

Mandatory Reliability Standards

Assessment Report 18 and Planning Coordinator Assessment Information Session

Presented by:

BCUC

BC Hydro



January 10, 2025

Safety Moment - Winter Driving Safety Hazards

Winter Driving Season: October 1 – April 30

Prepare for rapidly changing driving conditions such as:

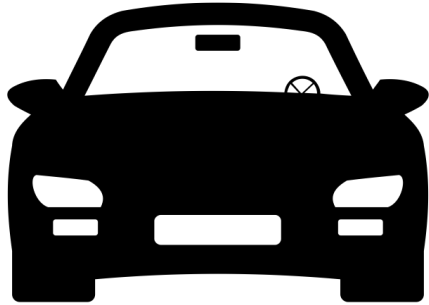
- Fog
- Heavy Rain
- Black Ice
- Heavy Snow Fall
- High Winds

Visit [DriveBC.ca](https://www.drivebc.ca) before you go to review road conditions

Be prepared, in case you get lost or stranded in winter



Safety Moment – Winter Driving Safety Preparedness



Prepare your vehicle:

- 4 matching winter tires + carry chains
- Winter tune-up to —ensure everything is in good working order
- Switch to winter wiper blades
- Full tank of gas for longer trips

Drive for the conditions:

- Slow down
- Leave space between the vehicle in front of you
- Accelerate and decelerate slowly
- Know and plan your route

Winter Road Trip – The Emergency Kit



Indigenous traditional territorial acknowledgement

Edmonds Office (Burnaby)

Before we begin, as the BC Hydro Compliance department is hosting this meeting and are based at the Edmonds office, Burnaby, we would like to acknowledge that we're gathering today on the unceded traditional territory of the Musqueam, Squamish, Tsleil-Waututh First Nations.



Agenda



<u>Topic</u>	<u>Duration</u>
Introductions	10 min
Reliability Regulations Landscape in B.C. (<i>BCUC</i>)	15 min
Assessment Reports – AR18 and PC	15 min
How to Provide Feedback	20 min
Q&A and Closing	10 min

Note: Today's session is process oriented. Other questions, e.g., registration/ technical details/ interpretation of standard, etc. should be directed to the appropriate contact.



