

A. Introduction

1. **Title:** Cyber Security — System Security Management
2. **Number:** CIP-007-7
3. **Purpose:** To manage system security by specifying select technical, operational, and procedural requirements in support of protecting BES Cyber Systems (BCS) against compromise that could lead to misoperation or instability in the Bulk Electric System (BES).
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.
 - 4.1.2.4 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.
 - 4.1.3 **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:
All BES Facilities.

4.2.3 Exemptions: The following are exempt from Standard CIP-007-7:

4.2.3.1 Cyber Systems at Facilities regulated by the Canadian Nuclear Safety Commission.

- 4.2.3.2** Cyber Systems associated with communication networks and data communication links between discrete Electronic Security Perimeters (ESP).
 - 4.2.3.3** Cyber Systems, associated with communication networks and data communication links, between the Cyber Systems providing confidentiality and integrity of an ESP that extends to one or more geographic locations.
 - 4.2.3.4** 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.
 - 4.2.3.5** For Distribution Providers, the systems and equipment that are not included in section 4.2.1 above.
 - 4.2.3.6** Responsible Entities that identify that they have no BES Cyber Systems categorized as high impact or medium impact according to the CIP-002- identification and categorization processes.
 - 4.3. “Applicable Systems”:** Each table has an “Applicable Systems” column to define the scope of systems to which a specific requirement part applies.
- 5. Effective Dates:** See Project 2016-02 Modifications to CIP Standards Implementation Plan.

B. Requirements and Measures

- R1.** Each Responsible Entity shall implement one or more documented process(es) that collectively include each of the applicable requirement parts in *CIP-007-7 Table R1 – System Hardening*. [Violation Risk Factor: Medium] [Time Horizon: Same Day Operations.]
- M1.** Evidence must include the documented processes that collectively include each of the applicable requirement parts in *CIP-007-7 Table R1 – System Hardening* and additional evidence to demonstrate implementation as described in the Measures column of the table.

| CIP-007-7 Table R1– System Hardening | | | |
|--------------------------------------|--|--|--|
| Part | Applicable Systems | Requirements | Measures |
| 1.1 | <p>High impact BCS and their associated:</p> <ol style="list-style-type: none"> 1. Electronic Access Control and Monitoring Systems (EACMS); 2. Physical Access Control Systems (PACS); and 3. Protected Cyber Asset (PCA) <p>Medium impact BCS with ERC and their associated:</p> <ol style="list-style-type: none"> 1. EACMS; 2. PACS; and 3. PCA <p>SCI supporting an Applicable System in this Part.</p> | <p>Disable or prevent unneeded routable protocol network accessibility on each Applicable System, per system capability.</p> | <p>Examples of evidence may include, but are not limited to:</p> <ul style="list-style-type: none"> • Documentation of the need for all enabled network accessible logical ports or network accessible logical services, individually or by group; • Listings of the listening ports, individually or by group, from either configuration files or settings, command output (such as netstat), or network scans of open ports; • Configuration or settings of host-based firewalls or other device level mechanisms that disable or prevent unneeded network accessible logical ports or network accessible logical services; or • Identity or process based access policy or workload configuration demonstrating needed network accessibility. |

CIP-007-7 Table R1– System Hardening

| Part | Applicable Systems | Requirements | Measures |
|------------|---|--|---|
| 1.2 | <p>High impact BCS and their associated:</p> <ol style="list-style-type: none"> 1. PCA; and 2. Nonprogrammable communication components located inside both a PSP and an ESP. <p>Medium impact BCS at Control Centers and their associated:</p> <ol style="list-style-type: none"> 1. PCA; and 2. Nonprogrammable communication components located inside both a PSP and an ESP. <p>SCI supporting an Applicable System in this Part.</p> | Protect against the use of unnecessary physical input/output ports used for network connectivity, console commands, or Removable Media. | Examples of evidence may include, but are not limited to, documentation showing types of protection of physical input/output ports, either logically through system configuration or physically using a port lock or signage. |
| 1.3 | <p>SCI supporting either:</p> <p>High impact BCS or their associated PCA.</p> <p>Medium impact BCS or their associated PCA.</p> | Mitigate the risk of CPU or memory vulnerabilities by preventing the sharing of CPU resources and memory resources, excluding storage resources, between VCAs that are, or are associated with, a medium or high impact BCS, and VCAs that are not, or are not associated with, a medium or high impact BCS. | <p>Examples of evidence may include, but are not limited to, documentation of the configuration or settings showing that the CPU and memory cannot be shared, such as:</p> <ul style="list-style-type: none"> • Virtualization affinity rules; or • Hardware partitioning of physical Cyber Assets. |

