

Project QC-2023-03

Standards FAC-001-4 – Facility Interconnection Requirements and FAC-002-4 – Facility Interconnection Studies

1.1. Applicability

The Reliability Standards proposed for adoption (FAC-001-4 and FAC-002-4) apply to the following functional entities:

Standard	Functional entities
FAC-001-4	Transmission Owner (TO) Generator Owner (GO) with a fully executed Agreement to conduct a study on the reliability impact of interconnecting a third-party Facility to the Generator Owner's existing Facility that is used to interconnect to the Transmission system.
FAC-002-4	Planning Coordinator (PC) Transmission Planner (TP) Transmission Owner (TO) Distribution Provider (DP) Generator Owner (GO)

1.2. Purpose

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

- **FAC-001-4 – Facility Interconnection Requirements:** To avoid adverse impacts on the reliability of the Bulk Electric System, Transmission Owners and applicable Generator Owners must document and make Facility interconnection requirements available so that entities seeking to interconnect will have the necessary information.
- **FAC-002-4 – Facility Interconnection Studies:** To study the impact of interconnecting new or changed Facilities on the Bulk Electric System.

1.3. Regulatory context

The FAC-001-4 and FAC-002-4 Reliability Standards replace standards FAC-001-3 and FAC-002-3, adopted by the Régie de l'énergie (the Régie) in Decision D-2021-145¹ and D-2022-085² respectively. The FAC-001-3 standard has been in effect in Québec since April 1, 2022 and the FAC-002-3 standard has been in effect since October 1, 2022.

¹ Régie Decision D-D2021-145, Docket R-4171-2021, retrieved on January 23, 2023, at http://publicsde.regie-energie.qc.ca/projets/599/DocPri/R-4171-2021-A-0004-Dec-Dec-2021_11_10.pdf

² Régie Decision D-2022-085, Docket R-4184.2022, retrieved January 23, 2023, at : http://publicsde.regie-energie.qc.ca/projets/613/DocPri/R-4184-2022-A-0011-Dec-Dec-2022_06_28.pdf

Reliability standards FAC-001-4 and FAC-002-4 were adopted by the NERC Board of Trustees on May 12, 2022 and approved by the Federal Energy Regulatory Commission (FERC) on November 17, 2022, via Letter Order, Docket No. RD22-5-000.³ They will take effect in the United States on January 1, 2024.⁴

The Reliability Coordinator for Québec (the Coordinator) files herewith standards FAC-001-4 and FAC-002-4 of NERC Project 2020-05⁵ (*Modifications to FAC-001 and FAC-002*). This is the only filing for this project. The purpose of the two Reliability Standards is to clarify requirements regarding the term “material modification” of Facilities and which entity is responsible for making such a determination.

1.4. Special provisions for Québec

There are no specific provisions for the FAC-001-4 standard. For the FAC-002-4 standard, the Coordinator proposes to carry over the Québec-specific applicability provisions from the preceding version of the Reliability Standard FAC-002-3 already adopted by the Régie in Decision D-2022-085⁶:

“For the purposes of the standard, Transmission Facilities, Generation Facilities and End-user Facilities are defined as follows:

Transmission Facilities:

- Transmission System operated at 44 kV or above ;
- Any lines from the Transmission System operated at 44 kV or above ;
- Transmission facility operated at 44 kV and above, connected to the Main Transmission System (RTP).

Generation Facilities:

- Any generation facility with an installed capacity of 50 MVA or greater ;
- Any generation facility connected to the Main Transmission System (RTP).

End-user Facilities:

- Addition of a line feeder at 25 kV in a Distribution substation ;
- New connection of an Industrial Customer operated at 44 kV and above, connected to the Main Transmission System (RTP”).

