
Project QC-2023-05

Standard PRC-002-4 – Disturbance Monitoring and Reporting

1.1. Applicability

The Reliability Standard proposed for adoption applies to the following functional entities:

| Standard | Functional entities |
|-----------|--|
| PRC-002-4 | <i>Generator Owner (GO)</i> <i>Reliability Coordinator (RC)</i> <i>Transmission Owner (TO)</i> |

The Québec Reliability Coordinator (hereinafter, the “Coordinator”) states that there is no change between the applicability of the PRC-002-4 standard and its earlier version, PRC-002-3.

1.2. Purpose of the standard

This section presents the purpose of the standard covered by this request. The title and purpose of the standard are presented below.

- **PRC-002-4 – Disturbance Monitoring and Reporting Requirements:** To have adequate data available to facilitate analysis of Bulk Electric System (BES) Disturbances.

1.3. Regulatory context

In accordance with the Section 85.6 of the *Act Respecting the Régie de l’énergie* (hereinafter, the “Act”), the Coordinator submits for adoption by the Régie de l’énergie (hereinafter, the “Régie”) Reliability Standard PRC-002-4 established by the North American Electric Corporation (hereinafter, “NERC”) and its Québec Appendix.

The PRC-002-4 Reliability Standard replaces standard PRC-002-3, currently under review by the Régie in docket R-4229-2023. The PRC-002-2 standard was adopted by the Régie in Decision D-2017-110¹ and is in effect in Québec since January 1, 2018.

Reliability standard PRC-002-4 was adopted by the NERC Board of Trustees on February 16, 2023 and approved by the Federal Energy Regulatory Commission (hereinafter, “FERC”) on April 14, 2023, via Letter Order, Docket No. RD23-4-000.² It will supersede the PRC-002-3 standard prior to it ever becoming effective in the United States on April 1, 2024.³

The PRC-002-4 standard was written in the first phase of the NERC Project 2021-04⁴ (*Modifications to PRC-002*). This is the first filing for this project. With the changing resource mix and increasing penetration of

¹ Régie Decision D-2017-110, retrieved on June 23 2023, at http://publicsde.regie-energie.qc.ca/projets/332/DocPrj/R-3944-2015-A-0083-Dec-Dec-2017_09_27.pdf

² FERC Letter Order, Docket No. RD23-4-000, retrieved on June 23, 2023, at https://elibrary.ferc.gov/eLibrary/filelist?accession_num=20230414-3051.

³ Standards subject to a future coming into force on the NERC website, retrieved on June 23, 2023, at <https://www.nerc.com/pa/Stand/Pages/StandardsSubjecttoFutureEnforcement.aspx?jurisdiction=United+States>

⁴ NERC Project 2021-04, retrieved on June 23, 2023, at <https://www.nerc.com/pa/Stand/Pages/Project-2021-04-Modifications-to-PRC-002-2.aspx>

Inverter-Based Resources (IBR), a phase 2 is planned with the introduction of a new PRC-028-1 standard to include requirements to ensure adequate data is available and periodically assessed to facilitate the analysis of BES disturbances, including in areas of the Bulk Power System (BPS) that may not be covered by the existing requirements.

1.4. Special provisions for Québec

The Coordinator proposes that the Québec-specific applicability provisions in the PRC-002-2 standard be carried over, in which the standard applies to the facilities of the Main Transmission System (RTP), as adopted in the Régie’s decision D-2017-110.⁵

1.5. Proposed effective date

The NERC Project 2021-04 Implementation Plan⁶ proposes that Reliability Standard PRC-002-4 become effective on the effective date of the PRC-002-3 standard. NERC was of the opinion that additional time to implement PRC-002-4 standard was not required for the following reasons:

- The revisions to Requirements R1, R3, and R5 are clarifying in nature, and
- The new Requirement R13 simply relocates implementation time prescribed in the PRC-002-2 Implementation Plan to the standard itself, and clarifies the implementation time, which was “three years” in the PRC-002-2 implementation plan, to “three calendar years.

Thus, to summarize, the following table displays the implementation plan for the PRC-002-4 Reliability Standard proposed by the Reliability Coordinator for Québec:

| Requirement | Applicability | Date of Enforcement in Québec |
|-----------------------|--|--|
| R1 and R2 | 100% of applicable facilities already subject to PRC-002-2 | Effective date of the standard. |
| R2 to R4 R6 to R11 | 100% of facilities newly subjected to PRC-002-4 identified in Requirement R1 or R5 | Within three (3) calendar years following the notification by the Transmission Owner or the Reliability Coordinator. |

The Coordinator considers the Régie’s requirement that standards come into force on the first day of a calendar quarter⁷ with at least 60 days⁸ between the date of the standard’s adoption and its effective date is compliant with NERC’s implementation plan.

Given the importance of having standardized practices, with effective mandatory standards harmonized with the United States, the Coordinator proposes that the Reliability Standard come into effect on the

⁵ Régie Decision D-2017-110, retrieved on June 23 2023, at http://publicsde.regie-energie.qc.ca/projets/332/DocPrj/R-3944-2015-A-0083-Dec-Dec-2017_09_27.pdf

⁶ NERC Project 2021-04 Implementation Plan, retrieved on xx, 2023at https://www.nerc.com/pa/Stand/Project202104ModificationstoPRC0022DL/2021-04%20PRC-002-4%20Implementation%20Plan_Clean_120722.pdf.

