

Standard Development Timeline

This section is maintained by the drafting team during the development of the standard and will be removed when the standard is adopted by the NERC Board of Trustees (Board).

Description of Current Draft

This is the first draft of proposed standard for formal 20-day comment period.

Completed Actions	Date
Standards Committee approved Standard Authorization Request (SAR) for posting	August 9, 2018
SAR posted for comment	August 10 – September 10, 2018

Anticipated Actions	Date
20-day formal comment period with ballot	October 2018
15-day formal comment period with additional ballot	November 2018
5-day final ballot	January 2019
Board adoption	February 2019

New or Modified Term(s) Used in NERC Reliability Standards

This section includes all new or modified terms used in the proposed standard that will be included in the *Glossary of Terms Used in NERC Reliability Standards* upon applicable regulatory approval. Terms used in the proposed standard that are already defined and are not being modified can be found in the *Glossary of Terms Used in NERC Reliability Standards*. The new or revised terms listed below will be presented for approval with the proposed standard. Upon Board adoption, this section will be removed.

Proposed Modified Terms:

Cyber Security Incident:

A malicious act or suspicious event that:

- Compromises, or was an attempt to compromise, (1) the Electronic Security Perimeter or (2) Physical Security Perimeter or, (3) Electronic Access Control of Monitoring System for High or Medium Impact BES Cyber Systems, or;
- Disrupts, or was an attempt to disrupt, the operation of a BES Cyber system.

Reportable Cyber Security Incident:

A Cyber Security Incident that has compromised or disrupted:

- One or more reliability tasks of a functional entity; or
- Electronic Security Perimeter; or
- Electronic Access Control or Monitoring System (EACMS) that provide any of the following functions: (1) authentication; (2) monitoring and logging; (3) access control; (4) Interactive Remote Access; or (5) alerting.

Proposed New Term:

Reportable Attempted Cyber Security Incident:

A Cyber Security Incident that was an attempt to compromise or disrupt:

- One or more reliability tasks of a functional entity; or
- Electronic Security Perimeter; or
- Electronic Access Control or Monitoring System (EACMS) that provide any of the following functions: (1) authentication; (2) monitoring and logging; (3) access control; (4) Interactive Remote Access; or (5) alerting

A. Introduction

1. **Title:** Cyber Security — Incident Reporting and Response Planning
2. **Number:** CIP-008-6
3. **Purpose:** To mitigate the risk to the reliable operation of the BES as the result of a Cyber Security Incident by specifying incident response requirements.

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 where the Remedial Action Scheme 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 Remedial Action Scheme where the Remedial Action Scheme 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-008-6:

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.

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 CIP-002 identification and categorization processes.

5. Effective Dates:

See Implementation Plan for CIP-008-6.

6. Background:

Standard CIP-008 exists as part of a suite of CIP Standards related to cyber security. CIP-002 requires the initial identification and categorization of BES Cyber Systems. CIP-003, CIP-004, CIP-005, CIP-006, CIP-007, CIP-008, CIP-009, CIP-010, and CIP-011 require a minimum level of organizational, operational, and procedural controls to mitigate risk to BES Cyber Systems. This suite of CIP Standards is referred to as the *Version 5 CIP Cyber Security Standards*.

Most requirements open with, “*Each Responsible Entity shall implement one or more documented [processes, plan, etc] that include the applicable items in [Table Reference].*” The referenced table requires the applicable items in the procedures for the requirement’s common subject matter.

The term *documented processes* refers to a set of required instructions specific to the Responsible Entity and to achieve a specific outcome. This term does not imply any particular naming or approval structure beyond what is stated in the requirements. An entity should include as much as it believes necessary in their documented processes, but they must address the applicable requirements in the table.

The terms *program* and *plan* are sometimes used in place of *documented processes* where it makes sense and is commonly understood. For example, documented processes describing a response are typically referred to as *plans* (i.e., incident response plans and recovery plans). Likewise, a security plan can describe an approach involving multiple procedures to address a broad subject matter.

Similarly, the term *program* may refer to the organization’s overall implementation of its policies, plans and procedures involving a subject matter. Examples in the standards include the personnel risk assessment program and the personnel training program. The full implementation of the CIP Cyber Security Standards could also be referred to as a program. However, the terms *program* and *plan* do not imply any additional requirements beyond what is stated in the standards.

Responsible Entities can implement common controls that meet requirements for multiple high and medium impact BES Cyber Systems. For example, a single training program could meet the requirements for training personnel across multiple BES Cyber Systems.

Measures for the initial requirement are simply the documented processes themselves. Measures in the table rows provide examples of evidence to show documentation and implementation of applicable items in the documented processes. These measures serve to provide guidance to entities in acceptable records of compliance and should not be viewed as an all-inclusive list.

Throughout the standards, unless otherwise stated, bulleted items in the requirements and measures are items that are linked with an “or,” and numbered items are items that are linked with an “and.”

Many references in the Applicability section use a threshold of 300 MW for UFLS and UVLS. This particular threshold of 300 MW for UVLS and UFLS was provided in Version 1 of the CIP Cyber Security Standards. The threshold remains at 300 MW since it is specifically addressing UVLS and UFLS, which are last ditch efforts to save the Bulk Electric System. A review of UFLS tolerances defined within regional reliability standards for UFLS program requirements to date indicates that the historical value of 300 MW represents an adequate and reasonable threshold value for allowable UFLS operational tolerances.

“Applicable Systems” Columns in Tables:

Each table has an “Applicable Systems” column to further define the scope of systems to which a specific requirement row applies. The CSO706 SDT adapted this concept from the National Institute of Standards and Technology (“NIST”) Risk Management Framework as a way of applying requirements more appropriately based on impact and connectivity characteristics. The following conventions are used in the “Applicable Systems” column as described.

