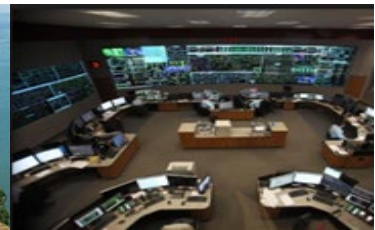


# 2022 Field Walk-Downs and Lessons Learned

**Mallory Carlone, Technical Auditor**

**November 14, 2022**



# Agenda

- **FAC-003 and FAC-008 (October 2021 Tech Talk)**
  - Purpose
  - Facility Selections
  - Walk-Down Procedures
- **Examples**
- **Lessons Learned**
- **2022 Findings**
- **Self Certifications – FAC-008**
- **ERO Facility Ratings Themes**



# FAC-003 and FAC-008

## ➤ October 2021 Technical Talk

### ➤ Purpose

- Ensure field matches program/documentation

### ➤ Facility Selections

- Start with Attachment C
- 4-5 circuits (FAC-003)
- 4-5 facilities (FAC-008)
- Subject to change during audit

### ➤ Walk-Down Procedure



\*Bureau of Land Management



\*t2environment.com



Rigid Bus and Jumpers



161 kV Current Transformers

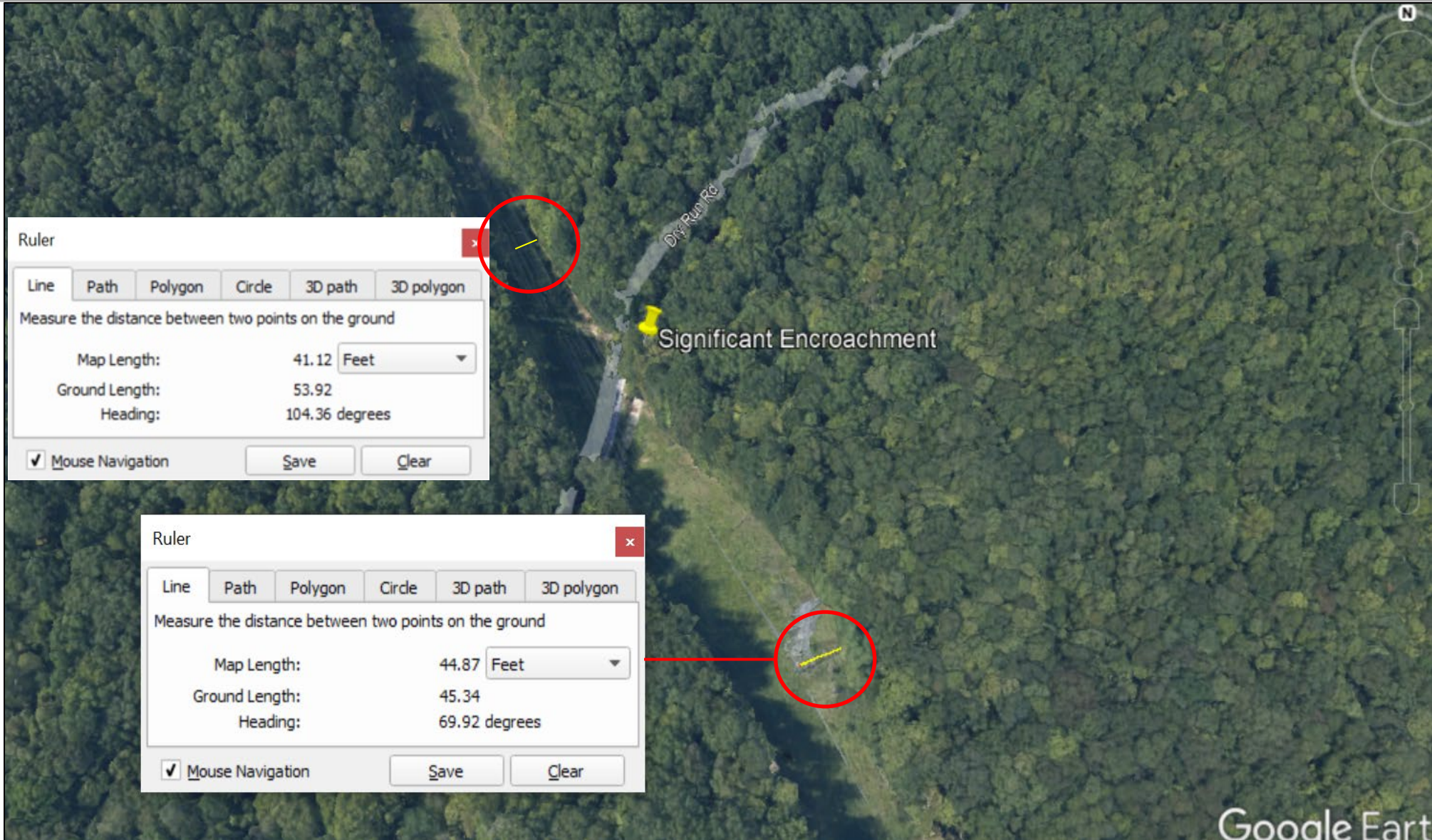
# FAC-003 Site Selection Example



# FAC-003 Site Selection Example



# FAC-003 Site Selection Example



# FAC-003 Site Selection Example



# FAC-003 Site Selection Example





# FAC-008 Site Selection Example

## ➤ FAC-008 Walk-Down

### Considerations:

- High risk circuits, IROLs, critical lines and facilities
- Multiple voltage levels at substation
- Larger substations
- Complex bus arrangements
- Shared Ownership
- Recent upgrades, replacements
- Lines with underground segments or water crossings

