



# **Compliance Audit Report Public Version**

**Xcel Energy-Northern States Power  
NCR-01020  
February 27-28, 2008**

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

Public Version

**March 5, 2008**

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## Executive Summary

This final compliance audit report is the public version. Confidential information (including privileged and critical energy infrastructure information) has been redacted from this report. The full final compliance audit report was submitted to the audited entity and NERC.

The Midwest Reliability Organization (MRO) conducted a compliance audit of Northern States Power February 27-28, 2008 in Minneapolis, Minnesota. The audit team consisted of three MRO staff members and one NERC observer.

NERC has designated a subset of Reliability Standards for active compliance monitoring and reporting by the Regional Entities in their 2008 implementation plan. For 2008, NERC has identified 62 standards as “actively monitored” which contain 294 requirements. The 2008 compliance audits focus on the last 12 months.

NSP is registered with the MRO as responsible for 11 different functions. As a result of this registration and for this audit, NSP is responsible for meeting compliance with 47 Reliability Standards which contain 229 requirements. NSP is found to be in full compliance with 188 requirements – 41 requirements were found to be not applicable. An additional 8 standards and their requirements were monitored as a part of the 2007 Critical Infrastructure Protection (CIP) survey. No violations were detected during the course of the 2008 Compliance Audit.

As a part of the audit process, NSP staff completed an Audit Questionnaire and provided the MRO with supporting documentation prior to the on site audit. The MRO staff spent several days reviewing the questionnaire and supporting documentation at the MRO offices. On average, for every hour spent on site with the entity, the MRO staff spends three to four hours in the MRO office evaluating documentation. Upon completion of the initial review of evidence, the audit team requested additional documentation, and identified the subject matter experts to be interviewed.

Once on site, the NSP staff was found to be cordial, knowledgeable; willing to clarify any questions and, when needed, direct the audit team to the correct supporting documentation. The subject matter experts were open with their responses and were cooperative throughout the process.

## Audit Process

The NSP Compliance Audit was conducted as a part of its normal three year cycle. The 2008 Compliance Program consists of 54 actively monitored Standards. Seven of these Standards were deemed not applicable, all of which are related directly to the RC function. Documentation was viewed for the past 12 months.

The compliance audit process steps are detailed in the NERC Compliance Monitoring & Enforcement Program (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.<sup>1</sup> The audit objectives are:

- Independently review Northern States Power's (NSP) compliance with the requirements of the reliability standards that are applicable to NSP based on the NSP's registered functions.
- Validate compliance with applicable Reliability Standards from the NERC 2008 Implementation Plan list of actively monitored standards.
- Validate evidence of self-reported violations and previous self-certifications, confirm compliance with other requirements of the Reliability Standard, and review the status of associated mitigation plans.
- Document the NSP's compliance culture.
- Validate compliance with MRO Standard MBAL-002-0, Operating Reserves-Spinning.

### **Scope**

The NSP Compliance Audit was conducted as a part of its normal three year cycle. The audit was conducted under the guidelines of the 2008 CMEP. All applicable NERC and MRO standards were reviewed during this audit. The audit team reviewed supporting documentation for the past 12 months.

### **Confidentiality and Conflict of Interest**

NSP was given a list of MRO and NERC auditors who would be conducting the audit with the audit package 60 days prior to the audit. In the audit notice, the opportunity was presented 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

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<sup>1</sup> North American Electric Reliability Corporation CMEP, paragraph 3.1, Compliance Audits

member's impartial performance of duties. NSP accepted the audit team member participants with no objections. The NERC representative was re-assigned prior to the audit. NSP was notified of the new individual and there was no objection by NSP.

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.

### ***On-site Audit***

NSP was given the opportunity to present and overview of their company. The MRO presented a high level overview of the status of the compliance audit.

The auditor code of conduct was reviewed. MRO staff must adhere to confidentiality as required through the NERC Delegation Agreement. NERC staff has their own Code of Conduct. MRO staff requested NSP's cooperation in complying with the following guidelines:

- MRO must be billed for all meals and snacks
- Auditors may not fraternize with employees of NSP during breaks and outside of work during the period of the audit
- Audit team members may not accept gifts, regardless of value.

