



Compliance Audit Report Public

**Confidential Information (including Privileged and
Critical Energy Infrastructure Information)
Has Been Removed**

The Empire District Electric Company
NCR01155

**Audit
September 30-October 2, 2008**

TABLE OF CONTENTS

Executive Summary	1
Audit Process	1
<i>Objectives</i>	2
<i>Scope</i>	2
<i>Confidentiality and Conflict of Interest</i>	3
<i>On-site Audit</i>	3
<i>Methodology</i>	3
<i>Audit Overview</i>	4
<i>Audit</i>	4
<i>Exit Briefing</i>	4
<i>Company Profile</i>	5
<i>Audit Specifics</i>	7
Audit Results	7
<i>Findings</i>	9
<i>Compliance Culture</i>	14

Executive Summary

This public version of the final compliance audit report will be posted on the Southwest Power Pool Regional Entity's (SPP RE) and NERC websites. Confidential information has been redacted from this report. . The report will be submitted to The Empire District Electric Company, Joplin, Missouri (EDE) and to NERC after any Possible Alleged Violations have been processed through the Southwest Power Pool Regional Entity's (SPP RE) 2008 Compliance Monitoring and Enforcement Program.

EDE was scheduled for an on-site audit in 2008 as part of the NERC Compliance Monitoring and Enforcement Program (CMEP). The CMEP requires all Balancing Authorities (BAs) and Transmission Operators (TOPs) to be audited on-site every three years. SPP RE Audit Team arrived and reviewed 39 NERC Standards with the EDE staff. Of the standards reviewed, 6 were not applicable to EDE because it does not have undervoltage load shedding, special protection systems, dynamic schedules, or disturbance monitoring equipment. The Audit Team reviewed the company evidence for each requirement in the standards with EDE subject matter experts. EDE provided evidence to support their compliance with the standards. SPP RE staff also reviewed 8 standards at their office. These 8 standards concern information that was collected at Southwest Power Pool (SPP) or performed by SPP staff for the Region (Control Performance Standard, Disturbance Control Standard, Data submission, Transmission planning, etc.).

After reviewing the evidence presented prior to and during the audit, EDE was found to be compliant with 46 of 47 of the NERC standards reviewed. EDE is found to have a Possible Alleged Violation (PAV) with NERC Standard FAC-008-1 R1 (Facility Ratings Methodology). The evidence showed that the EDE *Facility Rating Methodology* did not have sufficient detail to verify that EDE included all the necessary parameters required by NERC Standard FAC-008-1 Requirement R1. Specifically, the Equipment Ratings document did not explicitly state that Facility Ratings shall equal the most limiting applicable Equipment Rating of the individual equipment that comprises that Facility.

Therefore this Possible Alleged Violation will be reported to the SPP RE Director and NERC. The Possible Alleged Violation will be processed through the SPP RE's NERC Compliance Monitoring and Enforcement Program. EDE will receive letters from the SPP RE concerning the next steps in the process.

The link to The Empire District Electric Company's NOP can be viewed [here](#).

Audit Process

The compliance audit process steps are detailed in the NERC CMEP. The NERC CMEP generally conforms to the United States Government Accountability Office Government Auditing Standards and other generally accepted audit practices.

Objectives

All Registered Entities are subject to audit for compliance with all reliability standards applicable to the functions for which the Registered Entity is registered.¹ The audit objectives are:

- Independently review the company's compliance with the requirements of the NERC and regional reliability standards that are applicable to the company based on the company's registered functions.
- Validate compliance with applicable reliability standards from the NERC 2008 Implementation Plan list of actively monitored standards.
- Review self-reported violations and previous self-certifications, confirm compliance with other requirements of the reliability standard, and review the status of associated mitigation plans.
- Validate coordination with neighboring BAs, TOPs, and the Reliability Coordinator.
- Document the company's compliance culture.

Scope

The compliance on-site audit includes all reliability standards applicable to the Registered Entity monitored in the NERC Implementation Plans in the current and two previous years, and may include other reliability standards applicable to the Registered Entity. Some periodically monitored standards were reviewed at the SPP RE office. The results of the off-site reviews are included in the audit report.