- **High Impact BES Cyber Systems** – Applies to BES Cyber Systems categorized as high impact according to the CIP-002 identification and categorization processes.
- **Medium Impact BES Cyber Systems** – Applies to BES Cyber Systems categorized as medium impact according to the CIP-002 identification and categorization processes.

B. Requirements and Measures

- R1.** Each Responsible Entity shall document one or more Cyber Security Incident response plan(s) that collectively include each of the applicable requirement parts in *CIP-008-6 Table R1 – Cyber Security Incident Response Plan Specifications*. *[Violation Risk Factor: Lower] [Time Horizon: Long Term Planning]*.
- M1.** Evidence must include each of the documented plan(s) that collectively include each of the applicable requirement parts in *CIP-008-6 Table R1 – Cyber Security Incident Response Plan Specifications*.

CIP-008-6 Table R1 – Cyber Security Incident Response Plan Specifications			
Part	Applicable Systems	Requirements	Measures
1.1	<p>High Impact BES Cyber Systems and their associated:</p> <ul style="list-style-type: none"> EACMS <p>Medium Impact BES Cyber Systems and their associated:</p> <ul style="list-style-type: none"> EACMS 	<p>One or more processes to identify, classify, and respond to Cyber Security Incidents.</p>	<p>An example of evidence may include, but is not limited to, dated documentation of Cyber Security Incident response plan(s) that include the process to identify, classify, and respond to Cyber Security Incidents.</p>

CIP-008-6 Table R1 – Cyber Security Incident Response Plan Specifications			
Part	Applicable Systems	Requirements	Measures
1.2	<p>High Impact BES Cyber Systems and their associated:</p> <ul style="list-style-type: none"> EACMS <p>Medium Impact BES Cyber Systems and their associated:</p> <ul style="list-style-type: none"> EACMS 	<p>One or more processes to determine if an identified Cyber Security Incident is a Reportable Cyber Security Incident or a Reportable Attempted Cyber Security Incident and requires notification per Requirement R4.</p>	<p>Examples of evidence may include, but are not limited to, dated documentation of Cyber Security Incident response plan(s) that provide guidance or thresholds for determining which Cyber Security Incidents are also Reportable Cyber Security Incidents or Reportable Attempted Cyber Security Incidents and documented processes for notification.</p>
1.3	<p>High Impact BES Cyber Systems and their associated:</p> <ul style="list-style-type: none"> EACMS <p>Medium Impact BES Cyber Systems and their associated:</p> <ul style="list-style-type: none"> EACMS 	<p>The roles and responsibilities of Cyber Security Incident response groups or individuals.</p>	<p>An example of evidence may include, but is not limited to, dated Cyber Security Incident response process(es) or procedure(s) that define roles and responsibilities (e.g., monitoring, reporting, initiating, documenting, etc.) of Cyber Security Incident response groups or individuals.</p>
1.4	<p>High Impact BES Cyber Systems and their associated:</p> <ul style="list-style-type: none"> EACMS <p>Medium Impact BES Cyber Systems and their associated:</p> <ul style="list-style-type: none"> EACMS 	<p>Incident handling procedures for Cyber Security Incidents.</p>	<p>An example of evidence may include, but is not limited to, dated Cyber Security Incident response process(es) or procedure(s) that address incident handling (e.g., containment, eradication, recovery/incident resolution).</p>

- R2.** Each Responsible Entity shall implement each of its documented Cyber Security Incident response plans to collectively include each of the applicable requirement parts in *CIP-008-6 Table R2 – Cyber Security Incident Response Plan Implementation and Testing*. [Violation Risk Factor: Lower] [Time Horizon: Operations Planning and Real-Time Operations].
- M2.** Evidence must include, but is not limited to, documentation that collectively demonstrates implementation of each of the applicable requirement parts in *CIP-008-6 Table R2 – Cyber Security Incident Response Plan Implementation and Testing*.

CIP-008-6 Table R2 – Cyber Security Incident Response Plan Implementation and Testing			
Part	Applicable Systems	Requirements	Measures
2.1	High Impact BES Cyber Systems and their associated: <ul style="list-style-type: none"> • EACMS Medium Impact BES Cyber Systems and their associated: <ul style="list-style-type: none"> • EACMS 	Test each Cyber Security Incident response plan(s) at least once every 15 calendar months: <ul style="list-style-type: none"> • By responding to an actual Reportable Cyber Security Incident; • With a paper drill or tabletop exercise of a Reportable Cyber Security Incident; or • With an operational exercise of a Reportable Cyber Security Incident. 	Examples of evidence may include, but are not limited to, dated evidence of a lessons-learned report that includes a summary of the test or a compilation of notes, logs, and communication resulting from the test. Types of exercises may include discussion or operations based exercises.

