
Project QC-2026-09 – Request for adoption of standard MOD-026-2

1. MOD-026-2 – VERIFICATION AND VALIDATION OF DYNAMIC MODELS AND DATA PRESENTATION OF STANDARDS

1.1. Applicability

The following table lists the functional entities to which MOD-026-2, the Reliability Standard proposed for adoption, applies.

Standard	Entities covered
MOD-026-2	Generator Owner (GO) Planning Coordinator (PC) Transmission Owner (TO) Transmission Planner (TP)

1.2. Purpose of the standard

This section describes the purpose of the standard that is the subject of this request. The points below present the title and purpose of the standard.

- **MOD-026-2 – Verification and Validation of Dynamic Models and Data:** To verify and validate the dynamic models and associated parameters used to assess Bulk Electric System (BES) reliability represent the in-service equipment of Bulk Power System (BPS) facilities including generating facilities, transmission connected dynamic reactive resources, and high-voltage direct current (HVDC) systems.

1.3. Regulatory context

i. NERC Project 2020-06 – Verifications of Models and Data for Generators

Pursuant to section 85.6 of the *Act Respecting the Régie de l'énergie* (the “Act”), the Coordinator submits for adoption by the Régie de l'énergie (the “Régie”) Reliability Standard MOD-026-2 as set forth by the North American Electric Reliability Corporation (“NERC”) in Project 2020-06¹ (Verifications of Models and Data for Generators).

Project 2020-06 is part of the second milestone (Milestone 3: Data Sharing and Model Validation for all IBRs) of Federal Energy Regulatory Commission (“FERC”) Order 901.

FERC Order 901, issued² on October 19, 2023, includes a number of guidelines requiring NERC to develop new or amended reliability standards to address the reliability risks associated with Inverter-Based Resources (“IBR”). Several draft NERC standards have been developed in connection with these guidelines.

¹ NERC Project 2020-06, accessed July 20, 2026, at <https://www.nerc.com/standards/reliability-standards-under-development/2020-06-verifications-of-models-and-data-for-generators>.

² FERC Order 901, accessed July 20, 2026, at https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20231019-3157&optimized=false.

Order 901 includes several important milestones that NERC is required to meet. The Coordinator will refer again to FERC Order 901 in future cases.³

Project 2020-06 aims to improve the accuracy and representativeness of the dynamic models used in the planning and operation of the transmission system. Specifically, it aims to establish a consistent framework for the verification and validation of models and data associated with generating facilities, IBRs, dynamic reactive resources (“DRR”), as well as HVDC systems, so that the models used to assess the reliability of the power system adequately reflect the actual behaviour of the equipment in service.

The proposed Reliability Standard replaces and consolidates current standards MOD-026-1 and MOD-027-1, and includes new requirements for model validation in different modelling areas, including electromagnetic transient models (“ETM”), IBR models, HVDC system models, flexible alternating current transmission system (FACTS) component models, and DRR models.

Reliability Standard MOD-026-2 was adopted by the NERC Board of Directors on October 31, 2025, and approved by the FERC on February 19, 2026, by Order Letter RD26-1-000.⁴

ii. Affected Reliability Standards in Québec

Reliability Standard MOD-026-2 replaces standards MOD-026-1 and MOD-027-1, adopted by the Régie in Decision D-2017-110,⁵ which have been in force since January 1, 2018.

1.4. Special provisions for Québec

The Coordinator proposes the following special provisions in the applicability section of the standard:

- The Coordinator proposes to replace any reference to the term “BES” with the term “Main Transmission System” (“RTP”).
- In Section 4.2.6 of the standard, the criteria for Reliability Standards have been adapted for Québec in accordance with Section 85.3⁶ of the Act for non-RTP IBR facilities.

1.5. Proposed effective dates

In the United States, MOD-026-2 came into effect on the first day of the first quarter following FERC’s adoption of the standard, that is, April 1, 2026. NERC’s Project 2020-06 Implementation Plan proposes to bring Reliability Standard MOD-026-2 into force on a phased basis, as follows:

- Requirements R1 and R7 become applicable 12 months after the standard comes into force.
- Requirements R2, R3, R4, R5 and R6 come into force 36 months after the standard comes into force.

Furthermore, given the importance of having standardized practices with effective mandatory standards harmonized with the United States, the Coordinator proposes that the standard come into effect on the first day of the first calendar quarter that begins three months after the adoption date of the standard as proposed in this file. The Coordinator also considers that NERC’s Implementation Plan meets the Régie’s

³ Reliability standards under development at NERC in relation to Order 901, accessed July 20, 2026, at <https://www.nerc.com/pa/Stand/Pages/Standards-Under-Development.aspx>.

⁴ FERC Letter Order RD26-1-000, accessed July 22, 2026, at https://elibrary.ferc.gov/eLibrary/filelist?accession_num=20260219-3058.

⁵ Régie Decision D-2017-110, Docket R-3944-2015, accessed July 22 at <https://www.regie-energie.qc.ca/storage/app/media/entites-visees-normes-de-fiabilite/normes-de-fiabilite/D-2017-110.pdf>.

requirement of having a minimum period of 60 days⁶ between the standard's adoption date and its effective date.