The Coordinator is of the opinion that this special provision, as recognized by the Régie in D-2016-195⁷, is still applicable because in order to study the impact of the connection of a new installation or the substantial modification of an already connected installation, the scope of application must be broader

³ FERC Letter Order, Docket No. RD22-5-000, retrieved on January 23, 2023, at https://elibrary.ferc.gov/eLibrary/filelist?accession_num=20221117-3030

⁴ Standards subject to a future coming into force on the NERC website, retrieved on January 23, 2023, at <https://www.nerc.com/pa/Stand/Pages/StandardsSubjecttoFutureEnforcement.aspx?jurisdiction=United+States>

⁵ NERC Project 2020-05, retrieved on January 23, 2023, at <https://www.nerc.com/pa/Stand/Pages/Project-2020-05-Modifications-to-FAC-001-and-FAC-002.aspx>

⁶ See footnote 2.

⁷ Régie D-2016-195, Docket R-3957-2015, retrieved on January 23, 2023, at : http://publicsde.regie-energie.qc.ca/projets/332/DocPri/R-3944-2015-A-0062-Dec-Dec-2016_12_22.pdf

than the RTP, because the determination of the latter is done following the evaluation of the connection as provided in the FAC-002 standard.

1.5. Proposed effective dates

The NERC Project 2020-05 Implementation Plan⁸ proposes that Reliability Standards FAC-001-4 and FAC-002-4 become effective on the first day of the first calendar quarter that is 12 months after its regulatory approval. Both Reliability Standards will become effective in the United States on January 1, 2024. Additionally, to the extent a change is considered a “qualified change” under the definition developed by the Planning Coordinator under Reliability Standard FAC-002-4 Requirement R6 but was not considered a “material modification” under FAC-001-3 or FAC-002-3, the entity shall not be required to comply with Reliability Standard FAC-001-4 Requirement R3 and R4 or Reliability Standard FAC-002-4 Requirements R1, R2, R3 and R4 until 12 months after the effective date of the standards.

Thus, to summarize, the following table displays the implementation plan for the FAC-001-4 and FAC-002-4 Reliability Standards proposed by the Reliability Coordinator for Québec.

Standard	Requirement	Proposed phased-in implementation dates in Québec
FAC-001-4	R1 and R2	The first date of the first calendar quarter that is (12) months after the approval date of the Régie.
FAC-002-4	R5 and R6	
FAC-001-4	R3 and R4	To the extent a change is considered a “qualified change” under the definition developed by the PC under FAC-002-4 Requirement R6 but was not considered a “material modification” under FAC-001-3 or FAC-002-3, the entity shall not be required to comply to these requirements until 12 months after the effective date of the FAC-001-4 and FAC-002-4 standards.
FAC-002-4	R1 to R4	

The Coordinator considers the Régie’s requirement that standards come into force on the first day of a calendar quarter⁹ with at least 60 days¹⁰ between the date of the standard’s adoption and its effective date is compliant with NERC’s implementation plan.

⁸ NERC Project 2020-05 Implementation Plan, retrieved on January 23, 2023 at https://www.nerc.com/pa/Stand/Project_202005_Modifications_to_FAC001_and_FAC002_/Draft%202020-05%20Implementation%20Plan_Final%20Ballot_clean.pdf.

⁹ 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.

¹⁰ In its decision [D-2016-011](#), the Régie set a minimum of 60 days between adoption of a standard and its effective date.

Given the importance of having standardized practices, with effective mandatory standards harmonized with the United States, the Coordinator proposes that the two Reliability Standards come into effect on the first day of the first calendar quarter that is 12 months after their adoption by the Régie.

1.6. Standards to retire

Reliability Standards FAC-001-3 and FAC-002-3 must be retired as soon as FAC-001-4 and FAC-002-4 take effect.

1.7. Changes to the Glossary

No changes to the Glossary.

2. ASSESSMENT OF RELEVANCE

The currently effective FAC-001-3 and FAC-002-3 standards work together to ensure that the proper coordination and studies are done to evaluate the reliability impacts of newly interconnecting Facilities and existing interconnected Facilities that will undergo certain changes, currently referred to as ones that “materially modify” the Facility. These standards imply that the term “materially modified” should be used to distinguish between facility changes that are required to be studied and those that need not be studied; however, neither standard specifies what entity is responsible for determining what is considered to be a material modification. In the United States, NERC is of the opinion that the existing language is unclear about whether these requirements only apply when a different entity is proposing to interconnect to a Facility owner's Facility or if they also apply to the Facility owner's new or modified Facility. Additionally, the term “Material Modification” is used in FERC’s interconnection process.¹¹ According to NERC, this has led to widespread confusion across the industry regarding the correct application of these terms related to the FERC implementation and the NERC Reliability Standards requirements.