- R2.** Each Responsible Entity shall implement one or more documented process(es) that collectively include each of the applicable requirement parts in *CIP-007-7 Table R2 – Cyber Security Patch Management*. [Violation Risk Factor: Medium] [Time Horizon: Operations Planning].
- M2.** Evidence must include each of the applicable documented processes that collectively include each of the applicable requirement parts in *CIP-007-7 Table R2 – Cyber Security Patch Management* and additional evidence to demonstrate implementation as described in the Measures column of the table.

| CIP-007-7 Table R2 – Cyber Security Patch Management | | | |
|--|--|--|--|
| Part | Applicable Systems | Requirements | Measures |
| 2.1 | <p>High impact BCS and their associated:</p> <ol style="list-style-type: none"> 1. EACMS; 2. PACS; and 3. PCA <p>Medium impact BCS and their associated:</p> <ol style="list-style-type: none"> 1. EACMS; 2. PACS; and 3. PCA <p>SCI supporting an Applicable System in this Part.</p> | A patch management process for tracking, evaluating, and installing cyber security patches. The tracking portion shall include the identification of a source or sources that the Responsible Entity tracks for the release of cyber security patches for Applicable Systems that are updateable and for which a patching source exists. | Examples of evidence may include, but are not limited to, documentation of a patch management process and documentation or lists of sources that are monitored. |
| 2.2 | <p>High impact BCS and their associated:</p> <ol style="list-style-type: none"> 1. EACMS; 2. PACS; and 3. PCA <p>Medium impact BCS and their associated:</p> <ol style="list-style-type: none"> 1. EACMS; 2. PACS; and 3. PCA <p>SCI supporting an Applicable System in this Part.</p> | At least once every 35 calendar days, evaluate cyber security patches for applicability that have been released since the last evaluation from the source or sources identified in Part 2.1. | Examples of evidence may include, but are not limited to, an evaluation conducted by, referenced by, or on behalf of a Responsible Entity of cyber security patches released by the documented sources at least once every 35 calendar days. |
| 2.3 | High impact BES Cyber Systems and their | For applicable patches identified in Part | Examples of evidence may include, but |

| CIP-007-7 Table R2 – Cyber Security Patch Management | | | |
|--|--|--|--|
| Part | Applicable Systems | Requirements | Measures |
| | <p>associated:</p> <ol style="list-style-type: none"> 1. EACMS; 2. PACS; and 3. PCA <p>Medium impact BES Cyber Systems and their associated:</p> <ol style="list-style-type: none"> 1. EACMS; 2. PACS; and 3. PCA <p>SCI supporting an Applicable System in this Part.</p> | <p>2.2, within 35 calendar days of the evaluation completion, take one of the following actions:</p> <ul style="list-style-type: none"> • Apply the applicable patches; • Create a dated mitigation plan; or • Revise an existing mitigation plan. <p>Mitigation plans shall include the Responsible Entity's planned actions to mitigate the vulnerabilities addressed by each cyber security patch and a timeframe to complete these mitigations.</p> | <p>are not limited to:</p> <ul style="list-style-type: none"> • Records of the installation of the cyber security patch (e.g., exports from automated patch management tools that provide installation date, verification of component software revision, or registry exports that show software has been installed); or • A dated plan showing when and how the vulnerability will be addressed, to include documentation of the actions to be taken by the Responsible Entity to mitigate the vulnerabilities addressed by the cyber security patch and a timeframe for the completion of these mitigations. |
| 2.4 | <p>High impact BCS and their associated:</p> <ol style="list-style-type: none"> 1. EACMS; 2. PACS; and 3. PCA <p>Medium impact BCS and their associated:</p> <ol style="list-style-type: none"> 1. EACMS; 2. PACS; and 3. PCA <p>SCI supporting an Applicable System in this Part.</p> | <p>For each mitigation plan created or revised in Part 2.3, implement the plan within the timeframe specified in the plan, unless a revision to the plan or an extension to the timeframe specified in Part 2.3 is approved by the CIP Senior Manager or delegate.</p> | <p>Examples of evidence may include, but are not limited to, records of implementation of mitigations, and any approval records for mitigation plan revisions or extensions.</p> |

