

1. Purpose

The purpose of this **reliability standard** is to ensure that personnel performing or supporting real time operations on the **bulk electric system** are trained using a systematic approach.

2. Applicability

This **reliability standard** applies to:

- (a) the **ISO**;
- (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.

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

- (i) radial **transmission facilities** connecting to:
 - (a) load;
 - (b) one or more **generating units**; and / or
 - (c) one or more **aggregated generating facilities**; or
- (ii) either part of an industrial complex or connected to an industrial complex and cannot interrupt power flow on the **interconnected electric system**, other than power flow on its own **transmission facilities**.

3. Requirements

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.

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.

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.

R2 Intentionally left blank.

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.

R3.1 Within six (6) months of a modification or addition of a **bulk electric system** company-specific real time reliability-related task, the **ISO** and each **operator** of a **transmission facility** must verify the capabilities of each of its real time operating personnel identified in requirement R1 to perform the new or modified **bulk electric system** company-specific real time reliability-related tasks identified in requirement R1.1.

R4 The **ISO** must provide its real time operating personnel identified in requirement R1 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** if the **ISO**:

- (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 **interconnection reliability operating limit** violations,

R4.1 The **ISO** must comply with requirement R4 within twelve (12) months of meeting either of the criteria identified in requirements R4(1) or R4(2).

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.

R6 Intentionally left blank.

4. Measures

The following measures correspond to the requirements identified in section 3 of this reliability standard. For example, MR1 is the measure for requirement R1.

MR1 Evidence of using a systematic approach to develop and implement a training program for its real time operating personnel as required in requirement R1 exists. Evidence may include, but is not limited to, training program descriptions, meeting minutes, design notes, or other equivalent evidence.

MR1.1 Evidence of having a definition, methodology and **bulk electric system** company-specific real time reliability-related task list and review history, as required in requirement R1.1 exists. Evidence may include, but is not limited to, a definition for real time reliability-related tasks, a documented methodology for determining company-specific real time reliability-related tasks, a list of real time reliability related tasks, a documented revision history or other equivalent evidence.

MR1.2 Evidence of designing and developing training materials as required in requirement R1.2 exists. Evidence may include, but is not limited to, course design documents and examples of training materials or other equivalent evidence.

MR1.3 Evidence of delivering real time operating personnel training, as required in requirement R 1.3 exists. Evidence may include, but is not limited to, training records showing the names of the attendees, the title of the training delivered, and the dates of delivery or other equivalent evidence.

MR1.4 Evidence of conducting an evaluation of the training program each calendar year and implementing the identified changes, as required in requirement R1.4 exists. Evidence may include, but is not limited to, instructor observations, trainee feedback, course evaluations, meeting minutes, training program document revision history, or other equivalent evidence.

MR2 Intentionally left blank.

MR3 Evidence of verifying, at least once, the capabilities of the real time operating personnel, as required in requirement R3 exists.

Evidence may include, but is not limited to, documented records to show that it verified the capability of each of its real time personnel on company-specific real time reliability-related tasks with the date of verification, employee name, supervisor signature and check sheets for each company-specific real time reliability-related task completed, the results of learning assessments, or other equivalent evidence.

MR3.1 Evidence of verifying the capabilities of real time operating personnel within six (6) months of a modification or addition of a **bulk electric system** company-specific **real time** reliability-related task, as required in requirement R3.1 exists. Evidence may include, but is not limited to, documented records to show that it verified the capability of each of its personnel on company-specific real time reliability-related tasks with the date of verification, employee name, supervisor signature and check sheets for each company-specific real time reliability-related task completed, the results of learning assessments, or other equivalent evidence.

MR4 Evidence of providing emergency operations training as required in requirement R4 exists. Evidence may include, but is not limited to, dated training records or other equivalent evidence.

MR4.1 Evidence of complying with requirement R4 as required in requirement R4.1 exists. Evidence may include, but is not limited to, dated training records or other equivalent evidence.

MR5 Evidence of using a systematic approach to develop and implement training for identified **operations support personnel** as required in requirement R5 exists. Evidence may include, but is not limited to, training records showing employee name, date of training and completion of training, or other equivalent evidence.

MR5.1 Evidence of conducting an evaluation each calendar year of the training established in requirement R5 and that any identified changes were implemented as required in requirement R5.1 exists. Evidence may include, but is not limited to, instructor observations, trainee feedback, course evaluations, meeting minutes, training program document revision history or other equivalent evidence.

MR6 Intentionally left blank.

Revision History

Date	Description
2019-12-01	Unbolded "real time"
2018-04-01	Initial release.