IT spend with NERC and the ERO Enterprise's organizational mission and goals. With our primary mission

being to "*assure the reliability and security of the bulk power system in North America,*" we have created six value areas to measure. Specifically, the value areas are:

1. Reduce Reliability Risk to the bulk power system in North America
2. Reduce costs for the ERO Enterprise
3. Reduce risks to the corporation
4. Provide new capabilities for registered entities and ERO Enterprise
5. Increase the productivity of registered entities and ERO Enterprise employees
6. Increase the quality of our work products (e.g., data and conclusions, reports, etc…)

In addition, we have assigned weights to the six value areas, to ensure that post-execution evaluation of a project puts more emphasis on those functions that represent the most significant benefit to the ERO and our mission. These weights can also be used to develop a value score that will enable us to compare potential IT investments, with the result being the selection of IT investments that most closely support NERC and the ERO Enterprise's overall mission and objectives.

For example, the investment in an IT ERO Enterprise application that can track and report on events that have occurred within the bulk power system is intended to reduce reliability risk. By reporting, tracking, trending and analyzing the cause of events, detailed guidance and lessons learned can be provided to the industry so as to avoid these type of events in the future. A project that is focused primarily on increasing productivity would be of less value. Both projects would be evaluated based on the delivery of the value originally identified in the business case.

When one project addresses both reliability risk and increasing productivity, reliability risk would play a greater role in evaluating the success of the project. A project that successfully delivered a reduction in reliability risk but did not increase productivity would score higher than a project that delivered a productivity gain but failed to impact reliability in a positive way. This is true for any project that impacts multiple value areas.

At the committee meeting, Stan Hoptroff, NERC's vice president and chief technology officer, will provide additional information and background regarding this policy and procedure. A public webinar will also be scheduled in December to review the method in more detail and provide some examples of its application to both completed enterprise applications, as well as the proposed CMEP project.

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Information Technology Investment Review Policy and Procedure

Draft Version 8.0
October 19, 2017

Executive Summary and Context

The purpose of this policy is to ensure accountability by NERC management for investment decision making for Information Technology (IT) Projects by applying this method, policy, and procedure to all IT projects that are equal to or exceed a minimum of $100k threshold. The method to measure expected benefits will be included in the project business cases in the *Business Value Analysis* section providing insights into the overall project's success. Upon completion of the project, the method will then be used to determine the expected benefits were realized.

In addition, this method supports NERC's corporate performance metrics regarding ERO Enterprise efficiency and effectiveness, related ERO Enterprise performance reporting, and NERC's performance based compensation determinations.

This method draws from IT investment decision-making and approval processes that are commonly used within the electric utility industry, and was developed in consultation with the Gartner Group's IT Benefits' Realization practice and their subject matter experts.

Project Governance

The ERO Project Management Office (PMO) reports to the chief technology officer, and is comprised of both full-time and contract project management staff. Established in 2012, the PMO provides project standards and processes for the selection and implementation of ERO Enterprise technology investments.

As part of its governance responsibilities, the PMO generates a business case for each IT investment and facilitates a review and approval process with the Technology Leadership Team (TLT), ERO Executive Management Group (ERO EMG), and NERC Leadership. All ERO Enterprise projects go through this review process to ensure that resources are working only on initiatives that the ERO identifies as a priority. The high-level process is shown below.

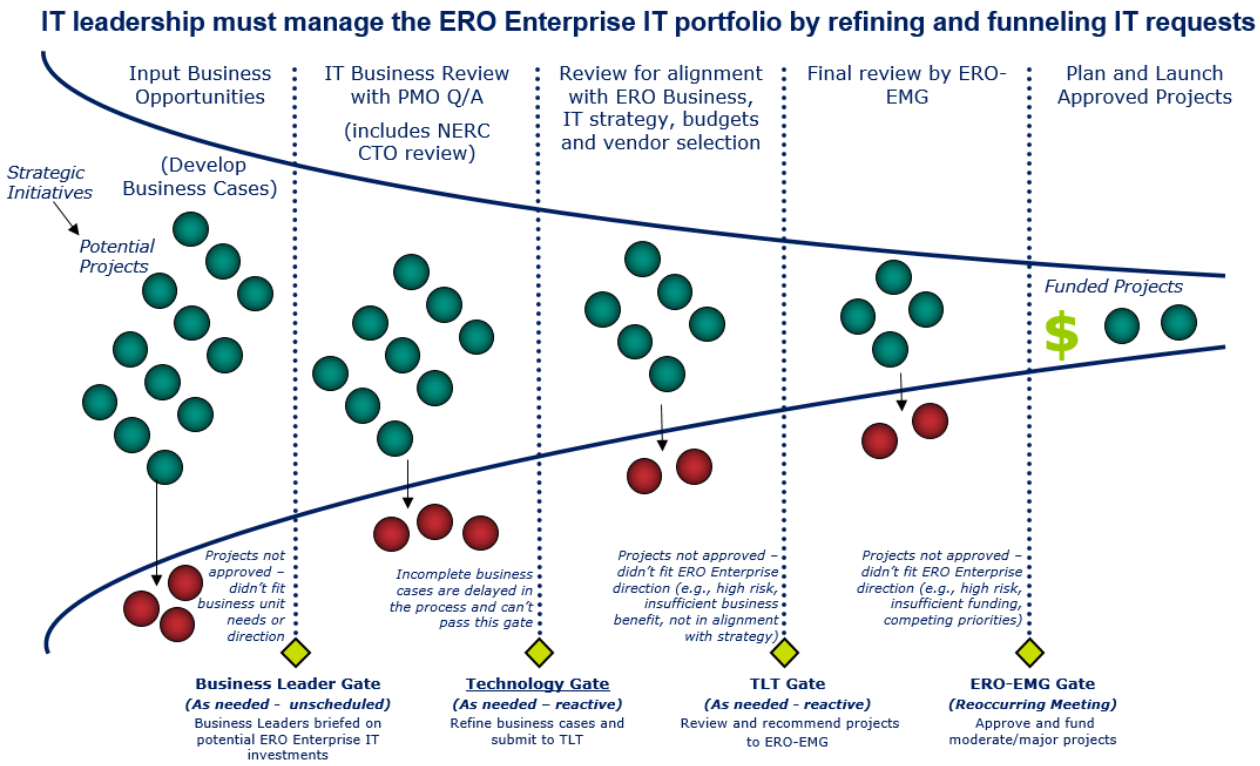

Figure 1 - Business Case Approval Gates

The business case review also includes review by the NERC Chief Financial Officer, who validates the request and funding against the approved Business Plan and Budget, and approves the request for contract authorization (RCA) under established finance and accounting procedures.