There are 62 NERC standards in the 2008 Monitored Compliance Program. The Audit Team reviewed 39 standards on site while the SPP RE staff reviewed 8 standards at the SPP-RE office before the audit. There were 6 standards covering functions not performed by EDE that were not applicable to the company. Eight CIP standards were addressed by a NERC self certification in July.

The audit included questionnaires from the neighboring Balancing Authorities, Transmission Operators, and the Reliability Coordinator. Any indentified issues found in the neighboring and Reliability Coordinator questionnaires were addressed during the audit.

If a company has an outstanding mitigation plan or has just completed a mitigation plan, the progress or completion of the plan was validated on-site by the Audit Team. EDE did not have any outstanding mitigations plans.

This audit report includes the findings from the on-site and off-site review of the company's evidence.

¹ North American Electric Reliability Corporation CMEP, paragraph 3.1, Compliance Audits

Confidentiality and Conflict of Interest

Confidentiality agreements executed by the independent contractors and code of conduct documentation for the NERC representative and Regional Entity staff were provided to the SPP RE and the audited entity in advance of the audit. The work history of each Audit Team member was provided to SPP RE and the company. The company was given an opportunity to object to an Audit Team member on the basis of a possible conflict of interest or the existence of other circumstances that could interfere with the Audit Team member's impartial performance of duties. EDE accepted the final Audit Team member participants with no objections. SPP RE found no conflict of interest for any of the Audit Team members.

On-site Audit

The on-site audit is part of the NERC Compliance Monitoring and Enforcement Program (CMEP). Every Transmission Operator (TOP) and Balancing Authority (BA) registered in the NERC Functional Registration Data Base is required to have an on-site audit once every three years. The on-site audit covers the 2008 NERC monitored standards, any Regional standards identified and possible other NERC standards listed in the pre-audit information. Companies on the 2008 on-site audit list were notified in the fall of 2007 about their upcoming audit and scheduled for the audit. Sixty days in advance, a letter explaining the audit was sent to the company. SPP RE sent the company a request for data and documents to complete. The pre-audit material included the Audit Team members, audit agenda, standards to be reviewed on-site, a pre-audit survey, the standards questionnaires, and the option to reject any Audit Team member. The pre-audit material received from the company provided the Audit Team an explanation of how the company operates for the functions they are registered.

The standards and supporting evidence to show compliance with the standards were reviewed with the company. The Audit Team received evidence supporting compliance with each requirement of the audited standards. Evidence included summary reports, company procedures, processes, work schedules, training schedules, on-line tools, data bases, and other sources. Information gathered from neighboring Balancing Authorities, Transmission Operators, and the Reliability Coordinator was considered during the review of evidence. The Audit Team reviewed the evidence for each standard and requirement with the company's subject matter experts. This process enabled the team to get immediate answers to questions that arose. This process also exposed other company staff to the audit process which helped solidify why a company follows certain procedures and processes. Any self-reported violations, recently completed, or open mitigation plans were reviewed by the Audit Team. The Audit Team used the evidence, the discussions with the company subject matter experts and their own professional judgment to decide on the recommended findings for the report.

On the final day, the lead auditor presented the findings of the audit to the company staff. EDE brought in several staff members for the presentation. The presentation covered the findings for the standards reviewed on on-site and off-site. The final report process was explained along with the security of the audit information. EDE was informed that the public report will be posted on the NERC and SPP RE websites after all due processes are complete. EDE was also notified that a post-audit questionnaire will be provided for them to make any comments about the audit or

Audit Team. There was a question and answer session after the presentation. The lead auditor answered all the questions and thanked EDE for their hospitality.

Methodology

The Audit Team reviewed the evidence supplied by the company for each requirement of all NERC standards that apply to the functions performed by the company to determine if the company complied with that requirement. The company would be found to be allegedly noncompliant with requirements where compliance cannot be confirmed.

EDE provided a conference room for the audit. The Audit Team members completed individual assignments during the audit process. EDE brought in its subject matter experts as the team worked through the standards. The subject matter experts explained the evidence and answered all questions the team asked. EDE presented most of their evidence on an overhead projection screen. They also provided additional hard copies of requested material for the team to review. The overhead presentation was very useful for all of the team to review the evidence at one time.

The Audit Team toured the primary control room and verified the information that was presented as evidence in the preceding days. The team was able to see live screens and ask several questions about their processes and procedures. The tour confirmed the information learned during the audit.

