

# Alberta Reliability Standard

## Cyber Security – Supply Chain Risk Management

### CIP-013-AB-2



#### A. Introduction

1. Title: Cyber Security - Supply Chain Risk Management

2. Number: CIP-013-AB-2

3. Purpose: To mitigate cyber security risks to the reliable operation of the ~~Bulk Electric System~~ bulk electric system (~~BES~~) by implementing security controls for supply chain risk management of BES cyber systems. ~~BES Cyber Systems.~~

4. Applicability:

4.1. Functional Entities: For the purpose of the requirements contained herein, the following list of functional entities will be collectively referred to as “Responsible Entities.” For requirements in this standard where a specific functional entity or subset of functional entities are the applicable entity or entities, the functional entity or entities are specified explicitly.

4.1.1. ~~Balancing Authority~~ [~~Intentionally left blank.~~]

4.1.2. ~~Distribution Provider~~ a legal owner of an electric distribution system that owns one or more of the following ~~F~~facilities, systems, and equipment for the protection or restoration of the bulk electric system ~~BES~~:

4.1.2.1. Each underfrequency load shedding ~~underfrequency Load shedding (UFLS)~~ or under voltage load shed ~~undervoltage Load shedding (UVLS)~~ system that:

4.1.2.1.1. Is part of a ~~Load-load~~ shedding program that is subject to one or more requirements in a reliability standard ~~NERC or Regional Reliability Standard~~; and

4.1.2.1.2. Performs automatic ~~Load-load~~ shedding under a common control system owned by the Responsible Entity, without human operator initiation, of 300 MW or more.

4.1.2.2. Each remedial action scheme ~~Remedial Action Scheme (RAS)~~ where the remedial action scheme ~~RAS~~ is subject to one or more requirements in a reliability standard ~~NERC or Regional Reliability Standard~~; and-

4.1.2.3. Each protection system ~~Protection System~~ (excluding underfrequency load shedding ~~UFLS~~ and under voltage load shed ~~UVLS~~) that applies to an electric distribution system ~~Transmission~~ where the protection system ~~Protection System~~ is subject to one or more requirements in a reliability standard ~~NERC or Regional Reliability Standard~~.

4.1.3. ~~Generator Operator~~ the operator of a generating unit that is part of the bulk electric system and the operator of an aggregated generating facility that is part of the bulk electric system;

4.1.4. ~~Generator Owner~~ the legal owner of a generating unit that is part of the bulk electric system and the legal owner of an aggregated generating facility that is part of the bulk electric system;

4.1.5. ~~Reliability Coordinator~~ [~~Intentionally left blank.~~]

~~4.1.6. Transmission Operator~~ the operator of a transmission facility;

~~4.1.7. Transmission Owner~~ the legal owner of a transmission facility; and

~~4.1.8. the ISO.~~

**4.2. Facilities:** For the purpose of the requirements contained herein, the following ~~f~~Facilities, systems, and equipment owned by each Responsible Entity in 4.1 above are those to which these requirements are applicable. For requirements in this standard where a specific type of ~~F~~facilities, system, or equipment or subset of ~~f~~Facilities, systems, and equipment are applicable, these are specified explicitly.

**4.2.1. ~~Distribution Provider: Legal owner of an electric distribution system and legal owner of a transmission facility:~~** One or more of the following facilities~~Facilities~~, systems and equipment ~~that operate at, or control elements that operate at, a nominal voltage of 25 kV or less and are~~ owned by a legal owner of an electric distribution system ~~the Distribution Provider or a legal owner of a transmission facility~~ for the protection or restoration of the bulk electric system ~~BES~~:

**4.2.1.1.** Each underfrequency load shedding~~UFLS~~ or under voltage load shed~~UVLS~~ ~~s~~System that:

**4.2.1.1.1.** Is part of a Load-load shedding program that is subject to one or more requirements in a reliability standard~~NERC or Regional Reliability Standard~~; and

**4.2.1.1.2.** Performs automatic Load-load shedding under a common control system owned by the Responsible Entity, without human operator initiation, of 300 MW or more.

**4.2.1.2.** Each remedial action scheme~~RAS~~ where the remedial action scheme~~RAS~~ is subject to one or more requirements in a reliability standard~~NERC or Regional Reliability Standard~~.

