



Compliance Audit Report Public Version

**Dominion Virginia Power (DVP)
NCR01214/NCR09028/NCR09006
August 21-22, 2007**

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

September 20, 2007

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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.

Dominion Virginia Power (DVP) was audited on August 21-22, 2007 for compliance with the requirements contained in the NERC Reliability Standards that are currently enforceable and apply to DVP's operation. In addition, the audit was expanded to cover other Reliability Standards in SERC's 2007 Compliance Enforcement Plan to align the Planning and Operating Audits.

This audit focused on documents and other evidence provided to SERC by the staff of DVP, and did not include any evidence obtained through system observation or inspection. The findings of the audit are based on the state of compliance at the time of the audit, and do not reflect past compliance activities or activities that will be completed in the future.

The audit was conducted by asking DVP staff to demonstrate valid evidence of meeting each individual requirement and sub-requirement contained in the twenty standards that had been previously identified by SERC to DVP as subject to this audit. DVP staff would then cite specific portions of the evidence that demonstrated compliance. This evidence and the citations were documented and evaluated by the Audit Team for the level of compliance and agreement with the requirement. If all of the requirements and sub-requirements of an audited standard were met, then DVP was judged to be compliant. Likewise, if any of the requirements or sub-requirements were not fully met, then DVP was judged to have a possible violation of the standard. In other words, only a score of 100% is identified as compliant; 99% and below is a possible violation.

DVP provided adequate evidence of compliance for all of the reliability standards assessed. The Audit Team found no possible compliance violations with any of the requirements audited.

AUDIT PROCESS

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 and objectively review DVP's compliance with the requirements of the reliability standards that are applicable to DVP based on the Dominion Virginia Power's functions in the bulk electric system as determined by SERC.
- Validate compliance with applicable reliability standards from the NERC 2007 Implementation Plan list of actively monitored standards.

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

Scope

The scope of the audit of DVP was to look at all related standards that are in the NERC 2007 Compliance Monitoring and Enforcement Plan. Of the 31 standards that apply to DVP, 20 were selected for review in this audit.

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

The audit was conducted by reviewing all standards applicable to DVP in the NERC 2007 Enforcement Plan relative to system planning and operations, and any standards that are currently covered by a mitigation plan. These standards were grouped and scheduled during the day to make the most efficient use of the DVP staff's time. The DVP staff had been briefed on the standards that were to be addressed so that documentation and evidence of compliance could be assembled in advance of the interviews.

Three teams of auditors and subject matter experts were identified; one team audited the modeling and assessment standards, a second team audited the operations planning and system maintenance related standards, and a third team audited Generator Owner and Generator Operator standards. Each team had a moderator who initiated dialogue on each standard requirement, requested compliance evidence, and documented the evidence and DVP staff response. This was done by asking DVP staff to demonstrate valid evidence of meeting each and every individual requirement and sub-requirement contained in the standards that had been previously identified by SERC to DVP as subject to this audit. DVP staff responded by providing evidence in the form of reports, procedures, studies, and other documents. DVP staff would then cite specific portions of the evidence that demonstrated compliance. This evidence and the citations were documented and evaluated by the Audit Team for the level of compliance and agreement with the requirement. Discrepancies between the requirement and the evidence provided were the subject of dialogue among the team members and DVP staff members until it could be agreed that each requirement was met by the cited evidence or other evidence offered. If it was felt that, after all evidence had been presented and discussed, that DVP did not have sufficient evidence to support a finding of compliance, a possible violation would be identified by the team and DVP staff.

The Audit Team conducted an Exit Briefing immediately following the audit with DVP compliance audit participants and higher level DVP management personnel. The Audit Team shared its preliminary results verbally and via a presentation. The DVP audit participants asked questions and commented on the Audit Team's findings.