The diagram below provides an overview of the method proposed in the following pages.

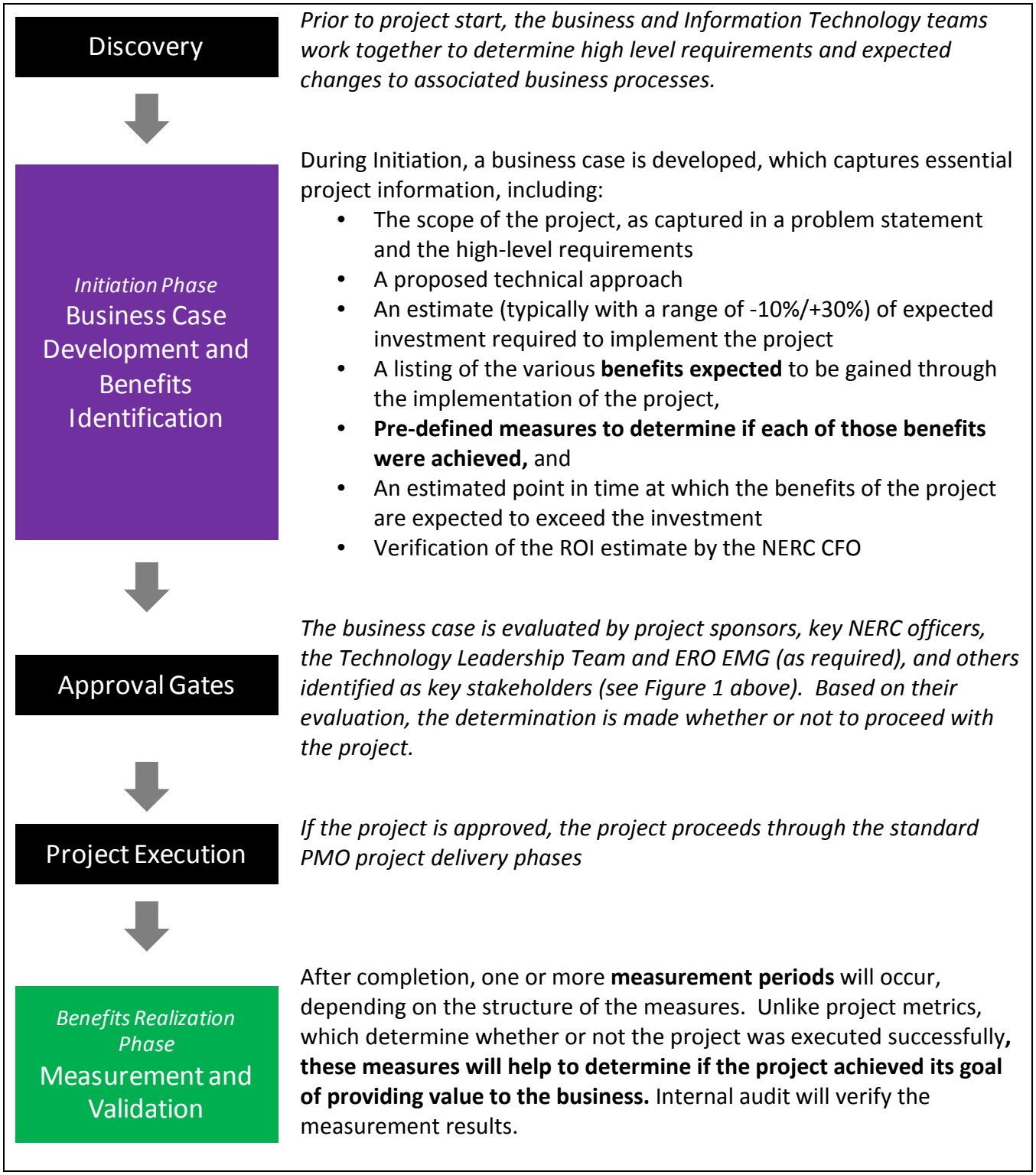

Figure 2 – Process Overview

In order to accurately determine if the expected benefits were provided, it is essential to begin a project with a solid understanding of the way value will be measured. By identifying six specific value areas, as well as associated ways of measuring benefit realization in each of those areas, this method will provide a standard way to measure and report project delivery of business value. This method will assist the ERO Enterprise in two ways:

1. Provides a clear way to communicate expectations and measures of success prior to the start of a project, while ensuring that all key stakeholders agree on what goals are to be achieved through implementation of the project
2. Creates a feedback loop to help determine the effectiveness of our projects, which can in turn be used to refine evaluations of future proposed projects

Policy

For all IT technology investment projects with an expected contractor and consultants spend of $100,000 or greater, the ERO PMO shall:

1. Develop a business case in conformance with the ERO Project Management Office process, to include:
   a. Project criticality – what options are available, including not moving forward
   b. Alignment to corporate goals and Business Plan and Budget
   c. Expected costs
   d. Expected benefits
   e. Benefits measurement and validation

2. Prior to project launch, gain approval of said business case by project sponsors, key NERC officers, the Technology Leadership Team and ERO EMG (as required), and others identified as key stakeholders.

3. Follow NERC's finance and accounting procedures and controls to obtain necessary financial approval and funding allocation for project spend prior to incurring any contractor and consultants' expense for project implementation. These controls include:
   a. Verification of alignment to approved Business Plan and Budget
   b. Approval of any necessary Requests for Contract Authorization (RCA) using the forms and documentation required by NERC's chief financial officer and finance and accounting department.

4. Measure delivery of the benefits as identified in the business case.

5. Produce a project benefits scorecard for project sponsors and key stakeholders, showing the benefits measurement results.

6. Support and assist in the verification of scorecard results by NERC's Internal Audit department, as necessary.

Procedures

The ERO PMO will execute and oversee the procedures listed below. The first phase occurs during the development and evaluation of the business case. The second phase occurs after delivery of the project.

Business Case Development and Benefits Identification Procedure

A business case will be developed during the Initiation Phase that provides justification for implementation of the project. In addition to the standard sections of the business case, the document will also include a "Business Value Analysis," which will enumerate expected benefits of the project along with a description of how the benefit will be measured after project completion.