The Audit Team met privately after being presented the evidence from the company. The team reviewed each requirement and discussed the levels of compliance and addressed each team member's notes from the audit. The Audit Team decided on the findings to present to the company and the SPP RE. The Audit Team developed the closing presentation of audit findings. The lead auditor gave the presentation to the EDE staff and answered all EDE's questions.

Audit Overview

The Audit Team met with the EDE representative on the first morning of the audit. The audit process was discussed to verify if any changes to the agenda were warranted. There were no changes identified by either party.

Audit

The EDE audit was performed as planned. The agenda was followed with only minor staff adjustments.

Exit Briefing

The Audit Team gave an exit presentation for the EDE staff. The audit team lead explained the findings from the audit. The presentation was attended by EDE staff that participated in the audit and senior management. The presentation was open for comments and discussion about the

findings. The exit presentation also covered positive findings, any Possible Alleged Violations, and mitigation requirements. EDE was informed that they will receive an audit evaluation to complete and return to NERC.

The Audit Team used the exit presentation to help verify that the information presented is correct.

Company Profile

EDE performs the following NERC functions and is registered with NERC/SPP RE for these functions:

- Balancing Authority
- Transmission Operator
- Transmission Owner
- Transmission Planner
- Generation Operator
- Generation Owner
- Resource Planner
- Load Serving Entity
- Distribution Provider
- Purchasing Selling Entity

EDE is headquartered in Joplin, Missouri. EDE is an investor-owned utility providing services to approximately 148,000 customers in Southwest Missouri, 10,000 in Southeast Kansas, 5,000 in Northeast Oklahoma and 4,000 in Northwest Arkansas for a total customer base of approximately 167,000 customers. EDE also provides full requirements wholesale power to 3 Missouri communities and 1 Kansas community.

The Empire District Gas Company is a subsidiary of EDE and serves approximately 48,000 gas customers in Western Missouri.

Voltage levels on the EDE transmission system are 34, 69, 138, 161, and 345 kV. EDE has 747 miles of 69 kV, 430 miles of 161 kV, and 22 miles of 345 kV. EDE owns an autotransformer at 138 kV, but no associated transmission lines.

EDE has three 161 kV interconnections with Western Resources, five 161 kV and eight 69 kV interconnections with Associated Electric, five 161 kV interconnections with Southwestern Power Administration, one 161 kV and one 69 kV interconnection with Grand River Dam Authority, three 161 kV interconnections with American Electric Power Company (SWEPCO and PSO), one 161 kV interconnections with Entergy Arkansas, one 69 kV interconnections with KEPCO, and one 69 kV interconnection each with Kansas City Power & Light and City Utilities of Springfield. EDE owns and maintains 22 miles of a jointly owned 345 kV line but does not own a terminal on the 345kV line.

The Company's all-time electric summer peak load is 1,173 MW and occurred on August 15, 2007. The Company's all-time electric winter peak of 1,059 MW was set on February 16, 2007. Empire normally peaks in summer. EDE owns or has contracts for 1,472 MW of generation. One of the EDE's generation resources is a jointly owned unit located outside of its transmission and balancing authority area. EDE owns or has commitments for 542 MW of coal fired, 854 MW of gas fired, 16 MW of hydro, and 15 MW of wind accredited capacity (250 MW nameplate rating).

SPP is the Reliability Coordinator for EDE. EDE participates in the SPP reserve sharing group. It uses SPP as the transmission provider for its transmission system.

EDE directly performs the other functions for which it is responsible.

Audit Specifics

The compliance audit was conducted on September 30-October 2, 2008 at the EDE office in Joplin, Missouri.

Audit Team

Audit Team Role	Title	Company
Lead	Lead Engineer	SPP RE
Member	Lead Compliance Specialist	SPP RE
Member	Compliance Engineer	SPP RE
Member	SPP RE Contractor	SPP RE
Member	SPP RE Contractor	SPP RE
Observer	Regional Coordinator	NERC
Observer	SPP RE Contractor	SPP RE