Company Profile

Dominion Virginia Power's electric portfolio consists of over 17,000 MW of generation capacity transmitted over 6,000 miles of transmission lines in Virginia, North Carolina and West Virginia, at voltages ranging from 69 kV to 500 kV. These facilities are integrated into PJM Interconnection, LLC, and operator of the world's largest competitive wholesale electric market. DVP's electric service area is approximately 30,000 square miles. The Virginia service area comprises approximately 65 percent of Virginia's total land area, but accounts for over 80

percent of Virginia's population. In North Carolina, DVP serves retail customers located in the northeastern region of North Carolina, including the Outer Banks.

DVP is a summer peaking utility. The all time peak load was reported in advance as 19,375 MW, on August 3, 2006, but was surpassed on August 8, 2007, with a load of 19,688 MW.

Relative to Transmission Planning, DVP has the following networked interconnection tie-lines with other, neighboring systems:

- One 500 kV and one 230 kV interconnection with Potomac Electric Power Company (Pepco) to their north
- One 500 kV, four 230 kV, and two 115 kV interconnections with Progress Energy-Carolinas (PEC) to their south
- Five 500 kV, one 138 kV, and one 115-138 kV transformer interconnections with Allegheny Power (AP) to their northwest
- One 500 kV, four 138 kV, and two 115-69 kV transformers interconnections with American Electric Power (AEP) to the west

It should be noted that the networked interconnections listed above do not correspond directly to those interconnected metering points used in the daily operations of the system, which are included as additional interconnections. DVP Electric Transmission Planning only counts those networked transmission tie-lines modeled in power flow base cases. From a planning perspective, DVP does not consider radial load, distribution ties or telemetric load as tie-lines/interconnections.

DVP is a member of the PJM Interconnection, LLC, a regional transmission organization (RTO) that coordinates the movement of wholesale electricity in all or parts of Delaware, Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia and the District of Columbia.

Dominion Virginia Power (DVP) is registered in SERC as a Generator Operator, Generator Owner, Transmission Owner, Load-Serving Entity, Purchasing-Selling Entity, Transmission Planner, and Distribution Planner.

PJM is registered in SERC as Balancing Authority, Reliability Coordinator, Transmission Operator, Planning Authority, Resource Planner, Transmission Service Provider, Transmission Planner, and Reserve Sharing Group on behalf of Dominion.

Audit Specifics

The compliance audit was conducted on August 21-22, 2007 at the Dominion's Innsbrook Technical Center in Glen Allen, Virginia.

Dominion Virginia Power was grouped into four business areas and a corporate entity (Nuclear – GO/GOP, Fossil & Hydro – GO/GOP, Transmission – TO/TP/LSE/DP, and Energy Supply – PSE) who have divided responsibility for reliability standard requirements. Some requirements for applicable standards were split amongst the various business areas. Dominion Virginia

Power's regulated facilities are located and operate in the SERC Region. Dominion Resources, the parent company, also has unregulated operations in RFC, MRO, and NPCC).

SERC divided the Audit Team into three sub-teams who worked in separate rooms to review evidence and conduct interviews. Marisa Sifontes from the Legal department led the audit for Dominion. Internal auditors from Dominion attended and documented discussions between SERC auditors and Dominion personnel.

Dominion Virginia Power participates in VACAR sub-regional, SERC regional, and SERC East-RFC interregional study groups. Dominion Virginia Power also participates in the PJM RTO Regional Transmission Expansion Studies.

Audit Team

Audit Team Role	Name	Title	Company
Lead	Ralph Anderson	Senior Compliance Auditor	SERC
Member	Mickey Bellard	Compliance Auditor	SERC
Member	James Harrell	Compliance Auditor	SERC
Member	Sam Stryker	Senior Compliance Auditor	SERC
Member	John Wolfmeyer	Compliance Engineer	SERC
Member	Gary Campbell	Compliance Auditor	RFC
Member	Pamela Dautel	Regional Coordinator	NERC
Member	Mookie Chandler	Transmission Engineer	Entergy
Member	Rod Hardiman	Project Manager, Reliability & Risk Analysis	Southern Company
Member	George Pitts	System Protection & Analysis	TVA

AUDIT RESULTS

The audit began at 8:30 a.m., August 21, 2007 with an opening presentation by Ralph Anderson, SERC Audit Team Leader. He reviewed the NERC compliance plan for 2007 in general, and how it applied to DVP specifically. He introduced and reviewed the standards to be covered in the audit, and addressed both the expectations of DVP staff and the quality of evidence to be presented. He also covered the basic procedure for the audit, and the bounding rules of conduct. Each member of the Audit Team was introduced and professional affiliation identified. The staff of DVP was introduced, and general housekeeping matters explained.