- R3.** Each Responsible Entity shall implement one or more documented process(es) that collectively include each of the applicable requirement parts in *CIP-007-7 Table R3 – Malicious Code Prevention*. [Violation Risk Factor: Medium] [Time Horizon: Same Day Operations].
- M3.** Evidence must include each of the documented processes that collectively include each of the applicable requirement parts in *CIP-007-7 Table R3 – Malicious Code Prevention* and additional evidence to demonstrate implementation as described in the Measures column of the table.

| CIP-007-7 Table R3 – Malicious Code Prevention | | | |
|--|--|---|---|
| Part | Applicable Systems | Requirements | Measures |
| 3.1 | <p>High impact BCS and their associated:</p> <ol style="list-style-type: none"> 1. EACMS; 2. PACS; and 3. PCA <p>Medium impact BCS and their associated:</p> <ol style="list-style-type: none"> 1. EACMS; 2. PACS; and 3. PCA <p>SCI supporting an Applicable System in this Part.</p> | Deploy method(s) to deter, detect, or prevent malicious code. | Examples of evidence may include, but are not limited to, records of the Responsible Entity's performance of these processes (e.g., through traditional antivirus, system hardening, policies, etc.). |
| 3.2 | <p>High impact BCS and their associated:</p> <ol style="list-style-type: none"> 1. EACMS; 2. PACS; and 3. PCA <p>Medium impact BCS and their associated:</p> <ol style="list-style-type: none"> 1. EACMS; 2. PACS; and 3. PCA <p>SCI supporting an Applicable System in this Part.</p> | Mitigate the threat of detected malicious code. | <p>Examples of evidence may include, but are not limited to:</p> <ul style="list-style-type: none"> • Records of response processes for malicious code detection • Records of the performance of these processes when malicious code is detected. |
| 3.3 | High impact BCS and their associated: | For those methods identified in Part 3.1 | Examples of evidence may include, but |

| CIP-007-7 Table R3 – Malicious Code Prevention | | | |
|--|---|---|--|
| Part | Applicable Systems | Requirements | Measures |
| | <ol style="list-style-type: none"> 1. EACMS; 2. PACS; and 3. PCA <p>Medium impact BCS and their associated:</p> <ol style="list-style-type: none"> 1. EACMS; 2. PACS; and 3. PCA <p>SCI supporting an Applicable System in this Part.</p> | that use signatures or patterns, have a process for the update of the signatures or patterns. The process must address testing and installing the signatures or patterns. | are not limited to, documentation showing the process used for the update of signatures or patterns. |

- R4.** Each Responsible Entity shall implement one or more documented process(es) that collectively include each of the applicable requirement parts in *CIP-007-7 Table R4 – Security Event Monitoring*. [Violation Risk Factor: Medium] [Time Horizon: Same Day Operations and Operations Assessment.]
- M4.** Evidence must include each of the documented processes that collectively include each of the applicable requirement parts in *CIP-007-7 Table R4 – Security Event Monitoring* and additional evidence to demonstrate implementation as described in the Measures column of the table.

| CIP-007-7 Table R4 – Security Event Monitoring | | | |
|--|---|--|--|
| Part | Applicable Systems | Requirements | Measures |
| 4.1 | <p>High impact BCS and their associated:</p> <ol style="list-style-type: none"> 1. EACMS; 2. PACS; and 3. PCA <p>Medium impact BCS and their associated:</p> <ol style="list-style-type: none"> 1. EACMS; 2. PACS; and 3. PCA <p>SCI supporting an Applicable System in this Part.</p> | <p>Log security events, per system capability, for identification of, and after-the-fact investigations of, Cyber Security Incidents that include, at a minimum, each of the following types of events:</p> <ol style="list-style-type: none"> 4.1.1. Detected successful login attempts; 4.1.2. Detected failed access attempts and failed login attempts; and 4.1.3. Detected malicious code. | <p>Examples of evidence may include, but are not limited to, a paper or system generated listing of event types for which the Applicable System is capable of detecting and, for generated events, is configured to log. This listing must include the required types of events.</p> |
| 4.2 | <p>High impact BCS and their associated:</p> <ol style="list-style-type: none"> 1. EACMS; 2. PACS; and 3. PCA <p>Medium impact BCS with ERC and their associated:</p> <ol style="list-style-type: none"> 1. EACMS; 2. PACS; and 3. PCA <p>SCI supporting an Applicable System in this Part.</p> | <p>Generate alerts for security events that the Responsible Entity determines necessitates an alert that includes, as a minimum, each of the following types of events, per system capability:</p> <ol style="list-style-type: none"> 4.2.1. Detected malicious code from Part 4.1; and 4.2.2. Detected failure of Part 4.1 event logging. | <p>Examples of evidence may include, but are not limited to, paper or system-generated listing of security events that the Responsible Entity determined necessitate alerts, including paper or system generated list showing how alerts are configured.</p> |