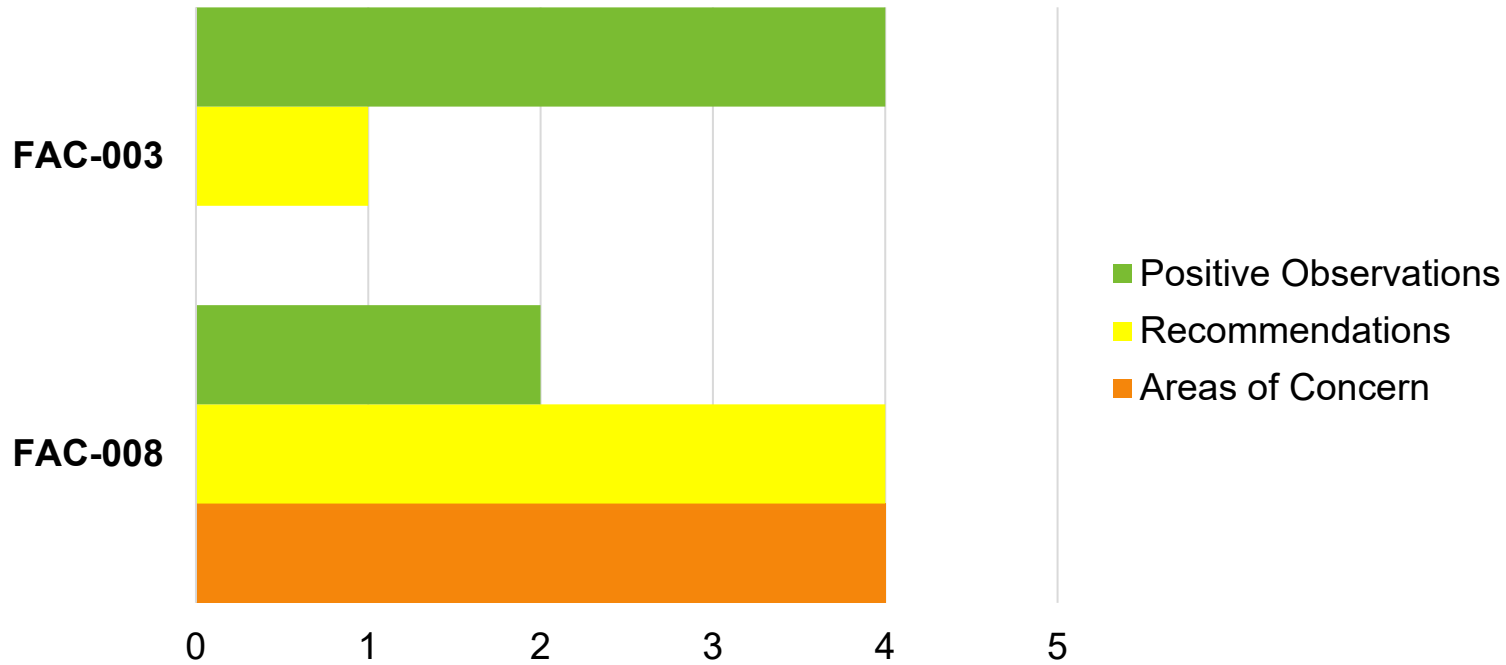


# Lessons Learned for Successful Walk-Downs

- **Properly Marking up Pre-Audit Evidence (FAC-008)**
- **Notification of Site Selection**
  - At least one week prior to onsite
- **Copies of Legible Prints (FAC-008)**
- **Proper SMEs on Site**
  - Arborists, Foresters, Field Operations: Vegetation and Substation, Department Supervisors, Planners, Compliance Personnel, etc.
- **Proper Gear (Binoculars, Cameras, etc.)**
- **Transparency**
- **Virtual Opening and Preliminary Exit Briefing Presentations**



# 2022 Field Walk-Down Findings



➤ **No PNCs have been issued for field walk-downs thus far**