The Audit Team then split into three previously identified sub-teams for the sake of efficiency, and the individual auditing of standards began at 9:20 a.m. Each team initially reviewed the entity registration status with DVP staff to verify the applicability of each standard. Each standard's audit began with a recitation of each requirement and an explanation, if requested by DVP. DVP staff would then present evidence of how this requirement was met, or cite evidence in material already presented to the team. At that point, the evidence was reviewed and dialogue took place until the team reached a point of satisfaction with the evidence. The Audit Team

developed consensual approval or concern, on each of the requirements, and then explained the outcome to DVP staff before proceeding to the next requirement. At that point, the team moderator would record the evidence presented to satisfy the requirement and the team's recommendation on that requirement using the standard worksheet.

After completing a review of all applicable requirements in the standard, the overall compliance to that standard was reviewed first by the team and DVP staff, and then by the Audit Team Leader. Any concerns or dissention with the recommendation was offered, and the Audit Team leader would indicate support or disagreement with the recommendation. Dialogue would ensue to the point of decision on the part of the Audit Team Leader. Following this review, the standard worksheet would be updated with the compliance recommendation.

A discussion of Dominion's overall compliance structure and activities also took place between Ralph Anderson, Senior Compliance Auditor and Marisa Sifontes, Dominion Law Department.

The review of all applicable standards was completed at around 6:00 p.m. The Audit Team met to review and discuss the findings. At approximately 08:30 am, August 22, 2007, the moderators collected all notes and evidence as needed and began to finalize the standards worksheets. The Audit Team Leader began to develop the Exit Briefing with the help of all team members by using a projector connected to his laptop. This work facilitated the consensus of the full team on the content of the Exit Briefing, and re-affirmed the findings and recommendations of the individual sub-teams.

The Exit briefing was presented to the assembled Audit Team and DVP staff at 3:00 p.m., August 22, 2007, which was followed by an informal response from DVP staff. The Audit Team Leader solicited both informal comments from DVP staff, and requested that they fill out formal feedback forms for submission to SERC. The Audit Team left the DVP meeting room at around 3:30 p.m., August 22, 2007.

Findings

The following table details the summarized auditor notes relating to evidence reviewed for compliance with the monitored reliability standards.

Reliability Standard	Auditor Notes	Finding
BAL-001-0	Not applicable – DVP is not registered as a Balancing Authority	Not Applicable
BAL-002-0	Not Applicable – DVP is not registered as a Balancing Authority, Reserve Sharing Group or Regional Reliability Organization	Not Applicable
BAL-003-0	Not Applicable – DVP is not registered as a Balancing Authority or Reliability Coordinator	Not Applicable