Each benefit should clearly identify who is expected to benefit, how they will benefit, and what "value area" that benefit is best categorized. The measurements should generally meet the following criteria:

- Has it been defined, unambiguously, in a way that can be measured and verified independently without relying on the judgment of the Project team?
- Is it a measure that can be reasonably linked (directly or indirectly) to both the benefit with which it is associated and the implementation of the project?
- Has a specific time or time period(s) been defined for measurement?

By establishing these benefits and measures during the development of the business case, the process ensures a common understanding of business goals and how success of the project will be measured.

Potential Beneficiaries

In general, ERO Enterprise projects are expected to provide business value to one or more of the following high-level beneficiaries. In some cases, further refinement may be required to accurately capture project benefits (e.g., to a specific group of employees, or a specific class of entities).

- Registered Entity staff
- Stakeholders/NERC Participants
- NERC staff
- ERO Enterprise Staff
- Regional staff
- E-ISAC

Value Areas

Six areas have been identified that represent alignment with the broad goals of the ERO Enterprise. These areas are described below, along with potential ways of measuring the delivery of business value.

Reducing Reliability Risk –addresses one or more risks to the reliability of the Bulk Electric System (BES).

- Described in the text of the business case and/or in the listing of expected benefits.

- Value measures are: delivery confirmation (yes/no), BES Performance Metric-based (quantitative), and beneficiary surveys (qualitative).

Reducing Corporate Risk –addresses one or more corporate risks (e.g., reputational risk, contract risk, litigation risk, legal and regulatory risk, addressing an internal audit finding, etc.)

- Described in the text of the business case and/or in the listing of expected benefits.
- Value measures are: delivery confirmation (yes/no), Corporate Metric-based (quantitative), and beneficiary surveys (qualitative).

Reducing Cost –provides a net reduction in costs of the area(s) being addressed by the project.

- Described in the business case via the ROI model and analysis.
- Value measures are: delivery confirmation (yes/no), and financial reporting (quantitative).

Increasing Capability –enables activities or analysis that is not currently possible given existing process, resource, or system limitations.

- Described in the text of the business case and/or in the listing of expected benefits.
- Value measures are: delivery confirmation (yes/no), and beneficiary surveys (qualitative).

Increasing Productivity –increases the amount of work that can be completed.

- Described in the business case via the ROI model and analysis.
- Value measures are: delivery confirmation (yes/no), Time Entry data comparisons (quantitative), beneficiary surveys (qualitative), and anecdotal evidence/testimonials (qualitative).

Increasing Work Quality –reduces the probability of errors or provide information of better quality.

- Described in the text of the business case and/or in the listing of expected benefits.
- Value measures are: delivery confirmation (yes/no), Time Entry data comparisons (quantitative), specific metric-based (quantitative), and beneficiary surveys (qualitative).

Business Value Analysis Examples

The following four benefit areas provide examples of what might be included in a business case. Not every project will necessarily provide benefits in all areas.

InfoHub/Doc Management

Value Area	Measurement
Reduce Reliability Risk	
Reduce Corporate Risk	Does a formal, consistent document management process, tools and templates exist?
	Has version control been addressed?
	Is NERC staff is consistently aware of the Company's document retention policy
	Is the Company's document retention policy being implemented consistency across the company?
	Do NERC staff now generally discard paper and electronic documents more frequently?
	Are naming conventions consistently used?
	Does the system have a way to declare a record?
Reduce Cost	Have we been able to reduce storage and/or server costs?
Increase Capability	NA
Increase Productivity	Does the system make document easier to find through the use of metadata?
	Does the system support co-authoring?
	Does the system have workflows?
	Does the system automatically apply metadata?
	Are NERC memos, reports, and other templates more user friendly?
Increase Work Quality	Does the system promote a single place for documents to be stored?

Event Analysis	
Value Area	Measurement
Reduce Reliability Risk	Does the system support the reporting of BPS events, the evaluation of BPS events, the undertaking of appropriate levels of EA, the generation of lessons learned, and the generation of reliability trend analysis?
Reduce Corporate Risk	NA
Reduce Cost	NA
Increase Capability	Does the system help enable the ERO Enterprise to integrate event reports with other reliability data sources and develop a portfolio of risk information?
Increase Productivity	Does the tool improve efficiency in tracking event reporting and analysis status
	Does the tool ensure the appropriate acknowledgements or handoffs at different EA stages are handled correctly?
	Does the tool improve collaboration between NERC and the Regional Entities
	Does the application help streamline ERO Enterprise reliability data sources with a event data collection platform that is consistent with the ERO Enterprise Strategic Plan?
Increase Work Quality	NA

Entity Registration - CFRs

Value Area	Measurement
Reduce Reliability Risk	Decreasing trend in the number of identified Violations that can be traced to errors in CFR understanding and/or implementation.
Reduce Corporate Risk	Verify that only Registered Entity users can enter CFR data.
	Decreasing trend in the number of identified Violations that can be traced to errors in CFR understanding and/or implementation.
Reduce Cost	NA
Increase Capability	Verify Registered Entities can generate an initial CFR Matrix, and that NERC and Regional Entities can run reports on CFRs that allow for more efficient compliance planning and monitoring preparation.
Increase Productivity	Survey to registered entity CFR participants, regional staff, and NERC staff regarding level of effort to prepare, review, record, and publish CFRs.
	Positive testimonials (as part of the aforementioned survey) from NERC staff, Regional Entity staff, and Registered Entity staff.
Increase Work Quality	Verify new process is structured and requires data to be entered in a specific way (versus the openness of a spreadsheet).
	Decreasing trend in the number of identified Violations that can be traced to errors in CFR understanding and/or implementation.

