



# AESO Reliability Standards Monthly Report

October 2010

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## Comments/Questions

For comments or questions about the reliability standards or  
 To submit comments on NERC or WECC reliability standards for AESO consideration contact:

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## Related Links

- [NERC Standards Development](#)
- [WECC Standards Development](#)
- [AESO Reliability Standards Monthly Reports](#)
- [AESO Reliability Committee](#)
- [Alberta Reliability Standards](#)

## In This Issue

The Reliability Standards Monthly Report provides an overview of the AESO's activities related to NERC and WECC standards, business practices and criterion that are posted for review, comment or balloting.

The AESO consults with internal subject matter experts, members of the [AESO Reliability Committee \(ARC\)](#) working groups and the Standards Review Committee (SRC) of the ISO/RTO Council (IRC) when responding to NERC and WECC on the standards.

The report also includes a summary of ARC and its work group activities associated with reliability standards.

## NERC Standards

Standard	Name/Description	Status	Due Date
<a href="#">TPL-001 to 004</a>	Table 1 Order Footnote 'b'	Comment Period Ended	2010-10-08
<a href="#">PRC-023-2 Attachment 'b'</a>	Transmission Relay Loadability	Comment Period Ended	2010-10-12
<a href="#">PRC-005-2 Definition</a>	Transmission and Generation Protection System Maintenance and Testing	Comment and Ballot Period Ended	2010-10-14
<a href="#">EOP-004-2</a>	Impact Event and Disturbance Assessment, Analysis, and Reporting	Comment Period Ended	2010-10-15
<a href="#">PRC-006-1</a> <a href="#">EOP-003-1</a>	Underfrequency Load Shedding and Load Shedding Plans	Recirculation Ballot Ended	2010-10-28
<a href="#">CIP-002-4</a>	Critical Cyber Asset Identification	Comment Period and Ballot Period	2010-11-03
<a href="#">FAC-013-2</a>	Planning Transfer Capability	Comment Period and Ballot Period	2010-11-03

## WECC Standards and Criterion

Standard or Criterion	Name/Description	Status	Due Date
<a href="#">WECC-0065</a> <a href="#">UFLS Plan</a>	Under Frequency Load Shedding	Comment Period	2010-10-21
<a href="#">WECC-0046</a> <a href="#">VAR-001-</a> <a href="#">WECC-1</a>	Voltage and Reactive Control	Comment Period	2010-10-25
<a href="#">WECC-0055</a> <a href="#">PRC-012</a> <a href="#">through 14-</a> <a href="#">WECC-CRT-1</a>	Remedial Action Scheme	Comment Period	2010-10-25
<a href="#">WECC-0070</a> <a href="#">PRC-301-</a> <a href="#">WECC-CRT-1</a>	Governor Droop Setting	Comment Period	2010-11-15
<a href="#">WECC-0049</a> <a href="#">EOP-007-</a> <a href="#">WECC-CRT-1</a>	Blackstart Capability and Blackstart Unit Testing Plan	Comment Period	2010-11-19
<a href="#">WECC-0064</a>	WIT Checkout Confirmation	Comment Period	2010-12-01



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## Alberta Reliability Standards Under Development

The ARS schedule is currently under review and will be published in the next edition of the AESO Reliability Standards Monthly Report.

## Reliability Committee and Work Group Highlights

**AESO Reliability Committee (ARC)** – The ARC met on June 28, 2010. Six standards were approved to proceed towards stakeholder consultation and one standard was recommended as not applicable in Alberta. There will be a meeting in Q4. [More...](#)

**Operations Work Group** – Future meetings will be scheduled as required. [More...](#)

**Technical Work Group** – Future meetings will be scheduled as required. [More...](#)

**Transmission Planning Work Group** – Future meetings will be scheduled as required. [More...](#)

**Security Work Group** – The SWG met on October 20. Status updates were given on the development of the ARS versions of CIP-002, 003, 004, 005, 006 & 007. The group continued review of CIP-008, CIP-009 and CIP-TFE. The next meeting is scheduled for November 23. [More...](#)

**Compliance Work Group** – The implementation phase work of the CWG is complete. Additional meetings of the CWG will be scheduled as required. [More...](#)

**Standards Review Committee (SRC) of ISO/RTO Council** - The SRC holds biweekly teleconferences and quarterly meetings to discuss and review the current NERC standards posted for review and to draft group responses to them. The next quarterly meeting, hosted by the California ISO, will occur on January 5 and 6, 2011.