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Reliability Standard	Auditor Notes	Finding
CIP-001-1	DVP provided evidence on how sabotage events will be identified and reported to local and federal officials, neighboring entities and to regulatory bodies. Interviews with DVP operations and security employees revealed that the employees are aware and have been trained on the procedures. Review of Corporate intranet programs and business unit specific documents supported this evidence.	Compliant
CIP-002-1 through CIP-009-1	DVP is following the implementation plan for these standards. DVP has developed its critical asset identification method to identify and document a risk-based assessment methodology to identify its critical assets, has begun to identify and plan for necessary resources, and has begun implementing the requirements.	Not Assessed
COM-001-1	DVP provided evidence of their NERC Net user subscription specifying detailed connectivity and telecommunications protocol for real-time data exchange programs. DVP provided logical firewall connectivity examples to demonstrate their secured connections. Reviewed their TELE001 documented procedure identifying critical communications provided to the audit team as evidence. As a NERC net user only R6 applied.	Compliant
EOP-001-0	Not applicable – DVP is not registered as a Balancing Authority or a Transmission Operator	Not Applicable
EOP-003-1	Not applicable – DVP is not registered as a Balancing Authority or a Transmission Operator	Not Applicable
EOP-005-1	Not applicable – DVP is not registered as a Balancing Authority or a Transmission Operator	Not Applicable
EOP-006-1	Not applicable – DVP is not registered as a Reliability Coordinator	Not Applicable
EOP-008-0	Not applicable – DVP is not registered as a Balancing Authority, Reliability Coordinator or a Transmission Operator	Not Applicable
EOP-009-0	DVP provided as evidence its Blackstart Capability Testing Document. These blackstart generators are part of the regional entity blackstart capability plan. The testing document includes the testing records of all the required data fields in the standard. Reviewed SERC Documentation of Blackstart Generating Unit Test Results 2006 submitted on May 25, 2006. Reviewed documents stating testing information for all BSU in their regional plan. Provided Fossil and Hydro Operations BSU testing doc which provides requirements for a test and reporting requirements	Compliant

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Reliability Standard	Auditor Notes	Finding
FAC-003-1	The DVP Transmission System Vegetation Management Plan addressed all the requirements of the standard. The entire transmission vegetation management program (TVMP) is contained in the Forestry Manual The plan and a status report were provided. The DVP policy on minimum clearance at the maximum allowed sag meets the IEEE requirement. DVP submitted quarterly compliance filings to its region regarding the status of vegetation outages. DVP has completed all required annual certifications on the SERC portal and has reported two outages resulting from fall-ins from outside the right-of-way (ROW) in the last three years. No grow-ins or fall-ins resulting from vegetation within the ROW have been reported.	Compliant
FAC-008-1	DVP provided its Facilities Rating Methodology Document dated June 2007 - Ver. 3. The methodology addresses the requirements of the standard.	Compliant
FAC-009-1	DVP demonstrated that it implements and communicates its facilities rating methodology. The audit team reviewed the "Transmission Line Limits", an online application used to maintain up-to-date ratings that is maintained on a daily basis. Base case models are compared to this database for ratings discrepancies which are then distributed to planners to be resolved. Application identifies the limiting element. The ratings are consistent with ratings used in the system models.	Compliant
IRO-001-1	Since DVP is not a Reliability Coordinator, only R8 in this standard applies. DVP provided evidence (operator logs) to show compliance with this standard. Provided documents highlighting authority to take actions in compliance with NERC standards to show Generator Operator, Load-Serving Entity and Purchasing-Selling Entity employees have the authority to and shall comply with Reliability Coordinators directives. Reliability Coordinator questionnaires did not indicate any problems.	Compliant
IRO-004-1	All DVP data is submitted via its Reliability Coordinator's portal, in the Reliability Coordinator Scheduling System. Copies of the data requirement were provided, outage scheduler was included. A review of the process took place. As the Purchasing-Selling Entity, this group reports bid load, generation, operating reserves, known interchange transactions for the Generator Owner, Generator Operator and Load-Shedding Entity through the PJM Emarket. Documentation. Emarket ticket reviewed.	Compliant
IRO-014-1	Not applicable – DVP is not a registered Reliability Coordinator	Not Applicable
IRO-015-1	Not applicable – DVP is not a registered Reliability Coordinator	Not Applicable
IRO-016-1	Not applicable – DVP is not a registered Reliability Coordinator	Not Applicable
PER-002-0	Not applicable – DVP is not registered as a Balancing Authority or a Transmission Operator	Not Applicable

