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**BRITISH COLUMBIA
UTILITIES COMMISSION**

**ORDER
NUMBER R-11-13**

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IN THE MATTER OF
the Utilities Commission Act, R.S.B.C. 1996, Chapter 473

and

Mandatory Reliability Standards Assessment Report No. 5
by British Columbia Hydro and Power Authority
and the Determination of Reliability Standards for Adoption in British Columbia

BEFORE: D.M. Morton, Commissioner February 28, 2013

ORDER

WHEREAS:

- A. Pursuant to section 125.2(2) of the *Utilities Commission Act* (the Act) the British Columbia Utilities Commission (the Commission) has exclusive jurisdiction to determine whether a “reliability standard” as defined in the Act, is in the public interest and should be adopted in British Columbia (BC);
- B. Ministerial Order No. MO39 dated February 22, 2009, made a Mandatory Reliability Standards Regulation which prescribes the parties that are subject to reliability standards adopted under section 125.2(6) of the Act;
- C. In order to facilitate the Commission’s consideration of reliability standards, British Columbia Hydro and Power Authority (BC Hydro) is required under section 125.2(3) of the Act to review each reliability standard and provide the Commission with a report assessing:
 - (a) any adverse impact of the reliability standard on the reliability of electricity transmission in BC if the reliability standard were adopted,
 - (b) the suitability of the reliability standard for British Columbia,
 - (c) the potential cost of the reliability standard if it were adopted, and
 - (d) any other matter prescribed by regulation or identified by order of the Commission;
- D. By Order R-1-13, the Commission adopted the Mandatory Reliability Standards assessed in BC Hydro’s Mandatory Reliability Standards Assessment Report No. 5, which replaced or superseded some standards previously adopted in BC under Order Nos. G-67-09, G-167-10, G-162-11 and G-175-11;
- E. By letter dated February 15, 2013, BC Hydro requested an amendment to the effective date of the reliability standard VAR-501-WECC-1. BC Hydro informed the Commission they had made a typographical error in Assessment Report No. 5 with regards to the recommended effective date for reliability standard VAR-501-WECC-1. BC Hydro explained the effective date for this standard was meant to coincide with that of its partner standard VAR-002-WECC-1. BC Hydro requested the Commission amend the effective date of VAR-501- WECC-1 to January 15, 2014;

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- F. The Commission considers that it is appropriate to amend the effective date of Reliability Standard VAR-501-WECC-1 to January 15, 2014, to coincide with the effective date of standard VAR-002-WECC-1 and post the new effective date as required.

NOW THEREFORE the Commission orders as follows:

1. The effective date for reliability standard adopted VAR-501-WECC-1 is January 15, 2014.
2. The effective date for each reliability standard adopted in BC is the date appearing in the table found in Appendix A to this Order (the Effective Date).
3. Appendix B to this Order contains the text of the standards with their effective dates.
4. As a result of this Order and Orders G-67-09, G-167-10, G-162-11, G-175-11 and R-1-13, the standards with effective dates listed in the table found in Appendix C to this Order are the reliability standards adopted in BC.

DATED at the City of Vancouver, in the Province of British Columbia, this 28th day of February 2013.

BY ORDER

Original signed by:

D.M. Morton
Commissioner

Attachments

British Columbia Utilities Commission

Reliability Standards with Effective Dates as adopted

Standards	Standard Name	Effective Date	Type	Commission Approved Standard to be Superseded ₁	By Order
BAL-006-2	Inadvertent Interchange	3 months after BCUC approval	Revised	BAL-006-1.1	R-1-13
CIP-001-1a	Sabotage Reporting	Not Applicable	Interim Version	-	R-1-13
CIP-001-2a *	Sabotage Reporting	Immediately after BCUC approval. ERCOT regional variance does not apply to B.C.	Revised	CIP-001-1	R-1-13
CIP-005-3a	Cyber Security -Electronic Security Perimeter(s)	6 months after BCUC approval	Revised	CIP-005-3	R-1-13
EOP-002-3	Capacity and Energy Emergencies	6 months after BCUC approval	Revised	EOP-002-2.1	R-1-13
FAC-002-1	Coordination of Plans For New Generation, Transmission, and End-User	6 months after BCUC approval	Revised	FAC-002-0	R-1-13
FAC-501-WECC-1	Transmission Maintenance	3 months after BCUC approval	Replacement	PRC-STD-005-1	R-1-13
INT-003-3	Interchange Transaction Implementation	3 months after BCUC approval	Revised	INT-003-2	R-1-13
IRO-002-2	Reliability Coordination -Facilities	3 months after BCUC approval	Revised	IRO-002-1	R-1-13
IRO-004-2	Reliability Coordination -Operations Planning	3 months after BCUC approval	Revised	IRO-004-1	R-1-13
IRO-005-2a	Reliability Coordination -Current Day Operations	Not Applicable	Interim Version	-	R-1-13
IRO-005-3a *	Reliability Coordination -Current Day Operations	3 months after BCUC approval	Revised	IRO-005-2	R-1-13
IRO-006-5	Reliability Coordination -Transmission Loading Relief (TLR)	3 months after BCUC approval	Revised	IRO-006-4.1	R-1-13
IRO-006-WECC-1	Qualified Transfer Path Unscheduled Flow (USF) Relief	3 months after BCUC approval	Replacement	IRO-STD-006-0	R-1-13
IRO-008-1	Reliability Coordinator Operational Analyses and Real-time Assessments	3 months after BCUC approval	New		R-1-13
IRO-009-1	Reliability Coordinator Actions to Operate Within IROLS	3 months after BCUC approval	New		R-1-13
IRO-010-1a	Reliability Coordinator Data Specification and Collection	3 months after BCUC approval	New		R-1-13

₁ Commission Approved Standard to be Superseded by replacement or revised standard assessed in MRS Assessment Report No. 5

*Identifies final version of a standard that was revised twice during the assessment period

Standards	Standard Name	Effective Date	Type	Commission Approved Standard to be Superseded ₁	By Order
MOD-021-1	Documentation of the Accounting Methodology for the Effects of Demand-Side Management in Demand and Energy Forecasts.	3 months after BCUC approval	Revised	MOD-021-0.1	R-1-13
PER-004-2	Reliability Coordination -Staffing	Immediately after BCUC approval	Revised	PER-004-1 (Requirements 1 and 5)	R-1-13
PER-005-1	System Personnel Training	R1, R2: 24 months after BCUC Approval R3: 18 months after BCUC Approval. R3.1: 36 months after BCUC Approval	Replacement	PER-002-0 & PER-004-1 (Requirements 2, 3 and 4)	R-1-13
PRC-004-1a	Analysis and Mitigation of Transmission and Generation Protection System Misoperations	3 months after BCUC approval	Revised	PRC-004-1	R-1-13
PRC-004-WECC-1	Protection System and Remedial Action Scheme Misoperation	6 months after BCUC approval	Replacement	PRC-STD-001-1 & PRC-STD-003-1	R-1-13
PRC-005-1a	Transmission and Generation Protection System Maintenance and Testing	3 months after BCUC approval	Revised	PRC-005-1	R-1-13
TOP-001-1a	Reliability Responsibilities and Authorities	Immediately after BCUC approval	Revised	TOP-001-1	R-1-13
TOP-002-2b	Normal Operations Planning	Immediately after BCUC approval	Revised	TOP-002-2a	R-1-13
TOP-003-1	Planned Outage Coordination	3 months after BCUC approval	Revised	TOP-003-0	R-1-13
TOP-005-1.1a	Operational Reliability Information	Not Applicable	Interim Version	-	R-1-13
TOP-005-2a *	Operational Reliability Information	3 months after BCUC approval	Revised	TOP-005-1.1	R-1-13
TOP-006-2	Monitoring System Conditions	3 months after BCUC approval	Revised	TOP-006-1	R-1-13
TOP-007-WECC-1	System Operating Limits	3 months after BCUC approval	Replacement	TOP-STD-007-0	R-1-13
TPL-002-0b	System Performance Following Loss of a Single Bulk Electric System Element (Category B)	Immediately after BCUC approval	Revised	TPL-002-0a	R-1-13
VAR-001-2	Voltage and Reactive Control	6 months after BCUC approval	Revised	VAR-001-1	R-1-13
VAR-002-WECC-1	Automatic Voltage Regulators (AVR)	12 months after BCUC approval	Replacement	VAR-STD-002a-1	R-1-13
VAR-501-WECC-1	Power System Stabilizer (PSS)	12 months after BCUC approval	Replacement	VAR-STD-002b-1	R-11-13

₁ Commission Approved Standard to be Superseded by replacement or revised standard assessed in MRS Assessment Report No. 5

*Identifies final version of a standard that was revised twice during the assessment period

