A. Introduction

1. Title: Cyber Security — Physical Security of BES Cyber Systems

2. Number: CIP-006-5

3. Purpose: To manage physical access to BES Cyber Systems by specifying a physical security plan in support of protecting BES Cyber Systems against compromise that could lead to misoperation or instability in the 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 Special Protection System or Remedial Action Scheme where the Special Protection System or 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 Interchange Coordinator or Interchange Authority

4.1.6 Reliability Coordinator

4.1.7 Transmission Operator

4.1.8 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 Special Protection System or Remedial Action Scheme where the Special Protection System or 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-006-5:

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-002-5 identification and categorization processes.

5. Effective Dates:

1. **24 Months Minimum** – CIP-006-5 shall become effective on the later of July 1, 2015, or the first calendar day of the ninth calendar quarter after the effective date of the order providing applicable regulatory approval.
2. In those jurisdictions where no regulatory approval is required, CIP-006-5 shall become effective on the first day of the ninth calendar quarter following Board of Trustees' approval, or as otherwise made effective pursuant to the laws applicable to such ERO governmental authorities.

6. Background:

Standard CIP-006-5 exists as part of a suite of CIP Standards related to cyber security. CIP-002-5 requires the initial identification and categorization of BES Cyber Systems. CIP-003-5, CIP-004-5, CIP-005-5, CIP-006-5, CIP-007-5, CIP-008-5, CIP-009-5, CIP-010-1, and CIP-011-1 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 SDT has incorporated within this standard a recognition that certain requirements should not focus on individual instances of failure as a sole basis for violating the standard. In particular, the SDT has incorporated an approach to empower and enable the industry to identify, assess, and correct deficiencies in the implementation of certain requirements. The intent is to change the basis of a violation in those requirements so that they are not focused on *whether* there is a deficiency, but on identifying, assessing, and correcting deficiencies. It is presented in those requirements by modifying "implement" as follows:

> Each Responsible Entity shall implement**, in a manner that identifies, assesses, and corrects deficiencies,** . . .

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

documented processes themselves are not required to include the ". . . identifies, assesses, and corrects deficiencies, . . ." elements described in the preceding paragraph, as those aspects are related to the manner of implementation of the documented processes and could be accomplished through other controls or compliance management activities.

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-002-5 identification and categorization processes.
- **Medium Impact BES Cyber Systems** – Applies to BES Cyber Systems categorized as medium impact according to the CIP-002-5 identification and categorization processes.
- **Medium Impact BES Cyber Systems without External Routable Connectivity** – Only applies to medium impact BES Cyber Systems without External Routable Connectivity.
- **Medium Impact BES Cyber Systems with External Routable Connectivity** – Only applies to medium impact BES Cyber Systems with External Routable Connectivity. This also excludes Cyber Assets in the BES Cyber System that cannot be directly accessed through External Routable Connectivity.
- **Electronic Access Control or Monitoring Systems (EACMS)** – Applies to each Electronic Access Control or Monitoring System associated with a referenced high impact BES Cyber System or medium impact BES Cyber System. Examples may include, but are not limited to, firewalls, authentication servers, and log monitoring and alerting systems.
- **Physical Access Control Systems (PACS)** – Applies to each Physical Access Control System associated with a referenced high impact BES Cyber System or medium impact BES Cyber System.
- **Protected Cyber Assets (PCA)** – Applies to each Protected Cyber Asset associated with a referenced high impact BES Cyber System or medium impact BES Cyber System.
- **Locally mounted hardware or devices at the Physical Security Perimeter –** Applies to the locally mounted hardware or devices (e.g. such as motion sensors, electronic lock control mechanisms, and badge readers) at a Physical Security Perimeter associated with a referenced high impact BES Cyber System or medium impact BES Cyber System with External Routable Connectivity, and that does not contain or store access control information or independently perform access authentication. These hardware and devices are excluded in the definition of Physical Access Control Systems.

B. Requirements and Measures

R1. Each Responsible Entity shall implement, in a manner that identifies, assesses, and corrects deficiencies, one or more documented physical security plans that collectively include all of the applicable requirement parts in *CIP-006-5 Table R1 – Physical Security Plan*. *[Violation Risk Factor: Medium] [Time Horizon: Long Term Planning and Same Day Operations].*

M1. Evidence must include each of the documented physical security plans that collectively include all of the applicable requirement parts in *CIP-006-5 Table R1 – Physical Security Plan* and additional evidence to demonstrate implementation of the plan or plans as described in the Measures column of the table.

