

BTU QSE Services Inc.

NERC ID: NCR04023

Audit Report

for Compliance with

NERC Reliability Standards

Public Version

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

Audit Date: January 16, 2008
Audit Location: BTU QSE Services Inc.
Report Date: April 15, 2010
Prepared By: Jeff Whitmer

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Appendix A — Applicable Reliability Standards

1.0 EXECUTIVE SUMMARY

The on-site compliance audit of BTU QSE Services Inc. was conducted on January 16, 2008. The NERC Reliability Standards that are being actively monitored for 2008 were reviewed based on BTU QSE Services Inc. registration as a Generator Operator. The audit team consisted of four representatives from Texas Regional Entity (Texas RE). Based on the review of documentation provided by BTU QSE Services Inc. and the interviews of BTU QSE Services Inc. personnel, BTU QSE Services Inc. had two possible compliance violations: CIP-001-1, Requirement 1 and CIP-001-1, Requirement 3.

This audit report includes information regarding the requirements for the possible compliance violations for BTU QSE Services Inc. This information will be used to help determine the severity level of sanctions and penalties. The possible compliance violations will be processed through the enforcement steps defined in Texas RE's NERC Compliance Monitoring and Enforcement Program. Any further actions related to possible compliance violations will be through that process.

The NERC Notice of Penalty (NOP) is posted on the NERC website at the following URL: http://www.nerc.com/filez/enforcement/FinalFiled_NOP_NOC-120.pdf.

2.0 AUDIT PROCESS

The compliance audit process is detailed in the NERC Compliance Monitoring and Enforcement Program (CMEP). This document can be found at on the NERC website 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 BTU QSE Services Inc.'s compliance with the requirements of the reliability standards that are applicable to BTU QSE Services Inc. based on the BTU QSE Services Inc.'s registered functions.
- Validate compliance with applicable reliability standards from the NERC 2008 CMEP 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.

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

- Document the BTU QSE Services Inc.'s compliance culture.

2.2 Scope

The scope of this compliance audit is inclusive of all requirements of the NERC Standards that are being actively monitored in 2008 and any others that may be identified by the audit team at the time of the audit applicable to Generator Operator. The audit was performed by four members of Texas RE.

For the 2008 CMEP, the monitoring period for the compliance audit will be the past 12 months or periods specified in individual reliability standards, with the assessment focused on examining the entity's full compliance at its effective date of registration with NERC up to the date of audit. The monitoring period is not limited to the time period for which penalties and sanctions are assessed.

2.2.1 Confidentiality and Conflict of Interest

Confidentiality agreements and code of conduct documentation for the NERC representative and regional entity staff were provided to BTU QSE Services Inc. in advance of the audit. Work history and conflict of interest forms submitted by each audit team member were provided to the BTU QSE Services Inc. BTU QSE Services Inc. 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. BTU QSE Services Inc. accepted the audit team member participants with no objections.

2.3 Methodology

Once an audit date was set by Texas RE, BTU QSE Services Inc. was sent the Reliability Standard Auditors Work Sheets (RSAWS) for the list of actively monitored NERC Standards. During the audit, Texas RE reviewed the responses to the RSAWS and pre-audit questions with BTU QSE Services Inc. management and supervisors. Texas RE audit team interviewed operations personnel and reviewed documents to substantiate those operations personnel were trained and capable of following the procedures to ensure reliable operations from that entity. 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 with BTU QSE Services Inc. The audit team verbally shared its preliminary results with BTU QSE Services Inc. management.

2.4 Company Profile

BTU QSE Services, Inc., an independent local government corporation, is responsible for the wholesale power marketing, ancillary service bidding, and energy scheduling and settlement activities on behalf of BTU. BTU QSE Services, Inc. maintains a 24-hour, seven days per

week operation with qualified personnel for communicating with ERCOT for scheduling purposes and deployment of ancillary services on a real-time basis, addressing operational responsibilities required of a qualified scheduling entity (QSE) as defined in the ERCOT Protocols.

QSE personnel submit energy and ancillary services schedules of obligations and resources by relevant transmission congestion zone for all entities for which it serves as QSE. QSE personnel also submit generation plans indicating unit's availability and operating status, and provides bids for ancillary services. BTU QSE Services, Inc. is financially responsible to ERCOT for its defined share of energy and ancillary services for all entities which it serves.