**4.2.1.3.** Each protection system~~Protection System~~ (excluding underfrequency load shedding~~UFLS~~ and under voltage load shed~~UVLS~~) that applies to any one or more transmission facility or electric distribution system ~~Transmission~~ where the protection system~~Protection System~~ is subject to one or more requirements in a reliability standard~~NERC or Regional Reliability Standard~~.

**4.2.1.4.** Each cranking path~~Cranking Path~~ and group of elements~~Elements~~ meeting the initial switching requirements from a contracted blackstart resource~~Blackstart Resource~~ up to and including the first point of connection~~supply~~ and/or point of delivery~~interconnection point~~ of the starting station service of the next generating unit(s) or aggregated generating facility(ies)~~generation unit(s)~~ to be started.

**4.2.2.** Responsible Entities listed in 4.1 other than a legal owner of an electric distribution system: Distribution Providers: all bulk electric system ~~facilities. All BES Facilities.~~

**4.2.3.** Exemptions: The following are exempt from Standard CIP-013-AB-2:

**4.2.3.1. ~~Cyber assets~~Cyber Assets** at ~~Facilities~~ facilities regulated by the Canadian Nuclear Safety Commission.

**4.2.3.2. ~~eCyber assets~~Cyber Assets** associated with communication networks and data communication links between discrete **electronic security perimeters** ~~Electronic Security Perimeters (ESPs)~~.

**4.2.3.3. The systems, structures, and components that are regulated by the Nuclear Regulatory Commission under a cyber security plan pursuant to 10 C.F.R. Section 73.54. [Intentionally left blank.]**

**4.2.3.4. ~~For the legal owner of an electric distribution system~~For Distribution Providers**, the systems and equipment that are not included in section 4.2.1 above.

**4.2.3.5. Responsible Entities that identify that they have no **BES cyber systems** ~~BES Cyber Systems~~** categorized as high impact or medium impact according to the identification and categorization process required by CIP-002-AB-5.1 or any subsequent version of that **reliability standard** ~~Reliability Standard~~.

5. Effective Date: See Implementation Plan for the AESO's 2022 CIP Adoption Project 2019-03. To be determined in consultation with stakeholders.

## B. Requirements and Measures

**R1.** Each Responsible Entity shall develop one or more documented supply chain cyber security risk management plan(s) for high and medium impact **BES cyber systems** ~~BES Cyber Systems~~ and their associated **electronic access control or monitoring systems** ~~Electronic Access Control or Monitoring Systems (EACMS)~~ and **physical access control systems** ~~Physical Access Control Systems (PACS)~~. The plan(s) shall include: *[Violation Risk Factor: Medium] [Time Horizon: Operations Planning]*

**1.1.** One or more process(es) used in planning for the procurement of **BES cyber systems** ~~BES Cyber Systems~~ and their associated **electronic access control or monitoring systems** ~~EACMS~~ and **physical access control systems** ~~PACS~~ to identify and assess cyber security risk(s) to the **bulk electric system** ~~Bulk Electric System~~ from vendor products or services resulting from: (i) procuring and installing vendor equipment and software; and (ii) transitions from one vendor(s) to another vendor(s).

**1.2.** One or more process(es) used in procuring **BES cyber systems** ~~BES Cyber Systems~~, and their associated **electronic access control or monitoring systems** ~~EACMS~~ and **physical access control systems** ~~PACS~~, that address the following, as applicable:

**1.2.1.** Notification by the vendor of vendor-identified incidents related to the products or services provided to the Responsible Entity that pose cyber security risk to the Responsible Entity;

**1.2.2.** Coordination of responses to vendor-identified incidents related to the products or services provided to the Responsible Entity that pose cyber security risk to the Responsible Entity;

**1.2.3.** Notification by vendors when remote or onsite access should no longer be granted to vendor representatives;

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**1.2.4.** Disclosure by vendors of known vulnerabilities related to the products or services provided to the Responsible Entity;

**1.2.5.** Verification of software integrity and authenticity of all software and patches provided by the vendor for use in the BES cyber system~~BES-Cyber-System~~ and their associated electronic access control or monitoring systems~~EACMS~~ and physical access control systems~~PACS~~; and

**1.2.6.** Coordination of controls for vendor-initiated remote access.

**M1.** Evidence shall include one or more documented supply chain cyber security risk management plan(s) as specified in the Requirement.