Introductions

- Name
- Who you work for
- If you are new to the Assessment process



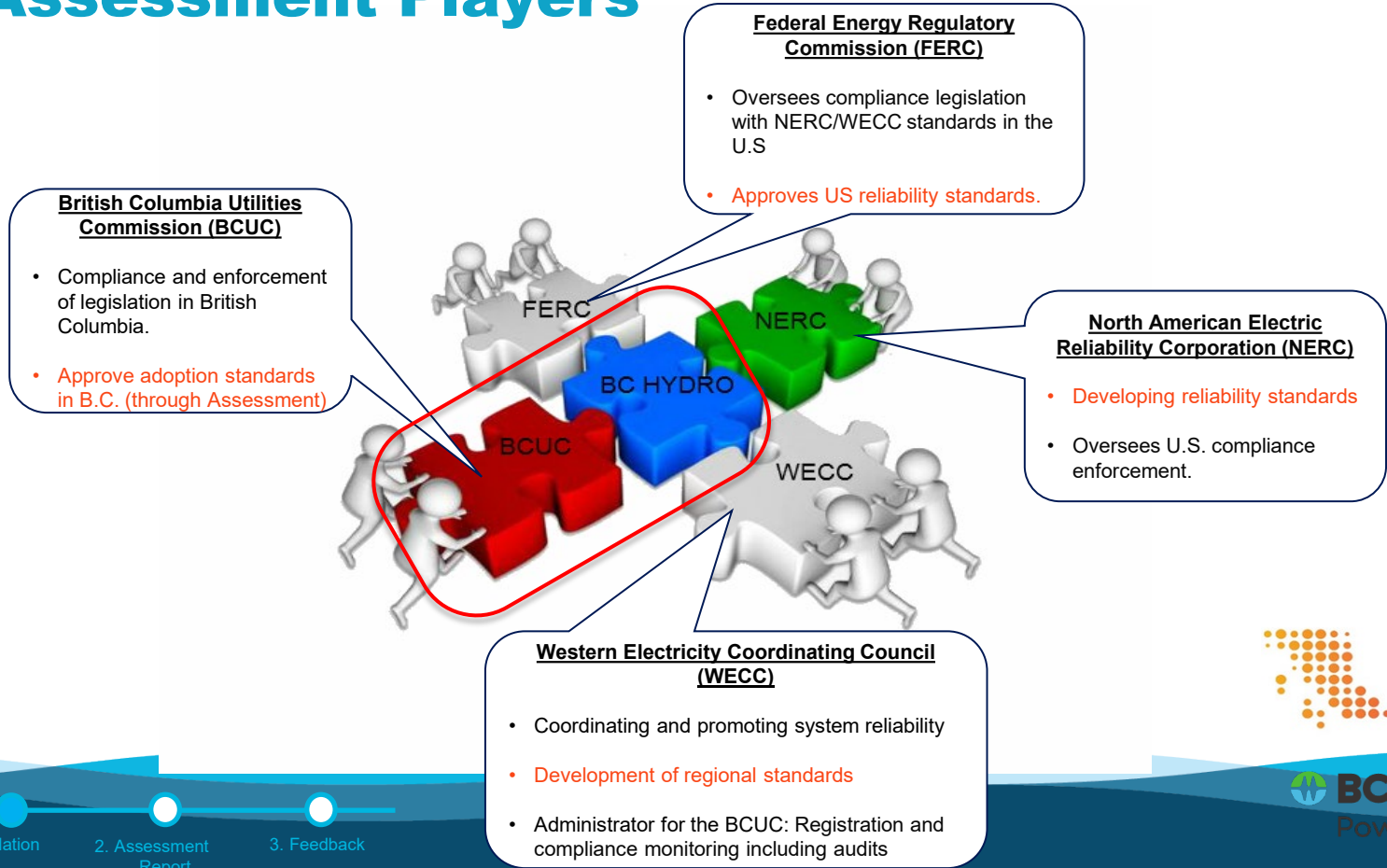
Reliability Regulations Landscape in B.C.

Nicole Manalili,

British Columbia Utilities Commission



Key Assessment Players



Mandatory Reliability Standards (MRS) in B.C.

MRS Legislation

- **2007 British Columbia Energy Plan**

- Included a Policy Action to “ensure that the province remains consistent with North American transmission reliability standards”

- **Utilities Commission Act**

- Section 125.2 establishes the adoption of MRS in B.C., gives the BCUC jurisdiction for MRS oversight in B.C., and assigns BC Hydro the responsibility to review each MRS and report on their suitability for adoption in B.C.
- Recent amendments to the Act and MRS Regulation shifted the applicability of the reliability standards from the Regulation to the Act
- MRS standards may only be fully adopted or rejected by the BCUC and may not be altered or revised. However, the BCUC may specify a BC effective date that would differ from the US effective date.

- **MRS Regulation**

- The provincial government issued the MRS Regulation which directs BC Hydro to provide a report to the BCUC within one year after MRS are adopted by FERC



Mandatory Reliability Standards (MRS) in B.C.

MRS Report Filing Process

- Upon receipt of the Assessment Report, the BCUC makes the report available to the public for comment
- The BCUC considers any comments received in reply to the publication and may issue Information Requests to BC Hydro and/or other Registered Entities