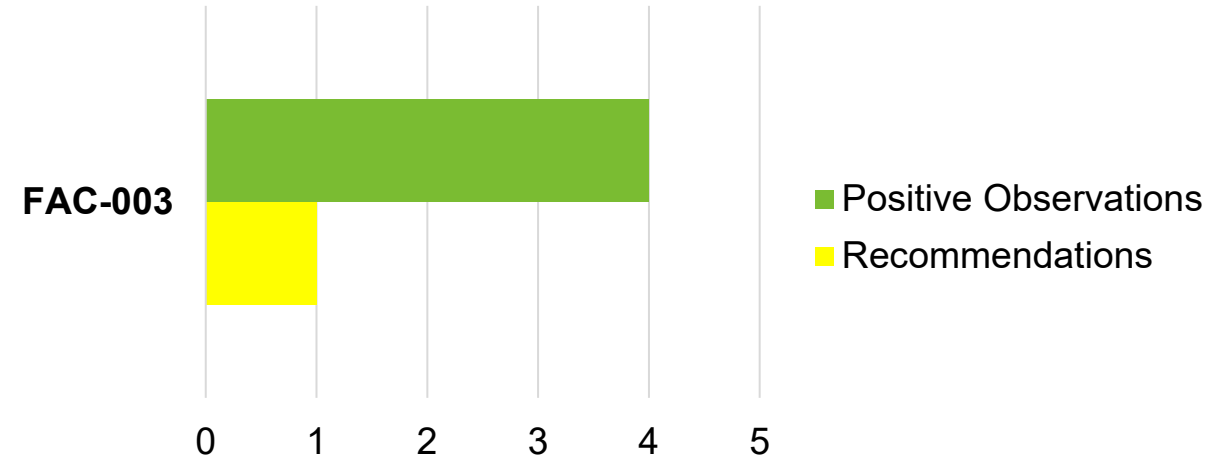
# \*2022 Findings – FAC-003

## ➤ Recommendations:

- Provide Clear Documentation:
  - Review process of contractors
  - R5 locations
  - Vegetation Inspections

## ➤ Positive Observations:

- Complete additional inspections annually
- Voluntarily maintain circuits under 200 kV
- Exceptional documentation around:
  - Record management
  - R5 locations
  - Future projects to streamline process



\* See Appendix A for more details



# \*2022 Findings – FAC-008

## ➤ Areas of Concern:

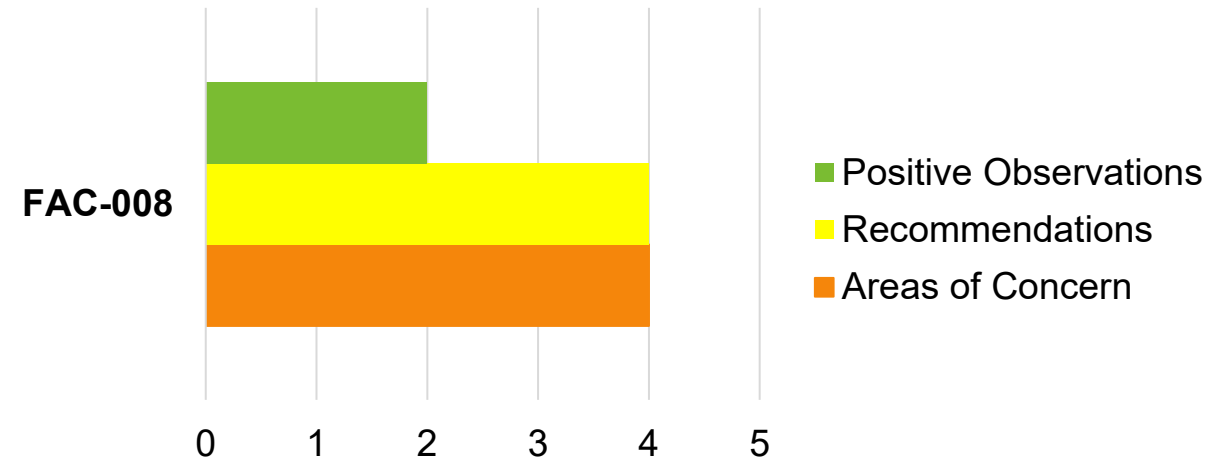
- Rating omissions and discrepancies
- No documentation for CT and relay thermal ratings