CIP-006-5 Table R1 – Physical Security Plan			
Part	**Applicable Systems**	**Requirements**	**Measures**
1.1	Medium Impact BES Cyber Systems without External Routable Connectivity Physical Access Control Systems (PACS) associated with: • High Impact BES Cyber Systems, or • Medium Impact BES Cyber Systems with External Routable Connectivity	Define operational or procedural controls to restrict physical access.	An example of evidence may include, but is not limited to, documentation that operational or procedural controls exist.

CIP-006-5 Table R1 – Physical Security Plan			
Part	**Applicable Systems**	**Requirements**	**Measures**
1.2	Medium Impact BES Cyber Systems with External Routable Connectivity and their associated: 1. EACMS; and 2. PCA	Utilize at least one physical access control to allow unescorted physical access into each applicable Physical Security Perimeter to only those individuals who have authorized unescorted physical access.	An example of evidence may include, but is not limited to, language in the physical security plan that describes each Physical Security Perimeter and how unescorted physical access is controlled by one or more different methods and proof that unescorted physical access is restricted to only authorized individuals, such as a list of authorized individuals accompanied by access logs.

CIP-006-5 Table R1 – Physical Security Plan			
Part	**Applicable Systems**	**Requirements**	**Measures**
1.3	High Impact BES Cyber Systems and their associated: 1. EACMS; and 2. PCA	Where technically feasible, utilize two or more different physical access controls (this does not require two completely independent physical access control systems) to collectively allow unescorted physical access into Physical Security Perimeters to only those individuals who have authorized unescorted physical access.	An example of evidence may include, but is not limited to, language in the physical security plan that describes the Physical Security Perimeters and how unescorted physical access is controlled by two or more different methods and proof that unescorted physical access is restricted to only authorized individuals, such as a list of authorized individuals accompanied by access logs.

CIP-006-5 Table R1– Physical Security Plan			
Part	**Applicable Systems**	**Requirements**	**Measures**
1.4	High Impact BES Cyber Systems and their associated: 1. EACMS; and 2. PCA Medium Impact BES Cyber Systems with External Routable Connectivity and their associated: 1. EACMS; and 2. PCA	Monitor for unauthorized access through a physical access point into a Physical Security Perimeter.	An example of evidence may include, but is not limited to, documentation of controls that monitor for unauthorized access through a physical access point into a Physical Security Perimeter.

CIP-006-5 Table R1– Physical Security Plan			
Part	**Applicable Systems**	**Requirements**	**Measures**
1.5	High Impact BES Cyber Systems and their associated: 1. EACMS; and 2. PCA Medium Impact BES Cyber Systems with External Routable Connectivity and their associated: 1. EACMS; and 2. PCA	Issue an alarm or alert in response to detected unauthorized access through a physical access point into a Physical Security Perimeter to the personnel identified in the BES Cyber Security Incident response plan within 15 minutes of detection.	An example of evidence may include, but is not limited to, language in the physical security plan that describes the issuance of an alarm or alert in response to unauthorized access through a physical access control into a Physical Security Perimeter and additional evidence that the alarm or alert was issued and communicated as identified in the BES Cyber Security Incident Response Plan, such as manual or electronic alarm or alert logs, cell phone or pager logs, or other evidence that documents that the alarm or alert was generated and communicated.
1.6	Physical Access Control Systems (PACS) associated with: • High Impact BES Cyber Systems, or • Medium Impact BES Cyber Systems with External Routable Connectivity	Monitor each Physical Access Control System for unauthorized physical access to a Physical Access Control System.	An example of evidence may include, but is not limited to, documentation of controls that monitor for unauthorized physical access to a PACS.

CIP-006-5 Table R1– Physical Security Plan			
Part	**Applicable Systems**	**Requirements**	**Measures**
1.7	Physical Access Control Systems (PACS) associated with: • High Impact BES Cyber Systems, or • Medium Impact BES Cyber Systems with External Routable Connectivity	Issue an alarm or alert in response to detected unauthorized physical access to a Physical Access Control System to the personnel identified in the BES Cyber Security Incident response plan within 15 minutes of the detection.	An example of evidence may include, but is not limited to, language in the physical security plan that describes the issuance of an alarm or alert in response to unauthorized physical access to Physical Access Control Systems and additional evidence that the alarm or alerts was issued and communicated as identified in the BES Cyber Security Incident Response Plan, such as alarm or alert logs, cell phone or pager logs, or other evidence that the alarm or alert was generated and communicated.

