

## A. Introduction

1. **Title:** Cyber Security - Supply Chain Risk Management
2. **Number:** CIP-013-1
3. **Purpose:** To mitigate cyber security risks to the reliable operation of the Bulk Electric System (BES) by implementing security controls for supply chain risk management of 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
    - 4.1.2. Distribution Provider that owns one or more of the following Facilities, systems, and equipment for the protection or restoration of the BES:
      - 4.1.2.1. Each underfrequency Load shedding (UFLS) or undervoltage Load shedding (UVLS) system that:
        - 4.1.2.1.1. Is part of a Load shedding program that is subject to one or more requirements in a NERC or Regional Reliability Standard; and
        - 4.1.2.1.2. Performs automatic 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 (RAS) where the RAS is subject to one or more requirements in a NERC or Regional Reliability Standard.
      - 4.1.2.3. Each Protection System (excluding UFLS and UVLS) that applies to Transmission where the Protection System is subject to one or more requirements in a NERC or Regional Reliability Standard.
    - 4.1.3. Generator Operator
    - 4.1.4. Generator Owner
    - 4.1.5. Reliability Coordinator
    - 4.1.6. Transmission Operator
    - 4.1.7. Transmission Owner

- 4.2. Facilities:** For the purpose of the requirements contained herein, the following 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 Facilities, system, or equipment or subset of Facilities, systems, and equipment are applicable, these are specified explicitly.
- 4.2.1. Distribution Provider:** One or more of the following Facilities, systems and equipment owned by the Distribution Provider for the protection or restoration of the BES:
- 4.2.1.1. Each UFLS or UVLS System that:**
- 4.2.1.1.1.** Is part of a Load shedding program that is subject to one or more requirements in a NERC or Regional Reliability Standard; and
  - 4.2.1.1.2.** Performs automatic 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 RAS where the RAS is subject to one or more requirements in a NERC or Regional Reliability Standard.
- 4.2.1.3.** Each Protection System (excluding UFLS and UVLS) that applies to Transmission where the Protection System is subject to one or more requirements in a NERC or Regional Reliability Standard.
- 4.2.1.4.** Each Cranking Path and group of Elements meeting the initial switching requirements from a Blackstart Resource up to and including the first interconnection point of the starting station service of the next generation unit(s) to be started.
- 4.2.2. Responsible Entities listed in 4.1 other than Distribution Providers**
- 4.2.2.1.** All BES Facilities.
- 4.2.3. Exemptions:** The following are exempt from Standard CIP-013-1:
- 4.2.3.1.** Cyber Assets at Facilities regulated by the Canadian Nuclear Safety Commission.
  - 4.2.3.2.** Cyber Assets associated with communication networks and data communication links between discrete 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.

- 4.2.3.4. 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 categorized as high impact or medium impact according to the identification and categorization process required by CIP-002-5, or any subsequent version of that Reliability Standard.

- 5. **Effective Date\***: See Implementation Plan for Project 2016-03.

## 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. 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 to identify and assess cyber security risk(s) to the 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 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;
    - 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; and
    - 1.2.6. Coordination of controls for (i) vendor-initiated Interactive Remote Access, and (ii) system-to-system remote access with a vendor(s).
- M1. Evidence shall include one or more documented supply chain cyber security risk management plan(s) as specified in the Requirement.

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- 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 or delegate approval of its supply chain cyber security risk management plan(s) specified in Requirement R1 at least once every 15 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 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 calendar months; and documented approval by the CIP Senior Manager or delegate.

## C. Compliance

### 1. Compliance Monitoring Process

#### 1.1. Compliance Enforcement Authority:

The British Columbia Utilities Commission.

#### 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 Compliance Enforcement Authority 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 Compliance Enforcement Authority 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.

