

Alberta Reliability Standard

Operations Personnel Training

PER-005-AB1-2

A. Introduction

1. Title: Operations Personnel Training
2. Number: PER-005-AB1-2
3. Purpose: To ensure that personnel performing or supporting real-time operations on the **bulk electric system** are trained using a systematic approach.
4. Applicability:
 - 4.1. Functional Entities:
 - 4.1.1. the **ISO**;
 - 4.1.2. the **operator** of a **transmission facility** that is part of the **bulk electric system**;
 - 4.1.3. the **legal owner** of a **transmission facility** that is part of the **bulk electric system** that has:
 - 4.1.3.1. personnel, excluding field switching personnel, who can act independently to operate or direct the operation of the **transmission facilities** that are part of the **bulk electric system** in real-time.
 - 4.1.4. the **operator** of a **generating unit**, **operator** of an **aggregated facility**, and **operator** of an **energy storage resource** that is part of the **bulk electric system** that has:
 - 4.1.4.1. real-time operating personnel at a centrally located control room who receive specific instructions from the **ISO**, the **operator** of a **transmission facility**, or the **legal owner** of a **transmission facility**, and may develop specific instructions for operating personnel under their control. Real-time operating personnel do not include operating personnel located at a plant or facility site or personnel at a centrally located control room who relay instructions without making any modifications.
5. Effective Date: The later of (i) July 1, 2029, and (ii) the first **day** of the first calendar quarter 24 **months** following **Commission** approval

B. Requirements and Measures

- R1. The **ISO** and each **operator** of a **transmission facility** must use a systematic approach to develop and implement a training program for its real-time operating personnel as follows: *[Alberta Risk Rating: Medium] [Time Horizon: Long-term Planning]*
 - 1.1. The **ISO** and each **operator** of a **transmission facility** must create a list of **bulk electric system** company-specific real-time **reliability**-related tasks based on a defined and documented methodology.

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- 1.1.1. The **ISO** and each **operator** of a **transmission facility** must review, and update if necessary, its list of **bulk electric system** company-specific real-time **reliability**-related tasks identified in Requirement R1, Part 1.1 each calendar year.
 - 1.2. The **ISO** and each **operator** of a **transmission facility** must design and develop training materials according to its training program, based on the **bulk electric system** company-specific real-time **reliability**-related task list created in Requirement R1, Part 1.1.
 - 1.3. The **ISO** and each **operator** of a **transmission facility** must deliver training to its real-time operating personnel according to its training program.
 - 1.4. The **ISO** and each **operator** of a **transmission facility** must conduct an evaluation each calendar year of the training program established in Requirement R1 to identify any needed changes to the training program and must implement the changes identified.
- M1.** The **ISO** and each **operator** of a **transmission facility** must have available for inspection evidence of using a systematic approach to develop and implement a training program for its real-time operating personnel, as specified in Requirement R1.
- 1.1. The **ISO** and each **operator** of a **transmission facility** must have available for inspection its methodology and its **bulk electric system** company-specific real-time **reliability**-related task list, with the date of the last review, as specified in Requirement R1, Part 1.1 and Part 1.1.1.
 - 1.2. The **ISO** and each **operator** of a **transmission facility** must have available for inspection training materials, as specified in Requirement R1, Part 1.2.
 - 1.3. The **ISO** and each **operator** of a **transmission facility** must have available for inspection real-time operating personnel training records showing the names of the people trained, the title of the training delivered, and the dates of delivery to show that it delivered the training, as specified in Requirement R1, Part 1.3.
 - 1.4. The **ISO** and each **operator** of a **transmission facility** must have available for inspection evidence (such as instructor observations, trainee feedback, supervisor feedback, course evaluations, learning assessments, or internal audit results) that it performed an evaluation of its training program each calendar year, as specified in Requirement R1, Part 1.4.
- R2.** Each **legal owner** of a **transmission facility** must use a systematic approach to develop and implement a training program for its personnel identified in Applicability Section 4.1.3.1 of this **reliability standard** as follows: *[Alberta Risk Rating: Medium] [Time Horizon: Long-term Planning]*
- 2.1. Each **legal owner** of a **transmission facility** must create a list of **bulk electric system** company-specific real-time **reliability**-related tasks based on a defined and documented methodology.
 - 2.1.1. Each **legal owner** of a **transmission facility** must review, and update if necessary, its list of **bulk electric system** company-specific real-time **reliability**-related tasks identified in Requirement R2, Part 2.1 each calendar year.
 - 2.2. Each **legal owner** of a **transmission facility** must design and develop training materials according to its training program, based on the **bulk electric system** company-specific real-time **reliability**-related task list created in Requirement R2, Part 2.1.
 - 2.3. Each **legal owner** of a **transmission facility** must deliver training to its personnel identified in Applicability Section 4.1.3.1 of this **reliability standard** according to its training program.

