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BRITISH COLUMBIA UTILITIES COMMISSION

ORDER NUMBER G-167-10

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

and

An Assessment Report No. 2 by the British Columbia Transmission Corporation
and the Determination of Reliability Standards for Adoption in British Columbia

BEFORE: A.A. Rhodes, Commissioner
L.A. O'Hara, Commissioner November 10, 2010

O R D E R

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;

B. Ministerial Order No. MO39 dated February 22, 2009 made a Mandatory Reliability Standards Regulation (the Mandatory Reliability Standard 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, the British Columbia Transmission Corporation (BCTC) as it then was, was 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 British Columbia 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;

   (d) any other matter prescribed by regulation or identified by order of the Commission;

D. On February 23, 2010, BCTC filed a report (Assessment Report No. 2) pursuant to section 125.2(3) of the Act assessing one new reliability standard (BAL-004-WECC-01) and revisions to 22 existing reliability standards developed by the North American Electric Reliability Corporation (NERC) and the Western Electricity Coordinating Council (WECC). (The 22 existing reliability standards were adopted in BC June 4, 2009 by the Commission under Order No. G-67-09);

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E. Assessment Report No. 2 appended as Appendix B the NERC Glossary of Terms Used in Reliability Standards (NERC Glossary of Terms), dated April 20, 2009, to replace the NERC Glossary of Terms dated February 12, 2008 that were adopted under Order G-67-09;

F. Assessment Report No. 2 also appended as Appendix F-1 the NERC Functional Model Version 4 to replace NERC Functional Model Version 3 which was also adopted under Order G-67-09;

G. BCTC concluded that the one new reliability standard and the revisions to the 22 existing reliability standards are suitable for adoption in British Columbia;

H. Pursuant to section 125.2(5)(a) of the Act, the Commission posted Assessment Report No. 2 on its website at www.bcuc.com and, by Order G-36-10 dated March 4, 2010 directed BCTC to publish a Notice of Assessment Report No. 2 and Process for Public Comments, and established the Regulatory Timetable for comments;

I. Comments were received from FortisBC noting agreement with BCTC's assessment;

J. On April 21, 2010 BCTC provided comments in response;

K. The Commission received no other comments on the reliability standards assessed in Assessment Report No. 2;

L. On July 5, 2010 the shares of BCTC were transferred to and vested in British Columbia Hydro and Power Authority (BC Hydro), and BC Hydro became responsible for *inter alia* the obligations and liabilities of BCTC;

M. By letter dated October 4, 2010, WECC recommended that the Commission not adopt Version 4 or any other version of the NERC Functional Model, as it is a technical document that is used as part of the NERC standards development process and it may contain definitions that conflict with existing definitions in the NERC Glossary of Terms;

N. The Commission has reviewed and considered Assessment Report No. 2 and the reliability standards assessed in it as well as the comments received and determines that the standards assessed in BCTC's Assessment Report No. 2 are in the public interest and should be adopted in British Columbia to maintain or achieve consistency with other jurisdictions that have adopted the reliability standards, subject to the terms of this Order;

O. The Commission considers that the NERC Glossary of Terms dated April 20, 2009 should be adopted and that the adoption of the NERC Functional Model Version 3 should be rescinded;

P. The Commission considers that it is appropriate to provide an effective date for entities to come into compliance with the reliability standards to be adopted in this Order;

NOW THEREFORE pursuant to section 125.6 of the Act, the Commission orders as follows:

1. The Commission adopts, subject to Directive 8 that follows, BAL-004-WECC-01, to be effective as of January 1, 2011 (the Effective Date).

2. The 22 existing reliability standards listed in the table found in Attachment A to this Order, under the heading, "Rescinded Standard," are rescinded as of the Effective Date.

3. The Commission adopts, subject to Directive 8 that follows, the 22 revised standards listed in the table found in Attachment A under the heading "Adopted Revised Standard," to be effective as of the Effective Date.

4. The Commission adopts the *NERC Glossary of Terms Used in Reliability Standards, dated April 20, 2010*, which defines terms employed in the reliability standards, and which is posted to the WECC and NERC website, to be effective as of the Effective Date.

