

Final Audit Report
For Compliance with
NERC Reliability Standards

South Texas Electric Co Op Inc
Audit Date: July 19, 2007

Public Version

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EXECUTIVE SUMMARY

The on-site compliance audit of South Texas Electric Co Op Inc (STEC) was conducted on July 19, 2007. The 2007 NERC Actively Monitored Standards that were reviewed based on STEC's registration as a Transmission Owner and Transmission Planner. The audit team consisted of members from NERC and Texas Regional Entity (Texas RE).

From the documentation provided and interviews conducted, STEC met all of the NERC Standard requirements that were reviewed.

AUDIT PROCESS

The compliance audit process steps are detailed in the NERC CMEP.

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 STEC's compliance with the requirements of the reliability standards that are applicable to STEC based on the STEC's registered functions.
- Validate compliance with applicable reliability standards from the NERC 2007 Implementation Plan list of actively monitored standards.

Scope

The Scope of this compliance audit is inclusive of all requirements of the NERC Standards that are being actively monitored in 2007 and any others that may be identified by the audit team at the time of the audit applicable to Transmission Owners and Transmission Planners. The audit was performed by a NERC Compliance Coordinator and members of Texas RE.

Note: For the 2007 compliance program, the monitoring period for the compliance audit will be the past 12 months or periods specified in individual reliability standards. The monitoring period is not limited to the time period for which penalties and sanctions are assessed.

Methodology

A list of actively monitored NERC Standards was sent to STEC prior to the audit. Once Texas RE received the responses to the pre-audit questions, a date was set for the site visit STEC. During the site visit, management was interviewed to answer or clarify any questions the audit team might have and documentation was provided to the audit team to verify that the NERC Standards were being met. The audit team also interviewed IT, Communications, and Planning personnel as necessary to get answers to questions and verify documentation.

The audit team conducted an exit briefing immediately following the audit STEC. The audit team verbally shared its preliminary results STEC management.

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

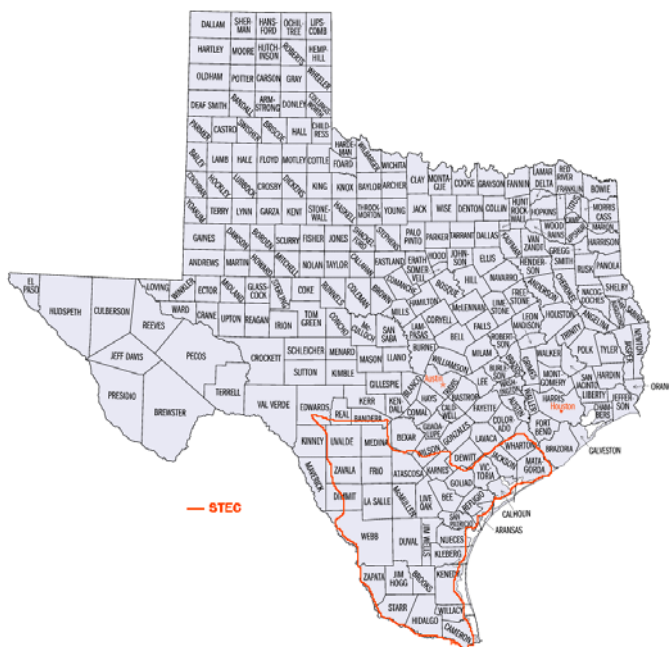
Company Profile

Transmission and substation assets of Magic Valley Electric Co op (MVEC) and Medina Electric Co op (MEC) shall be included in STEC responsibilities as a result of their joining as member cooperatives. This transfer is scheduled to take place prior to January 1st, 2010. MVEC and MEC new projects during the time frame of this construction work plan (CWP) are STEC's responsibility.

The following table indicates major STEC assets before and after the MEC and MVEC equipment transfers.

	Pre-transfer	Post-transfer
69kV Transmission line	921 miles	1507 miles
138kV Transmission line	260 miles	511 miles
345kV Transmission line	31 miles	31 miles
Distribution Substations	80	133
Transmission Only Stations	17	27

STEC member cooperatives now extend distribution service into all or part of 42 counties in south Texas. The approximate area served by STEC cooperatives is shown below:



Audit Specifics

The compliance audit was conducted on July 19, 2007 at the STEC transmission operation facility in Nursery, Texas. The audit team interviewed several STEC employees representing subject matter expertise in carrying departments and documentation of evidence in each area.