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Reliability Standard	Auditor Notes	Finding
PER-003-0	Not applicable – DVP is not registered as a Balancing Authority, Reliability Coordinator or a Transmission Operator	Not Applicable
PER-004-1	Not applicable – DVP is not a registered Reliability Coordinator	Not Applicable
PRC-004-1	DVP provided a documented process for the identification, analysis and corrective actions of protection system misoperations. All identified misoperations are tracked in a disturbance database that includes corrective actions required to resolve the cause of the misoperations. Protection System Misoperation reports are submitted to the regional entity on an annual basis. Transmission’s reporting form also indicated that they are no longer registered as both Transmission Owner and Generator Owner. Requirement 1 does not apply to Fossil & Hydro or Nuclear Generation Divisions.	Compliant
PRC-005-1	DVP has documented its protection system maintenance and testing program identifying all protection equipment, maintenance and testing intervals and the basis for the intervals. All requirements of the standard are addressed in the program. DVP provided evidence of protection system maintenance and testing in the form of central reporting, status systems, and maintenance compliance procedures.	Compliant
PRC-008-0	DVP has documented its UFLS maintenance and testing program identifying all protection equipment, maintenance and testing intervals and the basis for the intervals. All requirements of the standard are addressed in the program. DVP provided evidence of UFLS maintenance and testing in the form of methods, maintenance management programs and status reports.	Compliant
PRC-010-0	DVP does not have UVLS on its system	Not Assessed
PRC-011-0	DVP does not have UVLS on its system	Not Assessed
PRC-016-0	DVP has SPSs on its system. DVP’s documented SPS list was reviewed by the audit team. DVP provided evidence in the form of misoperations procedures, disturbance records, and member web portal forms to validate compliance.	Compliant
PRC-017-0	DVP’s documented maintenance and testing of Special Protection Systems are covered in the Relay Maintenance Program – T & D document, revision 12, dated May 25, 2007. All requirements of the standard are addressed in the program. DVP provided evidence of protection system maintenance and testing in the form of T&D methods, status reports, and maintenance compliance procedures.	Compliant
PRC-021-1	DVP does not have UVLS on its system.	Not Assessed
TOP-003-0	DVP sends data to its Reliability Coordinator via the outage scheduler (PJM edart) DVP provided printouts of snapshots from this tool. All Transmission Owners have access to the outages on this tool.	Compliant
TOP-004-1	DVP is not registered as a Transmission Operator.	Not Applicable

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Reliability Standard	Auditor Notes	Finding
TOP-005-1	<p>The Reliability Coordinator did not report any problems with DVP regarding this standard via the questionnaire.</p> <p>DVP has access to the NERC ISN and reviewed their Operating Reliability Data Confidentiality Agreement Signatory List 2006-09-07.</p> <p>DVP data is provided via its Reliability Coordinator web-based tool. The neighboring questionnaires did not reveal any data sharing concerns with DVP.</p>	Compliant
TOP-007-0	DVP is not registered as a Transmission Operator or Reliability Coordinator.	Not Applicable
TPL-001-0	<p>The DVP power flow studies are run annually for both short-term and long-term horizon. All categories in the standard are analyzed. VSTE cases, operational plans based on projected load, generation dispatch and other cases. Normal procedures are assumed and documented and is part of their procedures. All existing and planned facilities are included. No upgrades were required as a result of the most recent TPL-001 studies. All identified reliability constraints are addressed for Categories A and B. The team verified that annual filings for TPL-001 were submitted via SERC portal.</p>	Compliant
TPL-002-0	<p>The DVP 2006 Transmission Assessment is based on the Dominion Virginia Power Standard TPL-002-0 System Performance Under Following Loss of a single Bulk Electric System Element (BES) (Category B) Assessment and Dominion Criteria and Procedures for Stability Analysis.</p> <p>The Electric Transmission Long Term Plan assessment is conducted annually and includes near and long-term horizons. All elements of R1 are included in the analysis. Entity studied all applicable Category B contingencies. Firm projects are included in the base case. The analyses indicate that system modifications are required. These modifications have been included in the Electric System Long Term Plan (LTP), October 2006, on Pages C2, C3, E2, E3, N2, N3, and S2.</p> <p>The corrective action plan has been reported to the region via annual compliance filings.</p>	Compliant
TPL-003-0	<p>The DVP 2006 assessment of Table 1, Category C contingencies was performed annually for at least one study year in each of the near-term and long-term horizons. In 2006 the selected years were 2010 and 2014. Assessments are governed by Entity procedures The audit team found the entity to be fully compliant. Assessment is performed annually and all applicable studies including all contingencies are performed. DVP Entity performs studies of single line to ground faults only as necessary because they routinely study the more severe Category D (3-phase fault) conditions. Required system modifications are included in the transmission long-term plan. The team confirmed that annual filings had been completed on the SERC portal.</p>	Compliant