CIP-008-6 Table R2 – Cyber Security Incident Response Plan Implementation and Testing			
Part	Applicable Systems	Requirements	Measures
2.2	<p>High Impact BES Cyber Systems and their associated:</p> <ul style="list-style-type: none"> • EACMS <p>Medium Impact BES Cyber Systems and their associated:</p> <ul style="list-style-type: none"> • EACMS 	<p>Use the Cyber Security Incident response plan(s) under Requirement R1 when responding to a Reportable Cyber Security Incident, Reportable Attempted Cyber Security Incident, or performing an exercise of a Reportable Cyber Security Incident. Document deviations from the plan(s) taken during the response to the incident or exercise.</p>	<p>Examples of evidence may include, but are not limited to, incident reports, logs, and notes that were kept during the incident response process, and follow-up documentation that describes deviations taken from the plan during the incident or exercise.</p>
2.3	<p>High Impact BES Cyber Systems and their associated:</p> <ul style="list-style-type: none"> • EACMS <p>Medium Impact BES Cyber Systems and their associated:</p> <ul style="list-style-type: none"> • EACMS 	<p>Retain records related to Reportable Cyber Security Incidents and Reportable Attempted Cyber Security Incidents.</p>	<p>An example of evidence may include, but is not limited to, dated documentation, such as security logs, police reports, emails, response forms or checklists, forensic analysis results, restoration records, and post-incident review notes related to Reportable Cyber Security Incidents and Reportable Attempted Cyber Security Incidents.</p>

- R3.** Each Responsible Entity shall maintain each of its Cyber Security Incident response plans according to each of the applicable requirement parts in *CIP-008-6 Table R3 – Cyber Security Incident Response Plan Review, Update, and Communication*. *[Violation Risk Factor: Lower] [Time Horizon: Operations Assessment]*.
- M3.** Evidence must include, but is not limited to, documentation that collectively demonstrates maintenance of each Cyber Security Incident response plan according to the applicable requirement parts in *CIP-008-6 Table R3 – Cyber Security Incident Response Plan Review, Update, and Communication*.

CIP-008-6 Table R3 – Cyber Security Incident Response Plan Review, Update, and Communication			
Part	Applicable Systems	Requirements	Measures
3.1	<p>High Impact BES Cyber Systems and their associated:</p> <ul style="list-style-type: none"> EACMS <p>Medium Impact BES Cyber Systems and their associated:</p> <ul style="list-style-type: none"> EACMS 	<p>No later than 90 calendar days after completion of a Cyber Security Incident response plan(s) test or actual Reportable Cyber Security Incident response:</p> <p>3.1.1. Document any lessons learned or document the absence of any lessons learned;</p> <p>3.1.2. Update the Cyber Security Incident response plan based on any documented lessons learned associated with the plan; and</p> <p>3.1.3. Notify each person or group with a defined role in the Cyber Security Incident response plan of the updates to the Cyber Security Incident response plan based on any documented lessons learned.</p>	<p>An example of evidence may include, but is not limited to, all of the following:</p> <ol style="list-style-type: none"> Dated documentation of post incident(s) review meeting notes or follow-up report showing lessons learned associated with the Cyber Security Incident response plan(s) test or actual Reportable Cyber Security Incident response or dated documentation stating there were no lessons learned; Dated and revised Cyber Security Incident response plan showing any changes based on the lessons learned; and Evidence of plan update distribution including, but not limited to: <ul style="list-style-type: none"> Emails; USPS or other mail service; Electronic distribution system; or Training sign-in sheets.

CIP-008-6 Table R3 – Cyber Security Incident Response Plan Review, Update, and Communication			
Part	Applicable Systems	Requirements	Measures
3.2	<p>High Impact BES Cyber Systems and their associated:</p> <ul style="list-style-type: none"> EACMS <p>Medium Impact BES Cyber Systems and their associated:</p> <ul style="list-style-type: none"> EACMS 	<p>No later than 60 calendar days after a change to the roles or responsibilities, Cyber Security Incident response groups or individuals, or technology that the Responsible Entity determines would impact the ability to execute the plan:</p> <p>3.2.1. Update the Cyber Security Incident response plan(s); and</p> <p>3.2.2. Notify each person or group with a defined role in the Cyber Security Incident response plan of the updates.</p>	<p>An example of evidence may include, but is not limited to:</p> <ol style="list-style-type: none"> Dated and revised Cyber Security Incident response plan with changes to the roles or responsibilities, responders or technology; and Evidence of plan update distribution including, but not limited to: <ul style="list-style-type: none"> Emails; USPS or other mail service; Electronic distribution system; or Training sign-in sheets.

- R4.** Each Responsible Entity shall notify the Electricity Information Sharing and Analysis Center (E-ISAC) and each United States Responsible Entity also shall notify the Industrial Control Systems Cyber Emergency Response Team (ICS-CERT), or their successors, of Reportable Cyber Security Incidents and Reportable Attempted Cyber Security Incidents, unless prohibited by law, according to each of the applicable requirement parts in *CIP-008-6 Table R4 – Notifications and Reporting for Cyber Security Incidents*. [Violation Risk Factor: Lower] [Time Horizon: Operations Assessment].
- M4.** Evidence must include, but is not limited to, documentation that collectively demonstrates notification of each determined Reportable Cyber Security Incident according to the applicable requirement parts in *CIP-008-6 Table R4 – Notifications and Reporting for Cyber Security Incidents*.

CIP-008-6 Table R4 – Notifications and Reporting for Cyber Security Incidents			
Part	Applicable Systems	Requirements	Measures
4.1	High Impact BES Cyber Systems and their associated: <ul style="list-style-type: none"> • EACMS Medium Impact BES Cyber Systems and their associated: <ul style="list-style-type: none"> • EACMS 	Except for Reportable Cyber Security Incidents compromising or disrupting a Physical Security Perimeter, initial notifications and updates shall include the following attributes, at a minimum, to the extent known: <ol style="list-style-type: none"> 1. The functional impact; 2. The attack vector used; and 3. The level of intrusion that was achieved or attempted. 	Examples of evidence may include, but are not limited to, dated documentation of initial notifications and updates to the E-ISAC and ICS-CERT in the form of Attachment 1 submissions.