CIP-006-5 Table R1 – Physical Security Plan			
Part	**Applicable Systems**	**Requirements**	**Measures**
1.8	High Impact BES Cyber Systems and their associated: 1. EACMS; and 2. PCA Medium Impact BES Cyber Systems with External Routable Connectivity and their associated: 1. EACMS; and 2. PCA	Log (through automated means or by personnel who control entry) entry of each individual with authorized unescorted physical access into each Physical Security Perimeter, with information to identify the individual and date and time of entry.	An example of evidence may include, but is not limited to, language in the physical security plan that describes logging and recording of physical entry into each Physical Security Perimeter and additional evidence to demonstrate that this logging has been implemented, such as logs of physical access into Physical Security Perimeters that show the individual and the date and time of entry into Physical Security Perimeter.

CIP-006-5 Table R1 – Physical Security Plan			
Part	**Applicable Systems**	**Requirements**	**Measures**
1.9	High Impact BES Cyber Systems and their associated: 1. EACMS; and 2. PCA Medium Impact BES Cyber Systems with External Routable Connectivity and their associated: 1. EACMS; and 2. PCA	Retain physical access logs of entry of individuals with authorized unescorted physical access into each Physical Security Perimeter for at least ninety calendar days.	An example of evidence may include, but is not limited to, dated documentation such as logs of physical access into Physical Security Perimeters that show the date and time of entry into Physical Security Perimeter.

R2. Each Responsible Entity shall implement, in a manner that identifies, assesses, and corrects deficiencies, one or more documented visitor control programs that include each of the applicable requirement parts in *CIP-006-5 Table R2 – Visitor Control Program. [Violation Risk Factor: Medium] [Time Horizon: Same Day Operations.]*

M2. Evidence must include one or more documented visitor control programs that collectively include each of the applicable requirement parts in *CIP-006-5 Table R2 – Visitor Control Program* and additional evidence to demonstrate implementation as described in the Measures column of the table.

CIP-006-5 Table R2 – Visitor Control Program			
Part	**Applicable Systems**	**Requirements**	**Measures**
2.1	High Impact BES Cyber Systems and their associated: 1. EACMS; and 2. PCA Medium Impact BES Cyber Systems with External Routable Connectivity and their associated: 1. EACMS; and 2. PCA	Require continuous escorted access of visitors (individuals who are provided access but are not authorized for unescorted physical access) within each Physical Security Perimeter, except during CIP Exceptional Circumstances.	An example of evidence may include, but is not limited to, language in a visitor control program that requires continuous escorted access of visitors within Physical Security Perimeters and additional evidence to demonstrate that the process was implemented, such as visitor logs.

CIP-006-5 Table R2 – Visitor Control Program			
Part	**Applicable Systems**	**Requirements**	**Measures**
2.2	High Impact BES Cyber Systems and their associated: 1. EACMS; and 2. PCA Medium Impact BES Cyber Systems with External Routable Connectivity and their associated: 1. EACMS; and 2. PCA	Require manual or automated logging of visitor entry into and exit from the Physical Security Perimeter that includes date and time of the initial entry and last exit, the visitor's name, and the name of an individual point of contact responsible for the visitor, except during CIP Exceptional Circumstances.	An example of evidence may include, but is not limited to, language in a visitor control program that requires continuous escorted access of visitors within Physical Security Perimeters and additional evidence to demonstrate that the process was implemented, such as dated visitor logs that include the required information.
2.3	High Impact BES Cyber Systems and their associated: 1. EACMS; and 2. PCA Medium Impact BES Cyber Systems with External Routable Connectivity and their associated: 1. EACMS; and 2. PCA	Retain visitor logs for at least ninety calendar days.	An example of evidence may include, but is not limited to, documentation showing logs have been retained for at least ninety calendar days.

R3. Each Responsible Entity shall implement one or more documented Physical Access Control System maintenance and testing programs that collectively include each of the applicable requirement parts in *CIP-006-5 Table R3 – Maintenance and Testing Program*. *[Violation Risk Factor: Medium] [Time Horizon: Long Term Planning].*

M3. Evidence must include each of the documented Physical Access Control System maintenance and testing programs that collectively include each of the applicable requirement parts in *CIP-006-5 Table R3 – Maintenance and Testing Program* and additional evidence to demonstrate implementation as described in the Measures column of the table.