The Wholesale Power Marketing Division has the primary objective of providing the lowest energy cost to customers by purchasing and selling electric power and ancillary services, or dispatching BTU generation on an economic basis, within the guidelines of the company's Risk Management Policy. The energy schedulers develop load forecasts using historical and weather data to develop generation plans which optimize resources and purchase/sale opportunities.

2.5 Audit Specifics

Audit Date: January 16, 2008
Audit Location: BTU QSE Services Inc.

Texas RE Audit Team:

Company/Title
Texas RE/Audit Team Leader
Texas RE/Auditor
Texas RE/Auditor
Texas RE/Auditor

BTU QSE Services Inc. Audit Participants:

Company/Title
BTU - Division Manager, QSE Power Marketing
BTU – Group Manager T & D and Compliance Manager
BTU – Division Manager Communications
BTU - General Manager
BTU

3.0 AUDIT RESULTS

3.1 Findings

The Texas RE Audit Team found that BTU QSE Services Inc. was non-compliant with the following standards and requirements:

Reliability Standard & Requirement
CIP-001-1, R1
CIP-001-1, R3

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

Reliability Standard	Requirement	Finding
BAL-005-0	R1.	Compliant
	R2.	NA
	R3.	NA
	R4.	NA
	R5.	NA
	R6.	NA
	R7.	NA
	R8.	NA
	R9.	NA
	R10.	NA
	R11.	NA
	R12.	NA
	R13.	NA
	R14.	NA
CIP-001-1	R1.	Possible Violation
	R2.	Compliant
	R3.	Possible Violation
	R4.	Compliant
CIP-002-1 through CIP-009-1		Reviewed
COM-002-2	R1.	Compliant
	R2.	NA
EOP-004-1	R1.	NA
	R2.	Compliant
	R3.	Compliant
	R4.	NA
	R5.	NA

Reliability Standard	Requirement	Finding
EOP-009-0	R1.	Compliant
	R2.	Compliant
IRO-001-1	R1.	NA
	R2.	NA
	R3.	NA
	R4.	NA
	R5.	NA
	R6.	NA
	R7.	NA
	R8.	Compliant
IRO-004-1	R1.	NA
	R2.	NA
	R3.	NA
	R4.	Compliant
	R5.	NA
	R6.	NA
	R7.	NA
IRO-005-1	R1.	NA
	R2.	NA
	R3.	NA
	R4.	NA
	R5.	NA
	R6.	NA
	R7.	NA
	R8.	NA
	R9.	NA
	R10.	NA
	R11.	NA
	R12.	NA
	R13.	Compliant
	R14.	NA
R15.	NA	
R16.	NA	
R17.	NA	
TOP-002-2	R1.	NA
	R2.	NA
	R3.	Compliant
	R4.	NA
	R5.	NA
	R6.	NA
	R7.	NA
	R8.	NA
	R9.	NA
	R10.	NA
	R11.	NA

Reliability Standard	Requirement	Finding
	R12.	NA
	R13.	Compliant
	R14.	Compliant
	R15.	Compliant
	R16.	NA
	R17.	NA
	R18.	Compliant
	R19.	NA
TOP-003-0	R1.	Compliant
	R2.	Compliant
	R3.	Compliant
	R4.	NA
VAR-002-1	R1.	Compliant
	R2.	Compliant
	R3.	Compliant
	R4.	NA
	R5.	Compliant

3.2 Conclusion

The Texas RE Audit Team found possible compliance violations of the following standards and requirements by BTU QSE Services Inc.:

Reliability Standard & Requirement
<p>CIP-001-1, R1 Each Reliability Coordinator, Balancing Authority, Transmission Operator, Generator Operator, and Load Serving Entity shall have procedures for the recognition of and for making their operating personnel aware of sabotage events on its facilities and multi-site sabotage affecting larger portions of the Interconnection.</p>
<p>CIP-001-1, R3 Each Reliability Coordinator, Balancing Authority, Transmission Operator, Generator Operator, and Load Serving Entity shall provide its operating personnel with sabotage response guidelines, including personnel to contact, for reporting disturbances due to sabotage events.</p>

The possible compliance violation along with this compliance report will be provided to the Regional Entity compliance staff for processing through the NERC CMEP. Any further actions related to possible compliance violations will be through that process.