5. The Commission declines to adopt the *NERC Functional Model, Version 4*, and rescinds the adoption of *NERC Functional Model, Version 3*, previously ordered in item 3 of Order G-67-09, effective as of the date of this Order, and confirms that the *NERC Functional Model* is of no force and effect in British Columbia.

6. The Commission directs that individual requirements within reliability standards that incorporate by reference reliability standards that have not been adopted by the Commission are of no force or effect.

7. The Commission adopts the Compliance Provisions, as defined in the Rules of Procedure for Reliability Standards in British Columbia, that accompany each of the adopted British Columba reliability standards, in the form directed by the Commission to be posted on the WECC website, as amended from time to time.

8. As a result of this Order and Order G-67-09, the standards listed in the table found in Attachment B to this Order are the reliability standards adopted in BC as of the Effective Date.

DATED at the City of Vancouver, in the Province of British Columbia, this day of 10th November 2010.

BY ORDER

Original signed by:

A. A. Rhodes
Commissioner

Attachment

Revised Standards

Rescinded Standard	Adopted Revised Standard	Standard Name
BAL-001-0a	BAL-001-01a	Real Power Balancing Control Performance
BAL-003-0a	BAL-003-0.1b	Frequency Response and Bias
BAL-005-0b	BAL-005-0.1b	Automatic Generation Control
BAL-006-1	BAL-006-1.1	Inadvertent Interchange
COM-001-1	COM-001-1.1	Telecommunications
EOP-002-2	EOP-002-2.1	Capacity and Energy Emergencies
FAC-010-1	FAC-010-2	System Operating Limits Methodology for the Planning Horizon
FAC-011-1	FAC-011-2	System Operating Limits Methodology for the Operations Horizon
FAC-014-1	FAC-014-2	Establish and Communicate System Operating Limits
IRO-001-1	IRO-001-1.1	Reliability Coordination Responsibilities and Authorities
IRO-005-1	IRO-005-2	Reliability Coordination – Current Day Operations
IRO-006-3	IRO-006-4	Reliability Coordination – Transmission Loading Relief (TLR)
MOD-006-0	MOD-006-0.1	Procedure for the Use of Capacity Benefit Margin Value
MOD-016-1	MOD-016-1.1	Documentation of Data Reporting Requirements for Actual and Forecast Demand, Net Energy for Load, and Controllable Demand-Side Management
MOD-017-0	MOD-017-0.1	Aggregated Actual and Forecast Demands and Net Energy for Load
MOD-019-0	MOD-019-0.1	Reporting of Interruptible Demands and Direct Control Load Management
NUC-001-1	NUC-001-2	Nuclear Plant Interface Coordination
PRC-016-0	PRC-016-0.1	Special Protection System Misoperations
TOP-004-1	TOP-004-2	Transmission Operations
TOP-005-1	TOP-005-1.1	Operational Reliability Information
TPL-001-0	TPL-001-0.1	System Performance Under Normal (No Contingency) Conditions (Category A)
VAR-002-la	VAR-002-1.1a	Generator Operation for Maintaining Network Voltage Schedules

Standards in Force in BC as of effective Date
(Standards shaded in orange are the standard assessed in BCTC's Assessment Report No. 2.)

