

Compliance Audit Report Public Version

The Dow Chemical Co

NERC ID # NCR04146

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

Audit Date: October 12-15, 2010
Audit Location: Texas Reliability Entity Office, Austin, TX
Report Date: December 7, 2010
Prepared By: Scott Jackson, Audit Team Leader

TABLE OF CONTENTS

1.0	Executive Summary	3
2.0	Audit Process.....	3
2.1	Objectives	3
2.2	Scope.....	4
2.3	Methodology	4
2.4	Company Profile	5
2.5	Audit Specifics	5
3.0	Audit Results.....	6
3.1	Audit Findings	6
3.2	Mitigation Plan Findings.....	9
3.3	Conclusion	9
3.4.	Compliance Culture	9

1.0 EXECUTIVE SUMMARY

The Table Top (Off-Site) compliance audit of The Dow Chemical Co (Dow Chemical) was conducted on October 12-15, 2010. The NERC Reliability Standards that are being actively monitored for 2010 were reviewed based on Dow Chemical's registration as a Generator Owner and Generator Operator.

The audit team reviewed the NERC Reliability Standards for the period of time identified in the scope of the audit. The audit team consisted of two representatives from Texas Reliability Entity (Texas RE). The audit team reviewed the evidence and documentation provided by Dow Chemical and conducted interviews with Dow Chemical's personnel to assess compliance with standards applicable to Dow Chemical at this time.

There were a total of sixteen (16) reliability standards included in the scope of this audit consisting of ninety-five (95) requirements. Based on the information and documentation provided by Dow Chemical, the audit team found Dow Chemical to be compliant with thirty-six (36) applicable requirements. The audit team determined that fifty-nine (59) requirements were not applicable to Dow Chemical.

Dow Chemical met all of the NERC Standard requirements that were within the scope of this audit. These audit results are further explained in the Audit Results Findings section of this report which includes detailed information of the audit team's findings of applicability and compliance for the NERC Reliability Standards within the scope of the compliance audit.

There were no ongoing or recently completed mitigation plans for the NERC registered functions included in the scope of this audit, and therefore none were reviewed by the audit team.

2.0 AUDIT PROCESS

The compliance audit process is detailed in the NERC Compliance Monitoring and Enforcement Program (CMEP), available at www.nerc.com. The NERC CMEP generally conforms to the United States Government Accountability Office Government Auditing Standards and other generally accepted audit practices.

2.1 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 Dow Chemical's compliance with the requirements of the reliability standards that are applicable to Dow Chemical based on the Dow Chemical registered functions included in the scope of this audit.
- Validate compliance with applicable reliability standards from the NERC 2010 CMEP Implementation Plan list of actively monitored standards.

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

- Validate evidence of self-reported violations and previous self-certifications, confirm compliance with other requirements of the reliability standards, and review the status of associated mitigation plans.
- Document Dow Chemical's compliance culture.

2.2 Scope

The scope of this compliance audit is inclusive of all requirements of the NERC Reliability Standards that are being actively monitored in 2010 and any others that may be identified by the audit team at the time of the audit applicable to a Generator Owner and Generator Operator. The audit was performed by two members of Texas RE.

There were no ongoing or recently completed mitigation plans for the NERC registered functions included in the scope of this audit that had not been previously validated by Texas RE's compliance staff for The Dow Chemical Co, and therefore none were reviewed by the audit team.

Note: For the 2010 compliance program, the monitoring period for the compliance audit will generally be the last six years based the Dow Chemical's registration as a Generator Owner and Generator Operator, or periods specified in individual reliability standards.

At the time of the audit, Dow Chemical was registered as a Generator Owner (GO) and Generator Operator (GOP). The audit team evaluated Dow Chemical for compliance during the specific period from June 28, 2007 (GO) and September 23, 2008 (GOP) to October 15, 2010.

2.2.1 Confidentiality and Conflict of Interest

Confidentiality agreements and code of conduct documentation for the regional entity staff were provided to Dow Chemical prior to the audit. Work history and conflict of interest forms submitted for each audit team member were provided to Dow Chemical. Dow Chemical 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. Dow Chemical had not submitted any objections by the stated fifteen day objection due date and accepted the audit team member participants with no objections. There have been no denials of or access limitations placed upon this audit team by Dow Chemical.

2.3 Methodology

Once an audit date was set by Texas RE, Dow Chemical was sent a Reliability Standard Audit Work Sheets (RSAWs) for the list of actively monitored NERC Standards.

