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## Project QC-2021-02

### Standard CIP-012-1 – *Cyber Security – Communications between Control Centers*

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#### 1. OVERVIEW

##### 1.1. Applicability

Reliability Standard CIP-012-1 applies to the functional entities below:

- Generator Operator (GOP)
- Generator Owner (GO)
- Balancing Authority (BA)
- Reliability Coordinator (RC)
- Transmission Operator (TOP)
- Transmission Owner (TO)

**Exemption:** The following are exempt from Reliability Standard CIP-012-1:

- A *Control Center* that transmits to another *Control Center* *Real-time Assessment* or *Real-time monitoring* data pertaining only to the generation resource or *Transmission* station or substation co-located with the transmitting *Control Center*.

##### 1.2. Purpose

Reliability Standard CIP-012 aims to protect the confidentiality and integrity of Real-time Assessment and Real-time monitoring data transmitted between Control Centers.

##### 1.3. Regulatory environment

This is the first regulatory filing with the Régie de l'énergie (hereinafter "the Régie") to approve Reliability Standard CIP-012-1. In the United States, CIP-012-1 standard was adopted by the NERC Board of Trustees on August 16, 2018 and was approved by the Federal Energy Regulatory Commission (FERC) on January 23, 2020, pursuant to Order No. 866.<sup>1</sup>

##### 1.4. Specific provisions for Québec

The Reliability Coordinator (hereinafter called "the Coordinator") is proposing that the Standard CIP-012-1 applies to Control Centers hosting operating personnel that monitor and control the Main Transmission System (RTP).

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<sup>1</sup> [https://www.nerc.com/FilingsOrders/us/FERCOrdersRules/Order%20Approving%20Reliability%20Standard%20CIP-012-1%20\(Cyber%20Security%20E2%80%93%20Communications%20between%20Control%20Centers\).pdf](https://www.nerc.com/FilingsOrders/us/FERCOrdersRules/Order%20Approving%20Reliability%20Standard%20CIP-012-1%20(Cyber%20Security%20E2%80%93%20Communications%20between%20Control%20Centers).pdf), retrieved on January 22, 2021

### 1.5. Proposed effective dates

The NERC Implementation Plan for CIP-012-1<sup>2</sup> stipulates a period of 24 months between government approval of this standard and its implementation. Reliability Standard CIP-012-1 will come into effect in the U.S. on July 1, 2022<sup>3</sup>.

In Québec, given the importance of having harmonized practices in regards to mandatory standards in the United States, the Coordinator proposes that the effective date be the first day of the first calendar quarter<sup>4</sup> that is 24 calendar months after the adoption of the standard by the Régie. However, it's important to specify that considering the long implementation period, the Coordinator has already included the 60 days<sup>5</sup> in the 24-month period.

### 1.6. Standards or requirements to retire

None

### 1.7. Modifications to the Glossary

None

## 2. ASSESSMENT OF RELEVANCE

The purpose of this project is to respond to FERC Order No. 822,<sup>6</sup> which calls for improvements of CIP Reliability Standards to mitigate the cybersecurity risks by requiring responsible entities to protect the confidentiality and integrity of Real-time Assessment and Real-time monitoring data transmitted between Control Centers. These modifications will enhance the security of Responsible Entities by developing expectations regarding communications between Control Centers, thus securing operational data transmissions and mitigating the potential risk of data loss. However, for the following reasons, the NERC standard drafting team determined that to comply with the FERC directive in No. 822, developing a new Reliability Standard would be more appropriate than modifying CIP-006-6. The applicability of the protections mentioned in CIP-012-1 differs from the scope of those that are mentioned in CIP-006-6<sup>7</sup>. Reliability Standard CIP-012-1 does not apply to BES Cyber Systems. While CIP-006-6 Requirement R1 Part 1.10 applies to medium impact BES Cyber Systems in Control Centers, Reliability Standard CIP-012-1 applies to communications between certain Control Centers. Moreover, modifications were made to provide controls to protect communication links and data communicated between BES Control Centers.

The Reliability Standard CIP-012-1 was approved in FERC Order No. 866<sup>8</sup>.

While Reliability Standards CIP-003 to CIP-011 protect stored data, Standard CIP-012-1 requires that Responsible Entities develop and implement a plan to mitigate the risks associated with the unauthorized

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<sup>2</sup> [https://www.nerc.com/pa/Stand/Project%20201602%20Modifications%20to%20CIP%20Standards%20DL/CIP-012-1\\_Implementation\\_Plan\\_Clean\\_08032018.pdf](https://www.nerc.com/pa/Stand/Project%20201602%20Modifications%20to%20CIP%20Standards%20DL/CIP-012-1_Implementation_Plan_Clean_08032018.pdf), retrieved on January 22, 2021

<sup>3</sup> <https://www.nerc.net/standardsreports/standardssummary.aspx>, retrieved on January 22, 2021

<sup>4</sup> <http://www.regie-energie.qc.ca/audiences/decisions/D-2015-168.pdf>

<sup>5</sup> <http://www.regie-energie.qc.ca/audiences/decisions/D-2016-011.pdf>

<sup>6</sup> <https://www.nerc.com/FilingsOrders/us/FERCOrdersRules/Order%20Approving%20Revised%20CIP%20Reliability%20Standards.pdf>, retrieved January 26, 2021