Audit Team

Audit Team Role	Name	Title	Company
Lead	Robert Potts	Senior Compliance Analyst	Texas RE
Member	Frank Vick	Reliability Analyst	Texas RE
Member	Rashida Williams	Compliance Engineer /Analyst	Texas RE
Member	Pamela Dautel	Regional Compliance Program Coordinator	NERC

STEC Audit Participants

Name	Title
Randy Snider	Manager of Engineering
John Moore	Trans. Planning Engineering
Henry Wood	Chief System Operator
Cory Allen	Engineering & Operations Manager
Dotty DiSanto	System Engineering
Mike Frances	Line Crew
Darrell Klimitchek	Technical Services

AUDIT RESULTS

Findings

The Texas RE Audit Team found STEC compliant with all 2007 actively monitored NERC Standards at the time of the audit

Reliability Standard	Auditor Notes	Finding
CIP-002-1 through CIP-009-1	Self Certified compliance with these standards	Reviewed
FAC-003-1	On schedule for the current year.	Compliant
FAC-008-1	Provided their "Transmission Planning Criteria	Compliant
FAC-009-1	Documentation showing that they have communicated their facility ratings	Compliant
IRO-004-1	Procedures in place that address the transmittal of information to ERCOT	Compliant
PRC-004-1	Annual report reviewed	Compliant
PRC-005-1	Protective procedures reviewed	Compliant
PRC-008-0	Protective procedures reviewed	Compliant
PRC-010-0	No UVLS	Compliant
PRC-011-0	No UVLS	Compliant
PRC-016-0	No SPS	Compliant
PRC-017-0	No SPS	Compliant
PRC-021-1	No UVLS	Compliant
TPL-001-0	Reviewed annual assessment and contingency methodology	Compliant
TPL-002-0	Reviewed annual assessment and contingency methodology	Compliant
TPL-003-0	Reviewed annual assessment and contingency methodology	Compliant
TPL-004-0	Reviewed annual assessment and contingency methodology	Compliant

CIP-002-1 through CIP-009-1

STEC has Self Certified compliance with these standards (on 6/29/2007). Full compliance assessment will be conducted in the future, in accordance with NERC's implementation schedule for these standards.

FAC-003-1

STEC has a good vegetation management plan in place and it is on schedule for the current year. STEC is compliant with reporting on Vegetation Management as required by this standard. The right of way maintenance schedule, pesticide applicator record and aerial patrol spreadsheet were reviewed. E-mail copies of their monthly vegetation related outage report was provided and reviewed by the audit team.

Requirements 1, 2, 3 - **COMPLIANT**

FAC-008-1

STEC provided their "Transmission Planning Criteria" which includes rating methodology for facility rating. Methodology is provided annually to the ERCOT Steady State Working Group voluntarily.

Requirements 1, 2 - **COMPLIANT**

FAC-009-1

STEC provided documentation showing that they have communicated their facility ratings to the proper entities. The ratings examined by the audit team are consistent with methodology.
Requirements 1, 2 **COMPLIANT**

IRO-004-1

STEC has procedures in place that address the transmittal of information to ERCOT Reliability Coordinator as required. The information in R4 that refers to 1200 CST does not apply to the ERCOT region.
Requirement 4 - **COMPLIANT**

PRC-004-1

STEC has made their annual report complete with analysis and corrective action plan. It was available for review at the audit. A folder was reviewed that documented operations recorded. A copy of a e-mail verification with a mitigation plan was provided and reviewed by the audit team.
Requirements 1, 3 - **COMPLIANT**

PRC-005-1

STEC provided their “Protective Relay System Maintenance Procedures” and five years of test reports that was reviewed by the audit team. A spreadsheet showing relays in the system, along with the last test date and future test date was reviewed.
Requirements 1, 2 - **COMPLIANT**

PRC-008-1

STEC provided their “Protective Relay System Maintenance Procedures” and five years of test reports that was reviewed by the audit team. UFLS Equipment ID and maintenance testing schedules were included in the reviewed procedures. Maintenance logs indicate that STEC is implementing its maintenance program on schedule.
Requirements 1, 2 - **COMPLIANT**

PRC-010-0

STEC has no UVLS Program at the time of the audit.
Requirements 1, 2 - **COMPLIANT**

PRC-011-0

STEC has no UVLS Program at the time of the audit.
Requirements 1, 2 - **COMPLIANT**

PRC-016-0

STEC has no Special Protection System on their system.
Requirements 1, 2, 3 - **COMPLIANT**

PRC-017-0

STEC has no Special Protection System on their system
Requirements 1, 2 - **COMPLIANT**

PRC-021-1

STEC has no UVLS Program at the time of the audit.

