Alberta Reliability Standard
Physical Security
CIP-014-AB-2

1. Purpose

The purpose of this **reliability standard** is to identify and protect transmission substations and their associated primary **control centres**, that if rendered inoperable or damaged as a result of a physical attack could result in instability, uncontrolled separation, or **cascading** within an **Interconnection**.

2. Applicability

This **reliability standard** applies to:

(a) the **legal owner** of a **transmission facility** that the **ISO** notifies pursuant to requirement R2;

(b) the **operator** of a **transmission facility** that the **legal owner** of a **transmission facility** notifies pursuant to requirement R3; and

(c) the **ISO**.

3. Requirements

R1 The **ISO** must perform an initial risk assessment and subsequent risk assessments of existing transmission substations and those planned to be in service within 24 **months** that meet any of the following criteria:

(i) **transmission facilities** operated at 500 kV or higher;

(ii) **transmission facilities** that are operating between 200 kV and 499 kV at a single substation, where the substation is connected at 200 kV or higher voltages to 3 or more other substations and has an aggregate weighted value exceeding 3000 according to the table below, with the "aggregate weighted value" for a substation determined by summing the "weight value per line" shown in the table below for each incoming and each outgoing **bulk electric system** transmission line that is connected to another transmission substation:

Voltage Value of a Line	Weight Value per Line
200 kV to 299 kV	700
300 kV to 499 kV	1300

(iii) **transmission facilities** at a single substation location that are critical to the derivation of **interconnection reliability operating limits** and their associated contingencies;

and those risk assessments must consist of a transmission analysis or transmission analyses designed to identify those transmission substations that if rendered inoperable or damaged could result in instability, uncontrolled separation, or **cascading**.

R1.1 The **ISO** must perform subsequent risk assessments at least once every 30 **months** on a rolling basis.

R1.2 Intentionally left blank

R2 The **ISO** must notify the **legal owner** of a **transmission facility** of the transmission substations identified through the application of requirement R1 within 30 **days** following the completed requirement R1 risk assessment.

R2.1 The **ISO** must, if a transmission substation previously identified under requirement R1 is removed from the identification during a subsequent risk assessment performed according to requirement R1, within 30 **days** following the subsequent risk assessment, notify the **legal owner** of a **transmission facility** of the removal.

R3 The **legal owner** of a **transmission facility** must,

(a) if a transmission substation is identified under requirement R1; and

(b) if the **legal owner** of a **transmission facility** does not operate the transmission substation; then

within 7 **days** following the notification under requirement R2, provide notification of the identification to the **operator** of a **transmission facility** that has operational control of the associated primary **control centre**.

R3.1 The **legal owner** of a **transmission facility** must,

(a) if a transmission substation previously identified under requirement R1 is removed from the identification during a subsequent risk assessment performed according to requirement R1; and

(b) if the **legal owner** of a **transmission facility** does not operate the transmission substation; then

within 7 **days** following the notification under requirement R2.1, provide notification of the removal to the **operator** of a **transmission facility** that has operational control of the associated primary **control centre**.

R4 Each of:

(a) the **legal owner** of a **transmission facility** with a transmission substation identified in the notification provided under requirement R2;

(b) the **operator** of a **transmission facility** with a primary **control centre** that controls any of the substations identified in the notification provided under requirement R3; and

(c) the **ISO** in respect of its primary **control centre**;

must conduct an evaluation of the potential threats and vulnerabilities of a physical attack to each of those respective facilities, which evaluation must consider the following:

R4.1 unique characteristics of the identified transmission substations and primary **control centres**;

R4.2 prior history of attack on similar facilities taking into account the frequency, geographic proximity, and severity of past physical security related events; and

R4.3 intelligence or threat warnings received from sources such as law enforcement, the Electric Reliability Organization, the Electricity Information Sharing and Analysis Center, U.S. federal governmental agencies, Canadian governmental agencies, or their successors.

R5 Each of the **legal owner** of a **transmission facility** with a transmission substation identified in accordance with requirement R2, the **operator** of a **transmission facility** with a primary **control centre** that controls any of the substations identified in the notification provided under requirement R3, and the **ISO** in respect of its primary **control centre**, must:

(a) develop and implement one or more documented physical security plans that covers any respective transmission substations, and primary **control centre**;

(b) develop such physical security plans:

(i) within 180 **days** following the applicable notifications received in accordance with requirement R2 or requirement R3; or

(ii) for the **ISO**'s primary **control centre**, within 180 **days** of the effective date of this **reliability standard**; and

(c) implement such physical security plans according to the timeline specified in the physical security plans.

R5.1 Each physical security plan must include the following attributes:

R5.1.1 resiliency or security measures designed collectively to deter, detect, delay, assess, communicate, and respond to potential physical threats and vulnerabilities identified during the evaluation conducted in requirement R4;

R5.1.2 law enforcement contact and coordination information;

R5.1.3 a timeline for executing the physical security enhancements and modifications specified in the physical security plan; and

R5.1.4 provisions to evaluate evolving physical threats, and their corresponding security measures, to each transmission substations, or primary **control centres**.

R6 Each of:

(a) the **legal owner** of a **transmission facility** with a transmission substation identified in accordance with requirement R2;

(b) the **operator** of a **transmission facility** with a primary **control centre** that controls any of the substations identified in the notification provided under requirement R3; and

(c) the **ISO** in respect of its primary control centre,

must have an unaffiliated third party review the evaluation performed under requirement R4 and any security plans developed under requirement R5.