## Violation Severity Levels

R #	Violation Severity Levels			
	Lower VSL	Moderate VSL	High VSL	Severe VSL
<b>R1.</b>	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 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 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.	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 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 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.	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 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 as specified in Part 1.2.	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 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 as specified in Part 1.2.  OR  The Responsible Entity did not develop one or more documented supply chain cyber security risk management plan(s) as specified in the Requirement.

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<p><b>R2.</b></p>	<p>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 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 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.</p>	<p>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 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 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.</p>	<p>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 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 as specified in Requirement R1 Part 1.2.</p>	<p>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 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 as specified in Requirement R1 Part 1.2;</p> <p>OR</p> <p>The Responsible Entity did not implement its supply chain cyber security risk management plan(s) specified in the requirement.</p>
<p><b>R3.</b></p>	<p>The Responsible Entity reviewed and obtained CIP Senior Manager or delegate approval of its supply chain cyber security risk management plan(s) but did</p>	<p>The Responsible Entity reviewed and obtained CIP Senior Manager or delegate approval of its supply chain cyber security risk management plan(s) but did</p>	<p>The Responsible Entity reviewed and obtained CIP Senior Manager or delegate approval of its supply chain cyber security risk management plan(s) but did</p>	<p>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</p>

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	so more than 15 calendar months but less than or equal to 16 calendar months since the previous review as specified in the Requirement.	so more than 16 calendar months but less than or equal to 17 calendar months since the previous review as specified in the Requirement.	so more than 17 calendar months but less than or equal to 18 calendar months since the previous review as specified in the Requirement.	18 calendar months of the previous review as specified in the Requirement.
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## **D. Regional Variances**

None.

## **E. Associated Documents**

Link to the Implementation Plan and other important associated documents.

## Version History

Version	Date	Action	Change Tracking
1	07/20/17	Respond to FERC Order No. 829.	
1	08/10/17	Approved by the NERC Board of Trustees.	
1	10/18/18	FERC Order approving CIP-013-1. Docket No. RM17-13-000.	

## Supplemental Material

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### Rationale

#### Requirement R1:

The proposed Requirement addresses Order No. 829 directives for entities to implement a plan(s) that includes processes for mitigating cyber security risks in the supply chain. The plan(s) is required to address the following four objectives (Order No. 829 at P. 45):

- (1) Software integrity and authenticity;
- (2) Vendor remote access;
- (3) Information system planning; and
- (4) Vendor risk management and procurement controls.

The cyber security risk management plan(s) specified in Requirement R1 apply to high and medium impact BES Cyber Systems.

Implementation of the cyber security risk management plan(s) does not require the Responsible Entity to renegotiate or abrogate existing contracts (including amendments to master agreements and purchase orders), consistent with Order No. 829 (P. 36).

Requirement R1 Part 1.1 addresses the directive in Order No. 829 for identification and documentation of cyber security risks in the planning and development processes related to the procurement of BES Cyber Systems (P. 56). The security objective is to ensure entities consider cyber security risks to the BES 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); and options for mitigating these risks when planning for BES Cyber Systems.

Requirement R1 Part 1.2 addresses the directive in Order No. 829 for procurement controls to address the provision and verification of security concepts in future contracts for BES Cyber Systems (P. 59). The objective of Part 1.2 is for entities to include these topics in their plans so that procurement and contract negotiation processes address the applicable risks. Implementation of the entity's plan related to Part 1.2 may be accomplished through the entity's procurement and contract negotiation processes. For example, entities can implement the plan by including applicable procurement items from their plan in Requests for Proposals (RFPs), negotiations with vendors, or requests submitted to entities negotiating on behalf of the Responsible Entity such as in cooperative purchasing agreements. Obtaining specific controls in the negotiated contract may not be feasible and is not considered failure to implement an entity's plan. Although the expectation is that Responsible Entities would enforce the security-related provisions in the contract based on the terms and conditions of that contract, such contract enforcement and vendor performance or adherence to the negotiated contract is not subject to this Reliability Standard.