3.3. Compliance Culture

Based on the documentation and on-site interviews, BTU maintains an acceptable compliance culture. The audited entity was cooperative with the audit team's ability to conduct the on-site audit. BTU has a named and staffed reliability compliance manager position. BTU procedures were well documented and organized.

APPENDIX A

APPLICABLE RELIABILITY STANDARDS

Std #	Requirements	Standard	Who	Purpose	Monitoring Timeframe/ Data Retention	Applicable to BTU QSE Services Inc. Audit? 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.	No

Std #	Requirements	Standard	Who	Purpose	Monitoring Timeframe/ Data Retention	Applicable to BTU QSE Services Inc. Audit? Yes or No
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.	No
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.	No
BAL-004-0	All	Time Error Correction	RC, BA	The purpose of this standard is to ensure that Time Error Corrections are conducted in a manner that does not adversely affect the reliability of the Interconnection.	None specified.	No

Std #	Requirements	Standard	Who	Purpose	Monitoring Timeframe/ Data Retention	Applicable to BTU QSE Services Inc. Audit? Yes or No
BAL-005-0	All	Automatic Generation Control	BA, GOP, TOP, LSE	This standard establishes requirements for Balancing Authority Automatic Generation Control (AGC) necessary to calculate Area Control Error (ACE) and to routinely deploy the Regulating Reserve. The standard also ensures that all facilities and load electrically synchronized to the Interconnection are included within the metered boundary of a Balancing Area so that balancing of resources and demand can be achieved.	<p>M Balancing Authorities shall be prepared to supply data to NERC in the format defined below:</p> <p>1.1.1. Within one week upon request, Balancing Authorities shall provide NERC or the Regional Reliability Organization CPS source data in daily CSV files with time stamped one minute averages of: 1) ACE and 2) Frequency Error.</p> <p>1.1.2. Within one week upon request, Balancing Authorities shall provide NERC or the Regional Reliability Organization DCS source data in CSV files with time stamped scan rate values for: 1) ACE and 2) Frequency Error for a time period of two minutes prior to thirty minutes after the identified Disturbance.</p> <p>Data Retention: Each Balancing Authority shall retain its ACE, actual frequency, Scheduled Frequency, Net Actual Interchange, Net Scheduled Interchange, Tie Line meter error correction and Frequency Bias Setting data in digital format at the same scan rate at which the data is collected for at least one year.</p> <p>Each Balancing Authority or Reserve Sharing Group shall retain documentation of the magnitude of each Reportable Disturbance as well as the ACE charts and/or samples used to calculate Balancing Authority or Reserve Sharing Group disturbance recovery values. The data shall be retained for one year following the reporting quarter for which the data was recorded.</p>	Yes

Std #	Requirements	Standard	Who	Purpose	Monitoring Timeframe/ Data Retention	Applicable to BTU QSE Services Inc. Audit? Yes or No
BAL-006-1	All	Inadvertent Interchange	BA	This standard defines a process for monitoring Balancing Authorities to ensure that, over the long term, Balancing Authority Areas do not excessively depend on other Balancing Authority Area so that balancing of resources and demand can be achieved.	Monthly and On Request Data Retention: None specified.	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.	Yes
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.	Yes

Std #	Requirements	Standard	Who	Purpose	Monitoring Timeframe/ Data Retention	Applicable to BTU QSE Services Inc. Audit? Yes or No
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.	Yearly or by request. Data Retention: <u>For Measure 1</u> , each Reliability Coordinator, Transmission Operator, Balancing Authority shall keep evidence of compliance for the previous two calendar years plus the current year. <u>For Measure 2</u> , each Reliability Coordinator, Transmission Operator, and Balancing Authority shall keep 90 days of historical data (evidence). <u>For Measure 3</u> , each Reliability Coordinator, Transmission Operator, Balancing Authority shall have its current operating instructions and procedures to confirm that it meets Requirement 5. <u>For Measure 4</u> , each Reliability Coordinator, Transmission Operator, Balancing Authority and NERCnet User Organization shall keep 90 days of historical data (evidence). If an entity is found non-compliant the entity shall keep information related to the noncompliance until found compliant or for two years plus the current year, whichever is longer. Evidence used as part of a triggered investigation shall be retained by the entity being investigated for one year from the date that the investigation is closed, as determined by the Compliance Monitor.	No