1.6. Standards to retire

Standards MOD-026-1 and MOD-027-1 must be retired as soon as MOD-026-2 takes effect.

1.7. Modifications to the Glossary

NERC's Project 2020-06 proposes two new definitions associated with MOD-026-2.

Term	Acronym	Definition
Model Validation		(The first day of the first quarter following the adoption of MOD-026-2) The process of comparing measurements with simulation results to assess how closely a model's behavior matches the measured behavior. (Model Validation) Source: Glossary of Terms Used in NERC Reliability Standards
Model Verification		(The first day of the first quarter following the adoption of MOD-026-2) The process of confirming that model structure and parameter values represent the equipment or facility design and settings by reviewing equipment or facility design and settings documentation. (Model Verification) Source: Glossary of Terms Used in NERC Reliability Standards

The Coordinator proposes that these additions to the Glossary come into force at the same time as standard MOD-026-2.

2. ASSESSMENT OF RELEVANCE

The growth of IBRs, such as wind farms, solar facilities and certain energy storage technologies, is changing the dynamic behaviour of the Bulk Power System. Unlike traditional synchronous generation, these resources may respond differently to system disruptions and require more detailed data and models so that planners and operators can adequately assess their impacts on system reliability.

MOD-026-2 must not be considered in isolation, but as a fundamental component of an integrated normative framework that also includes MOD-032-2, IRO-010-6, TOP-003-8, and MOD-033-3. It is intended to verify the accuracy of the dynamic models of some of the covered generating facilities, which is an essential condition for the proper evaluation of the behaviour of IBRs in the system. While MOD-026-2 validates the models at the source, the other complementary standards ensure data collection (MOD-032-2), its availability for operating activities (IRO-010-6 and TOP-003-8), and the validation of the overall behaviour of the system (MOD-033-3). Together, these interrelated requirements help ensure the

⁶ In Decision [D-2016-011](#), the Régie set a minimum of 60 days between the adoption of standards and their effective date.

quality, accuracy and representativeness of the models used for reliable system planning and operation. These complementary standards will be submitted separately in subsequent files.

These standards arise from FERC Order 901, which directed the NERC to strengthen the requirements for data sharing, modelling, model validation, and representation of IBRs, including Distributed Energy Resources (“DER”), in planning and operations studies. They aim to ensure that the models used by planning coordinators, system operators and reliability coordinators adequately represent the actual behaviour of facilities connected to the system, particularly during disruptions.

MOD-026-2 merges the requirements currently covered by MOD-026-1 and MOD-027-1 and establishes a uniform framework for the verification and validation of dynamic models. It also introduces two new definitions in the NERC glossary—the concepts of Model Verification and Model Validation—to ensure a consistent understanding of these processes across all Reliability Standards. In particular, the standard requires the provision of dynamic models and, in some cases, EMT models, which are particularly important for the detailed analysis of the behaviour of Inverter-Based Resources.

FERC concludes that the standard meets Order 901, that it is fair, reasonable, non-discriminatory and in the public interest. It believes that the new requirements will improve the quality of the models used for planning and operations studies and provide a better understanding of the behaviour of IBRs, contributing to the reliability of the North American transmission system.

In the Québec context, where hydroelectricity is the main source of generation and where modelling, grid study and validation processes are already in place, many of the proposed requirements are consistent with existing practices. However, the gradual increase in the number of IBRs on the transmission system makes these requirements increasingly relevant to ensure coordinated efforts with neighbouring systems and to maintain the quality of reliability studies on a continental scale.

Considering the above, the Coordinator is of the opinion that the adoption of MOD-026-2 contributes to Québec’s system reliability, promotes better integration of IBRs and supports regulatory harmonization with neighbouring systems.

3. PRELIMINARY IMPACT ASSESSMENT

This section presents the Coordinator’s preliminary assessment of the impact on all Québec entities.

Since processes for managing, verifying and validating dynamic models are already in place in Québec for system planning and operations studies, the Coordinator is of the opinion that the impact of MOD-026-2 is low and is limited mainly to minor adjustments to the documentation, model management processes and the demonstration of compliance with the new requirements.

The Coordinator believes that the newly covered entities and generating facilities should be familiar with the Reliability Standards regime. As a result, the Coordinator foresees a low impact for these newly covered entities and new generating facilities. However, the Coordinator anticipates a potentially greater preliminary impact if the covered entities are not working with NERC standards, due to the learning curve required to adapt, if necessary, to the requirements arising from this registration. Their registration may require from them a more sustained and proactive involvement in the Reliability Standards regime, both to ensure compliance with this file and to adequately prepare for the upcoming standards related to FERC Order 901. These entities are invited to provide their comments and observations as part of the public consultation on this project, in accordance with the terms and timelines of the consultation process.

The table below presents preliminary assessments of the impact on all Québec entities.

Standard	Impacts		
	Implementation	Maintenance	Monitoring
MOD-026-2	Low	Low	Low

Key:

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 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 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.