CMEP Tools Project	
Value Area	Measurement
Reduce Reliability Risk	Verify the system provides improved visibility from current system with views of trends and risks.
	Verify the system allows NERC to observe and understand the development and implementation of registered entity compliance oversight plans.
Reduce Corporate Risk	Audits show consistent application of CMEP and RoP across the ERO Enterprise including fair and objective outcomes.
	Audits show reduction in new significant noncompliance findings in NERC's implementation of the Regional Entity oversight plans or adherence to the RoP with regard to Compliance Monitoring and Enforcement.
Reduce Cost	Year to year cost comparison.
Increase Capability	Verify ability to view an aggregate risk profile for a given Region, as well as look for trends and extent of condition across Regions.
	Verify ability to view a risk profile that shows compliance history trends in various areas for each registered entity, as well as look for trends across registered entities.
	Verify ability to view compliance history trends by standard or standard family.
	Verify the system has increased analytics and reporting capability beyond those available today.
	Verify Registered entities have a single system for managing and submitting supporting documentation.
	Verify capability to share information between and among NERC and Regions within the tool.
Increase Productivity	When surveyed, registered entities report increased productivity in their interactions with the CMEP process.
	Reduced processing time of various steps with the CMEP, compared to historical averages
	Verify new automation of one or more routine CMEP activities.
	Total number of hours of manual CMEP Labor reported by ERO Enterprise staff will trend down from 2018 to 2022
	Verify Regional risk, IRA, entity history and other supporting analyses used to create compliance oversight plans are easily accessible
Increase Work Quality	Survey of NERC and Regions report perceived increased quality in data and work products.
	Survey of Registered entities report perceived increased quality and consistency in data and work products.
	Survey of Registered entities report increased consistency in interactions with the Regions with regard to the CMEP.
	Verify elimination of one or more manual data exchange steps between modules (from planning to monitoring to enforcement, and from the registered entities to the Regions to NERC).
	Verify existence of standardized data definitions within the system.

Measurement and Validation Procedure

At the conclusion of project delivery, the benefits identified in the business case will be measured and verified using the methods described in the business case. Some of the measures will be objective and clear, others may be more subjective or require interpretation. Examples of measures include (but are not limited to) the following, in order from most objective to most subjective:

- **Financial reporting** (quantitative) – Based on invoices and/or figures calculated and evaluated by Finance, rather than the project team or the PMO
- **BES Performance Metric-based** (quantitative) – based on calculations and evaluations not performed by the project team or the PMO
- **Corporate Metric-based** (quantitative) – based on calculations and evaluations not performed by the project team or the PMO
- **Delivery confirmation** (yes/no) – based on criteria that should be defined within the business case that can be verified independently; subject to some interpretation
- **Time Entry data comparisons** (quantitative) – based on reported data; some potential subjectivity based on how accurately employees are able to account for their time
- **Specific metric-based** (quantitative) – Based on metrics that must be calculated by the business, the project team, or the PMO; may be the potential subjectivity based on how clearly the metric is described
- **Beneficiary surveys** (qualitative) – subjective based on beneficiaries' evaluations; increased sample size can reduce concerns with outliers potentially determining success or failure.
- **Anecdotal evidence/testimonials** (qualitative) – subjective, but often compelling, and useful when measuring benefit with the other methods above may be ineffective or exceedingly difficult.

Following measurement, a project scorecard will be produced that rates the success of in achieving each of the benefits described. The final score will be subject to validation by NERC's Internal Audit department.

For measures that can be evaluated across a range of potential outcomes, the measure will be scored as follows:

5 = Exceeds expected value

4 = Meets expected value

3 = Provides some value, but not full value expected

2 = Does not provide value, but did not decrease value

1 = Decreases value

For yes/no measures, the measure will generally be scored as follows:

4/Yes = Functionality is confirmed to have been provided

2/No = Functionality is confirmed to have not been provided

However, if appropriate, 5, 3, or 1 may be used to communicate higher, partial, or lower performance.

Value Area Scores are the average of the scores for each benefit measure for that Value Area.

The Aggregate Project Score is the weighted average of Value Area Scores (see below) based on the unit weightings below.

- Reduce Reliability Risk Weighting (RRSW) – Six units
- Reduce Corporate Risk Weighting (RCRW)– Five units
- Reduce Cost Weighting (RCW)– Four units
- Increase Capability Weighting (ICW)– Three units
- Increase Productivity Weighting (IPW)– Two units
- Increase Work Quality Weighting (IWQW) – Two units

Because each project is different, the denominator used in the weighting is **dynamic** – Value Areas not intended to be addressed by the project are not considered in the evaluation of the project's success. By taking this dynamic approach, if a project has benefits that apply in only one or two Value Areas, the weightings will be relatively straightforward (e.g., a project with only productivity and quality benefits will weight those benefits equally (50/50); a project focused solely on reducing cost will be evaluated 100% based on the cost reductions achieved). However, in a project that impacts many Value Areas, those weightings will be more impactful. For a project that impacts **all six** Value Areas, the weightings are approximately as follows:

- Reduce Reliability Risk – 27%
- Reduce Corporate Risk – 23%
- Reduce Cost – 18%
- Increase Capability – 14%
- Increase Productivity – 9%
- Increase Work Quality – 9%

For example, assume a project that has two benefits that are expected to reduce Reliability Risk. The project also has one benefit identified that is expected to increase capability, and one that is expected to increase productivity. When measured, the results are as follows:

Reliability Risk Measure 1 Score:	5
Reliability Risk Measure 2 Score:	3
Increase Capability Measure 1 Score:	2
Increase Productivity Measure 1 Score:	4

First, the Value Area Scores are calculated by averaging the benefits measures for each Value Area:

- Reduce Reliability Risk Score (RRRS) = (5+3)/2 = 4
- Increase Capability Score (ICS) = 2/1 = 2
- Increase Productivity Score (IPS) = 4/1 = 4

Next, the Aggregate Project Score is calculated based on the weighted average of those Value Area Scores by multiplying each Value Area by the weight (w), summing the results, and dividing by total weight (TW):

$$\text{Aggregate Project Score} = \frac{(RRS \times RRSW)+(ICS \times ICSW)+(IPS \times IPSW)}{TW}$$

$$= \frac{(4\times6)+(2\times3)+(4\times2)}{11}$$

$$= \frac{24+6+8}{11}$$

$$= 3.46$$

In this case, the Aggregate Project Score is a 3.46, indicating that the project produced some, but not all, of the expected business value.

Agenda Item 5
Standards Oversight and
Technology Committee Meeting
November 8, 2017

2018-2020 Reliability Standards Development Plan

Action

Approve and recommend for Board of Trustees approval.

Background

The 2018-2020 Reliability Standards Development Plan (RSDP) focuses on periodic reviews, Federal Energy Regulatory Commission directives, emerging risks, Standard Authorization Requests, and the standards grading initiative. The RSDP also includes time frames and anticipated resources for each project under development, as well as considerations for cost effectiveness. NERC and the Standards Committee will continue to work with the other NERC committees and task forces to bridge any potential reliability gaps and risks.

The 2018-2020 RSDP was posted for a 30-day public comment period from June 26, 2017 through July 25, 2017. Modifications were made to the RSDP based on industry comments. The Standards Committee endorsed the RSDP at its September 7, 2017 meeting.