**R2.** Each Responsible Entity shall implement its supply chain cyber security risk management plan(s) specified in Requirement R1. *[Violation Risk Factor: Medium] [Time Horizon: Operations Planning]*

Note: Implementation of the plan does not require the Responsible Entity to renegotiate or abrogate existing contracts (including amendments to master agreements and purchase orders). Additionally, the following issues are beyond the scope of Requirement R2: (1) the actual terms and conditions of a procurement contract; and (2) vendor performance and adherence to a contract.

**M2.** Evidence shall include documentation to demonstrate implementation of the supply chain cyber security risk management plan(s), which could include, but is not limited to, correspondence, policy documents, or working documents that demonstrate use of the supply chain cyber security risk management plan.

**R3.** Each Responsible Entity shall review and obtain CIP senior manager~~CIP Senior Manager~~ or delegate approval of its supply chain cyber security risk management plan(s) specified in Requirement R1 at least once every 15 months~~calendar months~~. *[Violation Risk Factor: Medium] [Time Horizon: Operations Planning]*

**M3.** Evidence shall include the dated supply chain cyber security risk management plan(s) approved by the ~~CIP Senior Manager~~ CIP senior manager or delegate(s) and additional evidence to demonstrate review of the supply chain cyber security risk management plan(s). Evidence may include, but is not limited to, policy documents, revision history, records of review, or workflow evidence from a document management system that indicate review of supply chain risk management plan(s) at least once every 15 months~~calendar months~~; and documented approval by the CIP senior manager ~~CIP Senior Manager~~ or delegate.

## C. Compliance

[Intentionally left blank.]

### ~~1. Compliance Monitoring Process~~

#### ~~1.1. Compliance Enforcement Authority:~~

~~“Compliance Enforcement Authority” (CEA) means NERC or the Regional Entity, or any entity as otherwise designated by an Applicable Governmental Authority, in their respective roles of monitoring and/or enforcing compliance with mandatory and enforceable Reliability Standards in their respective jurisdictions.~~

#### ~~1.2. Evidence Retention:~~

~~The following evidence retention period(s) identify the period of time an entity is required to retain specific evidence to demonstrate compliance. For instances where the evidence retention period specified below is shorter than the time since the last audit, the CEA may ask an entity to provide other evidence to show that it was compliant for the full time period since the last audit.~~

~~The Responsible Entity shall keep data or evidence to show compliance as identified below unless directed by its CEA to retain specific evidence for a longer period of time as part of an investigation.~~

- ~~• Each Responsible Entity shall retain evidence of each requirement in this standard for three calendar years.~~
- ~~• If a Responsible Entity is found non-compliant, it shall keep information related to the non-compliance until mitigation is complete and approved or for the time specified above, whichever is longer.~~
- ~~• The CEA shall keep the last audit records and all requested and submitted subsequent audit records.~~

### **1.3. Compliance Monitoring and Enforcement Program**

~~As defined in the NERC Rules of Procedure, “Compliance Monitoring and Enforcement Program” refers to the identification of the processes that will be used to evaluate data or information for the purpose of assessing performance or outcomes with the associated Reliability Standard.~~

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## Violation Severity Levels

R #	Lower-VSL	Moderate-VSL	High-VSL	Severe-VSL
R1.	<p>The Responsible Entity developed one or more documented supply chain cyber security risk management plan(s) which include the use of process(es) in planning for procurement of BES Cyber Systems, and their associated EACMS and PACS, to identify and assess cyber security risk(s) to the BES as specified in Part 1.1, and include the use of process(es) for procuring BES Cyber Systems and their associated EACMS and PACS, as specified in Part 1.2, but the plans do not include one of the parts in Part 1.2.1 through Part 1.2.6.</p>	<p>The Responsible Entity developed one or more documented supply chain cyber security risk management plan(s) which include the use of process(es) in planning for procurement of BES Cyber Systems, and their associated EACMS and PACS, to identify and assess cyber security risk(s) to the BES as specified in Part 1.1, and include the use of process(es) for procuring BES Cyber Systems and their associated EACMS and PACS, as specified in Part 1.2, but the plans do not include two or more of the parts in Part 1.2.1 through Part 1.2.6.</p>	<p>The Responsible Entity developed one or more documented supply chain cyber security risk management plan(s), but the plan(s) did not include the use of process(es) in planning for procurement of BES Cyber Systems, and their associated EACMS and PACS, to identify and assess cyber security risk(s) to the BES as specified in Part 1.1, or the plan(s) did not include the use of process(es) for procuring BES Cyber Systems and their associated EACMS and PACS, as specified in Part 1.2.</p>	<p>The Responsible Entity developed one or more documented supply chain cyber security risk management plan(s), but the plan(s) did not include the use of process(es) in planning for procurement of BES Cyber Systems, and their associated EACMS and PACS, to identify and assess cyber security risk(s) to the BES as specified in Part 1.1, and the plan(s) did not include the use of process(es) for procuring BES Cyber Systems and their associated EACMS and PACS, as specified in Part 1.2.</p> <p>OR</p> <p>The Responsible Entity did not develop one or more documented supply chain cyber security risk management plan(s) as specified in the Requirement.</p>