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## TPL-001 to 004 — Table 1 Order Footnote 'b'

### **Purpose:**

Second draft posting of the revised Footnote 'b', included in TPL-001 to 004.

### **Current Standard:**

The Version 0 standards were adopted by NERC Board of Trustees: October 29, 2008 and became effective May 13, 2009.

### **Proposed Standard:**

FERC Order RM06-16-009 requires NERC to clarify TPL-002-0, Table 1 - footnote 'b,' regarding the planned or controlled interruption of electric supply where a single contingency occurs on a transmission system and originally directed NERC to file the revised standards by June 30, 2010. To meet this directive a proposed revision was posted for "Urgent Action" and balloted from May 17-27, 2010. The proposed revision achieved a quorum (84%) and almost enough affirmative votes (64%) to achieve weighted segment approval; however many balloters provided comments indicating the need for additional modifications. Following the initial ballot, FERC extended the due date to March 31, 2011; thus the project is no longer considered "Urgent Action."

The drafting team developed a second draft of the proposed revision to TPL Table 1 footnote 'b' that reflects consideration of the comments received from industry on the initial ballot and the inputs received from the Technical Conference held on August 10, 2010. The second draft allows interruption of demand without numerical constraints where the application is subject to review and acceptance in an open and transparent stakeholder process.

Because Table 1 appears in TPL-001, TPL-002, TPL-003, and TPL-004, the change is reflected in all four standards.

### **Applicability:**

Planning Authority, Transmission Planner

### **Current Status:**

The revised footnote was posted for comment until October 8. The AESO submitted group comments as a member of the Standards Review Committee (SRC) of the ISO/RTO Council. The comments can be seen using the link below.

### **NERC Link:**

[Footnote 'b'](#)



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## CIP-002-1 – Critical Cyber Asset Identification

### **Purpose:**

Request for Interpretation by Duke Energy.

### **Standard:**

The standard has an effective date of June 1, 2006.

### **Request and Interpretation:**

Question 1) In R3, is the phrase “Examples at control centers and backup control centers include systems and facilities at master and remote sites that provide monitoring and control, automatic generation control, real-time power system modeling, and real-time inter-utility data exchange” meant to be prescriptive, i.e., that any and all systems and facilities utilized in monitoring and control, automatic generation control, real-time power system modeling, and real-time inter-utility data exchange, must be classified as Critical Cyber Assets, or is this phrase simply meant to provide examples of the types of systems that should be assessed for inclusion in the list of Critical Cyber Assets using an entity’s critical cyber asset methodology?

NERC Response 1) The phrase “Examples at control centers and backup control centers include systems and facilities at master and remote sites that provide monitoring and control, automatic generation control, real-time power system modeling, and real-time inter-utility data exchange” is not intended to be prescriptive. It simply provides examples of the types of Cyber Assets that should be considered. It does not imply that the items listed must be classified as Critical Cyber Assets, nor is it intended to be an exhaustive list of Critical Cyber Asset types.

Question 2) What does the phrase, “essential to the operation of the Critical Asset” mean? If an entity has an asset that “may” be used to operate a Critical Asset, but is not “required” for operation of that Critical Asset, is the asset considered “essential to the operation of the Critical Asset”? Remote access to the systems is valuable to operations (see Material Impact Statement below), but operation of the Critical Asset is not literally dependent on these laptops.

NERC Response 2) The phrase “essential to the operation of the Critical Asset” means that the Critical Cyber Asset is used to perform a function essential to the operation of the Critical Asset. For example, in a control center, a human-to-machine interface such as an operator console is used to perform the essential function of operator-assisted remote control. Similarly, any Cyber Asset, when used to perform a function essential to the operation of the Critical Asset, becomes a Critical Cyber Asset.

### **Applicability:**

Reliability Coordinator, Balancing Authority, Interchange Authority, Transmission Service Provider, Transmission Owner, Transmission Operator, Generator Owner, Generator Operator, Load Serving Entity, NERC and RRO.

### **Current Status:**

The interpretation was posted for comment until October 8. The AESO did not submit comments.