Std #	Requirements	Standard	Who	Purpose	Monitoring Timeframe/ Data Retention	Applicable to BTU QSE Services Inc. Audit? Yes or No
COM-002-2	All	Communications and Coordination	RC, BA, TOP, GOP	To ensure Balancing Authorities, Transmission Operators, and Generator Operators have adequate communications and that these communications capabilities are staffed and available for addressing a real-time emergency condition. To ensure communications by operating personnel are effective.	Yearly or by request. Data Retention: 90 days of historical data.	Yes
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. Data Retention: Current plan available at all times.	No
EOP-002-2	All	Capacity and Energy Emergencies	RC, BA	To ensure Reliability Coordinators and Balancing Authorities are prepared for capacity and energy emergencies.	Yearly or on request. Data Retention: R1: each Reliability Coordinator and Balancing Authority shall keep The current in-force documents. All other requirements: 90 days of historical data.	No

Std #	Requirements	Standard	Who	Purpose	Monitoring Timeframe/ Data Retention	Applicable to BTU QSE Services Inc. Audit? 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.	<p>R1, R6 - Event Driven. Has an event occurred in the past year?</p> <p>R2, R3, R4, R5, R7, R8 – By request or annually.</p> <p>Data Retention: Each Balancing Authority and Transmission Operator shall have its current, in force load shedding plans.</p> <p>If an entity is found non-compliant the entity shall keep information related to the noncompliance until found compliant or for two years plus the current year, whichever is longer.</p> <p>Evidence used as part of a triggered investigation shall be retained by the entity being investigated for one year from the date that the investigation is closed, as determined by the Compliance Monitor.</p>	No
EOP-004-1	All	Disturbance Reporting	RC, BA, TOP, GOP, LSE, RRO	Disturbances or unusual occurrences that jeopardize the operation of the Bulk Electric System, or result in system equipment damage or customer interruptions, need to be studied and understood to minimize the likelihood of similar events in the future.	<p>Yearly or by request.</p> <p>Data Retention: Each Reliability Coordinator, Balancing Authority, Transmission Operator, Generator Operator, and/or Load Serving Entity that is either involved in a Bulk Electric System disturbance or has a reportable incident shall keep data related to the incident for a year from the event or for the duration of any regional investigation, whichever is longer.</p>	Yes

Std #	Requirements	Standard	Who	Purpose	Monitoring Timeframe/ Data Retention	Applicable to BTU QSE Services Inc. Audit? Yes or No
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. Data Retention: The Transmission Operator must have its plan to reestablish its electric system available for review at all times.	No
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. Data Retention: Each Reliability Coordinator shall have the current version of its Transmission Operator's restoration plans (Measure 1) and its current Reliability Coordinator Area restoration plan (Measure 3) Each Reliability Coordinator shall keep historical data (evidence) gathered as a result of each major system disturbance requiring the implementation of system restoration plans and data gathered during the restoration period until normal system operation is resumed, for three years (Measure 2 , 4 , 5 and 6). If an entity is found non-compliant the entity shall keep information related to the noncompliance until found compliant or for two years plus the current year, whichever is longer. Evidence used as part of a triggered investigation shall be retained by the entity being investigated for one year from the date that the investigation is closed, as determined by the Compliance Monitor.	No

Std #	Requirements	Standard	Who	Purpose	Monitoring Timeframe/ Data Retention	Applicable to BTU QSE Services Inc. Audit? Yes or No
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. Data Retention: The contingency plan for loss of primary control facility must be available for review at all times.	No
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.	Yes
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. Data Retention: Five years.	No

