Facility Ratings Activities

Steven Noess, Director, Regulatory Programs, NERC
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Tim Ponseti, VP Operations, SERC
Tom Galloway, CEO, NATF
February 9, 2022
November 2021 Call to Action

**PREVENTATIVE**
- Outreach and Education around Risk
  - ERO Enterprise CMEP Practice Guide (published Q2 2020)
  - Workshops
  - Newsletters
- Engage with industry
- Examine current Standard for potential adjustments

**ASSESSMENT**
- Current conditions
- Recent monitoring

**RECOVERY**
- Sharing practices
- Enhanced mitigation activities
Importance of Accurate Facility Ratings

- Relay Loadability
- Modeling /Analysis
- Data Specification
- Operations Planning
- Planning

Facility Ratings

Operations
• Support development and sustainment of registered entity risk-based Facility Ratings programs and resolution of Facility Ratings noncompliance using existing tools
  - Key Themes / Fall-downs
  - Risk based approach

• Registered entities should develop or continue approaches for self-assessment and risk-based prioritization
  - Align compliance with operations
  - Report and mitigate
• Identify a facility ratings sponsor and owner
• Establish clarity on the foundational components of the facility ratings process or program
• Manage data to ensure accuracy
• Establish an accurate baseline to determine accuracy of facility ratings
• Establish comprehensive work practices for planned construction, acquired facilities, and unplanned or restoration work
• Validate through periodic reviews
• Implement human performance measures

Internal Controls – embedded throughout the practice areas

Incorporation of these elements facilitates sustainability of the program/processes

About 50 practices overall, some with “sub-practices”
NATF Practices
Implementation Status Measurement

- **Not Implemented**
  (Absent - the practice is not performed in the organization)

- **Partially Implemented**
  (Incomplete, with multiple opportunities for improvement)

- **Largely Implemented**
  (Complete, with a recognized opportunity for improvement)

- **Fully Implemented**
  (Complete)
Focus Areas

**High Participation with continued increase!**

Upward trend across all practices!

### NATF Data Collection Update

#### Reporting %

<table>
<thead>
<tr>
<th></th>
<th>FALL-2020</th>
<th>SPRING-2021</th>
<th>FALL-2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>NATF Membership</td>
<td>90%</td>
<td>93%</td>
<td>94%</td>
</tr>
<tr>
<td>NATF T-mileage</td>
<td>85%</td>
<td>83%</td>
<td>84%</td>
</tr>
<tr>
<td>%NA T-mileage (&gt;100kV)</td>
<td>80%</td>
<td>83%</td>
<td>84%</td>
</tr>
</tbody>
</table>

#### Category Performance

<table>
<thead>
<tr>
<th>Category</th>
<th>Current Score</th>
<th>Score Trend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>72%</td>
<td>66% 68% 72%</td>
</tr>
<tr>
<td>Internal Controls</td>
<td>70%</td>
<td>64% 67% 70%</td>
</tr>
<tr>
<td>Sponsor and owner</td>
<td>80%</td>
<td>73% 76% 80%</td>
</tr>
<tr>
<td>Foundational program components</td>
<td>79%</td>
<td>72% 76% 79%</td>
</tr>
<tr>
<td>Data accuracy</td>
<td>76%</td>
<td>73% 75% 76%</td>
</tr>
<tr>
<td>Establish baseline</td>
<td>61%</td>
<td>55% 56% 61%</td>
</tr>
<tr>
<td>Establish work practices</td>
<td>70%</td>
<td>64% 66% 70%</td>
</tr>
<tr>
<td>Periodic reviews</td>
<td>54%</td>
<td>45% 46% 55%</td>
</tr>
<tr>
<td>Training/HP measures</td>
<td>68%</td>
<td>62% 64% 68%</td>
</tr>
</tbody>
</table>
ERO Enterprise Call to Action

ERO Enterprise CMEP Facility Ratings Interactions by Inherent Risk 2017 – 2021

TO Function Entities that had an Engagement/Monitoring from 2017-2021

<table>
<thead>
<tr>
<th>TX Inherent Risk</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>86%</td>
<td>14%</td>
</tr>
<tr>
<td>Medium</td>
<td>83%</td>
<td>17%</td>
</tr>
<tr>
<td>Low</td>
<td>54%</td>
<td>46%</td>
</tr>
</tbody>
</table>