CIP-006-5 Table R3 – Physical Access Control System Maintenance and Testing Program			
Part	**Applicable Systems**	**Requirement**	**Measures**
3.1	Physical Access Control Systems (PACS) associated with: • High Impact BES Cyber Systems, or • Medium Impact BES Cyber Systems with External Routable Connectivity Locally mounted hardware or devices at the Physical Security Perimeter associated with: • High Impact BES Cyber Systems, or • Medium Impact BES Cyber Systems with External Routable Connectivity	Maintenance and testing of each Physical Access Control System and locally mounted hardware or devices at the Physical Security Perimeter at least once every 24 calendar months to ensure they function properly.	An example of evidence may include, but is not limited to, a maintenance and testing program that provides for testing each Physical Access Control System and locally mounted hardware or devices associated with each applicable Physical Security Perimeter at least once every 24 calendar months and additional evidence to demonstrate that this testing was done, such as dated maintenance records, or other documentation showing testing and maintenance has been performed on each applicable device or system at least once every 24 calendar months.

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-006-5)			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
R1	**Long Term Planning** **Same-Day Operations**	**Medium**	The Responsible Entity has a process to log authorized physical entry into any Physical Security Perimeter with sufficient information to identify the individual and date and time of entry and identified deficiencies but did not assess or correct the deficiencies. (1.8) OR The Responsible Entity has a	The Responsible Entity has a process to alert for unauthorized physical access to Physical Access Control Systems and identified deficiencies but did not assess or correct the deficiencies. (1.7) OR The Responsible Entity has a process to alert for unauthorized physical access to Physical Access Control Systems but did not identify, assess, or correct the deficiencies. (1.7) OR The Responsible Entity has a process communicate alerts within 15 minutes to identified personnel and	The Responsible Entity has a process to alert for detected unauthorized access through a physical access point into a Physical security Perimeter and identified deficiencies but did not assess or correct the deficiencies. (1.5) OR The Responsible Entity has a process to alert for detected unauthorized access through a physical access point into a Physical security Perimeter but did not identify, assess, or correct deficiencies. (1.5) OR The Responsible Entity	The Responsible Entity did not document or implement operational or procedural controls to restrict physical access. (1.1) OR The Responsible Entity documented and implemented operational or procedural controls to restrict physical access and identified deficiencies but did not assess or correct the deficiencies. (1.1) OR The Responsible Entity documented and implemented operational or procedural controls to restrict physical access but did not identify,

R #	Time Horizon	VRF	Violation Severity Levels (CIP-006-5)			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
			process to log authorized physical entry into any Physical Security Perimeter with sufficient information to identify the individual and date and time of entry but did not identify, assess, or correct the deficiencies. (1.8) OR The Responsible Entity has a process to retain physical access logs for 90 calendar days and identified	identified deficiencies but did not assess or correct the deficiencies. (1.7) OR The Responsible Entity has a process communicate alerts within 15 minutes to identified personnel but did not identify, assess, or correct the deficiencies. (1.7)	has a process to communicate alerts within 15 minutes to identified personnel and identified deficiencies but did not assess or correct the deficiencies. (1.5) OR The Responsible Entity has a process to communicate alerts within 15 minutes to identified personnel but did not identify, assess, or correct the deficiencies. (1.5) OR The Responsible Entity has a process to monitor for unauthorized physical access to a Physical Access Control Systems and identified deficiencies but did not assess or correct the	assess, or correct the deficiencies. (1.1) OR The Responsible Entity has documented and implemented physical access controls, but at least one control does not exist to restrict access to Applicable Systems. (1.2) OR The Responsible Entity has documented and implemented physical access controls, restricts access to Applicable Systems using at least one control, and identified deficiencies, but did not assess or correct the deficiencies. (1.2) OR The Responsible Entity has documented and