CIP-008-6 Table R4 – Notifications and Reporting for Cyber Security Incidents			
Part	Applicable Systems	Requirements	Measures
4.2	<p>High Impact BES Cyber Systems and their associated:</p> <ul style="list-style-type: none"> EACMS <p>Medium Impact BES Cyber Systems and their associated:</p> <ul style="list-style-type: none"> EACMS 	<p>Responsible Entities shall use one of the following methods for initial notification:</p> <ul style="list-style-type: none"> Electronic submission of Attachment 1; Phone; or Email. <p>If Attachment 1 was not submitted for initial notification, it must be submitted within 5 calendar days of initial notification, without attribute information if undetermined at the time of submittal.</p>	<p>Examples of evidence may include, but are not limited to, dated documentation of notices to the E-ISAC and ICS-CERT in the form of electronic submissions of Attachment 1, phone records or email.</p>
4.3	<p>High Impact BES Cyber Systems and their associated:</p> <ul style="list-style-type: none"> EACMS <p>Medium Impact BES Cyber Systems and their associated:</p> <ul style="list-style-type: none"> EACMS 	<p>Timeline for initial notification:</p> <ul style="list-style-type: none"> One hour from the determination of a Reportable Cyber Security Incident. By the end of the next calendar day after a determination of a Reportable Attempted Cyber Security Incident. 	<p>Examples of evidence may include, but are not limited to, dated documentation of notices to the E-ISAC and ICS-CERT in the form of phone records for preliminary notice or submissions through the E-ISAC and ICS-CERT approved methods, or Attachment 1 submissions.</p>

CIP-008-6 Table R4 – Notifications and Reporting for Cyber Security Incidents			
Part	Applicable Systems	Requirements	Measures
4.4	<p>High Impact BES Cyber Systems and their associated:</p> <ul style="list-style-type: none"> EACMS <p>Medium Impact BES Cyber Systems and their associated:</p> <ul style="list-style-type: none"> EACMS 	<p>Responsible Entities shall submit Attachment 1 updates for the attributes required in Part 4.1 within 5 calendar days of determination of new or changed attribute information. Submissions must occur each time new attribute information is available until all attributes have been reported.</p>	<p>Examples of evidence may include, but are not limited to, dated documentation of Attachment 1 submissions to the E-ISAC and ICS-CERT.</p>

C. Compliance

1. Compliance Monitoring Process:

1.1. Compliance Enforcement Authority:

The Regional Entity shall serve as the Compliance Enforcement Authority (“CEA”) unless the applicable entity is owned, operated, or controlled by the Regional Entity. In such cases the ERO or a Regional Entity approved by FERC or other applicable governmental authority shall serve as the CEA.

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:

- Compliance Audit
- Self-Certification
- Spot Checking
- Compliance Investigation
- Self-Reporting
- Complaint

1.4. Additional Compliance Information:

- None

2. Table of Compliance Elements

R #	Time Horizon	VRF	Violation Severity Levels (CIP-008-6)			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
R1	Long Term Planning	Lower	N/A	N/A	<p>The Responsible Entity has developed the Cyber Security Incident response plan(s), but the plan does not include the roles and responsibilities of Cyber Security Incident response groups or individuals. (1.3)</p> <p>OR</p> <p>The Responsible Entity has developed the Cyber Security Incident response plan(s), but the plan does not include incident handling procedures for Cyber Security Incidents. (1.4)</p>	<p>The Responsible Entity has not developed a Cyber Security Incident response plan with one or more processes to identify, classify, and respond to Cyber Security Incidents. (1.1)</p> <p>OR</p> <p>The Responsible Entity has developed a Cyber Security Incident response plan, but the plan does not include one or more processes to identify Reportable Cyber Security Incidents or Reportable Attempted Cyber Security Incidents. (1.2)</p>

R #	Time Horizon	VRF	Violation Severity Levels (CIP-008-6)			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
R2	Operations Planning Real-time Operations	Lower	The Responsible Entity has not tested the Cyber Security Incident response plan(s) within 15 calendar months, not exceeding 16 calendar months between tests of the plan. (2.1)	The Responsible Entity has not tested the Cyber Security Incident response plan(s) within 16 calendar months, not exceeding 17 calendar months between tests of the plan. (2.1)	The Responsible Entity has not tested the Cyber Security Incident response plan(s) within 17 calendar months, not exceeding 18 calendar months between tests of the plan. (2.1) OR The Responsible Entity did not document deviations, if any, from the plan during a test or when a Reportable Cyber Security Incident or Reportable Attempted Cyber Security Incident occurs. (2.2)	The Responsible Entity has not tested the Cyber Security Incident response plan(s) within 18 calendar months between tests of the plan. (2.1) OR The Responsible Entity did not retain relevant records related to Reportable Cyber Security Incidents or Reportable Attempted Cyber Security Incidents. (2.3)
R3	Operations Assessment	Lower	The Responsible Entity has not notified each person or group with a defined role in the Cyber Security Incident response plan of updates to the	The Responsible Entity has not updated the Cyber Security Incident response plan based on any documented lessons learned within 90 and	The Responsible Entity has neither documented lessons learned nor documented the absence of any lessons learned within 90 and	The Responsible Entity has neither documented lessons learned nor documented the absence of any lessons learned within