GO Function Entities that had an Engagement/Monitoring from 2017-2021

<table>
<thead>
<tr>
<th>Gen Inherent Risk</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>81%</td>
<td>19%</td>
</tr>
<tr>
<td>Medium</td>
<td>62%</td>
<td>38%</td>
</tr>
<tr>
<td>Low</td>
<td>59%</td>
<td>41%</td>
</tr>
</tbody>
</table>
• Next steps
  ▪ Continued use of risk-based approach
    o Monitoring activity for entities that have not had a CMEP activity related to Facility Ratings since 2017
    o Continued emphasis of FAC-008 in planned 2022 compliance monitoring activities (CMEP Implementation Plan)
    o Enforcement dispositions based on risk to BES
  ▪ Continued outreach
  ▪ Alignment of priority with stakeholders and regulators
Questions and Answers
• Compliance Guidance Timeline
• Compliance Guidance Policy
• Implementation Guidance
• CMEP Practice Guides
• Historically Many Compliance Documents
  ▪ Compliance Application Notices (CANs), Compliance Analysis Reports (CARs), Bulletins, Technical Rationale, etc.

• Distinct from Reliability Guidelines, etc.
• Desire to Consolidate
• Compliance Guidance Review Team
• 2015 NERC BOT Approved Compliance Guidance Policy
• Supporting Tools and Resources Developed
• Examples or Approaches
  ▪ How to “Implement” Reliability Standards
• Reliability Standard or Topic Specific
• Developed by Industry for Industry
  ▪ Pre-Qualified Organization (PQO)
  ▪ Standard Drafting Team (SDT)
  ▪ Regional Entity Stakeholder Committees
Implementation Guidance

• Must be “endorsed” by ERO Enterprise
  ▪ Recognizes guidance as appropriate for deference during CMEP activities
  ▪ Agrees entities can rely on the guidance
  ▪ Endorsement is appropriately a high bar

• ERO Independence and Objectivity remains critical

• Publicly posted

• Perceptions:
  ▪ Endorsement is Difficult
  ▪ Endorsement is Time Consuming
  ▪ Storage for GTB/TR
• **Tools & Resources**
  - IG Development and Review Aid
  - IG Template
  - PQO/SDT Contact Information
  - Non-Endorsed IG Tracking
  - IG Under Consideration/Development Spreadsheet
  - Compliance Guidance Webpage
  - One Stop Shop

*Covered During November 2020 CG Webinar*
Implementation Guidance Development Aid

<table>
<thead>
<tr>
<th>Color Code Key:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Automatic Non-Endorsement</td>
<td></td>
</tr>
<tr>
<td>Increased Likelihood of Non-Endorsement</td>
<td></td>
</tr>
<tr>
<td>Multiple Occurrences/Severity of Occurrences could lead to Non-Endorsement</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Implementation Guidance Development Aid</th>
<th>Items for Consideration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Ensure IG does not conflict with, or change, the Purpose or Applicability of the Reliability Standard.</td>
<td>✓</td>
</tr>
<tr>
<td>2. Ensure IG does not conflict with, or change, the meaning or intent of the Requirement and Measure.</td>
<td></td>
</tr>
<tr>
<td>3. Ensure IG does not include language that attempts to describe an audit approach.</td>
<td></td>
</tr>
<tr>
<td>4. Ensure IG does not conflict with, or contradict, FERC or ERO Enterprise documents such as FERC Orders, FERC Interpretations, Reliability Standard Audit Worksheets (RSAW), Endorsed Implementation Guidance, Compliance Bulletins and Directives, Reliability Standard Implementation Plans, Reliability Standard Guidelines and Technical Basis, NERC Glossary of Terms, etc.</td>
<td></td>
</tr>
<tr>
<td>5. Ensure IG does not make the Reliability Standard and Requirement less restrictive.</td>
<td></td>
</tr>
<tr>
<td>6. Ensure IG does not lead the entity to believe there are additional compliance obligations that are not specifically required by the subject Reliability Standard and Requirement.</td>
<td></td>
</tr>
<tr>
<td>7. Ensure IG does not skip steps or stop short of complying, and addresses the entire Requirement in sufficient detail.</td>
<td></td>
</tr>
<tr>
<td>8. Ensure IG provides specific examples or approaches to compliance.</td>
<td></td>
</tr>
<tr>
<td>9. Ensure IG is not a whitepaper, position paper, concept paper, FAQ, or technical reference document.</td>
<td></td>
</tr>
<tr>
<td>10. Ensure the body of the IG document only includes specific examples or approaches to compliance and does not include supporting/reference information that should be housed in the Appendices. NOTE: Appendices could include templates, theory, calculations, models, tables, drawings, graphics, good practices, definitions, terminology, glossary, white papers, FERC orders, Guideline and Technical Basis, Technical Rationale, IG authors, etc.</td>
<td></td>
</tr>
<tr>
<td>11. Ensure IG is not region specific, such as guidance for a Regional Reliability Standard.</td>
<td></td>
</tr>
<tr>
<td>12. Ensure IG includes a plan for PQO/SDT periodic reviews and updates to ensure guidance remains current and valid. Reviews should include elements such as updates or revisions to items such as FERC Orders, FERC Interpretations, Reliability Standard</td>
<td></td>
</tr>
</tbody>
</table>
• Frequently Asked Questions