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- 2.4. Each **legal owner** of a **transmission facility** must conduct an evaluation each calendar year of the training program established in Requirement R2 to identify any needed changes to the training program and must implement the changes identified.

M2. Each **legal owner** of a **transmission facility** must have available for inspection evidence of using a systematic approach to develop and implement a training program for its applicable personnel, as specified in Requirement R2.

- 2.1. Each **legal owner** of a **transmission facility** must have available for inspection its methodology and its **bulk electric system** company-specific real-time **reliability**-related task list, with the date of the last review, as specified in Requirement R2, Part 2.1.
- 2.2. Each **legal owner** of a **transmission facility** must have available for inspection training materials, as specified in Requirement R2, Part 2.2.
- 2.3. Each **legal owner** of a **transmission facility** must have available for inspection training records showing the names of the people trained, the title of the training delivered, and the dates of delivery to show that it delivered the training, as specified in Requirement R2, Part 2.3.
- 2.4. Each **legal owner** of a **transmission facility** must have available for inspection evidence (such as instructor observations, trainee feedback, supervisor feedback, course evaluations, learning assessments, or internal audit results) that it performed an evaluation of its training program each calendar year, as specified in Requirement R2, Part 2.4.

R3. The **ISO**, each **operator** of a **transmission facility**, and each **legal owner** of a **transmission facility** must verify, at least once, the capabilities of its personnel, identified in Requirement R1 or Requirement R2, assigned to perform each of the **bulk electric system** company-specific real-time **reliability**-related tasks identified under Requirement R1, Part 1.1 or Requirement R2, Part 2.1.
[Alberta Risk Rating: High] [Time Horizon: Long-term Planning]

- 3.1. Within 6 **months** of a modification or addition of a **bulk electric system** company-specific real-time **reliability**-related task, the **ISO**, each **operator** of a **transmission facility**, and each **legal owner** of a **transmission facility** must verify the capabilities of each of its personnel identified in Requirement R1 or Requirement R2 to perform the new or modified **bulk electric system** company-specific real-time **reliability**-related tasks identified in Requirement R1, Part 1.1 or Requirement R2, Part 2.1.

M3. The **ISO**, each **operator** of a **transmission facility**, and each **legal owner** of a **transmission facility** must have available for inspection evidence to show that it verified the capabilities of each of its personnel, identified in Requirement R1 or Requirement R2, assigned to perform each of the **bulk electric system** company-specific real-time **reliability**-related tasks identified under Requirement R1, Part 1.1 or Requirement R2, Part 2.1. This evidence may be documents such as records showing capability to perform **bulk electric system** company-specific real-time **reliability**-related tasks with the employee name and date; supervisor check sheets showing the employee name, date, and **bulk electric system** company-specific real-time **reliability**-related task completed; or the results of learning assessments.

- 3.1. The **ISO**, each **operator** of a **transmission facility**, and each **legal owner** of a **transmission facility** must present evidence that it verified the capabilities of applicable personnel to perform new or modified **bulk electric system** company-specific real-time **reliability**-related tasks within 6 **months** of a modification or addition of a **bulk electric system** company-specific real-time **reliability**-related task.