Std #	Requirements	Standard	Who	Purpose	Monitoring Timeframe/ Data Retention	Applicable to BTU QSE Services Inc. Audit? Yes or No
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. Data Retention: The Transmission Owner and Generator Owner shall each keep all superseded portions of its Facility Ratings Methodology for 12 months beyond the date of the change in that methodology and shall keep all documented comments on the Facility Ratings Methodology and associated responses for three years. In addition, entities found noncompliant shall keep information related to the non-compliance until found compliant.	No
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. Data Retention: The Transmission Owner and Generator Owner shall each keep documentation for 12 months. In addition, entities found non-compliant shall keep information related to the non-compliance until found compliant.	No
FAC-013-1	All	Establish and Communicate Transfer Capabilities	RC, PA	To ensure that Transfer Capabilities used in the reliable planning and operation of the Bulk Electric System (BES) are determined based on an established methodology or methodologies.	Yearly or by request. Data Retention: 12 months.	No

Std #	Requirements	Standard	Who	Purpose	Monitoring Timeframe/ Data Retention	Applicable to BTU QSE Services Inc. Audit? Yes or No
INT-001-2	All	Interchange Information	BA, PSE	To ensure that Interchange information is submitted to the NERC-identified reliability analysis service.	Yearly or on request (with 30 days notice) Data Retention: 90 days of historical data. Evidence used as part of a triggered investigation shall be retained by the entity being investigated for one year from the date that the investigation is closed, as determined by the Compliance Monitor	No
INT-003-2	All	Interchange Transaction Implementation	BA	To ensure Balancing Authorities confirm Interchange Schedules with Adjacent Balancing Authorities prior to implementing the schedules in their Area Control Error (ACE) equations.	Yearly or on request (with 30 days notice) Data Retention: 90 days of historical data. Evidence used as part of a triggered investigation shall be retained by the entity being investigated for one year from the date that the investigation is closed, as determined by the Compliance Monitor.	No
INT-004-1	All	Dynamic Interchange Transaction Modifications	RC, BA, TOP, PSE	To ensure Dynamic Transfers are adequately tagged to be able to determine their reliability impacts.	One calendar year. Data Retention: Three months.	No

Std #	Requirements	Standard	Who	Purpose	Monitoring Timeframe/ Data Retention	Applicable to BTU QSE Services Inc. Audit? 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. Data Retention: Each Regional Reliability Organization shall have its current, in-force document for Measure 1. Each Reliability Coordinator shall have its current, in-force documents or the latest copy of a record as evidence of compliance to Measures 2 through 6. Each Transmission Operator, Generator Operator, Distribution Provider, and Load Serving Entity shall keep 90 days of historical data (evidence) for Measure 7. If an entity is found non-compliant the entity shall keep information related to the noncompliance until found compliant or for two years plus the current year, whichever is longer. Evidence used as part of a triggered investigation shall be retained by the entity being investigated for one year from the date that the investigation is closed, as determined by the Compliance Monitor.	Yes
IRO-003-2	All	Reliability Coordination – Wide-Area View	RC	The Reliability Coordinator must have a wide-area view of its own Reliability Coordinator Area and that of neighboring Reliability Coordinators.	Yearly or on request (with 30 days notice) Each Reliability Coordinator shall have current in- force documents used to show compliance.	No

Std #	Requirements	Standard	Who	Purpose	Monitoring Timeframe/ Data Retention	Applicable to BTU QSE Services Inc. Audit? Yes or No
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. Data Retention: Documentation shall be available for 3 months to provide verification that system studies were performed as required.	Yes
IRO-005-1	All	Reliability Coordination – Current-Day Operations	RC, BA, TOP, TSP, GOP, LSE, PSE	The Reliability Coordinator must be continuously aware of conditions within its Reliability Coordinator Area and include this information in its reliability assessments. The Reliability Coordinator must monitor Bulk Electric System parameters that may have significant impacts upon the Reliability Coordinator Area and neighboring Reliability Coordinator Areas.	Data Retention: None specified.	Yes

Std #	Requirements	Standard	Who	Purpose	Monitoring Timeframe/ Data Retention	Applicable to BTU QSE Services Inc. Audit? Yes or No
IRO-006-3	All	Reliability Coordination – Transmission Loading Relief	RC, TOP, BA	Regardless of the process it uses, the Reliability Coordinator must direct its Balancing Authorities and Transmission Operators to return the transmission system to within its Interconnection Reliability Operating Limits as soon as possible, but no longer than 30 minutes. The Reliability Coordinator needs to direct Balancing Authorities and Transmission Operators to execute actions such as reconfiguration, redispatch, or load shedding until relief requested by the TLR process is achieved.	One calendar year. Data Retention: One calendar year.	No
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. Data Retention: The Reliability Coordinator shall keep documentation for the prior calendar year and the current calendar year.	No