The objective of verifying software integrity and authenticity (Part 1.2.5) is to help ensure that software installed on BES Cyber Systems is not modified prior to installation without the

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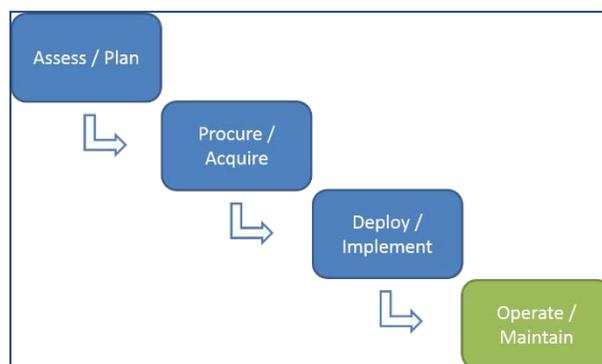
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awareness of the software supplier and is not counterfeit. Part 1.2.5 is not an operational requirement for entities to perform such verification; instead, it requires entities to address the software integrity and authenticity issue in its contracting process to provide the entity the means by which to perform such verification under CIP-010-3.

The term *vendor(s)* as used in the standard is limited to those persons, companies, or other organizations with whom the Responsible Entity, or its affiliates, contract with to supply BES Cyber Systems and related services. It does not include other NERC registered entities providing reliability services (e.g., Balancing Authority or Reliability Coordinator services pursuant to NERC Reliability Standards). A *vendor*, as used in the standard, may include: (i) developers or manufacturers of information systems, system components, or information system services; (ii) product resellers; or (iii) system integrators.

Collectively, the provisions of CIP-013-1 address an entity's controls for managing cyber security risks to BES Cyber Systems during the planning, acquisition, and deployment phases of the system life cycle, as shown below.

Notional BES Cyber System Life Cycle



### Requirement R2:

The proposed requirement addresses Order No. 829 directives for entities to periodically reassess selected supply chain cyber security risk management controls (P. 46).

Entities perform periodic assessment to keep plans up-to-date and address current and emerging supply chain-related concerns and vulnerabilities. Examples of sources of information that the entity could consider include guidance or information issued by:

- NERC or the E-ISAC
- ICS-CERT
- Canadian Cyber Incident Response Centre (CCIRC)

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Responsible Entities are not required to renegotiate or abrogate existing contracts (including amendments to master agreements and purchase orders) when implementing an updated plan (i.e., the note in Requirement R2 applies to implementation of new plans and updated plans).

**British Columbia Utilities Commission(BCUC)  
Implementation Plan Cyber Security Supply Chain Risk Management  
Associated Reliability Standards**

**Applicable Standard(s)**

- CIP-005-6 — Cyber Security — Electronic Security Perimeters
- CIP-010-3 — Configuration Change Management and Vulnerability Assessments
- CIP-013-1 — Cyber Security — Supply Chain Risk Management

**Requested Retirement(s)**

- CIP-005-5 — Cyber Security — Electronic Security Perimeters
- CIP-010-2 — Configuration Change Management and Vulnerability Assessments

**Prerequisite Standard(s)**

None

**Applicable Entities**

- Balancing Authority
- Distribution Provider that owns one or more of the following Facilities, systems, and equipment for the protection or restoration of the BES:
  - Each underfrequency Load shedding (UFLS) or undervoltage Load shedding (UVLS) system that:
    - Is part of a Load shedding program that is subject to one or more requirements in a NERC or Regional Reliability Standard; and
    - Performs automatic Load shedding under a common control system owned by the Responsible Entity, without human operator initiation, of 300 MW or more.
  - Each Remedial Action Scheme (RAS) where the RAS is subject to one or more requirements in a NERC or Regional Reliability Standard.
  - Each Protection System (excluding UFLS and UVLS) that applies to Transmission where the Protection System is subject to one or more requirements in a NERC or Regional Reliability Standard.
- Generator Operator
- Generator Owner
- Reliability Coordinator

- Transmission Operator
- Transmission Owner

Reliability Standards CIP-005-6, CIP-010-3, and CIP-013-1 apply only to BES Cyber Systems categorized as high impact or medium impact according to the identification and categorization process required by CIP-002-5, or any subsequent version of that Reliability Standard.