R #	Time Horizon	VRF	Violation Severity Levels (CIP-008-6)			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
			<p>Cyber Security Incident response plan within greater than 90 but less than 120 calendar days of a test or actual incident response to a Reportable Cyber Security Incident. (3.1.3)</p>	<p>less than 120 calendar days of a test or actual incident response to a Reportable Cyber Security Incident. (3.1.2)</p> <p>OR</p> <p>The Responsible Entity has not notified each person or group with a defined role in the Cyber Security Incident response plan of updates to the Cyber Security Incident response plan within 120 calendar days of a test or actual incident response to a Reportable Cyber Security Incident. (3.1.3)</p> <p>OR</p> <p>The Responsible Entity has not updated the Cyber Security Incident response plan(s) or notified</p>	<p>less than 120 calendar days of a test or actual incident response to a Reportable Cyber Security Incident. (3.1.1)</p> <p>OR</p> <p>The Responsible Entity has not updated the Cyber Security Incident response plan based on any documented lessons learned within 120 calendar days of a test or actual incident response to a Reportable Cyber Security Incident. (3.1.2)</p> <p>OR</p> <p>The Responsible Entity has not updated the Cyber Security Incident response plan(s) or notified each person or group with a defined role</p>	<p>120 calendar days of a test or actual incident response to a Reportable Cyber Security Incident. (3.1.1)</p>

R #	Time Horizon	VRF	Violation Severity Levels (CIP-008-6)			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
				each person or group with a defined role within 60 and less than 90 calendar days of any of the following changes that the responsible entity determines would impact the ability to execute the plan: (3.2) <ul style="list-style-type: none"> • Roles or responsibilities, or • Cyber Security Incident response groups or individuals, or • Technology changes. 	within 90 calendar days of any of the following changes that the responsible entity determines would impact the ability to execute the plan: (3.2) <ul style="list-style-type: none"> • Roles or responsibilities, or • Cyber Security Incident response groups or individuals, or • Technology changes. 	
R4	Operations Assessment	Lower	The Responsible Entity notified E-ISAC and ICS-CERT, or their successors, of a Reportable Cyber Security Incident or Reportable Attempted Cyber Security Incident and the attributes within the	The Responsible Entity notified E-ISAC and ICS-CERT, or their successors, of a Reportable Cyber Security Incident or Reportable Attempted Cyber Security Incident but failed to report on one or more	The Responsible Entity notified E-ISAC and ICS-CERT, or their successors, but failed to notify or update E-ISAC or ICS-CERT, or their successors, within the timeframes pursuant to	The Responsible Entity failed to notify E-ISAC or ICS-CERT, or their successors, of a Reportable Cyber Security Incident or Reportable Attempted Cyber Security Incident. (R4)

R #	Time Horizon	VRF	Violation Severity Levels (CIP-008-6)			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
			<p>timeframes pursuant to Requirement R4, Parts 4.1 and 4.3 but failed to submit the form in Attachment 1. (4.4)</p> <p>OR</p> <p>The Responsible Entity notified E-ISAC and ICS-CERT, or their successors, of a Reportable Cyber Security Incident or Reportable Attempted Cyber Security Incident and the attributes within the timeframes pursuant to Requirement R4, Parts 4.1 and 4.3 but failed to use one of the methods for initial notification pursuant to Requirement R4, Part 4.2.</p>	<p>of the attributes within the timeframes pursuant to Requirement R4, Part 4.4 after determination of the attribute(s) not reported pursuant to Requirement R4, Part 4.1. (4.4)</p> <p>OR</p> <p>The Responsible Entity notified E-ISAC and ICS-CERT, or their successors, of a Reportable Cyber Security Incident or Reportable Attempted Cyber Security Incident but failed to report on one or more of the attributes after determination of the attribute pursuant to Requirement R4, Part 4.1.</p>	Requirement R4, Part 4.3.	

D. Regional Variances

None.

E. Interpretations

None.

F. Associated Documents

None.

Guidelines and Technical Basis

Note: The Guidelines and Technical Basis section has not been revised as part of Project 2018-02. A separate technical rationale document has been created to cover [Project 2018-02](#) revisions. Future edits to this section will be conducted through the [Technical Rationale for Reliability Standards](#) Project and the Standards Drafting Process.

Section 4 – Scope of Applicability of the CIP Cyber Security Standards

Section “4. Applicability” of the standards provides important information for Responsible Entities to determine the scope of the applicability of the CIP Cyber Security Requirements.

Section “4.1. Functional Entities” is a list of NERC functional entities to which the standard applies. If the entity is registered as one or more of the functional entities listed in Section 4.1, then the NERC CIP Cyber Security Standards apply. Note that there is a qualification in Section 4.1 that restricts the applicability in the case of Distribution Providers to only those that own certain types of systems and equipment listed in 4.2. Furthermore,

Section “4.2. Facilities” defines the scope of the Facilities, systems, and equipment owned by the Responsible Entity, as qualified in Section 4.1, that is subject to the requirements of the standard. As specified in the exemption section 4.2.3.5, this standard does not apply to Responsible Entities that do not have High Impact or Medium Impact BES Cyber Systems under CIP-002-5’s categorization. In addition to the set of BES Facilities, Control Centers, and other systems and equipment, the list includes the set of systems and equipment owned by Distribution Providers. While the NERC Glossary term “Facilities” already includes the BES characteristic, the additional use of the term BES here is meant to reinforce the scope of applicability of these Facilities where it is used, especially in this applicability scoping section. This in effect sets the scope of Facilities, systems, and equipment that is subject to the standards.