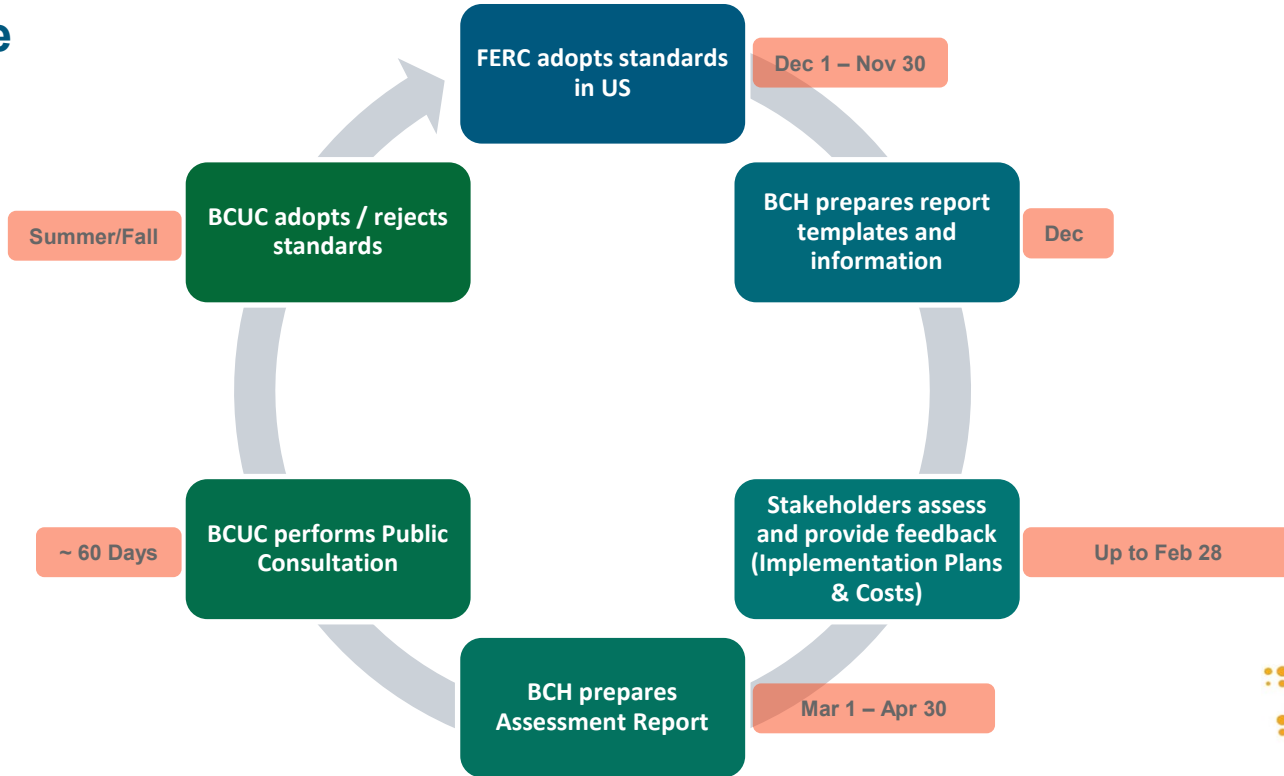
MRS Adoption in B.C.

- The BCUC adopts the MRS assessed in the report if the BCUC considers that the MRS are required to maintain or achieve consistency in B.C. with other jurisdictions that have adopted the MRS
- The BCUC is not required to adopt an MRS if the BCUC determines, after a hearing, that the MRS is not in the public interest



Adopting Mandatory Reliability Standards in B.C.

Annual Cycle



Mandatory Reliability Standards (MRS) in B.C.

MRS Compliance

- The B.C. Government has vested the BCUC with the authority and the responsibility for MRS compliance and enforcement
- The BCUC has the ability to levy monetary penalties for confirmed MRS violations
- The BCUC Rules of Procedure, which includes the Registration Manual, Compliance Monitoring Program and Penalty Guidelines, sets out the administrative framework for the monitoring of compliance with adopted MRS in B.C.
- The BCUC has an administration agreement with WECC to assist with monitoring compliance and registration



Assessment Report Scope

Tom Graham,

Compliance Program Services

BC Hydro



Two Assessments This Year

Assessment Report 18

UCA Section 125.2 establishes the adoption of MRS in B.C.