### ***Methodology***

Audit criteria included standards, measures, and expectations based on best practices. The criterion was objective, measurable, complete, and relevant to the objectives. The audit team accepted and was not limited to policies, procedures, screen-prints of EMS, copies of operator logs, audio clips, and correspondence. If needed, additional supporting documentation or clarification was requested.

The Audit team used the Reliability Standards Auditor Worksheets (RSAW) to review each reliability standard during the compliance audit. This is done to ensure consistency and fairness during each compliance audit.

### ***Audit Overview***

In September 2007, the MRO scheduled NSP to receive a compliance audit February 27-28, 2008 as a part of their normal three year cycle. December 19, 2007 the MRO sent NSP the audit package which included *the On-Site Notification, Pre-Audit Survey, Procedures for Conducting an Audit, Subject Matter Experts Spreadsheet, Preparing for Compliance and Compliance Audit* and the *2008 MRO Audit Questionnaire*. Additionally, a questionnaire was sent to the Midwest ISO as the Reliability Coordinator.

## ***Audit***

Two weeks prior to the audit team site visit, NSP supplied MRO with approximately 95% of supporting documentation needed to demonstrate compliance. MRO staff reviewed this documentation in the MRO offices. The compliance staff utilized the NERC Standards and the RSAW while reviewing the supporting documents and the Audit Questionnaire response provided by NSP.

After evaluation of the supporting documentation, a set of questions was developed for the subject matter experts at NSP and additional supporting evidence was identified. Once on site, the team of auditors was able to review the necessary documents and conduct interviews of the subject matter experts. These interviews, in conjunction with supporting evidence, provided the audit team with a basis for professional judgment when validating compliance with reliability standards. Subject matter experts for the following standards were requested to be available: BAL-002, CIP-001, EOP-005, FAC-003, PER-002, PRC-004, PRC-005, PRC-008, PRC-017, TOP-002, TPL-001 thru 004, and VAR-001.

The operations staff was also interviewed to verify documentation and tools to conduct their job responsibilities were available to them at all times.

## ***Exit Briefing***

Upon completion of the audit process, the MRO audit team and NSP staff met to review the exit presentation. At this time, the audit team found NSP to be 100% compliant with the actively monitored standards.

## **Company Profile**

- **Official name of company that contains the electric system operation:** Northern States Power Company, a Minnesota corporation ("NSP"), and Northern States Power Company, a Wisconsin corporation ("NSPW"), collectively referred to as the "NSP Companies." The NSP Companies operate an integrated electric generation and transmission system ("NSP System").
- **High-level description of parent company's organization and structure:** The NSP Companies are subsidiaries of Xcel Energy Inc. ("Xcel Energy"). Xcel Energy is a public utility holding company under the Public Utility Holding Company Act of 2005, and indirectly owns and operates generation, transmission, and distribution assets to serve approximately 3.3 million customers across eight states. Xcel Energy is organized around four utility operating companies which own generation, transmission, and distribution assets in three separate regions of the United States. The four Xcel Energy Operating Companies are: NSP, NSPW, Public Service Company of Colorado ("PSCo"), and Southwestern Public Service Company ("SPS"). Xcel Energy Services Inc. ("XES") is the service company subsidiary of Xcel Energy Inc. and, as such, performs an array of administrative and general services on behalf of the Xcel Energy Operating Companies. NSP, NSPW and PSCo also provide natural gas distribution service at retail.
- **Geographic description of the service territory:** NSP is an operating utility engaged in the generation, purchase, transmission, distribution, and sale of electricity in Minnesota, North Dakota, and South Dakota. Approximately 90 percent of NSP's retail electric operating revenue is derived from operations in Minnesota. Load centers include the Twin Cities, St. Cloud, Winona, Mankato, Fargo, Grand Forks and Sioux Falls. NSPW is an operating utility engaged in the generation, transmission, and distribution of electricity to approximately 245,000 customers in portions of western Wisconsin and the western tip of the Upper Peninsula of Michigan. Approximately 97 percent of NSPW's retail electric operating revenues are derived from operations in Wisconsin. Load centers include Eau Claire and LaCrosse. The combined NSP Companies electric service area is approximately 49,000 square miles.
- **Number of customers served:** As of December, 2007, NSP has approximately 1,370,000 electric customers while NSPW had approximately 245,000 electric customers.
- **Peak load (summer or winter peaking):** Summer Peaking
- **Voltage levels used on NSP system:** NSP and NSP-W operate at the following transmission voltages: 34.5 KV, 69 KV, 88 KV, 115 KV, 161 KV, 230 KV, and 500 KV.