R #	Time Horizon	VRF	Violation Severity Levels (CIP-006-5)			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
			deficiencies but did not assess or correct the deficiencies. (1.9) OR The Responsible Entity has a process to retain physical access logs for 90 calendar days but did not identify, assess, or correct the deficiencies. (1.9)		deficiencies. (1.6) OR The Responsible Entity has a process to monitor for unauthorized physical access to a Physical Access Control Systems but did not identify, assess, or correct the deficiencies. (1.6)	implemented physical access controls, restricts access to Applicable Systems using at least one control, but did not identify, assess, or correct the deficiencies. (1.2) OR The Responsible Entity has documented and implemented physical access controls, but at least two different controls do not exist to restrict access to Applicable Systems. (1.3) OR The Responsible Entity documented and implemented operational or procedural controls, restricts access to Applicable Systems using at least two

R #	Time Horizon	VRF	Violation Severity Levels (CIP-006-5)			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
						different controls, and identified deficiencies, but did not assess or correct the deficiencies. (1.3) OR The Responsible Entity documented and implemented operational or procedural controls, restricts access to Applicable Systems using at least two different controls, but did not identify, assess, or correct the deficiencies. (1.3) OR The Responsible Entity does not have a process to monitor for unauthorized access through a physical access point into a Physical Security

R #	Time Horizon	VRF	Violation Severity Levels (CIP-006-5)			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
						Perimeter. (1.4) OR The Responsible Entity has a process to monitor for unauthorized access through a physical access point into a Physical Security Perimeter and identified deficiencies, but did not assess or correct the deficiencies. (1.4) OR The Responsible Entity has a process to monitor for unauthorized access through a physical access point into a Physical Security Perimeter, but did not identify, assess, or correct the deficiencies. (1.4) OR

R #	Time Horizon	VRF	Violation Severity Levels (CIP-006-5)			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
						The Responsible Entity does not have a process to alert for detected unauthorized access through a physical access point into a Physical security Perimeter or to communicate such alerts within 15 minutes to identified personnel. (1.5) OR The Responsible Entity does not have a process to monitor each Physical Access Control System for unauthorized physical access to a Physical Access Control Systems. (1.6) OR The Responsible Entity does not have a process to alert for unauthorized physical access to Physical

R #	Time Horizon	VRF	Violation Severity Levels (CIP-006-5)			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
						Access Control Systems or to communicate such alerts within 15 minutes to identified personnel (1.7) OR The Responsible Entity does not have a process to log authorized physical entry into each Physical Security Perimeter with sufficient information to identify the individual and date and time of entry. (1.8) OR The Responsible Entity does not have a process to retain physical access logs for 90 calendar days. (1.9)
R2	**Same-Day Operations**	**Medium**	N/A	The Responsible Entity included a visitor control program that requires logging of each	The Responsible Entity included a visitor control program that requires continuous	The Responsible Entity has failed to include or implement a visitor control program that

R #	Time Horizon	VRF	Violation Severity Levels (CIP-006-5)			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
				of the initial entry and last exit dates and times of the visitor, the visitor's name, and the point of contact and identified deficiencies but did not assess or correct the deficiencies. (2.2) OR The Responsible Entity included a visitor control program that requires logging of the initial entry and last exit dates and times of the visitor, the visitor's name, and the point of contact and but did not identify, assess, or correct the deficiencies. (2.2) OR The Responsible Entity included a visitor control program to retain visitor logs for at	escorted access of visitors within any Physical Security Perimeter, and identified deficiencies but did not assess or correct deficiencies. (2.1) OR The Responsible Entity included a visitor control program that requires continuous escorted access of visitors within any Physical Security Perimeter but did not identify, assess, or correct deficiencies. (2.1)	requires continuous escorted access of visitors within any Physical Security Perimeter. (2.1) OR The Responsible Entity has failed to include or implement a visitor control program that requires logging of the initial entry and last exit dates and times of the visitor, the visitor's name, and the point of contact. (2.2) OR The Responsible Entity failed to include or implement a visitor control program to retain visitor logs for at least ninety days. (2.3)

R #	Time Horizon	VRF	Violation Severity Levels (CIP-006-5)			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
				least ninety days and identified deficiencies but did not assess or correct the deficiencies. (2.3) OR The Responsible Entity included a visitor control program to retain visitor logs for at least ninety days but did not identify, assess, or correct the deficiencies. (2.3)		
R3	**Long Term Planning**	**Medium**	The Responsible Entity has documented and implemented a maintenance and testing program for Physical Access Control Systems and locally	The Responsible Entity has documented and implemented a maintenance and testing program for Physical Access Control Systems and locally mounted hardware or devices at the Physical Security Perimeter, but did not complete required testing within 25 calendar months but	The Responsible Entity has documented and implemented a maintenance and testing program for Physical Access Control Systems and locally mounted hardware or devices at the Physical Security Perimeter, but did not complete required testing within 26 calendar months but	The Responsible Entity has not documented and implemented a maintenance and testing program for Physical Access Control Systems and locally mounted hardware or devices at the Physical Security Perimeter. (3.1) OR The Responsible Entity