The audit team reviewed the completed RSAWs, information, data, and evidence submitted by Dow Chemical and assessed compliance with requirements of the applicable reliability standards. Initial submittal of information and data were sent to Texas RE on or before the scheduled due date for the submittal. Additional information relevant to the audit could be requested by Texas RE and submitted by Dow Chemical until the last day of the review at the audit site.

During the audit, Texas RE reviewed the responses to the RSAWs and auditor questions with Dow Chemical's management and supervisors. The audit team reviewed documentation provided by Dow Chemical that included data, information and evidence submitted in the form of policies, procedures,

emails, logs, studies, data sheets, etc. which were validated, substantiated and cross checked for accuracy as appropriate. Requirements which required a sampling to be conducted were developed based upon the significance of the sampling to the reliability of the Bulk Electrical System (BES).

The Texas RE audit team interviewed operations, IT, communications, and planning personnel as necessary to clarify or stack the evidence provided by Dow Chemical and verify documentation.

Findings were based on the audit team's knowledge of the BES, the NERC Reliability Standards and their professional judgment. All findings were developed based upon the consensus of the audit team.

There were no ongoing or recently completed mitigation plans for the NERC registered functions included in the scope of this audit that had not been previously validated by Texas RE's compliance staff for The Dow Chemical Co, and therefore none were reviewed by the audit team.

The audit team conducted an exit briefing immediately following the audit with Dow Chemical. The audit team verbally shared its preliminary results with Dow Chemical's management.

2.4 Company Profile

Texas Operations is Dow's largest integrated site in the world. The three major complexes Plant A, Plant B and Oyster Creek operate as an integrated unit serving all eight of Dow's Global Business Groups. The site contains more than 3,200 acres of waterways and pipeline corridors and houses more than 1,900 buildings across the site. The site's three major complexes spread across more than 5,000 acres of land with more than 75 individual production plants.

Texas Operations houses its own wastewater treatment facility, as well as world-scale Chlor-Alkali and Hydrocarbon plants. The products manufactured on site are transported by rail, truck, marine vessels and pipeline to customers around the world.

In support of these operations, Dow owns and operates four (4) electric power plants across the three sites. These generating units are comprised of nine (9) gas turbines and four (4) steam turbine units currently in operation providing over 1000MW of electricity to the site. Any excess generation can be exported back to the Bulk Electric System (BES) via the CenterPoint Energy interconnect (Dow 345 KV sub).

The Dow Freeport complex is, except upon rare occasions, the net importer of power. Excess generation is limited to 500MWA. For most of Dow Chemical's operations, power is purchased from the ERCOT Market to supplement on site power generation. The Power Dispatch Center manages power distribution for the site and is the only control center that has the ability to open and close breakers at the CenterPoint interconnect.

2.5 Audit Specifics

Audit Date: October 12-15, 2010
Audit Location: Texas Reliability Entity Office, Austin, TX

Texas RE Audit Team:

Company/Title	Audit Team Role
Texas RE/Compliance Engineer III	Audit Team Leader
Texas RE/Compliance Engineer I	Auditor

Dow Chemical's Audit Participants:

Company	Title
Dow Chemical	Energy Production Leader - Freeport
Dow Chemical	Global Electrical Improvement Leader
Dow Chemical	Energy Production Specialist - Freeport
Dow Chemical	Energy Sr. Power Systems Engineer- Freeport
Dow Chemical	Energy Power Dispatcher - Freeport
Dow Chemical	Process Control Technician - Freeport
Dow Chemical	Commercial Manager - Energy
Dow Chemical	Energy Production Specialist - Freeport
Dow Chemical	Energy Senior Business Leader

3.0 AUDIT RESULTS

3.1 Audit Findings

The Compliance Audit Team found that Dow Chemical was compliant with all 2010 actively monitored NERC Standards reviewed at the time of the audit.

