



2008-04-29

## **DRAFT - AESO Reliability Committee (ARC) WORK GROUP Terms of Reference**

### **Purpose**

The AESO Reliability Committee (ARC) work groups shall provide detailed analysis and advice to the ARC on the detailed requirements on standards, criteria, procedures, rules and processes regarding maintenance, security and reliability matters, that are being established in compliance with sections 5(3), 5(4) and 19(4)(a) of the Transmission Regulation (AR 86 / 2007).

The ARC work groups shall receive assignments from the AESO and shall report their results to the ARC in a timely manner.

### **Work Group Membership**

The ARC Work Groups will be chaired by the AESO.

ARC members shall assign appropriate resources to participate in ARC Work Groups.

ARC Work Group members are expected to be senior level personnel with appropriate expertise.

Any market participant that is directly affected by a standard assigned to an ARC Work Group may attend meetings and participate in the activities of that work group.

### **Principles for Review of Standards**

As determined to be applicable and practicable for implementation in Alberta, that the NERC and Regional Reliability Standards as approved by the NERC Board of Trustees be accepted as written.

To the extent practicable, assign responsibilities in the standard requirements to Alberta entities in accordance with AESO's mapping of the NERC Functional Model to the Alberta Reliability Framework.

Implementation of the NERC and Regional Reliability Standards should not impact market design in Alberta.

Compliance enforcement and assessments of sanctions is within the purview of the AUC and is not part of the review of the standards by the ARC work groups.

### **Work Group Scope and Duties**

Work groups shall

- provide input to the review of NERC/WECC reliability standards except for the BAL and INT standards that apply only to the AESO and input to AESO-developed standards to be considered for approval in Alberta.
- provide input necessary to implement standards in Alberta including,
  - o identifying the AESO and market participants responsible for complying with each of the standard requirements,
  - o recommending applicability of the standard in Alberta.
  - o recommending alternate standard requirements as appropriate.
  - o an Alberta interpretation of standard requirements as necessary.
  - o reviewing measures and identifying measures as necessary for each standard requirement and responsible entity type.
  - o identifying the portion of a requirement that a responsible entity is to fulfill if clarification is required.
  - o monitoring mechanisms to verify compliance with Alberta-approved standards, and
  - o developing operational plans or technical standards to ensure requirements of the standards are implemented.
- assist the AESO in fulfilling its public interest mandate and duty to consult with industry on appropriate matters
- consider input from all applicable entities that will create the most efficient and effective reliability practices and rules for Alberta
- document issues that are identified by the work group but do not directly apply to the standards assigned to the work group to ensure they get captured for further action, as required.

### **Suggested Work Groups**

#### Operations Work Group

Will be assembled to review reliability standards pertaining to operating the Alberta Interconnected Electric System and is comprised of representation as required from the following responsible entities: AESO, TFOs, GFOs, PPA Owners and Buyers, DFOs, Retailers and Transmission Connect End-use Customers.

Chair – Jerry Mossing

AESO alternate – Doug Hincks

Refer to Appendix A for an initial list of proposed standards<sup>1</sup> to be reviewed by this work group.

#### Technical Work Group

Will be assembled to review reliability standards pertaining to the technical requirements of the Alberta Interconnected Electric System and is comprised of representation as required from the following responsible entities: AESO, TFOs, GFOs, DFOs and PPA Owners and Buyers.

Chair – Dan Shield

AESO alternate – Fred Ritter

Refer to Appendix B for an initial list of proposed standards<sup>1</sup> to be reviewed by this work group.

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<sup>1</sup> On an ongoing basis the AESO will maintain a list of standards that are being reviewed.

#### Marketer Work Group

Will be assembled as required to address reliability standards pertaining to the operation of the energy market and interchange transactions where Marketers are a responsible entity.

Chair – Laura Letourneau

AESO alternate – Doug Simpson

Refer to Appendix C for an initial list of proposed standards<sup>1</sup> to be reviewed by this work group.

#### Security Work Group

Will be assembled to review reliability standards pertaining to the security requirements of the Alberta Interconnected Electric System facilities and cyber assets and will be comprised of representation as required from: AESO, TFOs, GFOs, PPA Owners and Buyers.

Chair – Garry Spicer

AESO alternate – Doug Hincks

Refer to Appendix D for an initial list of proposed standards<sup>1</sup> to be reviewed by this work group.

#### Compliance Monitoring Work Group

The scope of this work group is to be defined later.

#### Transmission Planning Work Group

Will be assembled to review reliability standards pertaining to transmission planning requirements and is comprised primarily of representation from the AESO and is open to participation from interested Alberta participants.

Chair – Jeff Billinton

AESO alternate – Neil Brausen

Refer to Appendix E for an initial list of proposed standards<sup>1</sup> to be reviewed by this work group.

#### Other

Refer to Appendix F for an initial list of proposed standards<sup>1</sup> to be reviewed internally by the AESO or to be assigned to a work group.