R #	Time Horizon	VRF	Violation Severity Levels (CIP-006-5)			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
			mounted hardware or devices at the Physical Security Perimeter, but did not complete required testing within 24 calendar months but did complete required testing within 25 calendar months. (3.1)	did complete required testing within 26 calendar months. (3.1)	did complete required testing within 27 calendar months. (3.1)	has documented and implemented a maintenance and testing program for Physical Access Control Systems and locally mounted hardware or devices at the Physical Security Perimeter, but did not complete required testing within 27 calendar months. (3.1)

D. Regional Variances

None.

E. Interpretations

None.

F. Associated Documents

None.

Guidelines and Technical Basis

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.

General:

While the focus is shifted from the definition and management of a completely enclosed "six-wall" boundary, it is expected in many instances this will remain a primary mechanism for controlling, alerting, and logging access to BES Cyber Systems. Taken together, these controls will effectively constitute the physical security plan to manage physical access to BES Cyber Systems.

Requirement R1:

Methods of physical access control include:

- Card Key: A means of electronic access where the access rights of the card holder are predefined in a computer database. Access rights may differ from one perimeter to another.
- Special Locks: These include, but are not limited to, locks with "restricted key" systems, magnetic locks that can be operated remotely, and "man-trap" systems.
- Security Personnel: Personnel responsible for controlling physical access who may reside on-site or at a monitoring station.

- Other Authentication Devices: Biometric, keypad, token, or other equivalent devices that control physical access into the Physical Security Perimeter.

Methods to monitor physical access include:

- Alarm Systems: Systems that alarm to indicate interior motion or when a door, gate, or window has been opened without authorization. These alarms must provide for notification within 15 minutes to individuals responsible for response.
- Human Observation of Access Points: Monitoring of physical access points by security personnel who are also controlling physical access.

Methods to log physical access include:

- Computerized Logging: Electronic logs produced by the Responsible Entity's selected access control and alerting method.
- Video Recording: Electronic capture of video images of sufficient quality to determine identity.
- Manual Logging: A log book or sign-in sheet, or other record of physical access maintained by security or other personnel authorized to control and monitor physical access.

The FERC Order No. 706, Paragraph 572, directive discussed utilizing two or more different and complementary physical access controls to provide defense in depth. It does not require two or more Physical Security Perimeters, nor does it exclude the use of layered perimeters. Use of two-factor authentication would be acceptable at the same entry points for a non-layered single perimeter. For example, a sole perimeter's controls could include either a combination of card key and pin code (something you know and something you have), or a card key and biometric scanner (something you have and something you are), or a physical key in combination with a guard-monitored remote camera and door release, where the "guard" has adequate information to authenticate the person they are observing or talking to prior to permitting access (something you have and something you are). The two-factor authentication could be implemented using a single Physical Access Control System but more than one authentication method must be utilized. For physically layered protection, a locked gate in combination with a locked control-building could be acceptable, provided no single authenticator (e.g., key or card key) would provide access through both.

Entities may choose for certain PACS to reside in a PSP controlling access to applicable BES Cyber Systems. For these PACS, there is no additional obligation to comply with Requirement Parts 1.1, 1.7 and 1.8 beyond what is already required for the PSP.

Requirement R2:

The logging of visitors should capture each visit of the individual and does not need to capture each entry or exit during that visit. This is meant to allow a visitor to temporarily exit the Physical Security Perimeter to obtain something they left in their vehicle or outside the area without requiring a new log entry for each and every entry during the visit.

The SDT also determined that a point of contact should be documented who can provide additional details about the visit if questions arise in the future. The point of contact could be the escort, but there is no need to document everyone that acted as an escort for the visitor.

Requirement R3:

This includes the testing of locally mounted hardware or devices used in controlling, alerting or logging access to the Physical Security Perimeter. This includes motion sensors, electronic lock control mechanisms, and badge readers which are not deemed to be part of the Physical Access Control System but are required for the protection of the BES Cyber Systems.