EDE Audit Participants

Title	Organization
Vice President & Chief Operating Officer - Electric	EDE
Vice President Energy Supply	EDE
Director of Transmission Policy & Compliance	EDE
Director Engineering and Line Services	EDE
Plant Manager Riverton	EDE
Director Telecommunications	EDE
Director Supply Management	EDE
Assistant Director Supply Management	EDE
Manager Reliability Compliance	EDE
Senior Transmission Operations Project Engineer (EMS)	EDE
Senior Transmission Operations Engineer	EDE
Director Commercial Operations West	EDE
Manager System Planning & Protection	EDE
System Planning & Protection Engineer	EDE
Vegetation Control Manager	EDE
Senior Manager Substation Maintenance	EDE
Administrative Assistant	EDE

Audit Results

EDE did not have any violations or mitigation plans open for review during this audit. After reviewing all of the evidence presented to the Audit Team, EDE was found to be compliant with 46 out of 47 of the NERC standards reviewed. EDE is found to have a Possible Alleged Violation (PAV) with NERC Standard FAC-008-1 R1 (Facility Ratings Methodology).

The evidence showed that the EDE Facility Rating Methodology did not have sufficient detail to verify that EDE included all the necessary parameters required by NERC Standard FAC-008-1 Requirement R1. Specifically, it did not state that Facility Rating shall equal the most limiting applicable Equipment Rating of the individual equipment that comprises that Facility (R1.1). The EDE staff stated the rating methodology is based on SPP Criteria 12 but that was not documented anywhere. The EDE staff stated the generation methodology was based on capacity test for the units. There was not list of generation equipment showing the limits of the major components and then identifying the limiting component to set ratings. The generation methodology was not documented. EDE did have details for the transmission equipment ratings. EDE did provide capacity testing results for their generation. The review of the evidence provided suggests that EDE does incorporate the limiting applicable equipment rating in their rating methodology. EDE is missing the overriding documents stating how ratings for transmission and generation are created. EDE is also missing a statement that the most limiting element will determine the rating as required in the standard.

Senior management attended the opening and the closing presentations. EDE was prepared for the audit and presented its documentation in a complete and concise manner. EDE subject matter experts, compliance team members, and Compliance Manager presented the material supporting its compliance to the standard requirements. They demonstrated that they are in compliance with the NERC standards and are working to improve their processes, procedures, and documentation management practices to insure that they continue to remain compliant. EDE staff and management are committed to its compliance program.

Findings

EDE On-site Audit Findings

*N/A – Not Applicable

PAV – Possible Alleged Violation

Reliability Standard	Requirement	Finding
BAL-001-0	R1.	Compliant
BAL-001-0	R2.	Compliant
BAL-001-0	R3.	Compliant
BAL-001-0	R4.	Compliant
BAL-002-0	R1.	Compliant
BAL-002-0	R2.	Compliant
BAL-002-0	R3.	Compliant
BAL-002-0	R4.	Compliant
BAL-002-0	R5.	Compliant
BAL-002-0	R6.	Compliant
BAL-003-0	R1.	Compliant
BAL-003-0	R2.	Compliant
BAL-003-0	R3.	Compliant
BAL-003-0	R4.	Compliant
BAL-003-0	R5.	Compliant
BAL-003-0	R6.	Compliant
BAL-004-0	R3.	Compliant
BAL-004-0	R4.	Compliant
BAL-005-0	R1.	Compliant
BAL-005-0	R2.	Compliant
BAL-005-0	R3.	N/A
BAL-005-0	R4.	N/A
BAL-005-0	R5.	N/A
BAL-005-0	R6.	Compliant
BAL-005-0	R7.	Compliant
BAL-005-0	R8.	Compliant
BAL-005-0	R9.	Compliant
BAL-005-0	R10.	N/A
BAL-005-0	R11.	Compliant
BAL-005-0	R12.	Compliant
BAL-005-0	R13.	Compliant
BAL-005-0	R14.	Compliant
BAL-005-0	R15.	Compliant
BAL-005-0	R16.	Compliant

Confidential Information (including Privileged and
Critical Energy Infrastructure Information) Has Been Removed