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Reliability Standard	Auditor Notes	Finding
TPL-004-0	<p>Category D analysis is conducted in a joint study effort and is detailed in a regional assessment study. This study is performed on an annual basis for all applicable category types. Some contingency types are exhaustively studied and others are on a rotating, three-year schedule. D1-D5 are covered as routine studies. D6 thru D13 are methodically assessed. Regional studies have not yet indicated a need for D14 analysis. Planned outages are not included because the schedules do not overlap the planning horizon.</p> <p>The audit team reviewed documentation of the assessments performed and confirmed that appropriate annual filings were made via the SERC portal.</p>	Compliant
VAR-001-1	DVP provided operating agreements, oasis informational documents, and reactive resource procurements as evidence for R5. DVP was audited as a Load-Serving Entity based on registration and applicability.	Compliant

Conclusions

DVP provided evidence of compliance with all of the applicable monitored reliability standards as specified in the scope of this audit.

SUMMARY OF DVP RESPONSE TO THE AUDIT FINDINGS

Dominion Virginia Power has reviewed the SERC Compliance Audit Report and concurs with its findings. Dominion Virginia Power thanks the SERC Audit Team for its thorough review of Dominion's efforts to comply with the NERC Reliability Planning and Operating Standards that are currently enforceable and apply to DVP's operations.

APPENDIX I – APPLICABLE RELIABILITY STANDARDS

Std #	Requirements	Standard	Who	Purpose	Monitoring Timeframe	Applicable to DVP?
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
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

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Std #	Requirements	Standard	Who	Purpose	Monitoring Timeframe	Applicable to DVP?
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
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.	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.	No

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Std #	Requirements	Standard	Who	Purpose	Monitoring Timeframe	Applicable to DVP?
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	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.	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.	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.	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

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Std #	Requirements	Standard	Who	Purpose	Monitoring Timeframe	Applicable to DVP?
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.	Yes
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.	Yes
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.	Yes

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Std #	Requirements	Standard	Who	Purpose	Monitoring Timeframe	Applicable to DVP?
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.	Yes
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.	Yes
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.	No

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Std #	Requirements	Standard	Who	Purpose	Monitoring Timeframe	Applicable to DVP?
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.	No
IRO-016-1	All	Coordination of Real-time Activities 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.	Rolling 12 months of information provided on request.	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.	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.	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.	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.	Yes

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Std #	Requirements	Standard	Who	Purpose	Monitoring Timeframe	Applicable to DVP?
PRC-005-1	All	Transmission and Generation Protection System Maintenance and Testing	DP*, GO, TO	Document/implement transmission protection system system maintenance/testing/monitoring PROGRAM	By request – maintenance and testing program and testing records to show that testing intervals are on schedule.	Yes
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.	Yes
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.	Yes
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.	Yes
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.	Yes
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.	Yes
PRC-021-1	All	Under-Voltage Load Shedding Program Data	DP, TO	DOCUMENTATION of undervoltage load shedding program	By request – latest UVLS data.	Yes

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Std #	Requirements	Standard	Who	Purpose	Monitoring Timeframe	Applicable to DVP?
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.	Yes
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.	Yes
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.	Yes
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.	No
TPL-001-0	All	System Performance Under Normal (No Contingency) Conditions	PA, TPL	System performance under normal conditions	By request – latest annual assessment.	Yes
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.	Yes

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Std #	Requirements	Standard	Who	Purpose	Monitoring Timeframe	Applicable to DVP?
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.	Yes
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.	Yes
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.	Yes