Additional Information

A link to the 2018-2020 RSDP is included for reference: 2018-2020 RSDP.

Agenda Item 6
Standards Oversight and
Technology Committee Meeting
November 8, 2017

Standards Efficiency Review

Action
Update

Background
As part of its continuing focus on supporting the success and evolution of NERC Reliability Standards to ensure they appropriately address risks to the bulk power system, NERC has a process to review the existing body of Reliability Standards to determine whether any requirements have little or no reliability benefit and could be retired or modified. NERC staff has assembled a group of industry experts to define the scope of this review and the criteria for evaluation. Once this is established, NERC will solicit industry participants to compile candidate requirements that meet the established criteria.

Through open and transparent industry participation, the criteria and list will be formed and vetted with industry. Lessons from both the "Paragraph 81" effort and the Independent Expert Review Panel underscore the importance of moving forward through open discussion and open solicitation for participants. NERC will also coordinate with the industry team to ensure all of the information developed through the 2016 and 2017 Standards grading efforts, which includes consideration of content, quality, cost, and reliability impact analysis. In addition, consideration of anonymized compliance history (e.g. audit numbers, types of violations and effectiveness of mitigation plans, evidential requirements and other compliance efficiency, and effectiveness aspects) will be included in the analysis. Any modifications to Reliability Standards will follow the process outlined in the Standard Processes Manual.

Standards Efficiency Review Advisory Team

- NERC: Ken McIntyre (Executive Sponsor)
  Howard Gugel
  Steven Noess
  Chris Larson
- Standards Committee:
  Randy Crissman (NYPA)
  Amy Casuscelli (Xcel Energy)
- MRC/IRC/Trades:
  Carol Chinn (FMPA)
  Greg Ford (GSOC)
  Gordon van Welie (ISO-NE)
  John Pespisa (SoCal)

Key Deliverables and Timeline

- Advisory Team first conference call to discuss scope, criteria, and approach (October 26)
- Create project page on NERC website (October)

- Advisory Team Face-to-Face meeting to finalize scope, criteria and approach, and establish review team(s) structure and next steps (November)
- NERC to solicit industry experts for review teams (November)
- Present scope and approach at Standards Committee meeting in Atlanta (December 9)
- Assemble review teams to compile candidate list of standards and/or requirements (2017 Q4 – 2018 Q1)
- Review teams submit draft SARs to industry for comment (2018 Q1)
- Standards Committee to solicit for standard drafting team(s) for SARs (2018 Q1)
- Industry ballots on proposed retirements/modifications to standards (2018 Q2 – 2018 Q3)
- Propose balloted standards efficiencies to NERC Board of Trustees – 2018 Q3 or Q4 (changes to standards to include consolidation, modification, and retirement)

Agenda Item 7
Standards Oversight and
Technology Committee Meeting
November 8, 2017

Reliability Standards Quarterly Status Report

Action
Review

Background
Attached is the Reliability Standards Quarterly Status Report. Highlights include:

- **Standards Development Forecast**
  - Forecasts the NERC Reliability Standards anticipated for completion and submission to the NERC Board of Trustees for adoption through August 2018. This section also includes a listing of all standards development projects with regulatory directives.
- **Regulatory Directives Update**
  - Provides a summary of standards-related FERC directives and details NERC filings to FERC in support of standards development. This section provides a summary update based on the previous quarter.
- **Trend in Number of Reliability Standards**
  - Provides analysis of the trends for continent-wide and Regional Reliability Standards requirements over time and projected through 2027.
- **Standards Committee Report**
  - Provides a summary of Standards Committee activity in the previous quarter.

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Agenda Item 7
Attachment 1
Standards Oversight and Technology Committee Meeting
November 8, 2017

Reliability Standards

Standards Oversight and Technology Quarterly Report

November 8, 2017

RELIABILITY | ACCOUNTABILITY


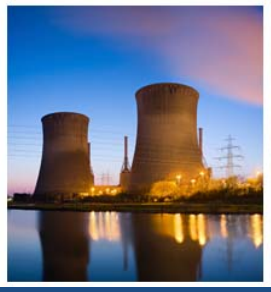

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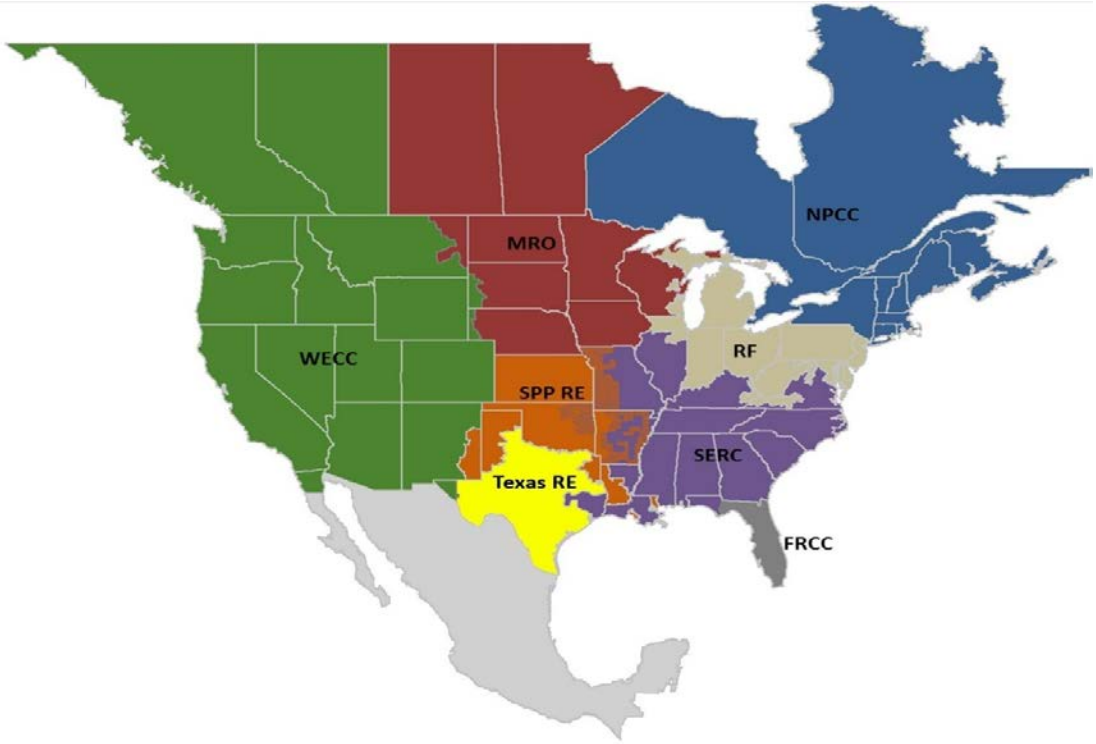
Table of Contents