Requirements 1, 2 - **COMPLIANT**

TPL-001-1

Annual assessment and contingency methodology was reviewed with STEC staff and was found to be consistent with the NERC Standards and reported through ERCOT SSWG (Steady State Working Group). STEC is current with their submittals.

Requirements 1, 2, 3 - **COMPLIANT**

TPL-002-0

Annual assessment and contingency methodology was reviewed with STEC staff and was found to be consistent with the NERC Standards and reported through ERCOT SSWG (Steady State Working Group). STEC is current with their submittals.

Requirements 1, 2, 3 - **COMPLIANT**

TPL-003-0

Annual assessment and contingency methodology was reviewed with STEC staff and was found to be consistent with the NERC Standards and reported through ERCOT SSWG (Steady State Working Group). STEC is current with their submittals.

Requirements 1, 2, 3 - **COMPLIANT**

TPL-004-0

Annual assessment and contingency methodology was reviewed with STEC staff and was found to be consistent with the NERC Standards and reported through ERCOT SSWG (Steady State Working Group). STEC is current with their submittals.

Requirements 1, 2 - **COMPLIANT**

Conclusion

South Texas Electric Co Op was found in compliance with the standards that were audited.



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SUMMARY OF STEC RESPONSE TO THE AUDIT FINDINGS

STEC had no response to the audit findings and the draft audit report.

APPENDIX 1 — APPLICABLE ACTIVELY MONITORED RELIABILITY STANDARDS

Std #	Requirements	Standard	Who	Purpose	Monitoring Timeframe	Applicable to STEC? Yes or No
BAL-001-0	All	Real Power Balancing Control Performance	BA	To maintain Interconnection steady-state frequency within defined limits by balancing real power demand and supply in real-time.	The data that supports the calculation of CPS1 and CPS2 (Attachment 1-BAL-001-0) are to be retained in electronic form for at least a one-year period. If the CPS1 and CPS2 data for a Balancing Authority Area are undergoing a review to address a question that has been raised regarding the data, the data are to be saved beyond the normal retention period until the question is formally resolved. Each Balancing Authority shall retain for a rolling 12-month period the values of: one-minute average ACE (ACEi), one-minute average Frequency Error, and, if using variable bias, one-minute average Frequency Bias.	N
BAL-002-0	All	Disturbance Control Performance	BA, RSG, RRO	To ensure the Balancing Authority is able to utilize its Contingency Reserve to balance resources and demand and return Interconnection frequency within defined limits.	Compliance for DCS will be evaluated for each reporting period. Reset is one calendar quarter without a violation. The data that support the calculation of DCS are to be retained in electronic form for at least a one-year period.	N
BAL-003-0	All	Frequency Response and Bias	BA	This standard provides a consistent method for calculating the Frequency Bias component of ACE.	Yearly or by request.	N

Std #	Requirements	Standard	Who	Purpose	Monitoring Timeframe	Applicable to STEC? Yes or No
CIP-001-1	All	Sabotage Reporting	RC, BA, TOP, GOP, LSE	Disturbances or unusual occurrences, suspected or determined to be caused by sabotage, shall be reported to the appropriate systems, governmental agencies, and regulatory bodies.	By request and any events in the last year.	N
CIP-002-1 through CIP-009-1	All	Critical Infrastructure Protection Standards	BA, GO, GOP, IA, LSE, NERC, RC, RRO, TO, TOP, TSP	Cyber Security Standards-Follow revised Implementation Plan for Cyber Security Standards CIP-002-1 through CIP-009-1	By request.	Y
COM-001-1	R2 and R5	Telecommunications	TO, BA, RC, NERCNet User Organizations.	Each Reliability Coordinator, Transmission Operator and Balancing Authority needs adequate and reliable telecommunications facilities internally and with others for the exchange of Interconnection and operating information necessary to maintain reliability.	By request.	N
EOP-001-0	All	Emergency Operations Planning	BA, TOP	Each Transmission Operator and Balancing Authority needs to develop, maintain, and implement a set of plans to mitigate operating emergencies. These plans need to be coordinated with other Transmission Operators and Balancing Authorities, and the Reliability Coordinator.	By request.	N