### **NERC Link:**

[CIP-002 – 1 RFI](#)



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## PRC-023-2 - Transmission Relay Loadability

### **Purpose:**

Attachment B of PRC-023-2 posted for comment.

### **Current Standard:**

On March 18, 2010 FERC issued Order No. 733 which approved Reliability Standard PRC-023-1 – Transmission Relay Loadability, and also directed NERC to develop certain modifications to the PRC-023-1 standard through its Reliability Standards development process.

### **Proposed Standard:**

PRC-023 – Attachment B provides a set of criteria for the Planning Coordinator to use in determining which of the facilities (transmission lines operated below 200 kV and transformers with low voltage terminals connected below 200 kV) in its Planning Coordinator Area are critical to the reliability of the bulk electric system to identify the facilities below 200 kV that must meet specific relay loadability criteria. The criteria proposed in Attachment B were under field test and not available to the drafting team when the team prepared the other modifications to PRC-023-1 that were posted through September 19, 2010.

### **Applicability:**

Distribution Providers that own specific facilities, Generator Owners that own specific facilities, Transmission Owners that own specific facilities (see the standard for details) and Planning Coordinators

### **Current Status:**

The attachment was posted for comment until October 12. The AESO submitted group comments as a member of the SRC. The comments can be seen using the link below.

### **NERC Link:**

[PRC-023-2](#)



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## PRC-005-2 - Protection System Maintenance and Testing

### **Purpose:**

Revised definition, posted for comment and ballot.

### **Current Standard:**

PRC-005-2 is currently being developed by NERC.

### **Proposed Definition:**

When the Board of Trustees was asked to approve an interpretation of PRC-005-1 that was written by the Protection System and Maintenance Standard Drafting Team, the board acknowledged the reliability gap identified by the drafting team caused by the definition of "protection system" and directed that work to close this reliability gap should be given "priority." The Standards Committee directed the team to advance the definition of Protection System in parallel with the development of PRC-005-2.

### **Applicability:**

Transmission Owners, Generator Owners, Distribution Providers

### **Current Status:**

The proposed definition of "Protection System" was posted for comment until October 12 and ballot until October 14. The AESO submitted group comments as a member of the SRC. The comments can be seen using the link below. The AESO voted in favour of the proposed definition. There were negative votes with comments, which results in a recirculation ballot.

### **NERC Link:**

[Protection System Maintenance and Testing](#)



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## EOP-004-2 - Impact Event and Disturbance Assessment, Analysis, and Reporting

### **Purpose:**

Draft 1 Standard, posted for comment.

### **Current Standards:**

CIP-001-1 deals with sabotage reporting and EOP-004 -1 deals with disturbance reporting.

### **Proposed Standard(s):**

This project involves revising existing standards CIP-001-1 — Sabotage Reporting and EOP-004-1 — Disturbance Reporting to eliminate redundancies and provide clarity on sabotage events. The project will address several issues identified by stakeholders, as well as FERC directives from Order 693, including a directive to provide greater clarity to requirements associated with “sabotage.”

EOP-004-2 was drafted using the “results-based” criteria for developing a reliability standard. The results-based approach includes considerably more emphasis on the “concepts and assumptions” underlying the development of requirements and goes beyond the steps most drafting teams have previously used when developing a standard. Accordingly, the “look and feel” of a results-based standard is quite different than NERC’s existing standards. However, at the core is a set of mandatory and enforceable requirements with useful guidance supporting these requirements, an approach NERC’s legal counsel has reviewed and finds acceptable.

### **Applicability:**

Reliability Coordinator, Balancing Authority, Transmission Operator, Transmission Owner, Generator Operator, Generator Owner, Load-Serving Entity, Regional Reliability Organization

### **Current Status:**

The draft standard was posted for comment until October 15. The AESO submitted group comments as a member of the SRC. The comments can be seen using the link below.

### **NERC Link:**

[Sabotage and Disturbance Reporting](#)



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## PRC-006-1 – Underfrequency Load Shedding EOP-003-1- Load Shedding Plans

### **Purpose:**

Revised Standards, posted for recirculation ballot.

### **Current Standards:**

PRC-006-0, PRC-007-0 and PRC-009-0 are the current standards dealing with Underfrequency Load Shedding (UFLS). EOP-003-1 has been in effect since January 1, 2007.