| CIP-007-7 Table R4 – Security Event Monitoring | | | |
|--|---|---|--|
| Part | Applicable Systems | Requirements | Measures |
| 4.3 | <p>High impact BCS and their associated:</p> <ol style="list-style-type: none"> 1. EACMS; 2. PACS; and 3. PCA <p>Medium impact BCS at Control Centers and their associated:</p> <ol style="list-style-type: none"> 1. EACMS; 2. PACS; and 3. PCA <p>SCI supporting an Applicable System in this Part.</p> | Retain applicable security event logs identified in Part 4.1 for at least the last 90 consecutive calendar days, per system capability, except under CIP Exceptional Circumstances. | Examples of evidence may include, but are not limited to, documentation of the event log retention process and paper or system generated reports showing log retention configuration set at 90 calendar days or greater. |
| 4.4 | <p>High impact BCS and their associated:</p> <ol style="list-style-type: none"> 1. EACMS; and 2. PCA <p>SCI supporting an Applicable System in this Part.</p> | Review a summarization or sampling of logged security events as determined by the Responsible Entity at intervals no greater than 15 calendar days to identify undetected Cyber Security Incidents. | Examples of evidence may include, but are not limited to, documentation describing the review, findings from the review (if any), and dated documentation showing the review occurred. |

- R5.** Each Responsible Entity shall implement one or more documented process(es) that collectively include each of the applicable requirement parts in *CIP-007-7 Table R5 – System Access Controls*. [Violation Risk Factor: Medium] [Time Horizon: Operations Planning].
- M5.** Evidence must include each of the applicable documented processes that collectively include each of the applicable requirement parts in *CIP-007-7 Table 5 – System Access Controls* and additional evidence to demonstrate implementation as described in the Measures column of the table.

| CIP-007-7 Table R5 – System Access Control | | | |
|--|---|---|--|
| Part | Applicable Systems | Requirements | Measures |
| 5.1 | <p>High impact BCS and their associated:</p> <ol style="list-style-type: none"> 1. EACMS; 2. PACS; and 3. PCA <p>Medium impact BCS at Control Centers and their associated:</p> <ol style="list-style-type: none"> 1. EACMS; 2. PACS; and 3. PCA <p>Medium impact BCS with ERC and their associated:</p> <ol style="list-style-type: none"> 1. EACMS; 2. PACS; and 3. PCA <p>SCI supporting an Applicable System in this Part.</p> | Have a method(s) to enforce authentication of interactive user access, per system capability. | An example of evidence may include, but is not limited to, documentation describing how access is authenticated. |

| CIP-007-7 Table R5 – System Access Control | | | |
|--|---|---|---|
| Part | Applicable Systems | Requirements | Measures |
| 5.2 | <p>High impact BCS and their associated:</p> <ol style="list-style-type: none"> 1. EACMS; 2. PACS; and 3. PCA <p>Medium impact BCS and their associated:</p> <ol style="list-style-type: none"> 1. EACMS; 2. PACS; and 3. PCA <p>SCI supporting an Applicable System in this Part.</p> | Identify and inventory all known enabled default or other generic account types, either by system, by groups of systems, by location, or by system type(s). | Examples of evidence may include, but are not limited to, a listing of accounts by account types showing the enabled default or generic account types in use. |
| 5.3 | <p>High impact BCS and their associated:</p> <ol style="list-style-type: none"> 1. EACMS; 2. PACS; and 3. PCA <p>Medium impact BCS with ERC and their associated:</p> <ol style="list-style-type: none"> 1. EACMS; 2. PACS; and 3. PCA <p>SCI supporting an Applicable System in this Part.</p> | Identify individuals who have authorized access to shared accounts. | Examples of evidence may include, but are not limited to, listing of shared accounts and the individuals who have authorized access to each shared account. |