Requirement R1:

The following guidelines are available to assist in addressing the required components of a Cyber Security Incident response plan:

- Department of Homeland Security, Control Systems Security Program, *Developing an Industrial Control Systems Cyber Security Incident Response Capability*, 2009, online at http://www.us-cert.gov/control_systems/practices/documents/final-RP_ics_cybersecurity_incident_response_100609.pdf
- National Institute of Standards and Technology, *Computer Security Incident Handling Guide*, Special Publication 800-61 revision 1, March 2008, online at <http://csrc.nist.gov/publications/nistpubs/800-61-rev1/SP800-61rev1.pdf>

For Part 1.2, a Reportable Cyber Security Incident is a Cyber Security Incident that has compromised or disrupted one or more reliability tasks of a functional entity. It is helpful to distinguish Reportable Cyber Security Incidents as one resulting in a necessary response action. A response action can fall into one of two categories: Necessary or elective. The distinguishing

characteristic is whether or not action was taken in response to an event. Precautionary measures that are not in response to any persistent damage or effects may be designated as elective. All other response actions to avoid any persistent damage or adverse effects, which include the activation of redundant systems, should be designated as necessary.

The reporting obligations for Reportable Cyber Security Incidents require at least a preliminary notice to the ES-ISAC within one hour after determining that a Cyber Security Incident is reportable (not within one hour of the Cyber Security Incident, an important distinction). This addition is in response to the directive addressing this issue in FERC Order No. 706, paragraphs 673 and 676, to report within one hour (at least preliminarily). This standard does not require a complete report within an hour of determining that a Cyber Security Incident is reportable, but at least preliminary notice, which may be a phone call, an email, or sending a Web-based notice. The standard does not require a specific timeframe for completing the full report.

Requirement R2:

Requirement R2 ensures entities periodically test the Cyber Security Incident response plan. This includes the requirement in Part 2.2 to ensure the plan is actually used when testing. The testing requirements are specifically for *Reportable Cyber Security Incidents*.

Entities may use an actual response to a *Reportable Cyber Security Incident* as a substitute for exercising the plan annually. Otherwise, entities must exercise the plan with a paper drill, tabletop exercise, or full operational exercise. For more specific types of exercises, refer to the FEMA Homeland Security Exercise and Evaluation Program (HSEEP). It lists the following four types of discussion-based exercises: seminar, workshop, tabletop, and games. In particular, it defines that, “A tabletop exercise involves key personnel discussing simulated scenarios in an informal setting. Table top exercises (TTX) can be used to assess plans, policies, and procedures.”

The HSEEP lists the following three types of operations-based exercises: Drill, functional exercise, and full-scale exercise. It defines that, “[A] full-scale exercise is a multi-agency, multi-jurisdictional, multi-discipline exercise involving functional (e.g., joint field office, Emergency operation centers, etc.) and ‘boots on the ground’ response (e.g., firefighters decontaminating mock victims).”

In addition to the requirements to implement the response plan, Part 2.3 specifies entities must retain relevant records for *Reportable Cyber Security Incidents*. There are several examples of specific types of evidence listed in the measure. Entities should refer to their handling procedures to determine the types of evidence to retain and how to transport and store the evidence. For further information in retaining incident records, refer to the NIST Guide to Integrating Forensic Techniques into Incident Response (SP800-86). The NIST guideline includes a section (Section 3.1.2) on acquiring data when performing forensics.

Requirement R3:

This requirement ensures entities maintain Cyber Security Incident response plans. There are two requirement parts that trigger plan updates: (1) lessons learned from Part 3.1 and (2) organizational or technology changes from Part 3.2.

The documentation of lessons learned from Part 3.1 is associated with each Reportable Cyber Security Incident and involves the activities as illustrated in Figure 1, below. The deadline to document lessons learned starts after the completion of the incident in recognition that complex incidents on complex systems can take a few days or weeks to complete response activities. The process of conducting lessons learned can involve the response team discussing the incident to determine gaps or areas of improvement within the plan. Any documented deviations from the plan from Part 2.2 can serve as input to the lessons learned. It is possible to have a *Reportable Cyber Security Incident* without any documented lessons learned. In such cases, the entity must retain documentation of the absence of any lessons learned associated with the *Reportable Cyber Security Incident*.

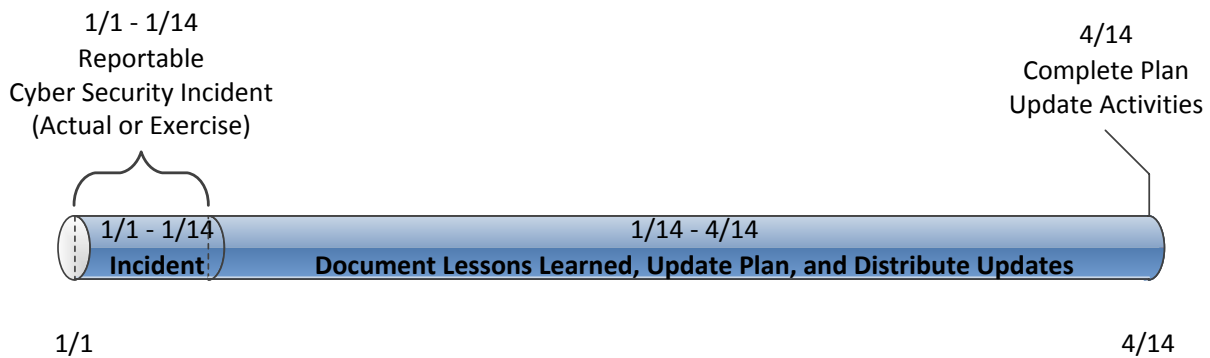


Figure 1: CIP-008-5 R3 Timeline for Reportable Cyber Security Incidents

The activities necessary to complete the lessons learned include updating the plan and distributing those updates. Entities should consider meeting with all of the individuals involved in the incident and documenting the lessons learned as soon after the incident as possible. This allows more time for making effective updates to the plan, obtaining any necessary approvals, and distributing those updates to the incident response team.