British Columbia Utilities Commission

Reliability Standards with Effective Dates adopted in British Columbia

Standard	Name	BCUC Order Adopting	Effective Date	By Order
BAL-001-0.1a	Real Power Balancing Control Performance	G-167-10	January 1, 2011	G-167-10
BAL-002-0	Disturbance Control Performance	G-67-09	June 8, 2009	G-67-09
BAL-003-0.1b	Frequency Response and Bias	G-167-10	January 1, 2011	G-167-10
BAL-004-0	Time Error Correction	G-67-09	June 8, 2009	G-67-09
BAL-004-WECC-01	Automatic Time Error Correction	G-167-10	January 1, 2011	G-167-10
BAL-005-0.1b	Automatic Generation Control	G-167-10	January 1, 2011	G-167-10
BAL-006-2	Inadvertent Interchange	R-1-13	April 15, 2013	R-1-13
BAL-STD-002-1	Operating Reserves	G-67-09	June 8, 2009	G-67-09
CIP-001-2a	Sabotage Reporting	R-1-13	January 15, 2013	R-1-13
CIP-002-3	Cyber Security – Critical Cyber Asset Identification	G-151-11	October 16, 2011	G-151-11
CIP-003-3	Cyber Security – Security Management Controls	G-151-11	October 16, 2011	G-151-11
CIP-004-3	Cyber Security – Personnel and Training	G-151-11	October 16, 2011	G-151-11
CIP-005-3a	Cyber Security – Electronic Security Perimeter(s)	R-1-13	July 15, 2013	R-1-13
CIP-006-3c	Cyber Security – Physical Security of Critical Cyber Assets	G-151-11	October 16, 2011	G-151-11
CIP-007-3	Cyber Security – Systems Security Management	G-151-11	October 16, 2011	G-151-11
CIP-008-3	Cyber Security – Incident Reporting and Response Planning	G-151-11	October 16, 2011	G-151-11
CIP-009-3	Cyber Security – Recovery Plans for Critical Cyber Assets	G-151-11	October 16, 2011	G-151-11
COM-001-1.1	Telecommunications	G-167-10	January 1, 2011	G-167-10
COM-002-2	Communication and Coordination	G-67-09	June 8, 2009	G-67-09
EOP-001-0	Emergency Operations Planning	G-67-09	June 8, 2009	G-67-09
EOP-002-3	Capacity and Energy Emergencies	R-1-13	July 15, 2013	R-1-13
EOP-003-1	Load Shedding Plans	G-67-09	June 8, 2009	G-67-09
EOP-004-1	Disturbance Reporting	G-67-09	June 8, 2009	G-67-09
EOP-005-1	System Restoration Plans	G-67-09	June 8, 2009	G-67-09
EOP-006-1	Reliability Coordination – System Restoration	G-67-09	June 8, 2009	G-67-09
EOP-008-0	Plans for Loss of Control Center Functionality	G-67-09	June 8, 2009	G-67-09
EOP-009-0	Documentation of Blackstart Generating Unit Test Results	G-67-09	June 8, 2009	G-67-09
FAC-001-0	Facility Connector Requirements	G-67-09	June 8, 2009	G-67-09
FAC-002-1	Coordination of Plans for New Generation, Transmission, and End-User	R-1-13	July 15, 2013	R-1-13
FAC-003-1	Transmission Vegetation Management Program	G-67-09	June 8, 2009	G-67-09
FAC-501-WECC-1	Transmission Maintenance	R-1-13	April 15, 2013	R-1-13
FAC-008-1	Facility Ratings Methodology	G-67-09	June 8, 2009	G-67-09
FAC-009-1	Establish and Communicate Facility Ratings	G-67-09	June 8, 2009	G-67-09