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:

Each Responsible Entity shall ensure that physical access to all BES Cyber Systems is restricted and appropriately managed. *Entities may choose for certain PACS to reside in a PSP controlling access to applicable BES Cyber Systems. For these PACS, there is no additional obligation to comply with Requirement Parts 1.1, 1.7 and 1.8 beyond what is already required for the PSP.*

Summary of Changes: The entire content of CIP-006-5 is intended to constitute a physical security program. This represents a change from previous versions, since there was no specific requirement to have a physical security program in previous versions of the standards, only requirements for physical security plans.

Added details to address FERC Order No. 706, Paragraph 572, directives for physical security defense in depth.

Additional guidance on physical security defense in depth provided to address the directive in FERC Order No. 706, Paragraph 575.

Reference to prior version: (Part 1.1) *CIP-006-4c, R2.1 for Physical Access Control Systems New Requirement for Medium Impact BES Cyber Systems not having External Routable Connectivity*

Change Rationale: (Part 1.1)

To allow for programmatic protection controls as a baseline (which also includes how the entity plans to protect Medium Impact BES Cyber Systems that do not have External Routable Connectivity not otherwise covered under Part 1.2, and it does not require a detailed list of individuals with access). Physical Access Control Systems do not themselves need to be protected at the same level as required in Parts 1.2 through 1.5.

Reference to prior version: (Part 1.2) CIP006-4c, R3 & R4
Change Rationale: (Part 1.2)

This requirement has been made more general to allow for alternate measures of restricting physical access. Specific examples of methods a Responsible Entity can take to restricting access to BES Cyber Systems has been moved to the Guidelines and Technical Basis section.

Reference to prior version: (Part 1.3) CIP006-4c, R3 & R4

Change Rationale: (Part 1.3)

The specific examples that specify methods a Responsible Entity can take to restricting access to BES Cyber Systems has been moved to the Guidelines and Technical Basis section. This requirement has been made more general to allow for alternate measures of controlling physical access.

Added to address FERC Order No. 706, Paragraph 572, related directives for physical security defense in depth.
FERC Order No. 706, Paragraph 575, directives addressed by providing the examples in the guidance document of physical security defense in depth via multi-factor authentication or layered Physical Security Perimeter(s).

Reference to prior version: (Part 1.4) CIP006-4c, R5

Change Rationale: (Part 1.4)

Examples of monitoring methods have been moved to the Guidelines and Technical Basis section.

Reference to prior version: (Part 1.5) CIP006-4c, R5

Change Rationale: (Part 1.5)

Examples of monitoring methods have been moved to the Guidelines and Technical Basis section.

Reference to prior version: (Part 1.6) CIP006-4c, R5

Change Rationale: (Part 1.6)

Addresses the prior CIP-006-4c, Requirement R5 requirement for Physical Access Control Systems.

Reference to prior version: (Part 1.7) CIP006-4c, R5

Change Rationale: (Part 1.7)

Addresses the prior CIP-006-4c, Requirement R5 requirement for Physical Access Control Systems.

Reference to prior version: (Part 1.8) CIP-006-4c, R6

Change Rationale: (Part 1.8)

CIP-006-4c, Requirement R6 was specific to the logging of access at identified access points. This requirement more generally requires logging of authorized physical access into the Physical Security Perimeter.

Examples of logging methods have been moved to the Guidelines and Technical Basis section.

Reference to prior version: (Part 1.9) CIP-006-4c, R7

Change Rationale: (Part 1.9)

No change.

Rationale for R2:

To control when personnel without authorized unescorted physical access can be in any Physical Security Perimeters protecting BES Cyber Systems or Electronic Access Control or Monitoring Systems, as applicable in Table R2.

Summary of Changes: Reformatted into table structure. Originally added in Version 3 per FERC Order issued September 30, 2009.

Reference to prior version: (Part 2.1) CIP-006-4c, R1.6.2

Change Rationale: (Part 2.1)

Added the ability to not do this during CIP Exceptional Circumstances.

Reference to prior version: (Part 2.2) CIP-006-4c R1.6.1

Change Rationale: (Part 2.2)

Added the ability to not do this during CIP Exceptional Circumstances, addressed multi-entry scenarios of the same person in a day (log first entry and last exit), and name of the person who is responsible or sponsor for the visitor. There is no requirement to document the escort or handoffs between escorts.