## ➤ Recommendations:

- Separately list each major component
- Prepare early for FERC Order 881
- Document internal process flow
- Address abnormal system configuration ratings

## ➤ Positive Observation:

- Standardized equipment
- Incorporating industry guidelines

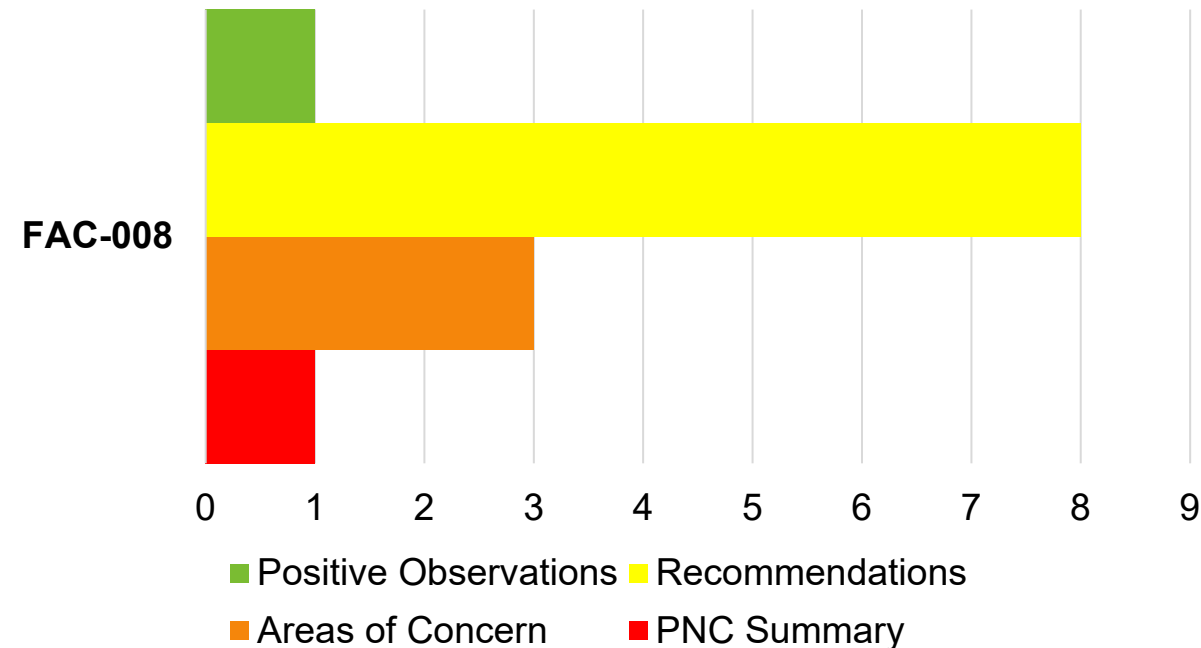


\* See Appendix A for more details



# 2022 Findings – FAC-008 Self Certifications

- **Potential Noncompliance:**
  - Inconsistencies between methodology/evidence/clerical oversight
- **Areas of Concern:**
  - Define normal and emergency ratings
- **Recommendations:**
  - Clarify Facility Rating Methodology
    - Equipment Rating standards,
    - Ambient conditions
    - Operating Limitations
  - Prepare early for FERC Order 881
- **Positive Observation:**
  - Detailed entity process and review to ensure accuracy