<sup>7</sup> [https://www.nerc.com/pa/Stand/Project%20201602%20Modifications%20to%20CIP%20Standards%20RF/CIP\\_Technical\\_Rationale\\_for\\_CIP-012\\_Clean\\_08062018.pdf](https://www.nerc.com/pa/Stand/Project%20201602%20Modifications%20to%20CIP%20Standards%20RF/CIP_Technical_Rationale_for_CIP-012_Clean_08062018.pdf)

<sup>8</sup> [https://www.nerc.com/FilingsOrders/us/FERCOrdersRules/Order%20Approving%20Reliability%20Standard%20CIP-012-1%20\(Cyber%20Security%20E2%80%93%20Communications%20between%20Control%20Centers\).pdf](https://www.nerc.com/FilingsOrders/us/FERCOrdersRules/Order%20Approving%20Reliability%20Standard%20CIP-012-1%20(Cyber%20Security%20E2%80%93%20Communications%20between%20Control%20Centers).pdf)

disclosure (confidentiality) and unauthorized modification (integrity) of *Real-Time Assessment* and *Real-Time Monitoring* data in transit between *Control Centers*<sup>9</sup>. This plan must include the elements below:

- 1- Identification of security protections;
- 2- Identification of where the protections are applied;
- 3- Identification of the responsibilities of each entity in case a Control Center is owned or operated by different responsible entities.

For Responsible Entities to be able to perform their reliability functions in Real Time, their respective Control Centers must be capable of receiving and storing a range of sensitive RTP data supplied by interconnected entities. The protections proposed in Reliability Standard CIP-012-1 ensure the speed and accuracy of these communications, thus contributing to the reliable operation of the Main Transmission System (RTP) in Québec.

In June 2017, the Standards Committee at the NERC concluded<sup>10</sup> that the Reliability Standards template will no longer include a Guidelines and Technical Basis section. Upon completion of this project, the Guidelines and Technical Basis will be replaced by Technical Rationale documents and/or Implementation Guidance<sup>11</sup>. The NERC shall post the Technical Rationale document to the NERC website on the “Related Information” page<sup>12</sup> associated with the Reliability Standard. It is important to note that the CIP-012-1 implementation guidance<sup>13</sup> and the technical rationale<sup>14</sup> are presently only available in the draft version at NERC. The Coordinator is awaiting the final version which will be communicated to the Régie as soon as published by the NERC.

In accordance with the agreement reached in 2009 by the Régie, NERC and the NPCC, with the permission of the Québec government,<sup>15</sup> this standard was developed and approved by external agencies for North America, including Québec. In the opinion of the Coordinator, this standard contributes to the achievement of system reliability in Québec and harmonization with neighboring systems.

### 3. PRELIMINARY IMPACT ASSESSMENT

This section presents the Coordinator’s preliminary impact assessment.

CIP-012-1	Low	Moderate	High
Implementation of the standard		X	
Enforcement of the standard		X	
Compliance monitoring		X	

<sup>9</sup> <https://www.nerc.com/FilingsOrders/us/NERC%20Filings%20to%20FERC%20DL/Final%20CIP-012-1%20Petition.pdf>

<sup>10</sup> <https://www.nerc.com/pa/Stand/Technical%20Rationale%20for%20Reliability%20Standards/Technical%20Rationale%20Transition%20Plan.pdf>

<sup>11</sup> <https://www.nerc.com/pa/Stand/Pages/TechnicalRationaleforReliabilityStandards.aspx>

<sup>12</sup> <https://www.nerc.com/pa/Stand/Pages/StandardsSubjecttoFutureEnforcement.aspx?jurisdiction=United%20States>

<sup>13</sup> [https://www.nerc.com/pa/Stand/Project%20201602%20Modifications%20to%20CIP%20Standards%20DL/Implementation\\_Guidance\\_for\\_CIP-012-1\\_Clean\\_08032018.pdf](https://www.nerc.com/pa/Stand/Project%20201602%20Modifications%20to%20CIP%20Standards%20DL/Implementation_Guidance_for_CIP-012-1_Clean_08032018.pdf)

<sup>14</sup> [https://www.nerc.com/pa/Stand/Project%20201602%20Modifications%20to%20CIP%20Standards%20RF/CIP\\_Technical\\_Rationale\\_for\\_CIP-012\\_Clean\\_08062018.pdf](https://www.nerc.com/pa/Stand/Project%20201602%20Modifications%20to%20CIP%20Standards%20RF/CIP_Technical_Rationale_for_CIP-012_Clean_08062018.pdf)

<sup>15</sup> Agreement entered into pursuant to Order-in-Council 443-2009 dated April 8, 2009 [in French only]

**Legend:**

- Low:** Normal industry practice that requires only minor adjustments to existing processes or practices
- Moderate:** Change that requires allocation of some physical, human or financial resources to implement the proposed standard, enforce it or monitor its compliance
- High:** Change that requires the mobilization of significant physical, human or financial resources to plan, implement, enforce and monitor compliance with the proposed standard

**4. FINAL IMPACT ASSESSMENT**

This section shall be completed upon receipt of the impact assessment forms and at the conclusion of the consultation process prior to the filing of the Reliability Standards with the Régie.