Compliance Guidance
Frequently Asked Questions (FAQ)
December 2020

Compliance Guidance - General

Q1: Why was another set of guidance documents added to the mix?
A1: The NERC Compliance Guidance Policy does not add another set of guidance documents to the mix; it simply consolidates and replaces the previous variety of guidance documents with one set of finite documents.

Q2: What was wrong with the previous guidance documents?
A2: There was nothing wrong with the previous guidance documents. However, over time, the guidance evolved into various guidance documents, with multiple names, covering multiple topics, some providing implementation guidance for industry, and some providing compliance monitoring approaches for ERO Enterprise CMEP personnel. The previous process became too confusing and difficult to manage, creating an opportunity to consolidate them.

Q3: What happened to previous NERC guidance documents such as CANs, CARs, Bulletins and Directives?
A3: The previous NERC guidance documents were reviewed and were either retired or converted to CMEP Practice Guides.

Q4: What is the difference between Compliance Guidance, Implementation Guidance, and CMEP Practice Guides?
A4: Compliance Guidance consists of both Implementation Guidance and CMEP Practice Guides. Implementation Guidance provides examples or approaches on how an entity could potentially implement, or comply with, a Reliability Standard. It is developed by industry, for industry. CMEP Practice Guides address how ERO Enterprise CMEP personnel execute their compliance monitoring and enforcement activities; these are developed by the ERO Enterprise for the ERO Enterprise.

Q5: What is the difference between Compliance Guidance and the Guideline and Technical Basis (GTB) and the Technical Rationale (TR) in the Reliability Standards?
A5: The GTB and TR sections of the Reliability Standards are similar to position papers that 1) may describe how a Standard Drafting Team (SDT) may have viewed a particular technical topic; 2) show what they considered while developing the standard; or 3) may simply be supporting documents. Compliance Guidance is directly related to complying with, or assessing compliance with, the Reliability Standards. However, SDT have been working to remove GTB and TR from the standards and some of that information may end up in Compliance Guidance documents, and some may end up in a technical reference library.
• Tracking of **Non-Endorsed Implementation Guidance**
  - Provides reasons for non-endorsement (consistent with Development Aid reasons)