NSP is registered for the following 11 functions: Balancing Authority, Distribution Provider, Generator Operator, Generator Owner, Load Serving Entity, Purchase and Selling Entity, Resource Planner, Transmission Operator, Transmission Owner, Transmission Planner, and Transmission Service Provider.

### **Audit Specifics**

The compliance audit was conducted on February 27-28 at the Northern States Power office in Minneapolis, Minnesota.

<b>Audit Team Role</b>	<b>Title</b>	<b>Company</b>
Lead	Principle Compliance Associate	MRO
Member	Principle Compliance Associate	MRO
Member	Engineer	MRO
Observer	Compliance Coordinator	NERC

### **Northern States Power Audit Participants**

<b>Title</b>	<b>Northern States Power Organization</b>
Manager	System Operations
Lead	System Operations
Manager	System Operations
Senior Consultant	Transmission Compliance
Analyst	Reliability Standards
Sr. Manager	Security
Project Director	Energy Services
Director	Transmission
Manager	Transmission Maintenance and Relay
Engineer	Transmission Maintenance and Relay
Systems Specialist	Vegetation Management
Director	Vegetation Management
Supervisor	Vegetation Management
Lead	Network Reliability
Coordinator	Training
Engineer	Transmission Engineering Operations
Engineer	Energy Supply
Manager	Energy Supply
Director	Transmission Operations
Manager	Transmission Engineering Operations
Manager	Substation
Supervisor	Substation
Manager	System Protection
Sr. Engineer	Planning
Manager	Real Time Planning
Transmission System Operator	System Operations
Balancing Authority Operator	System Operations
Manager	Reliability Standard Compliance Program

## Audit Results

- NSP compiled a large number of documents to meet compliance. The majority of the procedures were delivered in the Emergency Operation Plan & Reference Guide. This manual was in excess of 900 pages which consisted many different policies and procedures. Some of these documents were vague in specifics due to the fact these documents cover three operating companies. Through the interview process and further evaluation of documents, the audit team was able identify compliance.
- The audit team reviewed a substantial number of supporting documents supplied by NSP. After the review of these documents, the audit team developed a list of questions for the subject matter experts (SME). During the onsite portion of the audit, the SMEs were questioned and operational staff was interviewed to verify their knowledge and familiarity of the processes and supporting documentation. The SMEs represented both management and staff positions.
- The documents NSP provided not only identified the process and procedures NSP has in place, they were actual representation of work which has been completed showing these processes and procedures are utilized.
- Prior violations were discussed in the exit briefing. Management was well aware of these past violations and responded openly in discussion of the issues.
- The Midwest ISO Reliability Coordinator responded to the questionnaire sent out regarding NSP's relationship with the RC. The Midwest ISO RC responded positively to NSP compliance with RC issues.
- The Reliability Standard Auditor Worksheet (RSAW) was used by the audit team. NSP identified the sources of documentation and the audit team used the check list to evaluate compliance.

## ***Findings***

### **Northern States Power Compliance Audit**

<b>Reliability Standard</b>	<b>Requirement</b>	<b>Finding</b>
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.	N/A
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	R1.	N/A
BAL-004-0	R2.	N/A
BAL-004-0	R3.	Compliant
BAL-004-0	R4.	Compliant
BAL-005-0	R1.	Compliant
BAL-005-0	R2.	Compliant
BAL-005-0	R3.	Compliant
BAL-005-0	R4.	Compliant
BAL-005-0	R5.	Compliant
BAL-005-0	R6.	Compliant
BAL-005-0	R7.	Compliant
BAL-005-0	R8.	Compliant
BAL-005-0	R9.	Compliant
BAL-005-0	R10.	Compliant
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

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<b>Reliability Standard</b>	<b>Requirement</b>	<b>Finding</b>
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	R2.	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.	N/A
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
EOP-004-1	R1.	N/A
EOP-004-1	R2.	Compliant

