

Alberta Reliability Standard

Physical Security

CIP-014-AB-3

A. Introduction

1. Title: Physical Security
2. Number: CIP-014-AB-3
3. Purpose: 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**.
4. Applicability:
 - 4.1. Functional Entities:
 - 4.1.1. the **legal owner** of a **transmission facility** that is part of the **bulk electric system** and that the **ISO** notifies pursuant to Requirement R2;
 - 4.1.2. the **operator** of a **transmission facility** that is part of the **bulk electric system** and that the **legal owner** of a **transmission facility** notifies pursuant to Requirement R3; and
 - 4.1.3. the **ISO**.

Exemption: Facilities within the scope of a security plan approved or accepted by the Canadian Nuclear Safety Commission are not subject to this **reliability standard**.
5. Effective Dates: The later of (i) July 1, 2028, and (ii) the first **day** following **Commission** approval.
6. Background:

[Intentionally left blank.]

B. Requirements and Measures

- 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: *[Alberta Risk Rating: High] [Time Horizon: Long-term Planning]*
 - (i) **transmission facilities** operated at 500 kV or higher. For the purpose of this criterion, the **collector bus** for a **generating unit** and **aggregated facility** is not considered a **transmission facility**, but is part of the generation connection facility;
 - (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, The "aggregate weighted value" for a single station or substation is 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 station or substation. For the purpose of this criterion, the **collector bus** for a **generating unit** and **aggregated facility** is not considered a **transmission facility**, but is part of the generation interconnection facility:

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Voltage Value of a Line	Weight Value per Line
less than 200 kV (not applicable)	(not applicable)
200 kV to 299 kV	700
300 kV to 499 kV	1300
500 kV and above	0

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

(iv) **transmission facilities** identified as essential to meeting **nuclear interface requirements**;

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**.

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

1.2. [Intentionally left blank.]

M1. 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.

1.1. 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.

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. *[Alberta Risk Rating: Medium] [Time Horizon: Long-term Planning]*

2.1. 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.

M2. 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.

2.1. 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.

R3. The **legal owner** of a **transmission facility** must: *[Alberta Risk Rating: Lower] [Time Horizon: Long-term Planning]*

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- (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**.

3.1. 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**.

M3. 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.

- 3.1.** 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.

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.

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: *[Alberta Risk Rating: Medium] [Time Horizon: Operations Planning, Long-term Planning]*

- 4.1.** unique characteristics of the identified transmission substations and primary **control centres**;
- 4.2.** prior history of attack on similar facilities taking into account the frequency, geographic proximity, and severity of past physical security related events; and
- 4.3.** 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.

M4. 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** and the **operator** of a **transmission facility** 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.

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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, must: *[Alberta Risk Rating: High] [Time Horizon: Long-term Planning]*

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

5.1. Each physical security plan must include the following attributes:

- 5.1.1.** 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;
- 5.1.2.** law enforcement contact and coordination information;
- 5.1.3.** a timeline for executing the physical security enhancements and modifications specified in the physical security plan; and
- 5.1.4.** provisions to evaluate evolving physical threats, and their corresponding security measures, to each transmission substation, or primary **control centre**.

M5. 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.

R6. Each **legal owner** of a **transmission facility** and the operator of a **transmission facility** must select an unaffiliated third party reviewer from the following: *[Alberta Risk Rating: Medium] [Time Horizon: Long-term Planning]*

- (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.

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

6.1. Each **legal owner** of a **transmission facility** and the **operator** of a **transmission facility** 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) [Intentionally left blank.]

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- (c) a governmental agency with physical security expertise; or
 - (d) an entity or organization with demonstrated law enforcement, government, or military physical security expertise.
- 6.2.** Each of the **legal owner** of a **transmission facility** and the **operator** of a **transmission facility** must ensure that the unaffiliated third party review is completed within 90 **days** of completing the security plans developed in requirement R5.
- 6.3.** Each of the **legal owner** of a **transmission facility** and the **operator** of a **transmission facility** 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.
- 6.4.** Each of the **legal owner** of a **transmission facility** and the **operator** of a **transmission facility**, 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.
- M6.** Evidence may include written or electronic documentation that the **legal owner** or **operator** of a **transmission facility** had an unaffiliated third party review the evaluation performed under Requirement R4 and the security plan(s) developed under Requirement R5 as specified in Requirement R6 including, if applicable, documenting the reasons for not modifying the evaluation or security plan(s) in accordance with a recommendation under Part 6.3. Evidence may also include written or electronic documentation of procedures to protect information under Part 6.4, or other equivalent evidence.

C. Compliance

[Intentionally left blank.]

D. Regional Variances

None.

E. Interpretations

None.

F. Associated Documents

AESO Information Document ID #2015-003RS, *Guidance Information for CIP Standards* and any amendments made from time to time

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Version History

Version	Effective Date	Description of Changes
AB-3	The later of (i) July 1, 2028, and (ii) the first day following Commission approval	Revised based on NERC CIP-014-3, approved by FERC in Docket No. RD22-3-000.
AB-2	2020-07-01	Initial Release.

Guidelines and Technical Basis

[Intentionally left blank.]