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R-#	Lower-VSL	Moderate-VSL	High-VSL	Severe-VSL
R2.	The Responsible Entity implemented its supply chain cyber security risk management plan(s) including the use of process(es) in planning for procurement of BES Cyber Systems, and their associated EACMS and PACS, to identify and assess cyber security risk(s) to the BES as specified in Requirement R1 Part 1.1, and including the use of process(es) for procuring BES Cyber Systems and their associated EACMS and PACS, as specified in Requirement R1 Part 1.2, but did not implement one of the parts in Requirement R1 Part 1.2.1 through Part 1.2.6.	The Responsible Entity implemented its supply chain cyber security risk management plan(s) including the use of process(es) in planning for procurement of BES Cyber Systems, and their associated EACMS and PACS, to identify and assess cyber security risk(s) to the BES as specified in Requirement R1 Part 1.1, and including the use of process(es) for procuring BES Cyber Systems and their associated EACMS and PACS, as specified in Requirement R1 Part 1.2, but did not implement two or more of the parts in Requirement R1 Part 1.2.1 through Part 1.2.6.	The Responsible Entity implemented its supply chain cyber security risk management plan(s), but did not implement the use of process(es) in planning for procurement of BES Cyber Systems, and their associated EACMS and PACS, to identify and assess cyber security risk(s) to the BES as specified in Requirement R1 Part 1.1, or did not implement the use of process(es) for procuring BES Cyber Systems and their associated EACMS and PACS, as specified in Requirement R1 Part 1.2.	The Responsible Entity implemented its supply chain cyber security risk management plan(s), but did not implement the use of process(es) in planning for procurement of BES Cyber Systems, and their associated EACMS and PACS, to identify and assess cyber security risk(s) to the BES as specified in Requirement R1 Part 1.1, and did not implement the use of process(es) for procuring BES Cyber Systems and their associated EACMS and PACS, as specified in Requirement R1 Part 1.2; OR The Responsible Entity did not implement its supply chain cyber security risk management plan(s) specified in the requirement.

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R #	Lower VSL	Moderate VSL	High VSL	Severe VSL
R3.	The Responsible Entity reviewed and obtained CIP Senior Manager or delegate approval of its supply chain cyber security risk management plan(s) but did so more than 15 calendar months but less than or equal to 16 calendar months since the previous review as specified in the Requirement.	The Responsible Entity reviewed and obtained CIP Senior Manager or delegate approval of its supply chain cyber security risk management plan(s) but did so more than 16 calendar months but less than or equal to 17 calendar months since the previous review as specified in the Requirement.	The Responsible Entity reviewed and obtained CIP Senior Manager or delegate approval of its supply chain cyber security risk management plan(s) but did so more than 17 calendar months but less than or equal to 18 calendar months since the previous review as specified in the Requirement.	The Responsible Entity did not review and obtain CIP Senior Manager or delegate approval of its supply chain cyber security risk management plan(s) within 18 calendar months of the previous review as specified in the Requirement.

## D. Regional Variances

None.

## E. Associated Documents

- ~~Implementation Plan for Project 2019-03~~
- CIP-013-2 Technical Rationale

## Version History

Version	Effective Date	Action	Description of Change Tracking
4	07/20/17	Respond to FERC Order No. 829.	
4	08/10/17	Approved by the NERC Board of Trustees.	
4	10/18/18	FERC Order approving CIP-013-1. Docket No. RM17-13-000.	
2	08/01/2019	Modified to address directive in FERC Order No. 850.	Revised
2	11/05/2020	Approved by the NERC Board of Trustees.	
2	3/18/2021	FERC Order approving CIP-013-2. Docket No. RD21-2-000.	



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Version	<del>Effective Date</del>	Action	Description of Change Tracking
2	<del>4/5/2021</del> TBD	<del>Effective Date</del>	<del>4/1/2022</del> Initial Version