Annual report

Feedback due: February 28, 2025

Planning Coordinator Assessment

Assessment of PC function associated Standards has resumed now that the Mandatory Reliability Standards PC Function Registration and PC Issues proceeding has concluded

As directed by BCUC

Feedback due: January 31, 2025

Assessment Report 18 Scope Definition

The scope of Reliability Standards and Terms for consideration in each annual Report is limited to the following:

- Standards adopted by an Order issued by the Federal Energy Regulatory Commission (**FERC**) in the United States; and,
- Which the Order became effective between December 1st of the previous year to November 30th of the following year.
- Assessment 18 timeframe:
 - *December 1, 2023, to November 30, 2024*



Planning Coordinator (PC) Assessment Report Scope Definition

The scope of Reliability Standards and Terms for consideration in the Planning Coordinator (PC) Report is limited to the following:

- The latest version of Standards currently held in abeyance by the BCUC due to PC dependencies.
- Additionally, PRC-023-6 which was adopted by an Order issued by the Federal Energy Regulatory Commission (**FERC**) in the United States in January 2024.
 - Would normally fall in the annual assessment process
 - However, this has been flagged in Quarterly Report No. 5 as having a PC suitability issue, so will be assessed in the PC Assessment.



Assessment Scopes

Assessment Report 18

- CIP Standards = 1 revised
- O&P Standards = 1 new, 4 revised
- Glossary Terms = 7 new, 30 revised, 4 retired

Planning Coordinator

- O&P Standards = 5 new, 7 revised, 2 for information
- Glossary Terms = 2 new, 2 revised



Assessment Report 18 – Scope (1/8)

Standards in scope:

Standard	Title	Status
CIP-012-2	Cyber Security – Communications between Control Centers	Revised
EOP-011-4	Emergency Operations	Revised
EOP-012-2	Extreme Cold Weather Preparedness and Operations	New
FAC-501-WECC-4	Transmission Maintenance	Revised
TOP-002-5	Operations Planning	Revised
VAR-501-WECC-4	Power System Stabilizer	Revised

Assessment Report 18 – Scope (2/8)

Changes to NERC Glossary of Terms

Continent-wide Term	Link to Project Page	FERC Approval Date	U.S. Effective Date
Actual Net Interchange - (NIA)	Project 2022-01 Reporting ACE Definition and Associated Terms	April 29, 2024	July 01, 2025
ACE Diversity Interchange		April 29, 2024	July 01, 2025
Area Control Error - (ACE)		April 29, 2024	July 01, 2025
Automatic Generation Control – (AGC)		April 29, 2024	July 01, 2025
Automatic Time Error Correction – (ATEC)		April 29, 2024	July 01, 2025
Balancing Authority Area - (BAA)		April 29, 2024	July 01, 2025

Assessment Report 18 – Scope (3/8)

Changes to NERC Glossary of Terms

Continent-wide Term	Link to Project Page	FERC Approval Date	U.S. Effective Date
Balancing Contingency Event – (BCE)	Project 2022-01 Reporting ACE Definition and Associated Terms	April 29, 2024	July 01, 2025
Control Performance Standard – (CPS)		April 29, 2024	July 01, 2025
Disturbance		April 29, 2024	July 01, 2025
Disturbance Control Standard – (DCS)		April 29, 2024	July 01, 2025
Dynamic Interchange Schedule or Dynamic Schedule		April 29, 2024	July 01, 2025
Frequency Bias Setting – (FBS)		April 29, 2024	July 01, 2025

Assessment Report 18 – Scope (4/8)

Changes to NERC Glossary of Terms

Continent-wide Term	Link to Project Page	FERC Approval Date	U.S. Effective Date
Frequency Error	Project 2022-01 Reporting ACE Definition and Associated Terms	April 29, 2024	July 01, 2025
Implemented Interchange		April 29, 2024	July 01, 2025
Inadvertent Interchange		April 29, 2024	July 01, 2025
Inadvertent Interchange Management (IIM)		April 29, 2024	July 01, 2025
Interchange Meter Error – (IME)		April 29, 2024	July 01, 2025
Net Interchange Schedule		April 29, 2024	July 01, 2025