Standard	Standard Name	Order Approving
BAL-001-01a	Real Power Balancing Control Performance	G-167-10
BAL-002-0	Disturbance Control Performance	G-67-09
BAL-003-0.1b	Frequency Response and Bias	G-167-10
BAL-004-0	Time Error Correction	G-67-09
BAL-004-WECC-01	Automatic Time Error Correction	G-167-10
BAL-005-0.1b	Automatic Generation Control	G-167-10
BAL-006-1.1	Inadvertent Interchange	G167-10
BAL-STD-002-0	Operating Reserves	G-67-09
CIP-001-1	Sabotage Reporting	G-67-09
CIP-002-1	Cyber Security – Critical Cyber Asset Identification	G-67-09
CIP-003-1	Cyber Security – Security Management Controls	G-67-09
CIP-004-1	Cyber Security – Personnel & Training	G-67-09
CIP-005-1	Cyber Security – Electronic Security Perimeter(s)	G-67-09
CIP-006-1	Cyber Security – Physical Security of Critical Cyber Assets	G-67-09
CIP-007-1	Cyber Security – System Security Management	G-67-09
CIP-008-1	Cyber Security – Incident Reporting and Response Planning	G-67-09
CIP-009-1	Cyber Security – Recovery Plans for Critical Cyber Assets	G-67-09
COM-001-1.1	Telecommunications	G-167-10
COM-002-2	Communication and Coordination	G-67-09
EOP-001-0	Emergency Operations Planning	G-67-09
EOP-002-2.1	Capacity and Energy Emergencies	G167-10
EOP-003-1	Load Shedding Plans	G-67-09
EOP-004-1	Disturbance Reporting	G-67-09
EOP-005-1	System Restoration Plans	G-67-09
EOP-006-1	Reliability Coordination – System Restoration	G-67-09
EOP-008-0	Plans for Loss of Control Center Functionality	G-67-09

Standard	Standard Name	Order Approving
EOP-009-0	Documentation of Blackstart Generating Unit Test Results	G-67-09
FAC-001-0	Facility Connector Requirements	G-67-09
FAC-002-0	Coordination of Plans For New Generation, Transmission, and End-User	G-67-09
FAC-003-1	Transmission Vegetation Management Program	G-67-09
FAC-008-1	Facility Ratings Methodology	G-67-09
FAC-009-1	Establish and Communicate Facility Ratings	G-67-09
FAC-010-2	System Operating Limits Methodology for the Planning Horizon	G-167-10
FAC-011-2	System Operating Limits Methodology for the Operations Horizon	G-167-10
FAC-013-1	Establish and Communicate Transfer Capability	G-67-09
FAC-014-2	Establish and Communicate System Operating Limits	G-167-10
INT-001-3	Interchange Information	G-67-09
INT-003-2	Interchange Transaction Implementation	G-67-09
INT-004-2	Dynamic Interchange Transaction Modifications	G-67-09
INT-005-2	Interchange Authority Distributes Arranged Interchange	G-67-09
INT-006-2	Response to Interchange Authority	G-67-09
INT-007-1	Interchange Confirmation	G-67-09
INT-008-2	Interchange Authority Distributes Status	G-67-09
INT-009-1	Implementation of Interchange	G-67-09
INT-010-1	Interchange Coordination Exemptions	G-67-09
IRO-001-1.1	Reliability Coordination Responsibilities and Authorities	G-167-10
IRO-002-1	Reliability Coordination – Facilities	G-67-09
IRO-003-2	Reliability Coordination – Wide Area View	G-67-09
IRO-004-1	Reliability Coordination – Operations Planning	G-67-09
IRO-005-2	Reliability Coordination – Current Day Operations	G-167-10
IRO-006-4	Reliability Coordination – Transmission Loading Relief (TLR)	G-167-10

Standard	Standard Name	Order Approving
IRO-014-1	Procedures, Processes, or Plans to Support Coordination Between Reliability Coordinators	G-67-09
IRO-015-1	Notification and Information Exchange Between Reliability Coordinators	G-67-09
IRO-016-1	Coordination of Real-time Activities Between Reliability Coordinators	G-67-09
IRO-STD-006-0	Qualified Path Unscheduled Flow Relief	G-67-09
MOD-006-0.1	Procedure for the Use of Capacity Benefit Margin Value	G-167-10
MOD-007-0	Documentation of the Use of Capacity Benefit Margin	G-67-09
MOO-010-0	Steady-State Data for Modeling and Simulation of the Interconnected Transmission System	G-67-09
MOD-012-0	Dynamics Data for Modeling and Simulation of the Interconnected Transmission System	G-67-09
MOD-016-1.1	Documentation of Data Reporting Requirements for Actual and Forecast Demand, Net Energy for Load, and Controllable Demand-Side Management	G-167-10
MOD-017-0.1	Aggregated Actual and Forecast Demands and Net Energy for Load	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
MOD-019-0.1	Reporting of Interruptible Demands and Direct Control Load Management	G-167-10
MOD-020-0	Providing Interruptible Demands and Direct Control Load Management Data to System Operators and Reliability Coordinators	G-67-09
MOD-021-0	Documentation of the Accounting Methodology for the Effects of Controllable Demand-Side Management in Demand and Energy Forecasts	G-67-09
NUC-001-2	Nuclear Plant Interface Coordination	G-167-10
PER-001-0	Operating Personnel Responsibility and Authority	G-67-09
PER-002-0	Operating Personnel Training	G-67-09
PER-003-0	Operating Personnel Credentials	G-67-09
PER-004-1	Reliability Coordination – Staffing	G-67-09