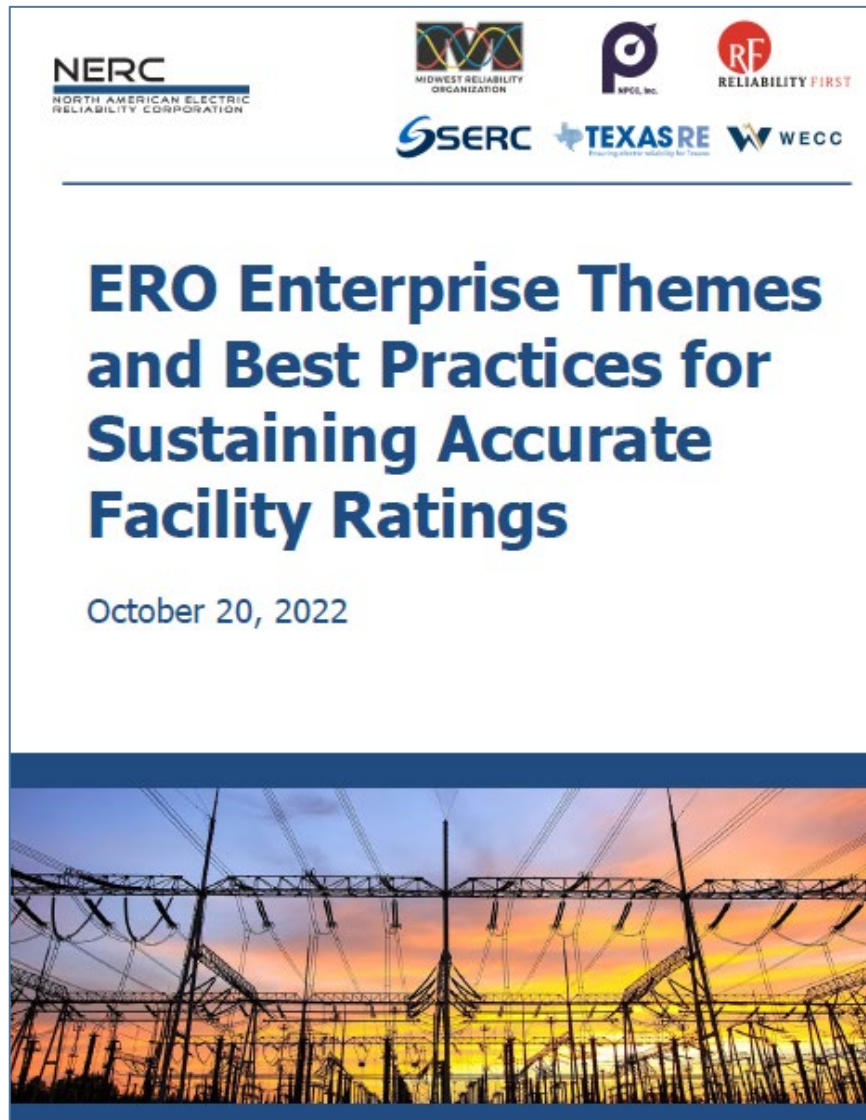


# Self Certifications – FAC-008

- **RF sent out a FAC-008 Initiative Questionnaire in 2022**
- **The survey provided RF an initial look at entities Facility Ratings programs so RF can make an informed decision as how to proceed: audit; spot check; or self-certification; or if the survey provides reasonable assurance that entity is compliant with FAC-008 R6**
- **There was over an 80% response rate to the survey**



# ERO Facility Ratings Themes



## ➤ Common Themes

- Lack of Awareness
- Inadequate Asset and Data Management
- Inadequate Change Management
- Inconsistent Development/Application of Facility Rating Methodology

## ➤ Appendix A: Facility Ratings Resources

Link:

<https://www.nerc.com/comm/RSTC/Documents/ERO%20Enterprise%20Themes%20and%20Best%20Practices%20for%20Sustaining%20Accurate%20FR%20-%20Final%20-%20Oct-20-22.pdf>





# Recap

- **FAC-003 and FAC-008**
  - Purpose
  - Facility Selections
  - Walk-Down Procedures
- **Examples**
- **Lessons Learned**
- **2022 Findings**
- **Self Certifications – FAC-008**
- **ERO Facility Ratings Themes**