Std #	Requirements	Standard	Who	Purpose	Monitoring Timeframe	Applicable to STEC? Yes or No
EOP-003-1	All	Load Shedding Plans	BA, TOP	A Balancing Authority and Transmission Operator operating with insufficient generation or transmission capacity must have the capability and authority to shed load rather than risk an uncontrolled failure of the Interconnection.	R1, R5, R6 - Event Driven. Has an event occurred in the past year? R2, R3, R4, R7, R8 – By request	N
EOP-005-1	All	System Restoration Plans	BA, TOP	To ensure plans, procedures, and resources are available to restore the electric system to a normal condition in the event of a partial or total shut down of the system	By request. Note: entity must follow the timelines specified in the standard: show that the plan is reviewed annually; simulation or testing must be done every 5 years.	N
EOP-006-1	All	Reliability Coordination – System Restoration	RC	The Reliability Coordinator must have a coordinating role in system restoration to ensure reliability is maintained during restoration and priority is placed on restoring the Interconnection.	By request.	N
EOP-008-0	All	Plans for Loss of Control Center Functionality	BA, RC, TOP	Each reliability entity must have a plan to continue reliability operations in the event its control center becomes inoperable.	By request.	N
EOP-009-0	All	Documentation of Blackstart Generating Unit Test Results	GO, GOP	To ensure that the quantity and location of system blackstart generators are sufficient and that they can perform their expected functions.	By request. Note entity must meet testing frequency specified in EOP-007-0.	N

Std #	Requirements	Standard	Who	Purpose	Monitoring Timeframe	Applicable to STEC? Yes or No
FAC-003-1	All	Vegetation Management	RRO, TO	To improve the reliability of the electric transmission systems by preventing outages from vegetation located on transmission rights-of-way (ROW) and minimizing outages from vegetation located adjacent to ROW, maintaining clearances between transmission lines	By request – program documentation and last 4 quarterly outage reports.	Y
FAC-008-1	All	Facility Ratings Methodology	GO, TO	To ensure that Facility Ratings used in the reliable planning and operation of the Bulk Electric System (BES) are determined based on an established methodology	By request the current methodology and any superseded portions of the methodology within the past 12 months.	Y
FAC-009-1	All	Establish and Communicate Facility Ratings	GO, TO	To ensure that Facility Ratings used in the reliable planning and operation of the Bulk Electric System (BES) are determined based on an established methodology or methodologies.	By request.	Y

Std #	Requirements	Standard	Who	Purpose	Monitoring Timeframe	Applicable to STEC? Yes or No
IRO-001-1	All	Reliability Coordination – Responsibilities and Authorities	BA, GOP, LSE, PSE, RC, RRO, TOP, TSP	Reliability Coordinators must have the authority, plans, and agreements in place to immediately direct reliability entities within their Reliability Coordinator Areas to re-dispatch generation, reconfigure transmission, or reduce load to mitigate critical conditions to return the system to a reliable state. If a Reliability Coordinator delegates tasks to others, the Reliability Coordinator retains its responsibilities for complying with NERC and regional standards. Standards of conduct are necessary to ensure the Reliability Coordinator does not act in a manner that favors one market participant over another.	By request.	N
IRO-004-1	All	Reliability Coordination — Operations Planning	BA, GO, GOP, LSE, RC, TO, TOP, TSP	Each Reliability Coordinator must conduct next-day reliability analyses for its Reliability Coordinator Area to ensure the Bulk Electric System can be operated reliably in anticipated normal and Contingency conditions.	By request.	Y
IRO-014-1	All	Procedures, Processes, or Plans to Support Coordination Between Reliability Coordinators	RC	To ensure that each Reliability Coordinator's operations are coordinated such that they will not have an Adverse Reliability Impact on other Reliability Coordinator Areas and to preserve the reliability benefits of interconnected operations.	By request.	N

Std #	Requirements	Standard	Who	Purpose	Monitoring Timeframe	Applicable to STEC? Yes or No
IRO-015-1	All	Notifications and Information Exchange Between Reliability Coordinators	RC	To ensure that each Reliability Coordinator's operations are coordinated such that they will not have an Adverse Reliability Impact on other Reliability Coordinator Areas and to preserve the reliability benefits of interconnected operations.	Rolling 12 months of information provided on request.	N
IRO-016-1	All	Coordination of Real-time Activities Between Reliability Coordinators	RC	that they will not have an Adverse Reliability Impact on other Reliability Coordinator Areas	Rolling 12 months of information provided on request.	N
PER-002-0	All	Operating Personnel Training	BA, TOP	Each Transmission Operator and Balancing Authority must provide their personnel with a coordinated training program that will ensure reliable system operation.	By request training program and training records.	N
PER-003-0	All	Operating Personnel Credentials	BA, RC, TOP	Certification of operating personnel is necessary to ensure minimum competencies for operating a reliable Bulk Electric System.	By request latest certification information and present calendar year plus previous calendar year staffing plan.	N
PER-004-1	All	Reliability Coordination — Staffing	RC	Reliability Coordinators must have sufficient, competent staff to perform the Reliability Coordinator functions.	By request - Each Reliability Coordinator shall keep evidence of compliance for the previous two calendar years plus the current year.	N