Reference to prior version: (Part 2.3) CIP-006-4c, R7

Change Rationale: (Part 2.3)

No change

Rationale for R3:

To ensure all Physical Access Control Systems and devices continue to function properly.

Summary of Changes: Reformatted into table structure.

Added details to address FERC Order No. 706, Paragraph 581, directives to test more frequently than every three years.

Reference to prior version: (Part 3.1) CIP-006-4c, R8.1 and R8.2

Change Rationale: (Part 3.1)

Added details to address FERC Order No. 706, Paragraph 581 directives to test more frequently than every three years. The SDT determined that annual testing was too often and agreed on two years.

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.

Version	Date	Action	Change Tracking
5	11/22/13	FERC Order issued approving CIP-006-5.	
5	7/9/14	FERC Letter Order issued approving VRFs and VSLs revisions to certain CIP standards.	CIP-006-5 Requirement R3 changed from Lower to Medium.

Appendix QC-CIP-006-5
Provisions specific to the standard CIP-006-5 applicable in Québec

This appendix establishes specific provisions for the application of the standard in Québec. Provisions of the standard and of its appendix must be read together for the purposes of understanding and interpretation. Where the standard and appendix differ, the appendix shall prevail.

A. Introduction

1. **Title:** Cyber Security — Physical Security of BES Cyber Systems

2. **Number:** CIP-006-5

3. **Purpose:** No specific provision

4. **Applicability:**

Functional Entities

No specific provision

Facilities

This standard only applies to the facilities of the Main Transmission System (RTP) and to the facilities specified for the Distribution Provider. In the application of this standard, all reference to the terms "Bulk Electric System" or "BES" shall be replaced by the terms "Main Transmission System" or "RTP" respectively.

Additional Exemptions

The following are exempt from this standard:

- Any generating facility that meets the two following conditions: (1) the nameplate capacity of the facility is 300 MVA or less, and (2) no unit of the facility can be synchronized with a neighbouring system.
- Step-up substations of generating facilities identified in the preceding point.

5. **Effective Date:**

5.1. Adoption of the standard by the Régie de l'énergie: July 29, 2016

5.2. Adoption of the appendix by the Régie de l'énergie: July 29, 2016

5.3. Effective date of the standard and its appendix in Québec:

For entities that have assets classified as critical for CIP Standards (version 1):

- January 1, 2017 for "high" or "medium" impact BES Cyber Systems;
- October 1, 2017 for "low" impact BES Cyber Systems.

For entities that have neither assets classified as critical for CIP Standards (version 1) nor generation facilities for industrial use:

- October 1, 2018 for "high" or "medium" impact BES Cyber Systems;

- October 1, 2019 for “low” impact BES Cyber Systems.

For entities that have generation facilities for industrial use:

- April 1, 2019 for “high” or “medium” impact BES Cyber Systems;
- April 1, 2020 for “low” impact BES Cyber Systems.

6. Background: No specific provision

B. Requirements and Measures

No specific provision

C. Compliance

1. Compliance Monitoring Process

1.1. Compliance Enforcement Authority

The Régie de l’énergie is responsible, in Québec, for compliance enforcement with respect to the reliability standard and its appendix that it adopts.

1.2. Evidence Retention

No specific provision

1.3. Compliance Monitoring and Assessment Processes

No specific provision

1.4. Additional Compliance Information

No specific provision

2. Table of Compliance Elements

No specific provision

D. Regional Variances

No specific provision

E. Interpretations

No specific provision

F. Associated Documents

No specific provision

Guidelines and Technical Basis

No specific provision

Rationale

No specific provision

Revision History

Revision	Adoption Date	Action	Change Tracking
0	July 29, 2016	New appendix Decision D-2016-119 issued by the Régie de l'énergie: • Adoption of the standard and Its Québec appendix • Suspension of the application of the standard and its Québec appendix for entities that have generation facilities for industrial use.	New
1	September 16, 2016	Decision D-2016-138 issued by the Régie de l'énergie postponing the effective date in regards to "high" or "medium" impact BES Cyber Systems.	Revision
2	March 21, 2017	Decision D-2017-031 issued by the Régie de l'énergie: • Lifts the suspension of the application of the standard and its Québec appendix for entities that have generation facilities for industrial use • Sets the effective dates for entities that have generation facilities for industrial use.	Revision