Preface

The North American Electric Reliability Corporation (NERC) is a not-for-profit international regulatory authority whose mission is to ensure the reliability of the bulk power system (BPS) in North America. NERC develops and enforces Reliability Standards; annually assesses seasonal and long-term reliability; monitors the BPS through system awareness; and educates, trains, and certifies industry personnel. NERC's area of responsibility spans the continental United States, Canada, and the northern portion of Baja California, Mexico. NERC is the electric reliability organization (ERO) for North America, subject to oversight by the Federal Energy Regulatory Commission (FERC) and governmental authorities in Canada. NERC's jurisdiction includes users, owners, and operators of the BPS, which serves more than 334 million people.

The North American BPS is divided into the eight Regional Entity (RE) boundaries, as shown in the map and corresponding table below.



The North American BPS is divided into eight RE boundaries. The highlighted areas denote overlap as some load-serving entities participate in one Region while associated transmission owners/operators participate in another.

FRCC	Florida Reliability Coordinating Council
MRO	Midwest Reliability Organization
NPCC	Northeast Power Coordinating Council
RF	ReliabilityFirst
SERC	SERC Reliability Corporation
SPP RE	Southwest Power Pool Regional Entity
Texas RE	Texas Reliability Entity
WECC	Western Electricity Coordinating Council

Standards Development Forecast (Continent-wide)

Board Forecast for Standard Projects in Active Development

November 2017

- Project 2013-03: Geomagnetic Disturbance Mitigation (TPL-007)

February 2018

- Project 2016-04: Modifications to PRC-025-1 (PRC-025)
- Project 2016-02: Modifications to CIP Standards (Revisions related to Control Center and Communications Networks Directives)

May 2018

- Project 2015-09: Establish and Communicate System Operating Limits (FAC-010, FAC-011, FAC-014)
- 2015-10: Single Points of Failure (TPL-001)
- Project 2016-02: Modifications to CIP Standards (Revisions related to Transition Advisory Group Identified Issues)

August 2018

- Project 2017-02: Modifications to Personnel Performance, Training, and Qualifications Standards (PER-003, and PER-004)
- Project 2017-07: Standards Alignment with Registration

Projects with Regulatory Directives

Table 1 below, lists the current projects with regulatory directives. As of June 30, 2017, there were 12 standards-related directives to be resolved through standards development activities. (Not including non-standards related directives).

Table 1: Projects with Regulatory Directives

Project	Regulatory Directives	Regulatory Deadline
Project 2013-03 Geomagnetic Disturbance Mitigation	4	6/4/2018
Project 2015-09 Establish and Communicate System Operating Limits	2	N/A
Project 2015-10 Single Points of Failure	2	N/A
Project 2016-02 Modifications to CIP Standards (Revisions unrelated to Definition of “Low Impact External Routable Connectivity”)	2	N/A
Project 2017-06 Modifications to BAL-002	2	N/A

Trend in Number of Reliability Requirements

As NERC Reliability Standards continue to mature, NERC analyzes the trend in the total number of requirements in the United States since 2007 when Reliability Standards became enforceable.

The *US Effective Date Status/Functional Applicability*[1] spreadsheet was used to analyze the number of requirements based on the U.S. Effective Date for each requirement shown in the charts below. Figure 1 displays the Trend in Number of Requirement for Continent-wide standards, while Figure 2 displays Regional Reliability Standards.[2] Standards with variances were not included in the requirement count. Projections from projects that include standards currently under development are also included in the total number of requirements based on their projected effective date.[3]

The trend for total number of requirements indicates a constant trend line for the last four years, with a slight decline from 2017 to 2018 for Continent-wide standards, and a significant decline in total number of requirements from 2016 to 2017 for Regional Reliability standards. Figure 1 indicates a total of 504 continent-wide requirements; Figure 2 indicates a total of 73 Regional Reliability standards forecast for 2027.

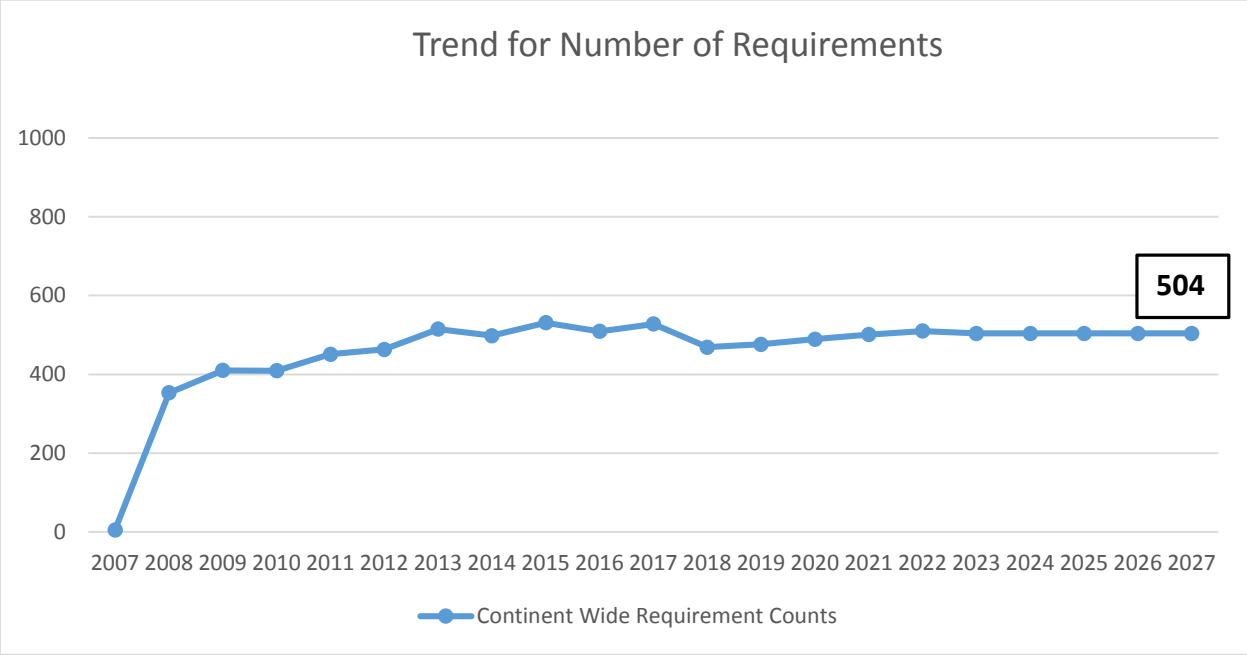


Figure 1: Trend for Number of Requirements for Continent-wide standards

[1] Available from the Standards section of the NERC website: http://www.nerc.com/pa/Stand/Pages/default.aspx

[2] Charts were developed using Q3 2017 data.