### **Proposed Standard:**

If the proposed changes are adopted PRC-006-1 will be the only NERC standard dealing with UFLS and standards PRC-007-0 and PRC-009-0 will be retired.

The revised standard will:

1. Ensure UFLS programs are developed that meet the requirements of the proposed continent wide standard to provide an appropriate level of reliability (not least common denominator).
2. Ensure that the standard is enforceable with clearly defined requirements and unambiguous language.
3. Address the issues raised by FERC Order 693 and other applicable orders.
4. Address the issues raised in the original Standards Authorization Request (SAR) for this project.
5. Address coordination between underfrequency load shedding and generator trip settings during frequency excursions.

EOP-003-1 will ensure that a Balancing Authority and Transmission Operator operating with insufficient generation or transmission capacity will have plans in place to shed load rather than risk an uncontrolled failure of the Interconnection.

### **Applicability:**

Regional Reliability Organization, Transmission Owner, Transmission Operator, Distribution Provider, Load-Serving Entity

### **Current Status:**

The standards are posted for recirculation ballot until October 28. The AESO voted affirmative. The standards were approved in the recirculation ballot.

### **NERC Link:**

[UFLS](#)



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## CIP-002-4 - Cyber Security — Critical Cyber Asset Identification

### **Purpose:**

Draft 2 Standard, posted for comment and ballot.

### **Current Standard:**

CIP-002-3 was approved by the NERC BOT on December 19, 2009.

### **Proposed Standard:**

The proposed CIP-002-4 is written to improve on CIP-002-3 by including a specific list of criteria for entities to use in identifying their critical assets.

The previously approved versions of CIP-002 relied on entities to develop their own critical asset identification methodology, and have led to unequal assessments of critical assets between entities in a region, and between regions. This subjectivity has led some external observers to question how assessments were produced, and has contributed to distrust of the entire critical asset identification process. The revised standard provides uniformity to the critical asset identification process for all entities as well as uniformity and predictability to the audit process. As envisioned, each entity will apply the criteria against its assets to determine exactly which side of the “bright-line” they fall. The bright-line thresholds are justified based on overall impact to Bulk Electric System reliability, adding further clarity to the critical asset identification process. The bright-line criteria were developed based on stakeholder comments on CIP-010.

### **Applicability:**

Reliability Coordinator, Balancing Authority, Interchange Authority, Transmission Service Provider, Transmission Operator, Transmission Owner, Generator Operator, Generator Owner, Load-Serving Entity, Regional Entity, NERC

### **Current Status:**

The draft standard was posted for comment until November 3. There was a ballot during the last 10 days of the posting. The AESO cast an Abstain ballot. The ballot body did not approve the standard.

### **NERC Link:**

[Critical Cyber Asset Identification](#)



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## FAC-013-2 - Planning Transfer Capability

### **Purpose:**

Draft 2 Standard, posted for comment and ballot.

### **Current Standard:**

FAC-013-1 was NERC BOT approved on February 7, 2006 and became effective October 7, 2006.

### **Proposed Standard:**

In Order 729, FERC ruled that the ATC standards developed in Project 2006-07 did not completely address the topics covered in FAC-012 and -013 and did not fully address the associated directives from Order 693. Accordingly, FERC denied the portions of the implementation plan that would have retired these standards, and instead directed NERC to use the standards development process to make changes to the FAC standards and file those changes with FERC no later than 60 days prior to the effective date of the standards, which is April 1, 2011 (requiring the proposed changes to be filed on or before January 31, 2011).

A second draft of the proposed standard has been developed that attempts to address the applicable FERC directives (listed in the SAR) as well as to address concerns raised by the industry during the first posting.

### **Applicability:**

Planning Coordinator

### **Current Status:**

The standard was posted for comment until November 3. There was a ballot during the last 10 days of the posting. The AESO cast an Abstain ballot. The ballot body did not approve the standard.

### **NERC Link:**

[Planning Transfer Capability](#)



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## WECC-0065 Under Frequency Load Shedding

### **Purpose:**

Draft WECC UFLS Plan, posted for comment.

### **Current Criterion:**

There is a new criterion.

