

PER-003-AB-1 / PER-005-AB-2 Lessons Learned

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To share the lessons learned from the power system audits completed in Q1 ~ Q3/2020 so that the industry can:

- Better understand the requirements
- Better understand what is expected to demonstrate compliance

This session will cover lessons learned from 2020 audits including:

- Audit Findings
- AESO Expectations
- General Observations

This reliability standard does not apply to the **operator of a transmission facility** who only operates **transmission facilities** that are:

(c) **transmission facilities** where the operation of all these facilities is covered by an operating agreement with a NERC-certified operator whereby the NERC-certified operator has the operating authority for these facilities.

Audit Findings

- Operating agreements used in support of Applicability (c):
 - Did not contain information on who had operating authority for these facilities
 - Did not cover all transmission facilities

AESO Expectations

- Operating authority is aligned with the guidance provided in ID #2018-023 - PER-003-AB-1 Clarification of Terms:
 - The NERC certified operator has the authority and accountability for decision-making;
 - Only operates transmission facilities in coordination with, and approval of, a NERC-certified operator with which they have an operating agreement that specifies the coordination protocol.

General Observations

- In addition to the operating agreements, separate documentation was provided to demonstrate that an entity had operating authority

R2 An **operator** of a **transmission facility** must staff each of its real time operating positions performing reliability-related tasks with operating personnel who have obtained and maintained one of the following NERC certificates:

- (a) Reliability Operator;
- (b) Balancing, Interchange and Transmission Operator; or
- (c) Transmission Operator.

Audit Findings

- No list of real time reliability related tasks that the operating positions perform
- No NERC certifications were provided for the operating personnel

AESO Expectations

- A list of real time operating positions performing real time reliability related tasks
- Evidence that the operating personal have a NERC certification (a), (b) or (c)
 - Evidence that a certification had been maintained during the audit period (renewed, where the case may be)
- Evidence that operating positions are staffed with operating personnel who have a certification
 - Example may include schedules or desk shifts

General Observations

- Expiry dates were tracked for each operating personnel's certification

This **reliability standard** applies to:

(b) the **operator** of a **transmission facility** that has personnel who can act independently to operate in real time, or to direct the real time operation of, those **transmission facilities** that are part of the **bulk electric system** from a **control centre**. This does not include field switching personnel.

Audit Findings

- Operating agreements were used as means to demonstrate that the entity is not subject to Applicability Section (b):
 - Did not contain information on the ability to act independently or to direct the real time operation transmission facilities
 - Did not cover all transmission facilities

AESO Expectations

- It is the responsibility of the market participant to provide evidence to support their assessment
- Evidence that the personnel does not act independently to operate in real time, nor direct the real time operation of BES transmission facilities is available
 - An operating agreement or other evidence may be used if all transmission facilities are covered in the agreements; AND
 - It specifies each parties role with respect to the real time operation of BES transmission facilities

General Observations

- Documentation was provided to demonstrate that personnel did not act independently to operate in real time

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:

R1.1 The **ISO** and each **operator** of a **transmission facility** must:

- (a) create a definition of a company-specific real time reliability-related task;
- (b) develop a documented methodology for determining company-specific real time reliability-related tasks; and
- (c) create a list of **bulk electric system** company-specific real time reliability-related tasks based on that methodology.

Audit Findings

- No company specific real time reliability related task definition was provided
 - Failing to properly create a real time reliability related task definition will impact assessment of other sub-requirements in R1 and other requirements in the standard.
- Evidence was not seen to demonstrate that the creation of the list of tasks was based on the methodology
 - Failing to properly identify the real time reliability related task list will impact assessment of other requirements in the standard.
- No training program was provided
 - Failing to properly create a training program will impact assessment of other sub-requirements in R1.

AESO Expectations

- Existence of a company specific real time reliability related task definition
- Methodology shows how the definition is applied to get the task list
- The entity has created the task list based on the methodology

General Observations

- The task list is used to demonstrate that operators were trained for those tasks, thus demonstrating implementation of the training program

R1.1.1 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 R1.1 each calendar year.

Audit Findings

- The review and update did not occur each calendar year

AESO Expectations

- A calendar year means each year - 2018, 2019, 2020 etc.
- The updates that have been identified in the review of that year should occur in the same calendar year
- The review should identify if an update to the task list is necessary

General Observations

- The review and updates are timely and occur in the same calendar year

R1.2 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 R1.1.