Standard	Standard Name	Order Approving
PRC-001-1	System Protection Coordination	G-67-09
PRC-004-1	Analysis and Mitigation of Transmission and Generation Protection System Misoperations	G-67-09
PRC-005-1	Transmission and Generation Protection System Maintenance and Testing	G-67-09
PRC-007-0	Assuring Consistency of Entity Underfrequency Load Shedding Programs with Regional Reliability Organization's Underfrequency Load Shedding Program Requirements	G-67-09
PRC-008-0	Implementation and Documentation of Underfrequency Load Shedding Equipment Maintenance Program	G-67-09
PRC-009-0	Analysis and Documentation of Underfrequence Load Shedding Performance Following and Underfrequency Event	G-67-09
PRC-010-0	Technical Assessment of the Design and Effectiveness of Undervoltage Load Shedding Program	G-67-09
PRC-011-0	Undervoltage Load Shedding System Maintenance and Testing	G-67-09
PRC-015-0	Special Protection System Data and Documentation	G-67-09
PRC-016-0.1	Special Protection System Misoperations	G-167-10
PRC-017-0	Special Protection System Maintenance and Testing	G-67-09
PRC-018-1	Disturbance Monitoring Equipment Installation and Data Reporting	G-67-09
PRC-021-1	Under Voltage Load Shedding Program Data	G-67-09
PRC-022-1	Under-Voltage Load Shedding Program Performance	G-67-09
PRC-STD-001-1	Certification of Protective Relay Applications and Settings	G-67-09
PRC-STD-003-1	Protective Relay and Remedial Action Scheme Misoperation	G-67-09
PRC-STD-005-l	Transmission Maintenance	G-67-09
TOP-001-1	Reliability Responsibilities and Authorities	G-67-09
TOP-002-2	Normal Operations Planning	G-67-09
TOP-003-0	Planned Outage Coordination	G-67-09
TOP-004-2	Transmission Operations	G-167-10

Standard	Standard Name	Order Approving
TOP-005-1.1	Operational Reliability Information	G-167-10
TOP-006-1	Monitoring System Conditions	G-67-09
TOP-007-0	Reporting System Operating Unit (SOL) and Interconnection Reliability Operating Limit (IROL) Violations	G-67-09
-TOP-008-1	Response to Transmission Unit Violations	G-67-09
TOP-STD-007-0	Operating Transfer Capability	G-67-09
TPL-001-0.1	System Performance Under Normal (No Contingency) Conditions (Category A)	G-167-10
TPL-002-0	System Performance Following Loss of a Single Bulk Electric System Element (Category B)	G-67-09
TPL-003-0	System Performance Following Loss of Two or More Bulk Electric System Element (Category C)	G-67-09
TPL-004-0	System Performance Following Extreme Events Resulting in the Loss of Two or More Bulk Electric System Element (Category D)	G-67-09
VAR-001-1	Voltage and Reactive Control	G-67-09
VAR-002-1.1a	Generator Operation for Maintaining Network Voltage Schedules	G-167-10
VAR-STD-002a-1	Automatic Voltage Regulators	G-67-09
VAR-STD-002b-1	Power System Stabilizer	G-67-09