### **Proposed Criterion:**

WECC is required to develop, coordinate, and document an Under Frequency Load Shedding program that must include a number of specified features. Currently, WECC meets this Requirement through the WSCC Coordinated Off-Nominal Frequency Load Shedding and Restoration Plan (Plan). NERC PRC-006-0, R1.4 requires that assessment of the Plan shall be conducted periodically but no less than every five years or as required by changes in system condition. The Plan is currently in need of review. Fulfillment of this Request would meet the NERC PRC-006-0 "fill-in-the-blank" requirements.

### **Applicability:**

Balancing Authority

### **Current Status:**

A questionnaire for comments was posted until October 21. The AESO did not submit comments.

### **WECC Link:**

[UFLS](#)



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## **VAR-001-WECC-1 - Voltage and Reactive Control**

### **Purpose:**

Draft 3 Standard, posted for comment.

### **Current Standard:**

Applicable WECC entities must follow the NERC standard, VAR-001-1.

### **Proposed Standard:**

The proposed standard will to ensure that 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 Western Interconnection.

### **Applicability:**

Generator Operators, Transmission Operators

### **Current Status:**

The third draft of VAR-001-WECC-1 was posted for comment until October 25. The AESO did not submit comments.

### **WECC Link:**

[Voltage and Reactive Control](#)

**WECC-0055  
PRC-012 through 14-WECC-CRT-1- Remedial Action Scheme Criterion**

**Purpose:**

Draft 2 Criterion, posted for comment.

**Current Criterion:**

There is a new criterion.

**Proposed Criterion:**

The criterion is being developed in order to more efficiently comply with NERC Reliability Standards, specifically PRC-012-0 – Special Protection System Review Procedure, PRC-013-1 – Special Protection System Database, and PRC-014-0 – Special Protection System Assessment.

**Applicability:**

Reliability Assurer (WECC), Generator Owner, Transmission Owner, Distribution Provider

**Current Status:**

A questionnaire for comments was posted until October 25. The AESO did not submit comments.

**WECC Link:**

[RAS](#)



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## WECC-0070 Governor Droop Setting Criterion

**Purpose:**

Draft 1 Criterion, posted for comment.

**Current Criterion:**

There is a new criterion.

**Proposed Criterion:**

The objective is to develop a regional criterion as a replacement to current MORC Section 1.C.2. The ORCWG recommends that a criterion be developed to address governor droop settings. The drafting team should develop a governor droop criteria that contain a range for droop settings and/or if appropriate an area (system) droop performance requirement.

**Applicability:**

Generator Owners

**Current Status:**

A questionnaire for comments is posted until November 15.

**WECC Link:**

[Governor Droop Setting](#)

**WECC-0049**  
**EOP-007-WECC-CRT-1 - Blackstart Capability and Blackstart Unit Testing Plan**

**Purpose:**

Draft 3 Criterion, posted for comment.

**Current Criterion:**

There is no current WECC Blackstart Testing criterion.

**Proposed Criterion:**

The Blackstart Testing Criteria has been developed to provide WECC members with consistent, minimum test requirements for Black Start and System Restoration Resources. These two terms are defined in the proposed criterion. The test requirements will demonstrate that generators used as Black Start or System Restoration Resources can, when called on to do so, energize the Bulk Electric System or provide generation to restore critical infrastructure and load.

**Applicability:**

Reliability Assurer (WECC), Generator Operator of Blackstart Resource(s) identified in the WECC Blackstart Capability Plan Database as created in this criterion and Transmission Operator of Blackstart Resource(s) identified in the WECC Blackstart Capability Plan Database as created in this criterion.

**Current Status:**

A questionnaire for comments is posted until November 19.

**WECC Link:**

[Blackstart Testing](#)

## WECC-0064 - WIT Checkout Confirmation

**Purpose:**

Draft 2 of the proposed criterion, posted for comment.

**Current Criterion:**

This is a new proposed criterion.

**Proposed Criterion:**

WECC-0064 establishes requirements for the Reliability Assurer to provide an electronic means for Net Scheduled Interchange (NSI) and Net Actual Interchange (NAI) checkout and for Balancing Authorities (BA) to use the electronic checkout as the primary means of documenting completion of checkout for all horizons. It includes some provision for checkout alternatives, pre-checkout requirements, and a requirement for BAs to submit NAI data to the Western Interchange Tool.

**Applicability:**

Balancing Authority, Interchange Authority, Reliability Assurer

**Current Status:**

The criterion is posted for comment until December 1.

**WECC Link:**

[WIT Checkout Confirmation](#)