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- R4.** The **ISO**, each **operator** of a **transmission facility**, and each **legal owner** of a **transmission facility** that (1) has operational authority or control over facilities with established **interconnection reliability operating limits**, or (2) has established protection systems or operating guides to mitigate established **interconnection reliability operating limits** violations, must provide its personnel identified in Requirement R1 or Requirement R2 with emergency operations training using simulation technology such as a simulator, virtual technology, or other technology that replicates the operational behavior of the **bulk electric system**. *[Alberta Risk Rating: Medium] [Time Horizon: Long-term Planning]*
- 4.1.** The **ISO**, each **operator** of a **transmission facility**, and each **legal owner** of a **transmission facility** that did not previously meet the criteria of Requirement R4, must comply with Requirement R4 within 12 **months** of meeting the criteria.
- M4.** The **ISO**, each **operator** of a **transmission facility**, and each **legal owner** of a **transmission facility** must have available for inspection training records that provide evidence that personnel identified in Requirement R1 or Requirement R2 completed training that includes the use of simulation technology, as specified in Requirement R4.
- 4.1.** The **ISO**, each **operator** of a **transmission facility**, and each **legal owner** of a **transmission facility** must have available for inspection training records that provide evidence that personnel identified in Requirement R1 or Requirement R2 completed training that included the use of simulation technology, as specified in Requirement R4, within 12 **months** of meeting the criteria of Requirement R4.
- R5.** The **ISO** and each **operator** of a **transmission facility** must use a systematic approach to develop and implement training for its identified **operations support personnel** on how their job function(s) impact those **bulk electric system** company-specific real-time **reliability**-related tasks identified by the entity pursuant to Requirement R1, Part 1.1. *[Alberta Risk Rating: Medium] [Time Horizon: Long-term Planning]*
- 5.1.** The **ISO** and each **operator** of a **transmission facility** must conduct an evaluation each calendar year of the training established in Requirement R5 to identify and implement changes to the training.
- M5.** The **ISO** and each **operator** of a **transmission facility** must have available for inspection evidence that **operations support personnel** completed training in accordance with its systematic approach. This evidence may be documents such as training records showing successful completion of training. Documentation of training must include employee name and date of training.
- 5.1.** The **ISO** and each **operator** of a **transmission facility** must have available for inspection evidence (such as instructor observations, trainee feedback, supervisor feedback, course evaluations, learning assessments, or internal audit results) that it performed an evaluation each calendar year, as specified in Requirement R5, Part 5.1.
- R6.** Each **operator** of a **generating unit**, **operator** of an **aggregated facility**, and **operator** of an **energy storage resource** must use a systematic approach to develop and implement training to its personnel identified in Applicability Section 4.1.4.1 of this **reliability standard** on how their job function(s) impact the reliable operations of the **bulk electric system** during normal and **emergency** operations. *[Alberta Risk Rating: Medium] [Time Horizon: Long-term Planning]*
- 6.1.** Each **operator** of a **generating unit**, **operator** of an **aggregated facility**, and **operator** of an **energy storage resource** must conduct an evaluation each calendar year of the training established in Requirement R6 to identify and implement changes to the training.

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M6. Each **operator** of a **generating unit**, **operator** of an **aggregated facility**, and **operator** of an **energy storage resource** must have available for inspection evidence that its applicable personnel completed training in accordance with its systematic approach. This evidence may be documents such as training records showing successful completion of training. Documentation of training must include employee name and date of training.

6.1. Each **operator** of a **generating unit**, **operator** of an **aggregated facility**, and **operator** of an **energy storage resource** must have available for inspection evidence (such as instructor observations, trainee feedback, supervisor feedback, course evaluations, learning assessments, or internal audit results) that it performed an evaluation each calendar year, as specified in Requirement R6, Part 6.1.

C. Compliance

[Intentionally left blank.]

D. Regional Variances

None.

E. Interpretations

None.

F. Associated Documents

None.

Guidelines and Technical Basis

[Intentionally left blank.]

Version History

Version	Effective Date	Description of Changes
AB1-2	The later of (i) July 1, 2029, and (ii) the first day of the first calendar quarter 24 months following Commission approval	Added requirement for legal owners and operators of generating units, energy storage resources, and aggregated facilities. Updated formatting to align with AESO's current drafting principles.
AB-2	2019-12-01	Unbolded "real time".

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AB-2	2018-04-01	Initial Release.
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