Standard	Name	BCUC Order Adopting	Effective Date	By Order
FAC-010-2.1	System Operating Limits Methodology for the Planning Horizon	G-151-11	October 16, 2011	G-151-11
FAC-011-2	System Operating Limits Methodology for the Operations Horizon	G-167-10	January 1, 2011	G-167-10
FAC-013-1	Establish and Communicate Transfer Capability	G-67-09	June 8, 2009	G-67-09
FAC-014-2	Establish and Communicate System Operating Limits	G-167-10	January 1, 2011	G-167-10
INT-001-3	Interchange Information	G-67-09	June 8, 2009	G-67-09
INT-003-3	Interchange Transaction Implementation	R-1-13	April 15, 2013	R-1-13
INT-004-2	Dynamic Interchange Transaction Modifications	G-67-09	June 8, 2009	G-67-09
INT-005-3	Interchange Authority Distributes Arranged Interchange	G-151-11	October 16, 2011	G-151-11
INT-006-3	Response to Interchange Authority	G-151-11	October 16, 2011	G-151-11
INT-007-1	Interchange Confirmation	G-67-09	June 8, 2009	G-67-09
INT-008-3	Interchange Authority Distributes Status	G-151-11	October 16, 2011	G-151-11
INT-009-1	Implementation of Interchange	G-67-09	June 8, 2009	G-67-09
INT-010-1	Interchange Coordination Exemptions	G-67-09	June 8, 2009	G-67-09
IRO-001-1.1	Reliability Coordination Responsibilities and Authorities	G-167-10	January 1, 2011	G-167-10
IRO-002-2	Reliability Coordination – Facilities	R-1-13	April 15, 2013	R-1-13
IRO-003-2	Reliability Coordination – Wide Area View	G-67-09	June 8, 2009	G-67-09
IRO-004-2	Reliability Coordination – Operations planning	R-1-13	April 15, 2013	R-1-13
IRO-005-3a	Reliability Coordination – Current Day Operations	R-1-13	April 15, 2013	R-1-13
IRO-006-5	Reliability Coordination – Transmission Loading Relief	R-1-13	April 15, 2013	R-1-13
IRO-006-WECC-1	Qualified Transfer Path Unscheduled Flow (USF) Relief	R-1-13	April 15, 2013	R-1-13
IRO-008-1	Reliability Coordinator Operational Analyses and Real-time Assessments	R-1-13	April 15, 2013	R-1-13
IRO-009-1	Reliability Coordinator Actions to Operate Within IROLs	R-1-13	April 15, 2013	R-1-13
IRO-010-1a	Reliability Coordinator Data Specification and Collection	R-1-13	April 15, 2013	R-1-13
IRO-014-1	Procedures, Processes, or Plans to Support Coordination Between Reliability coordinators	G-67-09	June 8, 2009	G-67-09
IRO-015-1	Notification and Information Exchange	G-97-09	June 8, 2009	G-97-09
IRO-016-1	Coordination of Real-Time Activities	G-67-09	June 8, 2009	G-67-09
MOD-001-1a	Available Transmission System Capability	G-175-11	November 30, 2011	G-175-11
MOD-004-1	Capacity Benefit Margin	G-175-11	November 30, 2011	G-175-11
MOD-006-0.1	Qualified Path Unscheduled Flow Relief	G-67-09	January 1, 2011	G-67-09
MOD-007-0	Procedure for the Use of Capacity Benefit Margin Value Benefit Margin	G-167-10	June 8, 2009	G-167-10
MOD-008-1	Transmission Reliability Margin Calculation Methodology	G-175-11	November 30, 2011	G-175-11
MOD-010-0	Steady-State Data for Modeling and Simulation for the Interconnected Transmission System	G-67-09	June 8, 2009	R-1-13
MOD-012-0	Dynamics Data for Modeling and Simulation of the Interconnected Transmission System	G-67-09	June 8, 2009	R-1-13