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<b>Reliability Standard</b>	<b>Requirement</b>	<b>Finding</b>
EOP-004-1	R3.	Compliant
EOP-004-1	R4.	N/A
EOP-004-1	R5.	N/A
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-006-1	R1.	N/A
EOP-006-1	R2.	N/A
EOP-006-1	R3.	N/A
EOP-006-1	R4.	N/A
EOP-006-1	R5.	N/A
EOP-006-1	R6.	N/A
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-003-1	R4.	N/A
FAC-008-1	R1.	Compliant
FAC-008-1	R2.	Compliant
FAC-008-1	R3.	Compliant
FAC-009-1	R1.	Compliant
FAC-009-1	R2.	Compliant
FAC-013-1	R1.	N/A
FAC-013-1	R2.	N/A
INT-001-2	R1.	Compliant
INT-001-2	R2.	Compliant
INT-003-2	R1.	Compliant
INT-004-1	R1.	Compliant
INT-004-1	R2.	Compliant
IRO-001-1	R1.	N/A

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<b>Reliability Standard</b>	<b>Requirement</b>	<b>Finding</b>
IRO-001-1	R2.	N/A
IRO-001-1	R3.	N/A
IRO-001-1	R4.	N/A
IRO-001-1	R5.	N/A
IRO-001-1	R6.	N/A
IRO-001-1	R7.	N/A
IRO-001-1	R8.	Compliant
IRO-001-1	R9.	N/A
IRO-003-2	R1.	N/A
IRO-003-2	R2.	N/A
IRO-004-1	R1.	N/A
IRO-004-1	R2.	N/A
IRO-004-1	R3.	N/A
IRO-004-1	R4.	Compliant
IRO-004-1	R5.	N/A
IRO-004-1	R6.	N/A
IRO-004-1	R7.	Compliant
IRO-005-1	R1.	N/A
IRO-005-1	R2.	N/A
IRO-005-1	R3.	N/A
IRO-005-1	R4.	N/A
IRO-005-1	R5.	N/A
IRO-005-1	R6.	N/A
IRO-005-1	R7.	N/A
IRO-005-1	R8.	Compliant
IRO-005-1	R9.	N/A
IRO-005-1	R10.	N/A
IRO-005-1	R11.	N/A
IRO-005-1	R12.	Compliant
IRO-005-1	R13.	N/A
IRO-005-1	R14.	Compliant
IRO-005-1	R15.	N/A
IRO-005-1	R16.	N/A
IRO-005-1	R17.	N/A
IRO-006-3	R1.	N/A
IRO-006-3	R2.	N/A
IRO-006-3	R3.	N/A
IRO-006-3	R4.	N/A
IRO-006-3	R5.	N/A
IRO-006-3	R6.	Compliant

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<b>Reliability Standard</b>	<b>Requirement</b>	<b>Finding</b>
IRO-014-1	R1.	N/A
IRO-014-1	R2.	N/A
IRO-014-1	R3.	N/A
IRO-014-1	R4.	N/A
IRO-015-1	R1.	N/A
IRO-015-1	R2.	N/A
IRO-015-1	R3.	N/A
IRO-016-1	R1.	N/A
IRO-016-1	R2.	N/A
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
PER-004-1	R1.	N/A
PER-004-1	R2.	N/A
PER-004-1	R3.	N/A
PER-004-1	R4.	N/A
PER-004-1	R5.	N/A
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.	Compliant
PRC-010-0	R2.	Compliant
PRC-011-0	R1.	Compliant
PRC-011-0	R2.	Compliant
PRC-016-0	R1.	Compliant
PRC-016-0	R2.	Compliant
PRC-016-0	R3.	Compliant
PRC-017-0	R1.	Compliant
PRC-017-0	R2.	Compliant
PRC-021-1	R1.	Compliant
PRC-021-1	R2.	Compliant
TOP-002-2	R1.	Compliant
TOP-002-2	R2.	Compliant
TOP-002-2	R3.	Compliant

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<b>Reliability Standard</b>	<b>Requirement</b>	<b>Finding</b>
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	R12.	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-003-0	R4.	N/A
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
TOP-007-0	R4.	N/A
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

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<b>Reliability Standard</b>	<b>Requirement</b>	<b>Finding</b>
VAR-001-1	R1.	Compliant
VAR-001-1	R2.	Compliant
VAR-001-1	R3.	NC
VAR-001-1	R4.	NC
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***

The Northern States Power's compliance culture was not reviewed by the audit team. The Regional Entity compliance staff will review the Northern States Power's compliance culture at a future date.