R1.3 The **ISO** and each **operator** of a **transmission facility** must deliver training to its real time operating personnel according to its training program.

R1.4 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.

Audit Findings

- No training program was provided
- No BES company-specific real time reliability-related task list was provided
- The evaluation of the training program did not occur in a calendar year

AESO Expectations

- Training program documents the approach to design and development of training material and the delivery of training
- Evidence is available for training activities/courses that occurred in the audit period
- Training activities/courses that have occurred during the audit period match the approach described in the documented training program
- Training materials are based on the bulk electric system company-specific real time reliability-related task list created in R1.1
- Evaluation of the training program occurs each calendar year (2018, 2019, 2020 etc.)

General Observations

- A systematic approach was applied for all training programs for operating personnel
- R1.2 – Evidence of the design of the training material included the learning objectives and outcomes related to the task list
- R1.2 – Evidence of the development of the training material included the course material/deliverables and the approach(es) used to train the operating personnel
- R1.3 – A list of operating personnel were provided and dated evidence shows that each operating personnel were trained including assessments, performance reviews
- Evidence provided for training activities were organized in accordance to the sub-requirement number (i.e. design of materials, development of materials, delivery of training)

R3 The **ISO** and each **operator** of a **transmission facility** must verify, at least once, the capabilities of its real time operating personnel, identified in requirement R1, assigned to perform each of the **bulk electric system** company-specific real time reliability-related tasks identified under requirement R1.1.

Audit Findings

- No BES company-specific real time reliability-related task list was provided

AESO Expectations

- The assignment of operating personnel to the bulk electric system company-specific real time reliability-related tasks identified under requirement R1.1

General Observations

- The separation of an initial training program and continuous training program supports R3 to ensure that, at least once, the capabilities of its real time operating personnel were verified

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 that it has identified pursuant to requirement R1.1.

R5.1 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.

Operations support personnel is defined in the AESO Consolidated Authoritative Document Glossary

Individuals who perform current day or next day outage coordination or assessments, or who determine system operating limits, interconnection reliability operating limits, or operating nomograms, in direct support of real time operations of the bulk electric system.

Audit Findings

- The entity had its own definition of operations support personnel which did not encompass all aspects of the AESO definition
- No BES company-specific real time reliability-related task list was provided
- Dated evidence of training was not provided for operating support personnel
- The evaluation of the training did not occur each calendar year

AESO Expectations

- An evaluation of personnel should be made against the AESO definition
- Training material should contain how operations support personnel job function(s) impact bulk electric system company-specific real time reliability-related tasks
- A list of operating support personnel are provided and dated evidence shows that they were trained at least once
- Evaluation of the training occurs each calendar year (2018, 2019, 2020 etc.)

