

MEMORANDUM

TO: Water & Light Advisory Board

FROM: Jeff Liesmann, NERC Compliance Officer
Sean King, NERC Compliance Officer

DATE: December 22, 2017

SUBJECT: 2017 NERC Compliance Report and 2018 Preview

Summary:

In June 2007, the North American Electric Reliability Corporation (NERC) was granted the authority to create regulations for safe and reliable generation, transmission, and distribution of electric energy in North America. NERC has the authority to impose sanctions (as high as one million dollars per day, per violation) on any electric utility, not affiliated with the federal government, who fails to maintain compliance with these regulations.

To allow for a more efficient and streamlined operation, NERC delegated compliance verification tasks to nine Regional Reliability Organizations (RROs). SERC Reliability Corporation is the regional entity that ensures the City of Columbia Water and Light Department (CWLD) is compliant with the NERC Reliability Standards.

Since June 2007, CWLD has undergone several audits (including on-site, off-site, and spot checks) to ensure compliance with the regulations outlined in the NERC Standards.

Compliance Issues since last Advisory Board Update:

Update on CIP Audit Finding:

Resolved as a factor of a settlement agreement reached between CWLD and SERC.

CWLD Self-Reports to SERC:

CWLD has reached a settlement agreement with SERC for eight previously self-reported CIP violations. CWLD has two CIP self-reports in an open state.

Update on Operations and Planning Audit Finding:

FAC-008-3, R6 - Facility Rating error has been resolved internally and communicated to affected neighboring entities.

TOP-002-2.1B R19 CWLD has revised our Facility Rating Methodology document to include an appendix with a workflow process for updating facility ratings after there have been physical changes to the CWLD electric system. All Models have been updated.

System Operator Training:

CWLD has completed its NERC required annual System Operator training on Emergency Operations and its annual NERC Compliance Training for all staff who could potentially affect CWLD's compliance with the NERC Standards.

Transmission Planning Assessment:

CWLD has completed its NERC required annual assessment of its electric system to evaluate its ability to operate safely and reliably in normal and emergency conditions. During the assessment it was determined that reliability issues during dual contingencies The CWLD transmission system had two instances of single contingency overload, both in stress test simulations, in models 2018 Summer-Stress, and 2022 Summer-Stress. Loss of 161 kV Boone-Grindstone line caused slight overloads (100.8 % 2018 Summer-Stress, and 103.6 % 2022 Summer-Stress) of the Boone 161/69 kV transformer. Increasing available generation at the Power Plant and/or CEC alleviates this overload without need to shed any loads..

In July 2016 CWLD and AECI developed "CWLD Operating Guide for Potential Overload of Boone 161-69kV Transformer" which provides various remedial options for overload of Boone 161/69kV transformer that can be used for mitigation of Contingency overloads. Remedial actions include either increasing CWLD generation to decrease area interchange import to CWLD, or utilizing short-term limits on the Boone 161/69 kV transformer, or opening appropriate lines, or reducing CWLD loads. First step of this Guide is sufficient to alleviate above mentioned overload. In previous years CWLD had a plan for Mill Creek transmission expansion project which included installation of new Mill Creek substation with 161 kV transmission line connections to Grindstone, Perche Creek and McBaine substations. The plan was recently cancelled.

Personnel:

Mike Hulett will be retiring from the position of NERC Compliance Officer as of January 8th 2018. Jeff Liesmann will be replacing Mike as the NERC Compliance officer, Sean King transferred to the Role of NERC Compliance officer from the IT department in February 2017, and specializes in cybersecurity and CIP Compliance. Two new Jr. System Administrator positions were added in May of 2017 to assist with the IT operations related to NERC compliance.

New EMS:

The new EMS is in service and is currently in use at the Control Centers at the Daniel Boone and Power Plant locations. Addition of a State Estimator Software is planned for early 2018.

Emergency Operations:

EOP-011-1

Consolidates requirements from three standards: EOP-001-2.1b, EOP-002-3.1, and EOP-003-2.