Standard	Name	BCUC Order Adopting	Effective Date	By Order
MOD-016-1.1	Documentation of Data Reporting Requirements for Actual and Forecast Demand, New Energy for Load, and Controllable Demand-Side Management	G-167-10	January 1, 2011	G-167-10
MOD-017-0.1	Aggregated Actual and Forecast Demands and Net Energy for Load	G-167-10	January 1, 2011	G-167-10
MOD-018-0	Treatment of Non member Demand Data and How Uncertainties are Addressed in the Forecasts of Demand and Net Energy for Load	G-67-09	June 8, 2009	G-67-09
MOD-019-0.1	Reporting of Interruptible Demands and Direct Control Load Management Data to System Operators and Reliability Coordinators	G-167-10	January 1, 2011	G-167-10
MOD-020-0	Providing Interruptible Demands and Direct Control Load management Data to System Operators and Reliability Coordinators	G-67-09	June 8, 2009	G-67-09
MOD-021-1	Documentation of the Accounting Methodology for the Effects of Demand-Side Management in Demand and Energy Forecasts.	R-1-13	April 15, 2013	R-1-13
MOD-028-1	Area Interchange Methodology	G-175-11	November 30, 2011	G-175-11
MOD-029-1a	Rated System Path Methodology	G-175-11	November 30, 2011	G-175-11
MOD-030-02	Flowgate Methodology	G-175-11	November 30, 2011	G-175-11
NUC-001-2	Nuclear Plant Interface Coordination	G-167-10	January 1, 2011	G-167-10
PER-001-0.1	Operating Personnel Responsibility and Authority	G-151-11	October 16, 2011	G-151-11
PER-003-0	Operating Personnel Credentials	G-67-09	June 8, 2009	G-67-09
PER-004-2	Reliability Coordination – Staffing	R-1-13	January 15, 2013	R-1-13
PER-005-1	System Personnel Training	R-1-13	R1: Jan. 15, 2015 R2: Jan. 15, 2015 R3: July 15, 2014 R3.1: Jan. 15, 2016	R-1-13
PRC-001-1	System Protection Coordination	G-67-09	June 8, 2009	G-67-09
PRC-004-1a	Analysis and Mitigation of Transmission and Generation Protection Misoperations	R-1-13	April 15, 2013	R-1-13
PRC-004-WECC-1	Protection System and Remedial Action Scheme Misoperation	R-1-13	July 15, 2013	R-1-13
PRC-005-1a	Transmission and Generation Protection System Maintenance and Testing	R-1-13	April 15, 2013	R-1-13
PRC-007-0	Assuring consistency of entity Underfrequency Load Shedding Program Requirements	G-67-09	June 8, 2009	G-67-09
PRC-008-0	Implementation and Documentation of Underfrequency Load Shedding Equipment Maintenance Program	G-67-09	June 8, 2009	G-67-09
PRC-009-0	Analysis and Documentation of Underfrequency Load Shedding Performance Following an Underfrequency Event	G-67-09	June 8, 2009	G-67-09
PRC-010-0	Technical Assessment of the Design and Effectiveness of Undervoltage Load Shedding Program	G-67-09	June 8, 2009	G-67-09
PRC-011-0	Undervoltage Load Sheddingsystem Maintenance and Testing	G-67-09	June 8, 2009	G-67-09
PRC-015-0	Special Protection System Data and Documentation	G-67-09	June 8, 2009	G-67-09
PRC-016-0.1	Special Protection System Misoperations	G-167-10	January 1, 2011	G-167-10

Standard	Name	BCUC Order Adopting	Effective Date	By Order
PRC-017-0	Special Protection System Maintenance and Testing	G-67-09	June 8, 2009	G-67-09
PRC-018-1	Disturbance Monitoring Equipment Installation and Data Reporting	G-67-09	June 8, 2009	G-67-09
PRC-021-1	Under Voltage Load Shedding Program Data	G-67-09	June 8, 2009	G-67-09
PRC-022-1	Under Voltage Load Shedding Program Performance	G-67-09	June 8, 2009	G-67-09
PRC-023-1	Transmission Relay Loadability	G-151-11	October 16, 2011	G-151-11
TOP-001-1a	Reliability Responsibilities and Authorities	R-1-13	January 15, 2013	R-1-13
TOP-002-2b	Normal Operations Planning	R-1-13	January 15, 2013	R-1-13
TOP-003-1	Planned Outage Coordination	R-1-13	April 15, 2013	R-1-13
TOP-004-2	Transmission Operations	G-167-10	January 1, 2011	G-167-10
TOP-005-2a	Operational Reliability Information	R-1-13	April 15, 2013	R-1-13
TOP-006-2	Monitoring System Conditions	R-1-13	April 15, 2013	R-1-13
TOP-007-0	Reporting System Operating Unit (SOL) and Interconnection Reliability Operating Limit (IROL) Violations	G-67-09	June 8, 2009	G-67-09
TOP-007-WECC-1	System Operating Limits	R-1-13	April 15, 2013	R-1-13
TOP-008-1	Response to Transmission Unit Violations	G-67-09	June 8, 2009	G-67-09
TPL-001-0.1	System Performance Under Normal (No Contingency) Conditions (Category A)	G-167-10	January 1, 2011	G-167-10
TPL-002-0b	System Performance Following Loss of a Single Bulk Electric System Element (Category B)	R-1-13	January 15, 2013	R-1-13
TPL-003-0a	System Performance Following Loss of a Single Bulk Electric System Element (Category C)	G-151-11	October 16, 2011	G-151-11
TPL-004-0	System Performance Following Loss of a Single Bulk Electric System Element (Category D)	G-67-09	June 8, 2009	G-67-09
VAR-001-2	Voltage and Reactive Control	R-1-13	July 15, 2013	R-1-13
VAR-002-1.1b	Generator Operation for Maintaining Network Voltage Schedules	G-151-11	October 16, 2011	G-151-11
VAR-002-WECC-1	Automatic Voltage Regulators (AVR)	R-1-13	January 15, 2014	R-1-13
VAR-501-WECC-1	Power System Stabilizer (PSS)	R-1-13	January 15, 2014	R-11-13