⁷ In its decision [D-2015-168](#), the Régie set the effective date of the standards as the first day of the calendar quarter following the date of adoption.

⁸ In its decision [D-2016-011](#), the Régie set a minimum of 60 days between adoption of a standard and its effective date.

first day of the first calendar quarter that is 24 months after their adoption by the Régie. Note that the modifications made to version 4 of the standard must be adopted as corollary with the modifications made to version 3 of the standard presented in Docket R-4229-2023 and consequently, version 4 of the standard replaces version 3 presented in file R-4229-2023.

1.6. Standards to retire

Reliability Standard PRC-002-2 must be retired as soon as PRC-002-4 takes effect.

1.7. Changes to the Glossary

No changes to the Glossary.

1.8. Changes to the Register

No changes to the Register.

2. ASSESSMENT OF RELEVANCE

The collection of sequence of recording (hereinafter “SER”) data, fault recording (hereinafter “FR”) data, and dynamic Disturbance recording (hereinafter “DDR”) data allows the comparison of actual system performance with expected system performance under Disturbance conditions, thereby allowing improvement to the system models that are used for both planning and operating the Bulk Electric System (hereinafter the “BES”). More precisely, Reliability Standard PRC- 002-2⁹, provides a series of requirements for collecting different types of disturbance monitoring data at locations on the BES and for periodically re-assessing those locations for continued validity.

In the course of implementing PRC-002-2, NERC identified two opportunities to improve the standard which are which are addressed in two separate phases of the Project 2021-04. The PRC-002-4 standard represents the conclusion of Phase 1 and provides revisions to the standard regarding notifications for and requirements for disturbance monitoring data.

Improvements to the PRC-002-4 standard include:

- Clarifying Requirement R1 in regard to which BES Elements that require data by introducing the phrase “directly connected”, and by clarifying the notifications requirements of R1,
- Promotes consistency in terminology used in the standard,
- New Requirement R13 that moves requirements for implementing a re-evaluated list of BES buses from the PRC-002-3 implementation to a requirement in the standard,
- Addition of a criterion in Attachment 1 that defines what constitutes a substantial change in fault current levels that would require changing the locations of which SER and FR data is recorded.

⁹ PRC-002-3 is part of a suite of Reliability Standards revisions to improve the framework for establishing and communicating System Operating Limits (SOL) The PRC-002-3 standard is scheduled to come effective April 1, 2024 in the United States, and is currently under review at the Régie in Docket R-4229-2023.

FERC concluded in its Letter Order in Docket No. RD23-4-000¹⁰ that the PRC-002-4 standard is reasonable, is not discriminatory, and is in the public interest and reduces ambiguities.

In addition, In New Brunswick, the PRC-002-4 standard is under review in Project number 558 by the New Brunswick Energy and Utilities Board¹¹. In Ontario, the project is not yet under review by the Ontario Energy Board.¹²

Given the information outlined above regarding the PRC-002-4, and the fact that these standards were developed by organizations recognized in North America (including in Québec and in neighboring jurisdictions) in accordance with the agreement signed in 2009 by the Régie, NERC and the NPCC, with the authorization of the Government of Québec,¹³ the Coordinator is of the opinion that the PRC-002-4 standard contributes to the reliability of the Québec System and to harmonization with neighboring Systems.

3. PRELIMINARY IMPACT ASSESSMENT

This section provides the Reliability Coordinator's preliminary assessment of the impact on all Québec entities.

Given the minor modifications between the versions 3 and 4 of the PRC-002 standard as detailed in section 2 above and that in Québec, entities already have mechanisms in place to meet the new requirements of the standard, the Coordinator considers the impact to be low.

The table below shows preliminary assessments of the impact on all Québec Entities.

| Standard | Impact | | |
|-----------|----------------|-------------|------------|
| | Implementation | Enforcement | Monitoring |
| PRC-002-4 | Low | Low | Low |

Legend

Low: Normal industry practice or standard that only requires minor adjustments to existing processes or practices.

Moderate: Change that requires the mobilization of some physical, human or financial resources to implement the proposed standard, enforce it or monitor its compliance.

High: Change that requires provision and mobilization of significant physical, human or financial resources to plan and implement the proposed standard, enforce it or monitor its compliance.

¹⁰ FERC Letter Order, Docket No. RD23-4-000, retrieved on June 23, 2023, at https://elibrary.ferc.gov/eLibrary/filelist?accession_num=20230414-3051

¹¹ New Brunswick Project no. 547, retrieved on June 23, 2023, at <https://filemaker.nbeub.ca/fmi/webd/NBEUB%20Toolkit13>

¹² Ontario Energy Board review process, retrieved on June 23, 2023, at <https://www.ieso.ca/en/Sector-Participants/System-Reliability/OEB-Review-Process>

¹³ Agreement entered into pursuant to Decree No. 443-2009, issued on April 8, 2009. http://www.regie-llen.energie.qc.ca/audiences/normes_fiab_tranp_elec/Entente_Regie_NERC_NPCC_5mai09.pdf

4. FINAL IMPACT ASSESSMENT

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