| CIP-007-7 Table R5 – System Access Control | | | |
|--|--|---|--|
| Part | Applicable Systems | Requirements | Measures |
| 5.4 | <p>High impact BCS and their associated:</p> <ol style="list-style-type: none"> 1. EACMS; 2. PACS; and 3. PCA <p>Medium impact BCS and their associated:</p> <ol style="list-style-type: none"> 1. EACMS; 2. PACS; and 3. PCA <p>SCI supporting an Applicable System in this Part.</p> | <p>Change known default passwords, per system capability</p> | <p>Examples of evidence may include, but are not limited to:</p> <ul style="list-style-type: none"> • Records of a procedure that passwords are changed when new devices are in production; or • Documentation in system manuals or other vendor documents showing default vendor passwords were generated pseudo-randomly and are thereby unique to the device. |
| 5.5 | <p>High impact BCS and their associated:</p> <ol style="list-style-type: none"> 1. EACMS; 2. PACS; and 3. PCA <p>Medium impact BCS and their associated:</p> <ol style="list-style-type: none"> 1. EACMS; 2. PACS; and 3. PCA <p>SCI supporting an Applicable System in this Part.</p> | <p>For password-only authentication for interactive user access, either technically or procedurally enforce the following password parameters:</p> <p>5.5.1. Password length that is, at least, the lesser of eight characters or the maximum length supported by the Applicable Systems; and</p> <p>5.5.2. Minimum password complexity that is the lesser of three or more different types of characters (e.g., uppercase alphabetic, lowercase alphabetic, numeric, non-alphanumeric) or the maximum complexity supported by the Applicable System.</p> | <p>Examples of evidence may include, but are not limited to:</p> <ul style="list-style-type: none"> • System-generated reports or screenshots of the system-enforced password parameters, including length and complexity; or • Attestations that include a reference to the documented procedures that were followed. |

| CIP-007-7 Table R5 – System Access Control | | | |
|--|---|--|---|
| Part | Applicable Systems | Requirements | Measures |
| 5.6 | <p>High impact BCS and their associated:</p> <ol style="list-style-type: none"> 1. EACMS; 2. PACS; and 3. PCA <p>Medium impact BCS with ERC and their associated:</p> <ol style="list-style-type: none"> 1. EACMS; 2. PACS; and 3. PCA <p>SCI supporting an Applicable System in this Part.</p> | For password-only authentication for interactive user access, either technically or procedurally enforce password changes or an obligation to change the password at least once every 15 calendar months, per system capability. | <p>Examples of evidence may include, but are not limited to:</p> <ul style="list-style-type: none"> • System-generated reports or screenshots of the system-enforced periodicity of changing passwords; or • Attestations that include a reference to the documented procedures that were followed. |
| 5.7 | <p>High impact BCS and their associated:</p> <ol style="list-style-type: none"> 1. EACMS; 2. PACS; and 3. PCA <p>Medium impact BCS at Control Centers and their associated:</p> <ol style="list-style-type: none"> 1. EACMS; 2. PACS; and 3. PCA <p>SCI supporting an Applicable System in this Part.</p> | Limit the number of unsuccessful authentication attempts or generate alerts after a threshold of unsuccessful authentication attempts, per system capability. | <p>Examples of evidence may include, but are not limited to:</p> <ul style="list-style-type: none"> • Documentation of the account-lockout parameters; or • Rules in the alerting configuration or settings showing how the system notified individuals after a determined number of unsuccessful login attempts. |

C. Compliance

1. Compliance Monitoring Process:

1.1. Compliance Enforcement Authority:

As defined in the NERC Rules of Procedure, “Compliance Enforcement Authority” (CEA) means NERC or the Regional Entity in their respective roles of monitoring and enforcing compliance with the NERC Reliability Standards.

1.2. Evidence Retention:

The following evidence retention periods 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 Assessment Processes:

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.