Std #	Requirements	Standard	Who	Purpose	Monitoring Timeframe/ Data Retention	Applicable to BTU QSE Services Inc. Audit? 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. Data Retention: The Reliability Coordinator shall keep auditable documentation for a rolling 12 months.	No
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. Data Retention: The Reliability Coordinator shall keep auditable documentation for a rolling 12 months. In addition, entities found non-compliant shall keep information related to the non-compliance until it has been found compliant.	No
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. Data Retention: Three years.	No
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. Data Retention: Present calendar year plus previous calendar year staffing plan.	No

Std #	Requirements	Standard	Who	Purpose	Monitoring Timeframe/ Data Retention	Applicable to BTU QSE Services Inc. Audit? Yes or No
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. Data Retention: Each Reliability Coordinator shall keep evidence of compliance for the previous two calendar years plus the current year. If an entity is found non-compliant the entity shall keep information related to the noncompliance until found compliant or for two years plus the current year, whichever is longer. Evidence used as part of a triggered investigation shall be retained by the entity being investigated for one year from the date that the investigation is closed, as determined by the Compliance Monitor.	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. Data Retention: The Transmission Owner, and Distribution Provider that own a transmission Protection System and the Generator Owner that owns a generation Protection System shall each retain data on its Protection System Misoperations and each accompanying Corrective Action Plan until the Corrective Action Plan has been executed or for 12 months, whichever is later.	No

Std #	Requirements	Standard	Who	Purpose	Monitoring Timeframe/ Data Retention	Applicable to BTU QSE Services Inc. Audit? Yes or No
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. Data Retention: The Transmission Owner and any Distribution Provider that owns a transmission Protection System and each Generator Owner that owns a generation Protection System, shall retain evidence of the implementation of its Protection System maintenance and testing program for three years.	No
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.	No
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.	No
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.	No

Std #	Requirements	Standard	Who	Purpose	Monitoring Timeframe/ Data Retention	Applicable to BTU QSE Services Inc. Audit? 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.	No
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.	No
PRC-021-1	All	Under-Voltage Load Shedding Program Data	DP, TO	DOCUMENTATION of undervoltage load shedding program	By request – latest UVLS data.	No
TOP-002-2	All	Normal Operations Planning	BA, TOP, GOP, LSE, TSP	Current operations plans and procedures are essential to being prepared for reliable operations, including response for unplanned events.	Yearly or on request (with 30 days notice) Data Retention: R1 and R5-R100 – Rolling 6 months of historical data. R11, Part 1 – Current plans. R11, Part 2 and R13-R16 – 90 days of historical data R18 – Current list of interconnected transmission facilities.	Yes
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. Data Retention: One calendar year.	Yes

Std #	Requirements	Standard	Who	Purpose	Monitoring Timeframe/ Data Retention	Applicable to BTU QSE Services Inc. Audit? Yes or No
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.	No
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.	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. Data Retention: Three months.	No
TPL-001-0	All	System Performance Under Normal (No Contingency) Conditions	PA, TPL	System performance under normal conditions	By request – latest annual assessment.	No
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.	No

Std #	Requirements	Standard	Who	Purpose	Monitoring Timeframe/ Data Retention	Applicable to BTU QSE Services Inc. Audit? Yes or No
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 – annually.	No
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 – annually.	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.	The Transmission Operator shall retain evidence for Measures 1 through 4 for 12 months.	No

VAR-002-1	All	Generator Operation for Maintaining Network Voltage Schedules	GO, GOP	To ensure generators provide reactive and voltage control necessary to ensure voltage levels, reactive flows, and reactive resources are maintained within applicable Facility Ratings to protect equipment and the reliable operation of the Interconnection.	<p>One calendar year.</p> <p>Data Retention: R1, R4.1.1, R4.1.4 and R5.1 – current and previous calendar years.</p> <p>R5 - latest version of documentation.</p>	Yes
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