Reliability Standard	Requirement	Finding
BAL-005-0	R17.	Compliant
BAL-006-1	R1.	Compliant
BAL-006-1	R2.	Compliant
BAL-006-1	R3.	Compliant
BAL-006-1	R4.	Compliant
BAL-006-1	R5.	Compliant
CIP-001-1	R1.	Compliant
CIP-001-1	R2.	Compliant
CIP-001-1	R3.	Compliant
CIP-001-1	R4.	Compliant
COM-001-1	R1.	Compliant
COM-001-1	R2.	Compliant
COM-001-1	R3.	Compliant
COM-001-1	R4.	Compliant
COM-001-1	R5.	Compliant
COM-002-2	R1.	Compliant
COM-002-2	R2.	Compliant
EOP-001-0	R1.	Compliant
EOP-001-0	R2.	Compliant
EOP-001-0	R3.	Compliant
EOP-001-0	R4.	Compliant
EOP-001-0	R5.	Compliant
EOP-001-0	R6.	Compliant
EOP-001-0	R7.	Compliant
EOP-002-2	R1.	Compliant
EOP-002-2	R2.	Compliant
EOP-002-2	R3.	Compliant
EOP-002-2	R4.	Compliant
EOP-002-2	R5.	Compliant
EOP-002-2	R6.	Compliant
EOP-002-2	R7.	Compliant
EOP-002-2	R8.	Compliant
EOP-002-2	R9.	Compliant
EOP-003-1	R1.	Compliant
EOP-003-1	R2.	Compliant
EOP-003-1	R3.	Compliant
EOP-003-1	R4.	Compliant
EOP-003-1	R5.	Compliant
EOP-003-1	R6.	Compliant
EOP-003-1	R7.	Compliant
EOP-003-1	R8.	Compliant

Confidential Information (including Privileged and
Critical Energy Infrastructure Information) Has Been Removed

Reliability Standard	Requirement	Finding
EOP-004-1	R2.	Compliant
EOP-004-1	R3.	Compliant
EOP-005-1	R1.	Compliant
EOP-005-1	R2.	Compliant
EOP-005-1	R3.	Compliant
EOP-005-1	R4.	Compliant
EOP-005-1	R5.	Compliant
EOP-005-1	R6.	Compliant
EOP-005-1	R7.	Compliant
EOP-005-1	R8.	Compliant
EOP-005-1	R9.	Compliant
EOP-005-1	R10.	Compliant
EOP-005-1	R11.	Compliant
EOP-008-0	R1.	Compliant
EOP-009-0	R1.	Compliant
EOP-009-0	R2.	Compliant
FAC-003-1	R1.	Compliant
FAC-003-1	R2.	Compliant
FAC-003-1	R3.	Compliant
FAC-008-1	R1.	PAV
FAC-008-1	R2.	Compliant
FAC-008-1	R3.	Compliant
FAC-009-1	R1.	Compliant
FAC-009-1	R2.	Compliant
INT-001-2	R1.	N/A
INT-001-2	R2.	Compliant
INT-003-2	R1.	Compliant
INT-004-1	R1.	N/A
INT-004-1	R2.	N/A
IRO-001-1	R8.	Compliant
IRO-004-1	R3.	Compliant
IRO-004-1	R4.	Compliant
IRO-004-1	R7.	Compliant
IRO-005-1	R8.	Compliant
IRO-005-1	R13.	Compliant
IRO-006-3	R6.	Compliant
PER-002-0	R1.	Compliant
PER-002-0	R2.	Compliant
PER-002-0	R3.	Compliant
PER-002-0	R4.	Compliant
PER-003-0	R1.	Compliant

Confidential Information (including Privileged and
Critical Energy Infrastructure Information) Has Been Removed

Reliability Standard	Requirement	Finding
PRC-004-1	R1.	Compliant
PRC-004-1	R2.	Compliant
PRC-004-1	R3.	Compliant
PRC-005-1	R1.	Compliant
PRC-005-1	R2.	Compliant
PRC-008-0	R1.	Compliant
PRC-008-0	R2.	Compliant
PRC-010-0	R1.	N/A
PRC-010-0	R2.	N/A
PRC-011-0	R1.	N/A
PRC-011-0	R2.	N/A
PRC-016-0	R1.	N/A
PRC-016-0	R2.	N/A
PRC-016-0	R3.	N/A
PRC-017-0	R1.	N/A
PRC-017-0	R2.	N/A
PRC-021-1	R1.	N/A
PRC-021-1	R2.	N/A
TOP-002-2	R1.	Compliant
TOP-002-2	R2.	Compliant
TOP-002-2	R3.	Compliant
TOP-002-2	R4.	Compliant
TOP-002-2	R5.	Compliant
TOP-002-2	R6.	Compliant
TOP-002-2	R7.	Compliant
TOP-002-2	R8.	Compliant
TOP-002-2	R9.	Compliant
TOP-002-2	R10.	Compliant
TOP-002-2	R11.	Compliant
TOP-002-2	R13.	Compliant
TOP-002-2	R14.	Compliant
TOP-002-2	R15.	Compliant
TOP-002-2	R16.	Compliant
TOP-002-2	R17.	Compliant
TOP-002-2	R18.	Compliant
TOP-002-2	R19.	Compliant
TOP-003-0	R1.	Compliant
TOP-003-0	R2.	Compliant
TOP-003-0	R3.	Compliant
TOP-004-1	R1.	Compliant
TOP-004-1	R2.	Compliant