Assessment Report 18 – Scope (5/8)

Changes to NERC Glossary of Terms

Continent-wide Term	Link to Project Page	FERC Approval Date	U.S. Effective Date
Net Scheduled Interchange	Project 2022-01 Reporting ACE Definition and Associated Terms	April 29, 2024	July 01, 2025
Operating Reserve – Spinning		April 29, 2024	July 01, 2025
Operating Reserve – Supplemental		April 29, 2024	July 01, 2025
Overlap Regulation Service		April 29, 2024	July 01, 2025
Pseudo-Tie		April 29, 2024	July 01, 2025
Ramp Rate or Ramp		April 29, 2024	July 01, 2025

Assessment Report 18 – Scope (6/8)

Changes to NERC Glossary of Terms

Continent-wide Term	Link to Project Page	FERC Approval Date	U.S. Effective Date
Regulation Service	Project 2022-01 Reporting ACE Definition and Associated Terms	April 29, 2024	July 01, 2025
Reporting Area Control Error - (Reporting ACE)		April 29, 2024	July 01, 2025
Reportable Balancing Contingency Event – (RBCE)		April 29, 2024	July 01, 2025
Reportable Disturbance		April 29, 2024	July 01, 2025
Reserve Sharing Group – (RSG)		April 29, 2024	July 01, 2025
Reserve Sharing Group Reporting ACE		April 29, 2024	July 01, 2025

Assessment Report 18 – Scope (7/8)

Changes to NERC Glossary of Terms

Continent-wide Term	Link to Project Page	FERC Approval Date	U.S. Effective Date
Scheduled Frequency	Project 2022-01 Reporting ACE Definition and Associated Terms	April 29, 2024	July 01, 2025
Scheduled Net Interchange – (NIS)		April 29, 2024	July 01, 2025
Supplemental Regulation Service		April 29, 2024	July 01, 2025
Tie Line Bias – (TLB)		April 29, 2024	July 01, 2025
Time Error – (TE)		April 29, 2024	July 01, 2025
Time Error Correction – (TEC)		April 29, 2024	July 01, 2025

Assessment Report 18 – Scope (8/8)

Changes to NERC Glossary of Terms

Continent-wide Term	Link to Project Page	FERC Approval Date	U.S. Effective Date
Fixed Fuel Supply Component	Project 2021-07 Extreme Cold Weather Grid Operations, Preparedness, and Coordination	June 27, 2024	October 01, 2024
Generator Cold Weather Constraint		June 27, 2024	October 01, 2024
Generator Cold Weather Critical Component		June 27, 2024	October 01, 2024
Generator Cold Weather Reliability Event		June 27, 2024	October 01, 2024
Extreme Cold Weather Temperature		June 27, 2024	October 01, 2024

Planning Coordinator Assessment – Scope (1/2)

Standards:

Standard	Title	Status
EOP-003-2	Load Shedding Plans	Not for assessment – <i>Held in abeyance but will be superseded by PRC-010-2. EOP-003-2 is retired in the US.</i>
FAC-001-4	Facility Interconnection Requirements	Revised
FAC-002-4	Facility Interconnection Studies	Revised
FAC-013-2	Assessment of Transfer Capability for the Near-Term Transmission Planning Horizon	Not for assessment – <i>Held in abeyance, retired in entirety without supersession in the US.</i>
MOD-032-1	Data for Power System Modeling and Analysis	New
MOD-033-2	Steady-State and Dynamic System Model Validation	New
PRC-006-5	Automatic Underfrequency Load Shedding	New
PRC-010-2	Undervoltage Load Shedding	Revised
PRC-012-2	Remedial Action Schemes	Revised
PRC-023-2	Transmission Relay Loadability	Revised
PRC-023-6	Transmission Relay Loadability	Revised
PRC-026-2	Relay Performance During Stable Power Swings	New
TPL-001-5.1	Transmission System Planning Performance Requirements	Revised
TPL-007-4	Transmission System Planned Performance for Geomagnetic Disturbance	New