The standard streamlines the requirements for Emergency operations for the Bulk Electric System into a clear and concise standard that is organized by Functional Entity.

In addition, the revisions clarify the critical requirements for Emergency Operations, while ensuring strong communication and coordination across the Functional Entities.

Protection System Misoperation Identification and Correction:

PRC-004-5(i)

Identify and correct the causes of Misoperations of Protection Systems for Bulk Electric System (BES) Elements. CWLD will be required to investigate misoperations within 120 days.

Future Compliance

Real-time Reliability Monitoring and Analysis Capabilities.

TOP-010-1(i): Establish requirements for Real-time monitoring and analysis capabilities to support reliable System operations. This standard requires CWLD to address the quality of the Real-time data necessary to perform its real time monitoring and Real-time assessments, Each Transmission Operator shall implement an Operating Process or Operating Procedure to address the quality of analysis used in its Real-time Assessments, and Each Transmission Operator and Balancing Authority shall have an alarm process monitor that provides notification(s) to its System Operators when a failure of its Real-time monitoring alarm processor has occurred.

Enforcement date April 1, 2018

CWLD will need to consider How to handle the Monitoring process, How we will monitor the quality of our Real time assessments, and a new alarms procedure. This may possibly be done by Implementing New State Estimator Software.

Transmission Operations

TOP-001-4

To prevent instability, uncontrolled separation, or cascading outages that adversely impact the reliability of the Interconnection by ensuring prompt action to prevent, or mitigate such occurrences.

Enforcement date July 1, 2018

R10 revised and R21-24 added. Requires testing of data exchange capability every 90 days. CWLD will need to address how this testing will be done and monitored.

Reliability Assurance Initiative:

NERC continues to improve the Reliability Assurance Initiative (RAI) program. The RAI moves the industry from a “zero tolerance” approach for compliance monitoring to a “risk-based” approach, which relies on the systematic identification of important hazards, risks, or patterns of noncompliance. The program emphasizes compliance monitoring for areas that pose the greatest risk to reliability. Depending on a registered entity’s risk assessment, NERC and SERC can choose to reduce the scope of an audit depending on CWLD’s implementation of internal controls.

NEW CIP ENFORCEMENT

CIP-003-6

September 1, 2018 Compliance Date for CIP-003-6, Attachment 1, Section 2 - Physical Security Controls for Low Impact BES Cyber Systems

September 1, 2018 Compliance Date for CIP-003-6, Attachment 1, Section 3 - Electronic Access Controls for Low Impact BES Cyber Systems

CWLD will need to implement plans to address Section 2 and Section 3 of CIP-003-6 Attachment 1. These physical and electronic controls will be required on CWLD’s Low Impact BES Cyber System. This system is made up of the following substations: Bolstad, Grindstone, McBaine, Perche Creek, and Rebel Hill. The physical security controls for these substations will require need for access, and an updated key management program.

CIP Requirements Pending Regulatory Approval

CIP-003-7 - Cyber Security – Security Management Controls

- Board adopted 02/09/2017

CIP-005-6 - Cyber Security - Electronic Security Perimeter(s)

- Board adopted 08/10/2017

CIP-010-3 - Cyber Security - Configuration Change Management and Vulnerability Assessments

- Board adopted 08/10/2017

CIP-013-1 - Cyber Security - Supply Chain Risk Management

- Board adopted 08/10/2017

CIP Requirements currently being drafted

CIP-002-6 – Cyber Security - BES Cyber System Categorization

- Updates to categorization methodology from CIP-002-5.1a

CIP-012-1 - Cyber Security – Communications between Control Centers

- New standard
Purpose: To protect the confidentiality and integrity of Real-time Assessment and Real-time monitoring and control data transmitted between Control Centers.

Internal Controls Program:

CWLD is continuing efforts to improve the internal controls program.

RECOMMENDATION: Information only.

Cc: Water and Light Staff