[3] These projects include the following: Project 2013-03 (TPL-007-2), Project 2016-04 (PRC-025-2), Project 2015-09 (FAC-010-4, FAC-011-4, FAC-014-3), Project 2017-01 (BAL-003-2), Project 2015-10 (TPL-001-5), Project 2017-02 (PER-003-2, PER-004-2), Project 2016-02 (CIP-003-7(i)), Project 2017-06 (BAL-002-3), and Project 2016-03 (CIP-005-6, CIP-010-3, CIP-013-1).

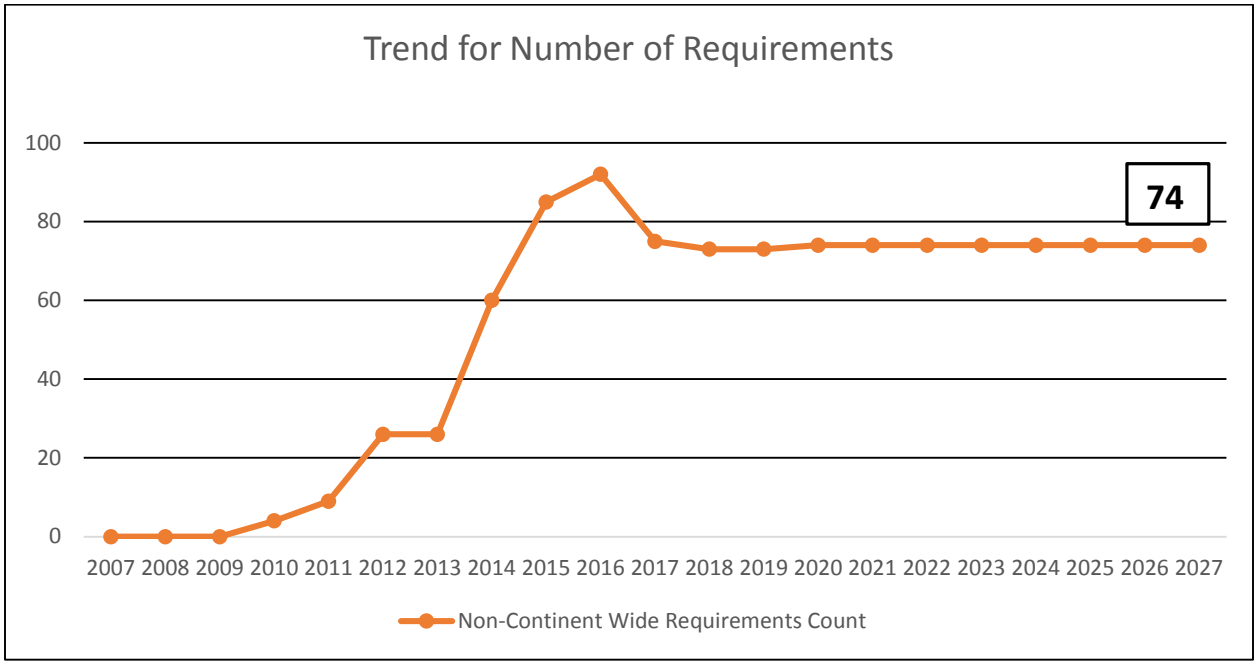


Figure 2: Regional Reliability Standards

Regulatory Update

NERC Regulatory Update- Standards
July 1, 2017 – September 30, 2017

NERC FILINGS TO FERC

FERC Docket No.	Filing Description	FERC Submittal Date
RD17-6-000	Revisions of NERC to the Violation Risk Factors for Reliability Standard BAL-002-2 NERC submitted proposed revisions to the Violation Risk Factors ("VRFs") for Requirements R1 and R2 of Reliability Standard BAL-002-2 (Disturbance Control Standard - Contingency Reserve for Recovery from a Balancing Contingency Event), in accordance with FERC Order No. 835.	8/14/2017
RD17-7-000	Petition of NERC for Approval of Errata to Voltage and Reactive Control Reliability Standards NERC submitted a petition for approval of an errata to VAR-001-4.1 (Voltage and Reactive Control) and VAR-002-4 (Generator Operation for Maintaining Network Schedules), which was reaffirmed by the NERC Board of Trustees at its August 10, 2017 meeting. In addition NERC submits an errata to the regional Reliability Standard for the Western Electricity Coordinating Council ("WECC") region, VAR-501-WECC-3 (Power System Stabilizer).	8/18/2017
RD15-2-000	Informational Filing of NERC regarding Reliability Standard PRC-006-3 NERC submitted an informational filing regarding Reliability Standard PRC-006-3 (Automatic Underfrequency Load Shedding). Reliability Standard PRC-006-3 revises the regional Variance for the Québec Interconnection as necessary to account for the physical characteristics and operational practices of that Interconnection.	9/5/2017
RD17-8-000	Joint Petition of NERC and ReliabilityFirst for Approval of Proposed Regional Reliability Standard BAL-502-RF-03 NERC and the ReliabilityFirst Corporation submitted a joint petition for approval of proposed regional Reliability Standard BAL-502-RF-03 (*Planning Resource Adequacy Analysis, Assessment and Documentation*).	9/7/2017
RD17-9-000	Joint Petition of NERC and SERC for Approval of Proposed Regional Reliability Standard PRC-006-SERC-02 NERC and SERC Reliability Corporation submitted a joint petition for approval of proposed regional Reliability Standard PRC-006-SERC-02 (Automatic Underfrequency Load Shedding Requirements).	9/8/2017
RM15-13-001	Errata of NERC to Implementation Plan for the Revised Definition of "Remedial Action Scheme" NERC submitted an errata to the Remedial Action Scheme ("RAS") Implementation Plan to incorporate certain implementation provisions from the Implementation Plan associated with Reliability Standard PRC-023-3 that were inadvertently omitted from the RAS Implementation Plan.	9/15/2017