The plan change requirement in Part 3.2 is associated with organization and technology changes referenced in the plan and involves the activities illustrated in Figure 2, below. Organizational changes include changes to the roles and responsibilities people have in the plan or changes to the response groups or individuals. This may include changes to the names or contact information listed in the plan. Technology changes affecting the plan may include referenced information sources, communication systems or ticketing systems.

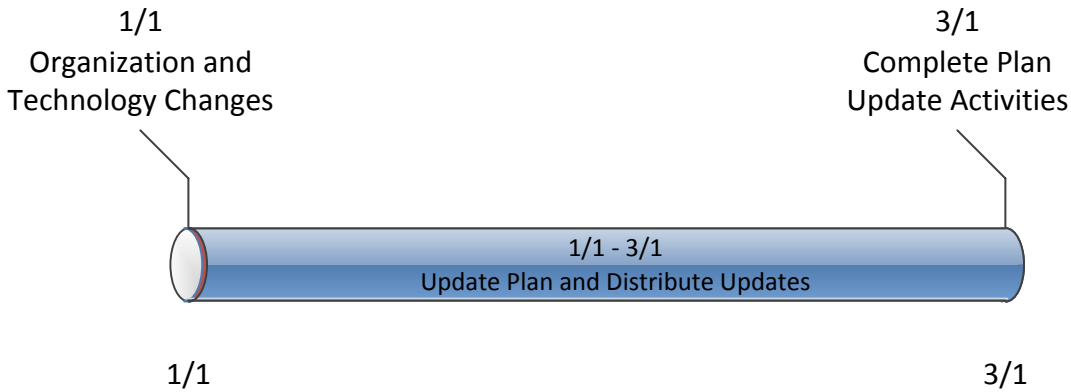


Figure 2: Timeline for Plan Changes in 3.2

Rationale:

During the development of this standard, references to prior versions of the CIP standards and rationale for the requirements and their parts were embedded within the standard. Upon BOT approval, that information was moved to this section.

Rationale for R1:

The implementation of an effective Cyber Security Incident response plan mitigates the risk to the reliable operation of the BES caused as the result of a Cyber Security Incident and provides feedback to Responsible Entities for improving the security controls applying to BES Cyber Systems. Preventative activities can lower the number of incidents, but not all incidents can be prevented. A preplanned incident response capability is therefore necessary for rapidly detecting incidents, minimizing loss and destruction, mitigating the weaknesses that were exploited, and restoring computing services. An enterprise or single incident response plan for all BES Cyber Systems may be used to meet the Requirement. An organization may have a common plan for multiple registered entities it owns.

Summary of Changes: Wording changes have been incorporated based primarily on industry feedback to more specifically describe required actions.

Reference to prior version: (Part 1.1) CIP-008, R1.1

Change Description and Justification: (Part 1.1)

“Characterize” has been changed to “identify” for clarity. “Response actions” has been changed to “respond to” for clarity.

Reference to prior version: (Part 1.2) CIP-008, R1.1

Change Description and Justification: (Part 1.2)

Addresses the reporting requirements from previous versions of CIP-008. This requirement part only obligates entities to have a process for determining Reportable Cyber Security Incidents. Also addresses the directive in FERC Order No. 706, paragraphs 673 and 676 to report within one hour (at least preliminarily).

Reference to prior version: (Part 1.3) CIP-008, R1.2

Change Description and Justification: (Part 1.3)

Replaced incident response teams with incident response “groups or individuals” to avoid the interpretation that roles and responsibilities sections must reference specific teams.

Reference to prior version: (Part 1.4) CIP-008, R1.2

Change Description and Justification: (Part 1.4)

Conforming change to reference new defined term Cyber Security Incidents.

Rationale for R2:

The implementation of an effective Cyber Security Incident response plan mitigates the risk to the reliable operation of the BES caused as the result of a Cyber Security Incident and provides feedback to Responsible Entities for improving the security controls applying to BES Cyber Systems. This requirement ensures implementation of the response plans. Requirement Part 2.3 ensures the retention of incident documentation for post event analysis.

This requirement obligates entities to follow the Cyber Security Incident response plan when an incident occurs or when testing, but does not restrict entities from taking needed deviations from the plan. It ensures the plan represents the actual response and does not exist for documentation only. If a plan is written at a high enough level, then every action during the response should not be subject to scrutiny. The plan will likely allow for the appropriate variance in tactical decisions made by incident responders. Deviations from the plan can be documented during the incident response or afterward as part of the review.

Summary of Changes: Added testing requirements to verify the Responsible Entity’s response plan’s effectiveness and consistent application in responding to a Cyber Security Incident(s) impacting a BES Cyber System.

Reference to prior version: (Part 2.1) CIP-008, R1.6

Change Description and Justification: (Part 2.1)

Minor wording changes; essentially unchanged.

Reference to prior version: (Part 2.2) CIP-008, R1.6

Change Description and Justification: (Part 2.2)

Allows deviation from plan(s) during actual events or testing if deviations are recorded for review.

Reference to prior version: (Part 2.3) CIP-008, R2

Change Description and Justification: (Part 2.3)

Removed references to the retention period because the Standard addresses data retention in the Compliance Section.

Rationale for R3:

Conduct sufficient reviews, updates and communications to verify the Responsible Entity’s response plan’s effectiveness and consistent application in responding to a Cyber Security Incident(s) impacting a BES Cyber System. A separate plan is not required for those requirement parts of the table applicable to High or Medium Impact BES Cyber Systems. If an entity has a single Cyber Security Incident response plan and High or Medium Impact BES Cyber Systems, then the additional requirements would apply to the single plan.