Planning Coordinator Assessment – Scope (2/2)

NERC Glossary of Terms:

Term	FERC Approval Date	U.S. Effective Date
Special Protection System (Remedial Action Scheme)	23-Jun-16	01-Apr-17
Remedial Action Scheme	19-Nov-15	01-Apr-17
Under Voltage Load Shedding Program	19-Nov-15	01-Apr-17
Geomagnetic Disturbance Vulnerability Assessment	22-Sep-16	01-Jul-17



Assessment Report Feedback – Due Dates

Planning Coordinator

- PC Assessment Report feedback is due by end of day on **January 31, 2025** (Friday).

Assessment Report 18

- Assessment Report 18 feedback is due by end of day on **February 28, 2025** (Friday).

Where to find more information?

Standards, Glossary of Terms and Redlines can be found on the BC Hydro Reliability website:

- <https://www.bchydro.com/energy-in-bc/operations/transmission/transmission-system/reliability.html>



Providing Feedback

Vijay Raghunathan

CIP Engineering Team Lead, Compliance

BC Hydro



Registered Entity Feedback

Comments are evaluated against the following criteria:

- **Adverse Reliability Impacts:** Less stringent requirements than currently adopted standards or practices otherwise mandated in utility tariffs or business practices approved or endorsed by the BCUC.
- **Suitability Assessment (Technical/Administrative):**
 - a) Issues with requiring NERC Approval/Participation in order to implement.
 - b) Issues with ongoing provision of information to NERC or WECC due to a lack of clarity on reporting instructions, references to undefined processes or reporting tools, etc.
 - c) References to standards/glossary terms that are not yet FERC/BCUC approved or otherwise under BCUC assessment.
 - d) Any other issues that would affect an entity's ability to implement the requirements of a standard/glossary term (e.g., references to documents with no indication of where they are located, new functional registrations not accounted for in B.C.).



Registered Entity Feedback

Comments are evaluated against the following criteria (cont.):

- Only **Adverse Reliability Impact** or **Suitability Assessment** comments will be considered as part of BC Hydro's recommendations, as only they fall under the scope of the established Assessment Report process
- Examples of issues **NOT** falling under the criteria of **Adverse Reliability Impact** or **Suitability Assessment** comments include:
 - Issues with entity functional registrations
 - Requests to change standard language or glossary terms/definitions – the BCUC does not have the authority to change standards or glossary terms
- Other issues should be discussed with the BCUC separately



What Happens to Your Feedback?

MRS adoption recommendations are formed from registered entity submissions

In the Assessment Report, BC Hydro will:

- Aggregate and summarize all provided costs
- Recommend implementation timelines based on entity feedback in combination with FERC approved recommended implementation times



Planning Coordinator Implementation

Please make sure to review PC implementation times for all versions of Standards being assessed:

- PC Standards have evolved over time and have had successive implementation times in lead up to the latest version being assessed.
- Consider older versions of the Standard implementation plans to inform how long the PC requirements have taken to implement in the US and therefore how long it will take in B.C.
- Feedback spreadsheet has implementation details for each successive PC Standard version in lead up to the latest version being assessed.
- Only implementation timeframes for requirements identified for assessment should be considered.



Submission of Feedback

Your feedback is important in the evaluation process

- All feedback comments will be kept verbatim
- If your feedback seems unclear, BC Hydro will contact you and ask for revisions/clarification and resubmission
- BC Hydro will **NOT** make changes to entity feedback – feedback forms are taken verbatim and appended to the Assessment Report for BCUC's reference



Feedback Spreadsheet Walkthrough

Tom Graham,

Compliance Program Services

BC Hydro



How to Provide Feedback

Feedback spreadsheet walkthrough:

- All feedback needs to be entered into the provided spreadsheet against individual requirements
- Spreadsheet found on the BC Hydro Reliability website: <https://www.bchydro.com/energy-in-bc/operations/transmission/transmission-system/reliability.html>