FERC Docket No.	Filing Description	FERC Submittal Date
RM13-7-000	Informational Filing of NERC Regarding Commission Testing of Protection Systems NERC submitted an updated informational filing regarding Commission Order No. 793 directive informational filing submitted by NERC on December 19, 2017. This informational filing provides an overview of activities concluding work described in the 2014 filing.	9/20/2017
RM17-13-000	Petition for Approval of Proposed Reliability Standards CIP-013-1, CIP-005-6 and CIP-010-3 Addressing Supply Chain Cyber Security Risk Management NERC submitted Reliability Standards CIP-013-1 – Cyber Security – Supply Chain Risk Management, CIP-005-6 – Cyber Security – Electronic Security Perimeter(s), and CIP-010-3 – Cyber Security – Configuration Change Management and Vulnerability Assessments. The proposed Reliability Standards address the Commission's directives from Order No. 829 to develop new or modified Reliability Standards that address supply chain cybersecurity risk management for industrial control system hardware, software, and computing and networking services associated with Bulk Electric System operations.	9/26/2017
RR10-1-000 RR13-3-000	2017 Annual Report of NERC on Wide-Area Analysis of Technical Feasibility Exceptions NERC submitted the 2017 Annual Report on Wide-Area Analysis of Technical Feasibility Exceptions ("TFEs") in compliance with Paragraphs 220 and 221 of FERC Order No. 706, FERC's January 21, 2010 Order Approving TFE Procedures and Ordering Compliance Filing, September 3, 2013 Order Approving Revisions, and Appendix 4D of the NERC Rules of Procedure.	9/28/2017
RM15-14-000	CIP-014 Report of NERC Regarding Physical Security Protection for High Impact Control Centers NERC submits a report assessing whether all Control Centers with High Impact Bulk Electric System ("BES") Cyber Systems should be protected under the CIP-014 Reliability Standard.	10/2/2017

FERC ISSUANCES

FERC Docket No.	Issuance Description	FERC Issuance Date
RM16-6-000	Notice of Request for Supplemental Comments re Essential Reliability Services and the Evolving Bulk-Power System-Primary Frequency Response FERC issued a notice requesting comments on its NOPR issued November 17, 2016, proposing to revise the pro forma Large Generator Interconnection Agreement (LGIA) and Small Generator Interconnection Agreement to impose Frequency Response capability obligations new generation. Comments are due 21 days after publication in the Federal Register.	8/18/2017
RM17-12-000	Notice of Proposed Rulemaking Proposing to Approve Reliability Standards EOP-004-4, EOP-005-3, EOP-006-3 and EOP-008-2 FERC issued a notice of proposed rulemaking proposing to approve (i) proposed Reliability Standards EOP-004-4, EOP-005-3, EOP-006-3 and EOP-008-2; and (ii)	9/20/2017

	the retirement of currently-effective Reliability Standards EOP-004-3, EOP-005-2, EOP-006-2, and EOP-008-1.	
RM16-20-000	Order No. 837 Approving Reliability Standard PRC-012-2, retirement of Reliability Standards PRC-015-1 and PRC-016-1, and withdrawal of pending Reliability Standards PRC-012-1, PRC-013-1, and PRC-014-1 FERC issued a final rule approving (i) Reliability Standard PRC-012-2; (ii) the associated violation risk factors and violation severity levels; (iii) the associated implementation plan; (iv) retirement of currently-effective Reliability Standards PRC-015-1 and PRC-016-1; and (v) withdrawal of "pending" Reliability Standards PRC-012-1, PRC-013-1, and PRC-014-1.	9/20/2017
RM16-13-000	Order No. 836 Approving Reliability Standards BAL-005-1, FAC-001-3 and retirement BAL-006-2 FERC issued a final rule approving (i) revised Reliability Standards BAL-005-1 and FAC-001-3; (ii) the associated violation risk factors and violation severity levels; (iii) the associated implementation plan; (iv) revisions to the definitions of Automatic Generation Control, Pseudo-Tie; and Balancing Authority; and (v) the retirement of currently-effective Reliability Standards BAL-005-0.2b, BAL-006-2, and FAC-001-2.	9/20/2017
RD17-7-000	Letter Order Approving an Errata to Voltage and Reactive Control Reliability Standards FERC issued a letter order approving an errata to Reliability Standards VAR-001-4.1 - Voltage and Reactive Control, VAR-002-4 - Generator Operation for Maintaining Network Schedules, and regional Reliability Standard VAR-501-WECC-3 - Power System Stabilizer.	9/26/2017
RM16-18-000	Order Terminating Proceeding re the Cyber Systems in Control Centers under RM16-18 On July 21, 2016, FERC issued a Notice of Inquiry seeking comment on the need for, and possible effects of, modifications to the NERC's Critical Infrastructure Protection (CIP) Reliability Standards to address the cybersecurity of control centers used to monitor and control the bulk electric system. FERC issued an order terminating this proceeding.	10/2/2017

Standards Committee Report

Background

This report highlights some of the key activities of the Standards Committee (SC) during the third quarter of 2017.

Summary

At its September 7, 2017 meeting held at MRO's offices, the SC elected Andrew Gallo, City of Austin dba Austin Energy, as Chair, and Amy Casuscelli, Xcel Energy, as Vice Chair, for the term starting January 1, 2018 through December 31, 2019. Brian J. Murphy and Michelle D'Antuono, who will be ending their term as Chair and Vice Chair, wish the best to the new leadership and also want to thank the SC, NERC staff and management, the Board of Trustees and all the stakeholders that supported them during their tenure.

At its October 18, 2017 meeting, the SC also endorsed the Reliability Standards Development Plan (RSDP) that is before the Board of Trustees. The draft 2018-2020 RSDP focuses on periodic reviews, Federal Energy Regulatory Commission directives, emerging risks, Standard Authorization Requests, and the standards grading initiative. The RSDP also includes time frames and anticipated resources for each project under development, and considerations for cost effectiveness. NERC and the SC will continue to work with NERC committees and task forces to bridge any potential reliability gaps and risks.

In addition, the SC provided volunteers to work with NERC staff on the implementation of the Technical Rationale policy, and they are to report back to the SC this year on the progress of implementing the policy.