The following table is a summary of the auditor's findings for those NERC standards reviewed during the audit:

Reliability Standard	Requirement	Finding
CIP-001-1	R1.	Compliant
CIP-001-1	R2.	Compliant
CIP-001-1	R3.	Compliant
CIP-001-1	R4.	Compliant
COM-002-2	R1.	Compliant
COM-002-2	R2.	N/A
FAC-002-0	R1.	N/A
FAC-002-0	R2.	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
IRO-001-1.1	R1.	N/A

Reliability Standard	Requirement	Finding
IRO-001-1.1	R2.	N/A
IRO-001-1.1	R3.	N/A
IRO-001-1.1	R4.	N/A
IRO-001-1.1	R5.	N/A
IRO-001-1.1	R6.	N/A
IRO-001-1.1	R7.	N/A
IRO-001-1.1	R8.	Compliant
IRO-001-1.1	R9.	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.	N/A
IRO-005-2	R1.	N/A
IRO-005-2	R2.	N/A
IRO-005-2	R3.	N/A
IRO-005-2	R4.	N/A
IRO-005-2	R5.	N/A
IRO-005-2	R6.	N/A
IRO-005-2	R7.	N/A
IRO-005-2	R8.	N/A
IRO-005-2	R9.	N/A
IRO-005-2	R10.	N/A
IRO-005-2	R11.	N/A
IRO-005-2	R12.	N/A
IRO-005-2	R13.	Compliant
IRO-005-2	R14.	N/A
IRO-005-2	R15.	N/A
IRO-005-2	R16.	N/A
IRO-005-2	R17.	N/A
PRC-001-1	R1.	Compliant
PRC-001-1	R2.	Compliant
PRC-001-1	R3.	Compliant
PRC-001-1	R4.	N/A
PRC-001-1	R5.	Compliant
PRC-001-1	R6.	N/A
PRC-004-1	R1.	N/A
PRC-004-1	R2.	Compliant
PRC-004-1	R3.	N/A

Reliability Standard	Requirement	Finding
PRC-005-1	R1.	Compliant
PRC-005-1	R2.	Compliant
PRC-017-0	R1.	N/A
PRC-017-0	R2.	N/A
TOP-001-1	R1.	N/A
TOP-001-1	R2.	N/A
TOP-001-1	R3.	Compliant
TOP-001-1	R4.	N/A
TOP-001-1	R5.	N/A
TOP-001-1	R6.	Compliant
TOP-001-1	R7.	Compliant
TOP-001-1	R8.	N/A
TOP-002-2a	R1.	N/A
TOP-002-2a	R2.	N/A
TOP-002-2a	R3.	Compliant
TOP-002-2a	R4.	N/A
TOP-002-2a	R5.	N/A
TOP-002-2a	R6.	N/A
TOP-002-2a	R7.	N/A
TOP-002-2a	R8.	N/A
TOP-002-2a	R9.	N/A
TOP-002-2a	R10.	N/A
TOP-002-2a	R11.	N/A
TOP-002-2a	R12.	N/A
TOP-002-2a	R13.	Compliant
TOP-002-2a	R14.	Compliant
TOP-002-2a	R15.	Compliant
TOP-002-2a	R16.	N/A
TOP-002-2a	R17.	N/A
TOP-002-2a	R18.	Compliant
TOP-002-2a	R19.	N/A
TOP-003-0	R1.	Compliant
TOP-003-0	R2.	Compliant
TOP-003-0	R3.	Compliant

Reliability Standard	Requirement	Finding
TOP-003-0	R4.	N/A
VAR-002-1.1a	R1.	Compliant
VAR-002-1.1a	R2.	Complaint
VAR-002-1.1a	R3.	Compliant
VAR-002-1.1a	R4.	Compliant
VAR-002-1.1a	R5.	Compliant

3.2 Mitigation Plan Findings

There were no ongoing or recently completed mitigation plans for the NERC registered functions included in the scope of this audit that had not been previously validated by Texas RE's compliance staff, and therefore none were reviewed by the audit team.

3.3 Conclusion

Dow Chemical was found compliant with the all the standards that were included in the scope of this audit.

There were no ongoing or recently completed mitigation plans, and there none were reviewed by the audit team.

3.4. Compliance Culture

Dow Chemical's compliance culture survey was reviewed by the audit team.

Dow Chemical was cooperative with the audit team's needs and information requests throughout the entire audit process. The organizational structure of Dow Chemical, the extensive participation during the audit by Dow Chemical's personnel, the responses provided to the compliance culture survey, the detailed documentation of procedures and records, the demonstrated level of compliance and the direct observations made by the audit team confirmed a strong commitment by Dow Chemical to promote a healthy compliance culture within the organization. Dow Chemical management's efforts for this audit were extremely helpful and were well supported by SME's who prepared and participated during the audit process.

Additional detailed information pertaining to the compliance culture of Dow Chemical can be found in the Internal Compliance Survey.