### Non-Endorsed Implementation Guidance - Last Updated 1/5/2022

<table>
<thead>
<tr>
<th>Year</th>
<th>Implementation Guidance Title</th>
<th>Additional Information</th>
<th>Date Announced</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>CP-010-4.8.1 Configuration Change Management and Vulnerability Assessments (2019-08 SDT)</td>
<td>Pending - Check Back Later</td>
<td>1/5/2022</td>
</tr>
<tr>
<td></td>
<td>CP-016-7 Personnel &amp; Training (2019-02 SDT)</td>
<td>Pending - Check Back Later</td>
<td>1/5/2022</td>
</tr>
<tr>
<td></td>
<td>SPE-011-2 Emergency Operations and Preparedness (2019-08 SDT)</td>
<td>The ERO Enterprise declined to endorse this Implementation Guidance document because it does not provide specific examples, or approaches, on how an entity could meet compliance. Additionally, the proposed IG is less stringent than the standard and thus possibly misleading, or subject to misinterpretation.</td>
<td>1/5/2022</td>
</tr>
<tr>
<td></td>
<td>CP-004-6 and CP-011-2 Cloud Solutions and Encrypting BCS (RSTC)</td>
<td>The ERO Enterprise declined to endorse this proposed Implementation Guidance document because it does not provide specific approaches or examples for an entity to demonstrate compliance. Additionally, the proposed Implementation Guidance is written as a whitepaper or a position paper. The proposed document provides no specific compliance implementation guidance. The ERO Enterprise stresses the importance of the use of the Implementation Guidance Development Aid.</td>
<td>8/31/2021</td>
</tr>
<tr>
<td></td>
<td>CP-007-6.81 Software Defined Networking: Logical Network Accessible Ports (EnergySage)</td>
<td>The ERO Enterprise unanimously declined to endorse this proposed Implementation Guidance document because it does not provide specific approaches or examples for an entity to demonstrate compliance. Additionally, the proposed Implementation Guidance is written as a whitepaper or a position paper. The proposed document provides no specific compliance implementation guidance. The ERO Enterprise stresses the importance of the use of the Implementation Guidance Development Aid.</td>
<td>8/31/2021</td>
</tr>
<tr>
<td></td>
<td>CP-005-6.R2.4, R2.5 Vendor Support via Web Conferencing (NATP)</td>
<td>The ERO Enterprise declined to endorse this Implementation Guidance as the proposed NATP IG does not provide examples or approaches for registered entities to comply with CP-005-6 Requirement IG. Instead, the proposed IG introduces positions and definitions (e.g., vendor remote access and control) which may be viewed as changing the meaning of the requirement or interpreting the requirement. Additionally, the proposed IG contains statements that may be viewed as limiting OMAF personnel’s ability to obtain reasonable assurance of compliance. As an example, the proposed IG contains the following statement: “There is no compliance evidence to retain for each such session.” In summary, the proposed IG did not sufficiently address the Implementation Guidance Development and Review Aid.</td>
<td>6/28/2021</td>
</tr>
<tr>
<td></td>
<td>CP-013-3 Supply Chain Risk Management Plan (2019-03 SDT)</td>
<td>The ERO Enterprise declined to endorse this Implementation Guidance as several revisions are necessary for clarity purposes in order to avoid entity confusion.</td>
<td>3/24/2021</td>
</tr>
<tr>
<td></td>
<td>CP-010-4.8.1 Configuration Change Management and Vulnerability Assessments (2019-08 SDT)</td>
<td>The ERO Enterprise declined to endorse this Implementation Guidance as several revisions are necessary for clarity purposes in order to avoid entity confusion.</td>
<td>3/24/2021</td>
</tr>
<tr>
<td></td>
<td>CP-005-7.83 Electronic Security Perimeters (2019-03 SDT)</td>
<td>The ERO Enterprise unanimously declined to endorse this document for the reasons that follow. The IG conflicts with the IG of the Implementation Guidance Development and Review Aid, which states IG shouldn’t be a whitepaper or technical reference. The calculations should be more of an appendix. The example should be more what things are considered and how, calculations are not the thrust of that. Additionally, none of the examples speak to the plant control system for dispersed power producing resources. Finally, Table 3.3 mentions using the Unregulated Transient Reactance when evaluating Loss of Field (LOF) settings for PRC-019-2 compliance, which is apparently an error which disagrees with the calculations in the appendix of IEEE Standard C37.102-2006, which is an Associated Document of PRC-019-2 which uses Saturated Transient Reactance.</td>
<td>3/24/2021</td>
</tr>
<tr>
<td></td>
<td>PRC-019-2 Coordination of Voltage Control Systems, Protection Systems, and Equipment Capabilities (RSTC)</td>
<td>The ERO Enterprise unanimously declined to endorse this document for the reasons that follow. The IG conflicts with the IG of the Implementation Guidance Development and Review Aid, which states IG shouldn’t be a whitepaper or technical reference. The calculations should be more of an appendix. The example should be more what things are considered and how, calculations are not the thrust of that. Additionally, none of the examples speak to the plant control system for dispersed power producing resources. Finally, Table 3.3 mentions using the Unregulated Transient Reactance when evaluating Loss of Field (LOF) settings for PRC-019-2 compliance, which is apparently an error which disagrees with the calculations in the appendix of IEEE Standard C37.102-2006, which is an Associated Document of PRC-019-2 which uses Saturated Transient Reactance.</td>
<td>3/24/2021</td>
</tr>
</tbody>
</table>
Most Common, Recurring Reasons for Non-Endorsement

- Does Not Include Examples or Approaches
- Changes Scope of Requirement
- Includes Incomplete/Misleading Examples
- Includes Interpretation/Position Statement
- Whitepaper, Technical Reference, etc., that does not meet criteria
19 active ERO Enterprise-Endorsed (10 CIP, 9 O&P)*

- NATF: 5
- MRO Standards Committee (MRO SC): 4
- Operating Committee (OC): 3
- Planning Committee (PC): 2
- Critical Infrastructure Protection Committee (CIPC): 2
- CIP Standard Drafting Teams (SDTs): 2
- MRO CMEP Advisory Council (MRO CMEPAC): 1