# Questions & Answers

Forward Together  **ReliabilityFirst**

# **APPENDIX A**

## **(DETAILS AROUND 2022 FINDINGS)**

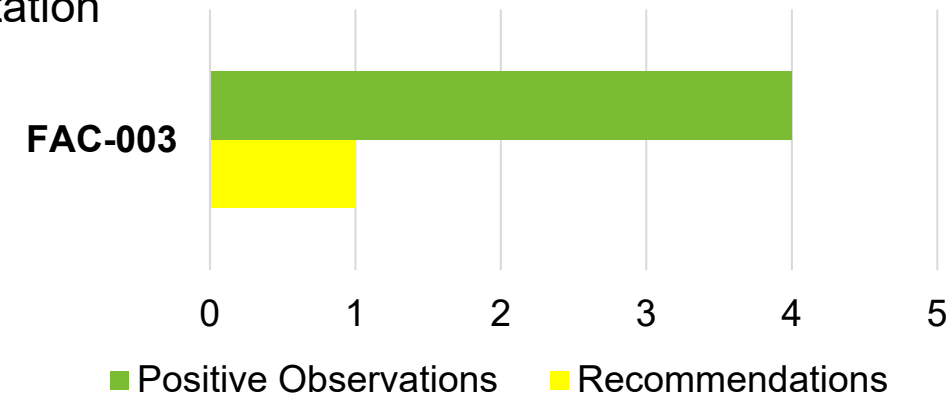
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# 2022 Findings – FAC-003 Audits

## ➤ Recommendations:

- Document contractors plan and review process – how is the plan completed and how does the entity ensure it covers 100% of all lines
- Document list of locations where vegetation maintenance is delayed or prevented
- Document annual vegetation review/process separately from vegetation work identified on an “as need” basis in the field
- Develop/implement forms/templates to document the Vegetation Inspections
- Document to explicitly include actions/steps to perform the vegetation work



## ➤ Positive Observations:

- Complete inspections more than once a year
- Voluntarily maintain circuits under 200 kV
- Hired 3rd party to assist with record management, provided documentation of strained/sensitive locations with site-specific action plans, future project to digitize easement rights/restrictions



# 2022 Findings – FAC-008 Audits

## ➤ Areas of Concern:

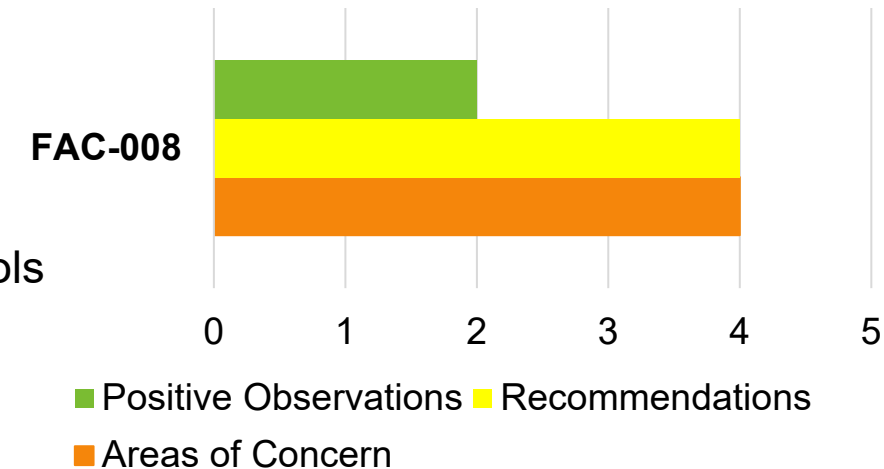
- Rating omissions and discrepancies between field and ratings database
- Entity did not document calculated bushing CT ratings or relay thermal ratings

## ➤ Recommendations:

- Separately list each major component for each Facility, including an identifying name or number for each component
- Prepare early for FERC Order 881
- Document and take credit for your already implemented internal controls process through flow chart/swim lanes
- Ensure internal process addresses abnormal system configuration ratings

## ➤ Positive Observation:

- Standardize transmission equipment for consistency
- Incorporate Industry guides to maximize ratings



# 2022 Findings – FAC-008 Self Certifications

## ➤ Potential Noncompliance:

- Inconsistencies between methodology/evidence/clerical oversight

## ➤ Areas of Concern:

- Properly defining normal and emergency ratings

## ➤ Recommendations:

- Facility Rating Methodology to explicitly identify how Equipment Rating standards are used, ambient conditions, and operating limitations are considered in determining Equipment Ratings and what elements are included
- Prepare early for FERC Order 881

## ➤ Positive Observation:

- Entity reviewed both one-line diagrams and cross-checked values with other sources to ensure accuracy