The modifications to the FAC-001-4 and FAC-002-4 standards stem from recommendations in the NERC Inverter-Based Resource Performance Task Force’s (IRPTF) March 2020 white paper¹² in which the IRPTF proposes to replace the term “materially modifying” and replace it with the term “qualified change”. Furthermore, the FAC-001-4 and FAC-002-4 standards identify the Planning Coordinator as the entity responsible for developing a definition of what types of changes to existing interconnected Facilities must be addressed in interconnection requirements and studies area. Applicable entities in the PC’s area, would then be required to adhere to this definition in their interconnection procedures and studies.

FERC concluded in its Letter Order in Docket No. RD22-5-000¹³ that the FAC-001-4 and FAC-002-4 standards are reasonable, are not discriminatory, do not provide any undue advantages and are in the public interest and that they ensure that changes to existing interconnected facilities that have reliability impacts are properly addressed in interconnection requirements. Furthermore, these standards avoid

¹¹ Large Generator Interconnection Agreement (LGIA), retrieved on January 23, 2023 at: <https://www.ferc.gov/sites/default/files/2020-04/LGIA-agreement.pdf>

¹² NERC IRPTF Review of NERC Reliability Standards (IRPTF White Paper), retrieved on January 23, 2023 at: https://www.nerc.com/comm/PC/InverterBased%20Resource%20Performance%20Task%20Force%20IRPT/Review_of_NERC_Reliability_Standards_White_Paper.pdf

¹³ FERC Letter Order, Docket No. RD22-5-000, retrieved on January 23, 2023, at https://elibrary.ferc.gov/eLibrary/filelist?accession_num=20221117-3030

potential disputes over change to facilities that require additional study by authorizing the PC to define the term “qualified change” and requiring public posting of the definition.

In New Brunswick, the FAC-001-4 and FAC-002-4 standards are under review by the New Brunswick Energy and Utilities Board¹⁴. In Ontario, the project is under review by the Ontario Energy Board.¹⁵

Given the information outlined above regarding standards FAC-001-4 and FAC-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,¹⁶ the Coordinator is of the opinion that standards FAC-001-4 and FAC-002-4 contribute 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.

In Québec, the definition of “substantial change” in the document “Technical requirements for the connection of generating stations to the Hydro-Québec transmission system” (TRCG)¹⁷ is consistent with the FAC-001 standard, which requires the TO to document Facility interconnection requirements and respects modifications made to the FAC-002 standard in which the PC is required to define and maintain a publicly available definition of qualified change. However, the actual definition of “substantial change” in the current TRCG may need to be revised in order to properly consider the new FAC-001-4 and FAC-002-4 standards. The Coordinator is of the opinion that the revisions entail only minor adjustments to existing documentation, which is why the Coordinator considers the impact to be low.

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

Standard	Impacts		
	Implementation	Enforcement	Monitoring
FAC-001-4	Low	Low	Low
FAC-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

¹⁴ New Brunswick Project no. 547, retrieved on January 23, 2023, at <https://filemaker.nbeub.ca/fmi/webd/NBEUB%20ToolKit13>

¹⁵ Ontario Energy Board review process, retrieved on January 23, 2023, at <https://www.ieso.ca/en/Sector-Participants/System-Reliability/OEB-Review-Process>

¹⁶ 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

¹⁷ Technical requirements for the connection of generating stations to the Hydro-Québec transmission system, retrieved on January 23, 2023, at: https://www.hydroquebec.com/data/transenergie/pdf/Exigences_raccordement_centrales_ang_2022-07-15.pdf

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

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.