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#### **Terms of Engagement**

1. Work groups will determine their own meeting dates and timelines. Meeting agenda will be prepared and communicated in advance to provide market participants with opportunity to decide whether their attendance is required at a work group meeting. Work groups are expected to meet at least once between each ARC meeting and potentially as often as weekly, depending on workload.
2. Members are expected to dedicate time to participate in work group meetings and review material prior to meetings,
3. Members must participate within the scope and duties as outlined above,

4. Work groups output will be submitted to the ARC for review and resulting recommendations will be considered by the AESO to establish appropriate standards, processes and rules. The AESO will make decisions consistent with its mandate, policy and legislation considering the input and advice provided by the ARC. The rationale for decisions will be communicated.
5. The activities of the work groups and related documents will be communicated to the stakeholders by the AESO as appropriate.
6. Member concerns shall be summarized in written form by the contributor to the Work Group chair and will be shared with all stakeholders (i.e. posted to AESO Website) unless this is not in the public interest due to confidentiality or security reasons.
7. A member or a representative of any work group will not be precluded from participating in the AESO's Rules process or ultimately participating in any related AUC proceeding.
8. In cases where an assigned standard or a requirement of a standard may apply to a different work group, the work group assigned to review the standard may ask another work group to review one or more elements of that standard.

#### **Appendix A. Standards proposed for the Operations Work Group**

- All COM Standards – Communications
- All EOP Standards – Emergency Preparedness and Operations
- FAC-010 System Operating Limits Methodology for the Planning Horizon  
[\(TPWG to assess FAC-010\)](#)
- FAC-011 System Operating Limits Methodology for the Operations Horizon
- FAC-012 Transfer Capability Methodology
- FAC-013 Establish and Communicate Transfer Capabilities
- FAC-014 Establish and Communicate System Operating Limits
- All IRO Standards – Interconnection Reliability Operations and Coordination (will involve Marketer work group as required)
- All MOD Standards – Data and Analysis (will involve Technical work group as required)
- All PER Standards - Personnel, Performance, Training and Qualifications
- PRC-001 System Protection Coordination
- PRC-STD-001 Certification of Protective Relay Applications and Settings
- PRC-002 Define and Document Disturbance Monitoring Equipment Requirements
- PRC-003 Regional Procedure for Analysis of Misoperations of Transmission and Generation Protection Systems
- PRC-STD-003 Protective Relay and Remedial Action Scheme Misoperation
- PRC-004 Analysis and Mitigation of Transmission and Generation Protection System Misoperations
- PRC-005 Transmission and Generation Protection System Maintenance and Testing

- PRC-006 Development and Documentation of Regional UFLS Programs
- PRC-007 Assuring Consistency with Regional UFLS Program Requirements
- PRC-008 UFLS Equipment Maintenance Programs
- PRC-009 UFLS Performance Following an Underfrequency Event
- PRC-010 Assessment of the Design and Effectiveness of UVLS Program
- PRC-011 UVLS System Maintenance and Testing
- PRC-012 Special Protection System Review Procedure
- PRC-013 Special Protection System Data Base
- PRC-014 Special Protection System Assessment
- PRC-015 Special Protection System Data and Documentation
- PRC-016 Special Protection System Data Misoperations
- PRC-017 Special Protection System Maintenance and Testing
- PRC-018 Disturbance Monitoring Equipment Installation and Data Reporting
- PRC-020 UVLS Program Database
- PRC-021 UVLS Program Data
- PRC-022 UVLS Program Performance
- PRC-STD-001 Certification of Protective Relay Applications and Settings
- PRC-STD-003 Protective Relay and Remedial Action Scheme Misoperation
- All TOP Standards - Transmission Operations
- All VAR Standards – Voltage and Reactive Control
- VAR-STD-002a Automatic Voltage Regulators
- VAR-STD-002b Power System Stabilizer

#### **Appendix B. Standards proposed for the Technical Work Group**

- FAC-001 Facility Connection Requirements
- FAC-002 Coordination of Plans for New Facilities
- FAC-003 Transmission Vegetation Management Program
- FAC-008 Facility Ratings Methodology
- FAC-009 Establish and Communicate Facility Ratings
- MOD-013 – RRO Dynamics Data Requirements and Reporting Procedures
- PRC-001 System Protection Coordination
- PRC-STD-001 Certification of Protective Relay Applications and Settings
- PRC-002 Define and Document Disturbance Monitoring Equipment Requirements
- PRC-018 Disturbance Monitoring Equipment Installation and Data Reporting
- PRC-STD-005 Transmission Maintenance (WECC Paths)

#### **Appendix C. Standards proposed for the Marketer Work Group**

Called upon as required for INT and IRO standards.

#### **Appendix D. Standards proposed for the Security Work Group**

All CIP Standards – Critical Infrastructure Protection

#### **Appendix E. Standards proposed for the Transmission Planning Work Group**

- All TPL Standards – System Performance

- [FAC-010 System Operating Limits Methodology for the Planning Horizon](#)
- [Jointly assess the following standards with the Technical Work Group:](#)
  - [FAC-002 Coordination of Plans for New Facilities \(Technical Work Group\)](#)
- [Jointly assess the following standards with the Operations Work Group:](#)
  - [FAC-012 Transfer Capability Methodology \(Operations Work Group\)](#)
  - [FAC-013 Establish and Communicate Transfer Capabilities \(Operations Work Group\)](#)
  - [FAC-014 Establish and Communicate System Operating Limits \(Operations Work Group\)](#)

**Appendix ~~E~~. Standards proposed to be reviewed internally by the AESO**

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- All BAL Standards – Resource and Demand Balancing
- All INT Standards – Interchange Scheduling and Coordination (may involve Marketer work group as required)