R6.1 Each **legal owner** of a **transmission facility**, **operator** of a **transmission facility**, and the **ISO** must select an unaffiliated third party reviewer from the following:

(a) an entity or organization with electric industry physical security experience and whose review staff has at least one member who holds either a Certified Protection Professional or Physical Security Professional certification;

(b) an entity or organization approved by the **NERC**;

(c) a governmental agency with physical security expertise; or

(d) an entity or organization with demonstrated law enforcement, government, or military physical security expertise.

R6.2 Each of the **legal owner** of a **transmission facility**, the **operator** of a **transmission facility**, and the **ISO** must ensure that the unaffiliated third party review is completed within 90 **days** of completing the security plans developed in requirement R5.

R6.3 Each of the **legal owner** of a **transmission facility**, the **operator** of a **transmission facility,** and the **ISO** must, if the unaffiliated third party reviewer recommends changes to the evaluation performed under requirement R4 or any security plans developed under requirement R5 and within 60 **days** of the completion of the unaffiliated third party review, for each recommendation:

(a) modify its evaluation or security plans consistent with the recommendation; or

(b) document the reasons for not modifying the evaluation or security plans consistent with the recommendation.

R6.4 Each of the **legal owner** of a **transmission facility**, the **operator** of a **transmission facility,** and the **ISO** must implement procedures for protecting sensitive or confidential information made available to the unaffiliated third party reviewer and to protect or exempt sensitive or confidential information developed pursuant to this **reliability standard** from public disclosure.

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 performing an initial risk assessment and subsequent risk assessments as required in requirement R1 exists. Evidence may include dated written or electronic documentation of the risk assessment of the transmission substations, or other equivalent evidence.

MR1.1 Evidence of performing subsequent risk assessments as required in requirement R1.1 exists. Evidence may include dated written or electronic documentation of the subsequent risk assessments, or other equivalent evidence.

MR2 Evidence of notifying the **legal owner** of a **transmission facility** of the transmission substations identified through the application of requirements R1 as required in requirement R2. Evidence may include dated emails or other equivalent evidence.

MR2.1 Evidence of notifying the **legal owner** of a **transmission facility** of the transmission substations removed through the application of requirements R1 as required in requirement R2. Evidence may include dated emails or other equivalent evidence.

MR3 Evidence of notifying the **operator** of the **transmission facility** of the transmission substations identified through the application of requirements R1 as required in requirement R3 exists. Evidence may include dated written or electronic notifications or communications, or other equivalent evidence.

MR3.1 Evidence of notifying the **operator** of the **transmission facility** of the transmission substations removed through the application of requirements R1 as required in requirement R3.1 exists. Evidence may include dated written or electronic notifications or communications, or other equivalent evidence.

MR4 Evidence of conducting an evaluation of the potential threats and vulnerabilities of a physical attack as required in requirement R4 exists. Evidence may include dated written or electronic documentation that each of the **legal owner** of a **transmission facility**, the **operator** of a **transmission facility**, and the **ISO** conducted an evaluation of the potential threats and vulnerabilities of a physical attack to their respective transmission stations, transmission substations and primary **control centres**, or other equivalent evidence.

MR5 Evidence of developing and implementing one or more documented physical security plans as required in requirement R5 exists. Evidence may include dated written or electronic documentation

of its physical security plans that covers their respective identified and verified transmission substations, and primary **control centres**, and additional evidence demonstrating execution of the physical security plan according to the timeline specified in the physical security plan, or other equivalent evidence.

MR6 Evidence of having an unaffiliated third party review the evaluation performed as required in requirement R6 exists. Evidence may include written or electronic documentation demonstrating that each of the **legal owner** of a **transmission facility**, **operator** of a **transmission facility**, and the **ISO** had an unaffiliated third party review the evaluation performed under requirement R4 and any security plans developed under requirement R5, or other equivalent evidence.

MR6.1 Evidence of selecting an unaffiliated third party reviewer as required in requirement R6.1 exists. Evidence may include documentation demonstrating the selection of an unaffiliated third party reviewer and a statutory declaration confirming that the third party is unaffiliated, or other equivalent evidence.

MR6.2 Evidence of ensuring that the unaffiliated third party review is completed as required in requirement R6.2 exists. Evidence may include a dated documented review performed by the unaffiliated third party, or other equivalent evidence.

MR6.3 Evidence of modifying, or documenting the reasons for not modifying, the evaluation or security plans as required in requirement R6.3 exists. Evidence may include a modified evaluation or security plans, or documented reasons for not modifying the evaluation or security plans in accordance with the recommended change, or other equivalent evidence.

MR6.4 Evidence of implementing procedures as required in requirement R6.4 exists. Evidence may include written or electronic documentation of procedures to protect information, such as a non-disclosure agreement, or other equivalent evidence.

5. Implementation Plan

Each of the **legal owner** of a **transmission facility**, the **operator** of a **transmission facility**, and the **ISO** must implement requirement R1 through requirement R6 in accordance with the implementation plan in Appendix 1.

6. Appendices

Appendix 1 – *Implementation plan effective dates*

Revision History

Date	Description
2020-07-01	Initial release.

Appendix 1
Effective Dates:

1. CIP-014-AB-2 becomes effective on the first **day** of the calendar quarter (January 1, April 1, July 1 or October 1) that follows 6 full calendar quarters after approval by the **Commission**.

2. The initial risk assessment required by CIP-014-AB-2, requirement R1, must be completed on or before the effective date of this **reliability standard**.

3. The initial performance of CIP-014-AB-2, requirements R2 and R2.1 must be completed within 30 **days** of the effective date of this **reliability standard**.