Confidential Information (including Privileged and
Critical Energy Infrastructure Information) Has Been Removed

Reliability Standard	Requirement	Finding
TOP-004-1	R3.	Compliant
TOP-004-1	R4.	Compliant
TOP-004-1	R5.	Compliant
TOP-004-1	R6.	Compliant
TOP-005-1	R1.	Compliant
TOP-005-1	R2.	N/A
TOP-005-1	R3.	Compliant
TOP-005-1	R4.	Compliant
TOP-007-0	R1.	Compliant
TOP-007-0	R2.	Compliant
TOP-007-0	R3.	Compliant
TPL-001-0	R1.	Compliant
TPL-001-0	R2.	Compliant
TPL-001-0	R3.	Compliant
TPL-002-0	R1.	Compliant
TPL-002-0	R2.	Compliant
TPL-002-0	R3.	Compliant
TPL-003-0	R1.	Compliant
TPL-003-0	R2.	Compliant
TPL-003-0	R3.	Compliant
TPL-004-0	R1.	Compliant
TPL-004-0	R2.	Compliant
VAR-001-1	R1.	Compliant
VAR-001-1	R2.	Compliant
VAR-001-1	R3.	Compliant
VAR-001-1	R4.	Compliant
VAR-001-1	R5.	Compliant
VAR-001-1	R6.	Compliant
VAR-001-1	R7.	Compliant
VAR-001-1	R8.	Compliant
VAR-001-1	R9.	Compliant
VAR-001-1	R10.	Compliant
VAR-001-1	R11.	Compliant
VAR-001-1	R12.	Compliant
VAR-002-1	R1.	Compliant
VAR-002-1	R2.	Compliant
VAR-002-1	R3.	Compliant
VAR-002-1	R4.	Compliant
VAR-002-1	R5.	Compliant

Compliance Culture

EDE completed the SPP RE Compliance Program Questionnaire prior to the compliance audit. EDE stated that it has a formal internal compliance program titled *The Empire District Electric Company Reliability Compliance Business Plan* and provided a copy of the plan to the Audit Team. EDE formed a Reliability Compliance Team (RCT) consisting of key department managers, directors, and other personnel who manage areas of the company that are critical to NERC compliance. The Manager of Reliability Compliance directs the activities of the RCT and reports to the Director of Transmission Policy and Compliance. The Director of Transmission Policy and Compliance reports to the Vice President of Commercial Operations/Compliance Officer, who is designated as the EDE Compliance Officer.

EDE Vice President of Commercial Operations/Compliance Officer has independent access to both the EDE Chief Executive Officer and the Board of Directors.

The EDE Reliability Compliance Department coordinates the development, maintenance, and compliance with internal policies and procedures to meet NERC and SPP requirements. EDE Reliability Compliance Department participates and monitors compliance activities at the national and regional levels.

According to *The Empire District Electric Company Reliability Compliance Business Plan* the Manager-Reliability Compliance will participate in reliability training and train the member of the RCT to the latest changes effecting compliance to NERC standards. The Manager-Reliability Compliance will participate in SPP RE Compliance Workshops semiannually.

EDE has participated in the regional compliance program since 2000 and has always had someone participating in the regional workshops, survey activities, self certification process, and spot checks. The Manager-Reliability Compliance distributes compliance information to the departments responsible for compliance.

Overall, EDE has a compliance program with staff involvement. The staff is aware of the importance of continual compliance. EDE is refining a process to track and keep documentation up to date and showed progress to make their compliance program stronger in the future.