1.4. Additional Compliance Information:

None

Violation Severity Levels

| R # | Violation Severity Levels (CIP-007-7) | | | |
|-----------|--|--|--|--|
| | Lower VSL | Moderate VSL | High VSL | Severe VSL |
| R1 | The Responsible Entity did not document one or more process(es) that included the applicable items in CIP-007-7 Table R1. (Requirement R1) | The Responsible Entity had no methods to protect against unnecessary physical input/output ports used for network connectivity, console commands, or Removable Media. (Part 1.2) | The Responsible Entity had one or more unneeded logical network accessible ports or network accessible services enabled. (Part 1.1) OR The Responsible Entity has not prevented the sharing of the CPU and memory resources between VCAs that are, or are associated with, a Medium or High Impact BCS, and VCAs that are not, or are not associated with a Medium or High Impact BCS. (Part 1.3) | The Responsible Entity neither implemented nor documented one or more process(es) that included the applicable items in CIP-007-6 Table R1. (Requirement R1) |
| R2 | The Responsible Entity did not evaluate the cyber security patches for applicability within 35 calendar days but less than 50 calendar days of the last evaluation for the source or sources identified. (Part 2.2) OR The Responsible Entity did not apply the applicable cyber security patches, create a dated mitigation plan, or revise an existing mitigation plan within 35 calendar days but less than 50 calendar days of the evaluation completion. (Part 2.3) | The Responsible Entity did not include any processes, including the identification of sources, for tracking or evaluating cyber security patches for Applicable Systems. (Part 2.1) OR The Responsible Entity did not evaluate the cyber security patches for applicability within 50 calendar days but less than 65 calendar days of the last evaluation for the source or sources identified. (Part 2.2) OR | The Responsible Entity did not include any processes for installing cyber security patches for Applicable Systems. (Part 2.1) OR The Responsible Entity did not evaluate the cyber security patches for applicability within 65 calendar days of the last evaluation for the source or sources identified. (Part 2.2) OR The Responsible Entity did not apply the applicable cyber security patches, create a dated mitigation plan, or revise | The Responsible Entity did not implement or document one or more process(es) that included the applicable items in CIP-007-7 Table R2. (Requirement R2) OR The Responsible Entity did not include any processes for tracking, evaluating, or installing cyber security patches for applicable Cyber Assets. (Part 2.1) OR The Responsible Entity did not obtain approval by the CIP Senior Manager or delegate. (Part 2.4) |

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| R # | Violation Severity Levels (CIP-007-7) | | | |
|-----------|--|---|---|---|
| | Lower VSL | Moderate VSL | High VSL | Severe VSL |
| | | The Responsible Entity did not apply the applicable cyber security patches, create a dated mitigation plan, or revise an existing mitigation plan within 50 calendar days but less than 65 calendar days of the evaluation completion. (Part 2.3) | an existing mitigation plan within 65 calendar days of the evaluation completion. (Part 2.3) | OR The Responsible Entity did not implement the plan as created or revised within the timeframe specified in the plan. (Part 2.4) |
| R3 | N/A | The Responsible Entity, where signatures or patterns are used, the Responsible Entity did not address testing the signatures or patterns. (Part 3.3) | The Responsible Entity did not mitigate the threat of detected malicious code. (Part 3.2) OR The Responsible Entity, where signatures or patterns are used, the Responsible Entity did not update malicious code protections. (Part 3.3). | The Responsible Entity did not implement or document one or more process(es) that included the applicable items in CIP-007-6 Table R3. (Requirement R3). OR The Responsible Entity did not deploy method(s) to deter, detect, or prevent malicious code. (Part 3.1) |
| R4 | The Responsible Entity missed one of 15 calendar day interval and completed the review within 22 calendar days of the prior review. (Part 4.4) | The Responsible Entity missed one 15 calendar day interval and completed the review within 30 calendar days of the prior review. (Part 4.4) | The Responsible Entity did not generate alerts for all of the required types of security events described in 4.2.1 through 4.2.2. (Part 4.2) OR The Responsible Entity did not retain applicable security event logs for at least the last 90 consecutive days. (Part 4.3) OR The Responsible Entity missed two or more 15 calendar day intervals. (Part 4.4) | The Responsible Entity did not implement or document one or more process(es) that included the applicable items in CIP-007-6 Table R4. (Requirement R4) OR The Responsible Entity, per system capability, did not detect and log all of the required types of events described in 4.1.1 through 4.1.3. (Part 4.1) |