## General Considerations

In implementing CIP-013-1, responsible entities are expected to use their Supply Chain Cyber Security Risk Management Plans in procurement processes (e.g., Request for Proposal, requests to entities negotiating on behalf of the responsible entity in the case of cooperative purchase agreements, master agreements that the responsible entity negotiates after the effective date, or direct procurements covered under the responsible entity's plan) that begin on or after the effective date of CIP-013-1. Contract effective date, commencement date, or other activation dates specified in a contract do not determine whether the procurement action is within scope of CIP-013-1.

## Effective Date

### For each of the CIP-005-6, CIP-010-3, and CIP-013-1 Reliability Standards

The Reliability Standard shall become effective on the first day of the first calendar quarter that is 30 months after the effective date of the BCUC's order approving the Reliability Standard.

## Initial Performance of Periodic Requirements

### CIP-013-1 Requirement R3

The initial review and approval of supply chain cyber security risk management plans by CIP Senior Manager or Delegate pursuant to Requirement R3 must be completed on or before the effective date of CIP-013-1.

## Planned or Unplanned Changes Resulting in a Higher Categorization

Compliance timelines with CIP-005-6, CIP-010-3, and CIP-013-1 for planned or unplanned changes in categorization are consistent with the BCUC Implementation Plan associated with the CIP Version 5 standards per BCUC Order R-38-15.

*Planned* changes refer to any changes of the electric system or BES Cyber System as identified through the annual assessment under CIP-002-5 (or any subsequent version of that Reliability Standard) which were planned and implemented by the responsible entity.

For example, if an automation modernization activity is performed at a transmission substation, whereby Cyber Assets are installed that meet the criteria in CIP-002-5, Attachment 1, then the new BES Cyber System has been implemented as a result of a planned change.

In contrast, *unplanned* changes refer to any changes of the electric system or BES Cyber

System, as identified through the annual assessment under CIP-002-5, Requirement R2, which were not planned by the responsible entity. Consider the scenario where a particular BES Cyber System at a transmission substation does not meet the criteria in CIP-002-5, Attachment 1, then, later, an action is performed outside of that particular transmission substation; such as, a transmission line is constructed or retired, a generation plant is modified, changing its rated output, and that unchanged BES Cyber System may become a medium impact BES Cyber System based on the CIP-002-5, Attachment 1, criteria.

For planned changes resulting in a higher categorization, the responsible entity shall comply with all applicable requirements in CIP-005-6, CIP-010-3, and CIP-013-1 on the update of the identification and categorization of the affected BES Cyber System.

For unplanned changes resulting in a higher categorization, the responsible entity shall comply with all applicable requirements in CIP-005-6, CIP-010-3, and CIP-013-1 according to the following timelines, following the identification and categorization of the affected BES Cyber System.

<b>Scenario of Unplanned Changes After the Effective Date</b>	<b>Compliance Implementation</b>
New high impact BES Cyber System	12 Months
New medium impact BES Cyber System	12 Months
Newly categorized high impact BES Cyber System from medium impact BES Cyber System	12 months for requirements not applicable to Medium-Impact BES Cyber Systems
Newly categorized medium impact BES Cyber System	12 Months
Responsible entity identifies first medium impact or high impact BES Cyber System (i.e., the responsible entity previously had no BES Cyber Systems categorized as high impact or medium impact according to the CIP-002-5 identification and categorization processes)	24 Months

**Retirement Date**

Standards listed in the **Requested Retirement(s)** section shall be retired immediately prior to the effective date of the CIP-005-6, CIP-010-3, and CIP-013-1 standards in British Columbia.