*As of January 25, 2022
• Industry Webinar
  ▪ Address Current Issues
  ▪ Focus on IG Development
  ▪ Discuss Best Practice
  ▪ Encourage Use of Available Tools and Resources

• Coordinate alternatives with SDTs for non-IG material

• Work with Pre-qualified organizations that seek interim collaboration
• Guidance for ERO Enterprise staff
• Serves ERO Enterprise interest to support consistency of approach
• Developed by ERO Enterprise for ERO Enterprise
• Publicly posted solely for transparency
• ERO Enterprise development practices:
  ▪ Track as part of “Program Alignment Process”
  ▪ Seek Compliance and Certification Committee (CCC) input to confirm intent/perspective
• PGs are not compliance approaches
• PGs do not change or supersede any standard
• Developed to support ERO Enterprise Independence and Objectivity
• CMEP activities broader than “compliance”
  ▪ Understanding how entities mitigate risk
  ▪ Performance and internal controls
  ▪ Inform oversight planning and risk assessment
• Perceptions:
  ▪ Entities appreciate public posting
  ▪ Viewpoints on industry input vs. ERO Enterprise product
  ▪ Significance to entities and impact to standards obligations
  ▪ Audit approaches or auditors “shall follow”

• Disclaimer added:
  ▪ Intended for ERO Enterprise staff
  ▪ Developed exclusively by ERO Enterprise under obligations for independence and objectivity
  ▪ Posted publicly solely for transparency
Questions and Answers
Compliance Monitoring and Enforcement Program Annual Report

James McGrane, Senior Counsel
Compliance Committee Meeting
February 9, 2022
• Roll out of Align and Secure Evidence Locker
• Continued focus on reliability and security despite coronavirus challenges
• Continued streamlining and enhancement efforts
  ▪ Proposed changes to CMEP in September 2021 filing impacting:
    o Compliance monitoring
    o Resolution of minimal risk noncompliance
• Ongoing outreach to industry
  ▪ Self-Logging
  ▪ Compliance Oversight Plans
  ▪ Facility Ratings
  ▪ Proposed changes to Rules of Procedure
Temporary Expansion of Self-Logging

95 self-logged issues reported through December 31, 2021
• Supply Chain Risk Management
  ▪ Stakeholder collaboration and outreach
    o CCC Supply Chain Task Force
    o FERC-NERC joint white paper on SolarWinds and Related Supply Chain Compromise

• Heightened focus on sharing best practices and guidance
  ▪ Noncompliance reduction strategies
  ▪ NIST-NERC collaboration and Standards mapping
  ▪ Guidance to support Dept. of Energy 100 Day Cybersecurity Plan
  ▪ Small Group Advisory Sessions (SGAS)
    o CIP-012 Cyber Security – Communications between Control Centers
• Remote Connectivity
  ▪ Maintenance and Vendor support
  ▪ IT / OT communications and dependency

• Supply Chain
  ▪ Foreign vendor component risk
  ▪ Large impact

• Gaps in Program Execution
  ▪ Incident Response identification and reporting

• Long Term Strategies
  ▪ Continued focus on high risk areas (Connectivity, Supply Chain, Incident Response)
  ▪ Outreach / Guidance around 2022 Focus Area findings and SGAS
ERO Enterprise is taking steps to reduce average age of inventory
Noncompliance Discovery Methods

Self-Reporting remains high, helping speed mitigation and reduce risk
Mitigation Completion from Discovery Date

Time Frames for Completed Mitigations in the Past 5 years

- Mitigated before Reporting to Region: 38%
- Within 6 months of reporting: 37%
- Mitigated after 6 months but within a year or under 1 year: 14%
- Mitigated over a year but 2 years or under 2 years: 9%
- Mitigated after 2 years or more: 2%

Majority of noncompliance is mitigated within one year of reporting.
The majority of noncompliance continues to be processed as Compliance Exceptions.
Increase in serious risk noncompliance processed in 2021, but majority had been mitigated prior to filing
Increase in Facility Rating Self-Reports over last few years
ERO Enterprise uses a risk-based approach in resolving Facility Rating noncompliance.
What the ERO Enterprise is Doing

• Streamlining efforts
  ▪ Efficient risk assessment and resolution for all noncompliance
  ▪ Sharing approaches across Regions to identify processing efficiencies

• Ongoing engagement with registered entities
  ▪ Understanding extent of violations and assisting the design of robust controls to prevent recurrence

• Sharing lessons learned and mitigation best practices
  ▪ Effective solutions to the most common causes of violations
  ▪ Outreach on new Reliability Standards and preventive controls
Questions and Answers