CIP-007-7 — Cyber Security – Systems Security Management

| R # | Violation Severity Levels (CIP-007-7) | | | |
|-----------|--|--|---|---|
| | Lower VSL | Moderate VSL | High VSL | Severe VSL |
| R5 | The Responsible Entity did not technically or procedurally enforce password changes or an obligation to change the password within 15 calendar months but less than or equal to 16 calendar months of the last password change. (Part 5.6) | The Responsible Entity did not technically or procedurally enforce password changes or an obligation to change the password within 16 calendar months but less than or equal to 17 calendar months of the last password change. (Part 5.6) | <p>The Responsible Entity did not include the identification or inventory of all known enabled default or other generic account types, either by system, by groups of systems, by location, or by system type(s). (Part 5.2)</p> <p>OR</p> <p>The Responsible Entity did not include the identification of the individuals with authorized access to shared accounts. (Part 5.3)</p> <p>OR</p> <p>The Responsible Entity did not technically or procedurally enforce one of the two password parameters as described in 5.5.1 and 5.5.2. (Part 5.5)</p> <p>OR</p> <p>The Responsible Entity process(es) for password-only authentication for interactive user access did not technically or procedurally enforce one of the two password parameters as described in 5.5.1 and 5.5.2. (Part 5.5)</p> <p>OR</p> <p>The Responsible Entity did not technically or procedurally</p> | <p>The Responsible Entity did not implement or document one or more process(es) that included the applicable items in CIP-007-6 Table R5. (Requirement R5)</p> <p>OR</p> <p>The Responsible Entity does not have a method(s) to enforce authentication of interactive user access. (Part 5.1)</p> <p>OR</p> <p>The Responsible Entity does not have a method(s) to enforce authentication of interactive user access. (Part 5.1)</p> <p>OR</p> <p>The Responsible Entity did not, per device capability, change known default passwords. (Part 5.4)</p> <p>OR</p> <p>The Responsible Entity did not technically or procedurally enforce all of the password parameters described in 5.5.1 and 5.5.2. (Part 5.5)</p> <p>OR</p> <p>The Responsible Entity did not technically or procedurally enforce password changes or an obligation to change the</p> |

CIP-007-7 — Cyber Security – Systems Security Management

| R # | Violation Severity Levels (CIP-007-7) | | | |
|-----|---------------------------------------|--------------|---|--|
| | Lower VSL | Moderate VSL | High VSL | Severe VSL |
| | | | enforce password changes or an obligation to change the password within 17 calendar months but less than or equal to 18 calendar months of the last password change. (Part 5.6) | password within 18 calendar months of the last password change. (Part 5.6) OR The Responsible Entity neither limited the number of unsuccessful authentication attempts nor generated alerts after a threshold of unsuccessful authentication attempts. (Part 5.7) |

D. Regional Variances

None.

E. Interpretations

None.

F. Associated Documents

- Implementation Plan for Project 2016-02
- CIP-007-7 Technical Rationale

Version History

| Version | Date | Action | Change Tracking |
|---------|----------|---|--|
| 1 | 1/16/06 | R3.2 — Change “Control Center” to “control center.” | 3/24/06 |
| 2 | 9/30/09 | Modifications to clarify the requirements and to bring the compliance elements into conformance with the latest guidelines for developing compliance elements of standards. Removal of reasonable business judgment. Replaced the RRO with the RE as a responsible entity. Rewording of Effective Date. Changed compliance monitor to Compliance Enforcement Authority. | |
| 3 | 12/16/09 | Updated Version Number from -2 to -3 In Requirement 1.6, deleted the sentence pertaining to removing component or system from service in order to perform testing, in response to FERC order issued September 30, 2009. | |
| 3 | 12/16/09 | Approved by the NERC Board of Trustees. | |
| 3 | 3/31/10 | Approved by FERC. | |
| 4 | 1/24/11 | Approved by the NERC Board of Trustees. | |
| 5 | 11/26/12 | Adopted by the NERC Board of Trustees. | Modified to coordinate with other CIP standards and to revise format to use RBS Template. |
| 5 | 11/22/13 | FERC Order issued approving CIP-007-5. | |
| 6 | 11/13/14 | Adopted by the NERC Board of Trustees. | Addressed two FERC directives from Order No. 791 related to identify, assess, and correct language and communication networks. |
| 6 | 2/15/15 | Adopted by the NERC Board of Trustees. | Replaces the version adopted by the Board on 11/13/2014. Revised version addresses |

| Version | Date | Action | Change Tracking |
|---------|----------|---|--|
| | | | remaining directives from Order No. 791 related to transient devices and low impact BES Cyber Systems. |
| 6 | 1/21/16 | FERC order issued approving CIP-007-6. Docket No. RM15-14-000 | |
| 7 | 5/9/2024 | Adopted by the NERC Board of Trustees. | Virtualization Modifications by Project 2016-02 |