Summary of Changes: Changes here address the FERC Order 706, Paragraph 686, which includes a directive to perform after-action review for tests or actual incidents and update the plan based on lessons learned. Additional changes include specification of what it means to review the plan and specification of changes that would require an update to the plan.

Reference to prior version: (Part 3.1) CIP-008, R1.5

Change Description and Justification: (Part 3.1)

Addresses FERC Order 706, Paragraph 686 to document test or actual incidents and lessons learned.

Reference to prior version: (Part 3.2) CIP-008, R1.4

Change Description and Justification: (Part 3.2)

Specifies the activities required to maintain the plan. The previous version required entities to update the plan in response to any changes. The modifications make clear the changes that would require an update.

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		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.	Update
3	3/31/10	Approved by FERC.	
4	12/30/10	Modified to add specific criteria for Critical Asset identification.	Update
4	1/24/11	Approved by the NERC Board of Trustees.	Update
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-008-5.	
5	7/9/14	FERC Letter Order issued approving VRFs and VSLs revisions to certain CIP standards.	CIP-008-5 Requirement R2, VSL table under Severe, changed from 19 to 18 calendar months.
6	10/4/18	Modified to address directives in FERC Order No. 848	

CIP-008-6 - Attachment 1

Cyber Security Incident Reporting Form

Use this form to report Reportable Cyber Security Incidents and Reportable Attempted Cyber Security Incidents in accordance with CIP-008-6, Requirement R4.

Contact Information	
Name:	<input type="text" value="Click or tap here to enter text."/>
Phone Number:	<input type="text" value="Click or tap here to enter text."/>
Incident Type	
<input type="checkbox"/> Reportable Cyber Security Incident	
<input type="checkbox"/> Reportable Attempted Cyber Security Incident	
Reporting Category	
<input type="checkbox"/> Initial Notification	
<input type="checkbox"/> Update	
Required Attribute Information	
1. Attack Vector	<input type="checkbox"/> Initial <input type="checkbox"/> Update
<input type="text" value="Click or tap here to enter text."/>	
2. Functional Impact	<input type="checkbox"/> Initial <input type="checkbox"/> Update
<input type="text" value="Click or tap here to enter text."/>	
3. Level of Intrusion	<input type="checkbox"/> Initial <input type="checkbox"/> Update
<input type="text"/>	

CIP-008-6 - Attachment 2

Cyber Security Incident Reporting Form Instructions

Attachment 2 provides instructions to aid in the completion of Attachment 1.

CIP-008-6— Reportable Cyber Security Incident Reporting Form Instructions		
Form Section	Field Name	Instructions
Contact Information	Name	Enter the First and Last Name of the Responsible Entity’s primary point of contact for the reported incident.
	Phone Number	Enter the Phone Number(s) of the Responsible Entity’s primary point of contact for the reported incident.
Incident Type	Reportable Cyber Security Incident	Check this box if Attachment 1 includes information for a Reportable Cyber Security Incident.
	Reportable Attempted Cyber Security Incident	Check this box if Attachment 1 includes information for a Reportable Attempted Cyber Security Incident. Note: Do not check this box for incidents related solely to a PSP(s).
Reporting Category	Initial Notification	Check this box if Attachment 1 is being submitted to satisfy initial notification obligations of Requirement R4 Part 4.2.
	Update	Check this box if Attachment 1 is being submitted to satisfy subsequent follow-up or update obligations of Requirement R4 Part 4.2.
Required Attribute Information (Attack Vector fields)	Attack Vector	<ul style="list-style-type: none"> If known, enter a narrative description of the Attack Vector for the compromise or attempt to compromise to satisfy the required attribute specified in Requirement R4 Part 4.1. If not known, specify ‘unknown’ in the field. <p><i>Examples include, but are not limited to, malware, use of stolen credentials, etc.</i></p>
	Attack Vector Initial Checkbox	If Attachment 1 is being used to provide the preliminary report, select the ‘Initial’ checkbox.
	Attack Vector Update Checkbox	If Attachment 1 is being used to provide an update report, select the ‘Update’ checkbox.

CIP-008-6— Reportable Cyber Security Incident Reporting Form Instructions		
Form Section	Field Name	Instructions
Required Attribute Information (Functional Impact fields)	Functional Impact	<ul style="list-style-type: none"> If known, enter a narrative description of the functional impact for the compromise or attempt to compromise to satisfy the required attribute specified in Requirement R4 Part 4.1. If not known, specify 'unknown' in the field. <p><i>Examples include, but are not limited to, situational awareness, dynamic response, ability to perform Real-time Assessments, or Real-time monitoring etc.</i></p>
	Functional Impact Initial Checkbox	If Attachment 1 is being used to provide the preliminary report, select the 'Initial' checkbox.
	Functional Impact Update Checkbox	If Attachment 1 is being used to provide an update report, select the 'Update' checkbox.
Required Attribute Information (Level of Intrusion fields)	Level of Intrusion	<ul style="list-style-type: none"> If known, enter a narrative description of the level of intrusion for the compromise or attempt to compromise to satisfy the required attribute specified in Requirement R4 Part 4.1. If not known, specify 'unknown' in the field. <p><i>Examples include, but are not limited to, whether the compromise or attempt to compromise occurred on Applicable Systems outside the Electronic Security Perimeter (ESP), at the ESP, or inside the ESP. Additionally, level of intrusion may include the Applicable System impact level and Cyber Asset classification level.</i></p>
	Level of Intrusion Initial Checkbox	If Attachment 1 is being used to provide the preliminary report, select the 'Initial' checkbox.
	Level of Intrusion Update Checkbox	If Attachment 1 is being used to provide an update report, select the 'Update' checkbox.