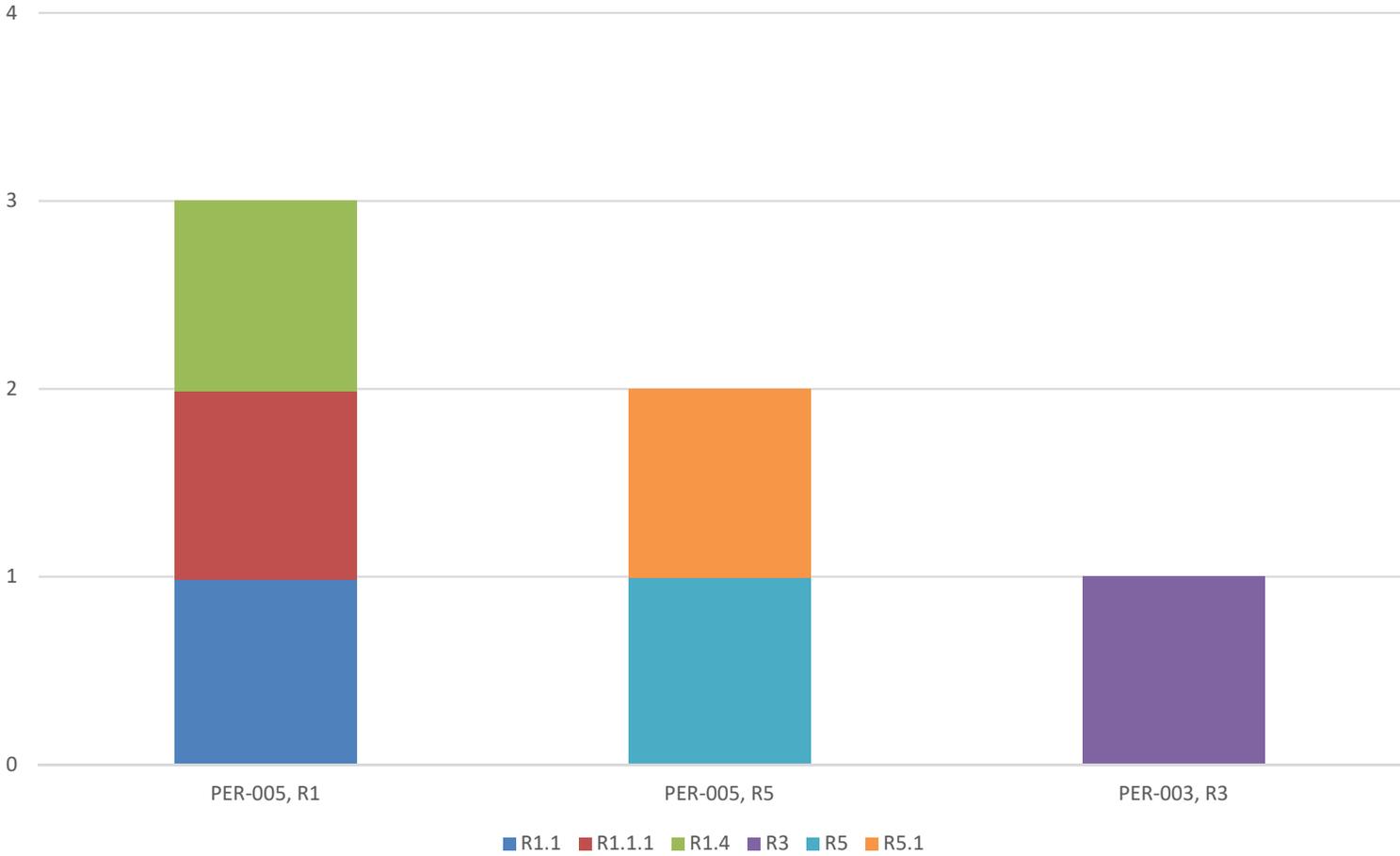
General Observations

- A training program is not required but may support that a systematic approach is being used

Suspected contraventions



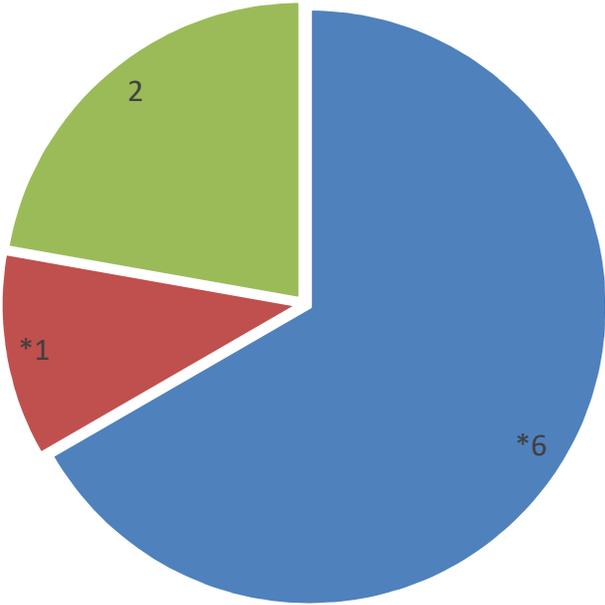
Suspected Contraventions by Requirement



Information Requests



Number of IR Questions



■ PER-005, R1 ■ PER-005, R5 ■ PER-003 R2

	IRs Issued	Number of Questions
PER-003	1	2

	IRs Issued	Number of Questions
PER-005	2	7*

*includes sampling IRs

- No updates to IDs are planned as a result of the 2020 audits for PER-003 and PER-005
- In the event that you need further information regarding the requirements of an existing Authoritative Document, please refer to:
 - ID #2017-001, Requests for Information Regarding Authoritative Documents

Q&A

- Any further questions regarding the content of the presentation or ARS compliance monitoring program can be sent to:
 - rscompliance@aeso.ca
- Questions regarding standards or requirements can be submitted through the formal AESO RFI process:
 - ID #2017-001, Requests for Information Regarding Authoritative Documents

Thank you