Assessment 15 - O&P Standards Feedback											
Disclaimer: This information has been prepared as input into BC Hydro's Assessment 15 report on Mandatory Reliability Standards and is based on information available to BC Hydro as of the date sent. It should not be relied upon for any other purpose.											
Entity Name and Function											
INFORMATIONAL COLUMNS											
Standard	FERC Approved New/Revised/Retired Standard/Requirement - <i>Link to NERC site</i>	RSAW - <i>Link to NERC site</i>	Standard Name and Description	Current BCUC Standard - <i>Search: https://www.bcuc.com/OurWork/Proceedings</i>	FERC Approved Revision - <i>Redline documents found here: https://www.bchydro.com/energy-in-bc/operations/transmission/transmission-system/reliability.html</i>	FERC Approved Revision Mapping Document - <i>Link to mapping document</i>	Functional Applicability of FERC Approved Standards/Requirements	FERC Order No. or Letter - <i>Link to Federal Register</i>	Effective Date of FERC Rule Approving the Standard	FERC Approved Standard/Requirement Implementation Time - <i>Link to NERC Implementation Plan</i>	US Enforcement Date
BAL-002-WECC-3	BAL-002-WECC-3 R1	Not available	Contingency Reserve To specify the quantity and types of Contingency Reserve required to ensure reliability under normal and abnormal conditions.	BAL-002-WECC-2a Assessment 10 Order: R-39-17	BAL-002-WECC-3 Redline R1. No change	N/A	BA, RSG	Docket No. RM19-20-000 Approving Standard BAL-002-WECC-3	2021-06-28	Effective immediately on receipt of regulatory approval.	2021-06-28
BAL-002-WECC-3	BAL-002-WECC-3 R2	Not available	Contingency Reserve To specify the quantity and types of Contingency Reserve required to ensure reliability under normal and abnormal conditions.	BAL-002-WECC-2a Assessment 10 Order: R-39-17	BAL-002-WECC-3 Redline R2. Reserved (requirement retired)	N/A	BA, RSG	Docket No. RM19-20-000 Approving Standard BAL-002-WECC-3	2021-06-28	Effective immediately on receipt of regulatory approval.	2021-06-28



In Summary

Your feedback is important in the evaluation process:

- B.C. has a separate assessment process and timeline subsequent to the U.S. adoption of Standards
- Every year BC Hydro, with feedback from Registered Entities, reviews new/revised FERC approved Mandatory Reliability Standards assessing the suitability for adoption in B.C. and files a report with the BCUC
- Additionally, for this year there is a Planning Coordinator (PC) assessment
- **Deadline for feedback is:**
 - **Planning Coordinator Assessment – End of day January 31, 2025**
 - **Assessment Report 18 - End of day February 28, 2025**
- Feedback received after this date will **NOT** be considered
- The BCUC must adopt the MRS assessed in the report unless after a hearing it determines that the MRS is not in the public interest





Sources of Information

- BC Hydro.com Reliability Page: <https://www.bchydro.com/energy-in-bc/operations/transmission/transmission-system/reliability.html>
- BCUC MRS website: <https://www.bcuc.com/WhatWeDo/MRS>
- BCUC website for Current and archived MRS orders: <https://www.bcuc.com/OurWork/Proceedings>
- BCUC Mandatory Reliability Standards Planning Coordinator function registration and Planning Coordinator Issues proceeding: [BCUC MRS PC function registration and PC Issues - BCUC](#)
- Mandatory Reliability Standards Planning Coordinator Assessment Report: [BC Hydro MRS Planning Coordinator Assessment Report - BCUC](#)
- NERC website: <https://www.nerc.com/pa/Stand/Pages/default.aspx>
- WECC website: www.wecc.org
- Western Interconnection Forum (WICF): <http://www.wicf.biz/>



Thank You!

If further information is required or there are any further questions, please contact:

BCUC – MRS@bcuc.com

BC Hydro – BCHydroReliabilityStandards@bchydro.com

Questions?