Std #	Requirements	Standard	Who	Purpose	Monitoring Timeframe	Applicable to STEC? Yes or No
PRC-004-1	All	Analysis and Mitigation of Transmission and Generation Protection System Misoperations	DP*, GO, TO	Provide trip operation / misoperation information per regional process.	By request – last 12 months of protection system Misoperation analysis.	Y
PRC-005-1	All	Transmission and Generation Protection System Maintenance and Testing	DP*, GO, TO	Document/implement transmission protection system maintenance/testing/monitoring PROGRAM	By request - maintenance and testing program and testing records to show that testing intervals are on schedule.	Y
PRC-008-0	All	Implementation and Documentation of Underfrequency Load Shedding Equipment Maintenance Program	DP, TO	Document/implement UFLS maintenance/testing PROGRAM	By request - maintenance and testing program and testing records to show that testing intervals are on schedule.	Y
PRC-010-0	All	Technical Assessment of the Design and Effectiveness of Undervoltage Load Shedding Program.	DP, LSE, TO, TOP	ASSESS design and effectiveness of UVLS programs	By request – current assessment.	Y
PRC-011-0	All	UVLS System Maintenance and Testing	DP, TO	Document/implement UVLS maintenance/testing PROGRAM	By request - maintenance and testing program and testing records to show that testing intervals are on schedule.	Y

Std #	Requirements	Standard	Who	Purpose	Monitoring Timeframe	Applicable to STEC? Yes or No
PRC-016-0	All	Special Protection System Misoperations	DP, GO, TO	DOCUMENT/analyze misoperations	By request – last 12 months of special protection system Misoperation analysis.	Y
PRC-017-0	All	Special Protection System Maintenance and Testing	DP, GO, TO	Document/implement SPS maintenance/testing PROGRAM	By request - maintenance and testing program and testing records to show that testing intervals are on schedule.	Y
PRC-021-1	All	Under-Voltage Load Shedding Program Data	DP, TO	DOCUMENTATION of undervoltage load shedding program	By request – latest UVLS data.	Y
TOP-003-0	All	Planned Outage Coordination	BA, GOP, RC, TOP	Scheduled generator and transmission outages that may affect the reliability of interconnected operations must be planned and coordinated among Balancing Authorities, Transmission Operators, and Reliability Coordinators.	By request.	N
TOP-004-1	R6	Transmission Operations	TOP	To ensure that the transmission system is operated so that instability, uncontrolled separation, or cascading outages will not occur as a result of the most severe single Contingency and specified multiple Contingencies.	By request - Each Transmission Operator shall keep 90 days of historical data for Measure 1. Each Transmission Operator shall have current, in-force policies and procedures, as evidence of compliance to Measure 2.	N
TOP-005-1	All	Operational Reliability Information	BA, PSE, RC, TOP	To ensure reliability entities have the operating data needed to monitor system conditions within their areas.	By request.	N

Std #	Requirements	Standard	Who	Purpose	Monitoring Timeframe	Applicable to STEC? Yes or No
TOP-007-0	All	Reporting System Operating Limit (SOL) and Interconnection Reliability	RC, TOP	Ensure SOL and IROL violations are being reported to the Reliability Coordinator so that the Reliability Coordinator may evaluate actions being taken and direct additional corrective actions as needed.	Event driven.	N
TPL-001-0	All	System Performance Under Normal (No Contingency) Conditions	PA, TPL	System performance under normal conditions	By request – latest annual assessment.	Y
TPL-002-0	All	System Performance Following Loss of a Single Bulk Electric System Element	PA, TPL	System performance under single contingency	By request – latest annual assessment.	Y
TPL-003-0	All	System Performance Following Loss of Two or More Bulk Electric System Elements	PA, TPL	System performance under multiple contingencies	By request – latest annual assessment.	Y
TPL-004-0	All	System Performance Following Extreme Events Resulting in the Loss of Two or More Bulk Electric System Elements	PA, TPL	System performance under extreme contingencies	By request – latest annual assessment.	Y

Std #	Requirements	Standard	Who	Purpose	Monitoring Timeframe	Applicable to STEC? Yes or No
VAR-001-1	All	Voltage and Reactive Control	PSE, TOP	To ensure voltage levels, reactive flows, and reactive resources are monitored, controlled, and maintained within limits in real time to protect equipment and the reliable operation of the Interconnection.	By request – last 12 months of data.	N

APPENDIX 2 — CONFIDENTIAL: SECURITY SENSITIVE INFORMATION

No confidential security sensitive information is included with this report.