

Preliminary assessment of the relevance and impact of the standard:**EOP-003-2 – Load Shedding Plans****A. Relevance of the standard to be filed**

The purpose of this standard is to ensure that the balancing authority and the transmission operator operating with insufficient generation or transmission capacity must have the capability and authority to shed load rather than risk an uncontrolled failure of the interconnection.

To achieve these objectives, the requirements of the standard shall address the following aspects:

- Load shedding when operating with insufficient generation or transmission capacity;
- Establishment and coordination of load shedding plans, excluding automatic under-frequency load shedding among other interconnected transmission operators and balancing authorities.

The EOP-003-2 standard supersedes the standard EOP-003-1 filed in the request R-3699-2009 with the Régie de l'énergie. The requirements in this standard address under voltage load shedding, whereas the requirements for automatic under-frequency load shedding, previously described in the standard EOP-003-1, have been removed in the EOP-003-2 standard and implemented in the new PRC-006-1 standard.

B. Applicability

The standard applies to the transmission operators and the balancing authorities.

C. Relevance for special provisions for Quebec (Appendix QC-EOP-003-2)

No specific provisions.

D. Preliminary assessment of the impact of the adoption of the standard in Quebec

The impact of this standard is low since these actions are an already established practice in Hydro-Québec TransÉnergie.

Since this standard applies to the transmission operator and the balancing authority, only the System Control Direction of Hydro-Québec TransÉnergie is affected by its application in Quebec.

Summary of impacts

This summary establishes in a condensed and preliminary manner, the impacts on material, human or financial resources of the proposed standard compared to the latest revision studied or adopted by the Régie de l'énergie. The impact may vary depending on the actual applicability of the standard with certain entities whose impact is lower on the reliability on the bulk electric system in Quebec.

EOP-003-2

	Low	Moderate	Important
Implementation of the standard	●		
Maintenance of the standard	●		
Compliance Monitoring	●		

Legend:

Low:	Normal industry practice or standard involving minor adjustments to processes or practices in place.
Moderate:	Changes that require an allocation of certain material, human or financial resources to implement, maintain and monitor compliance of the proposed standard.
Important:	Changes that require significant provision and allocation of material, human or financial resources to implement, maintain and monitor compliance of the proposed standard.

A more accurate assessment will be developed from forms "Evaluation of the impacts of proposed standards" to be received from the registered entities during the comment period. This assessment will be submitted with the standard to the Régie de l'énergie.

E. Supersedence of the standard

Upon coming into effect, the standard EOP-003-2 shall supersede the standard EOP-003-1.

A. Introduction

1. **Title:** Load Shedding Plans
2. **Number:** EOP-003-2
3. **Purpose:** A Balancing Authority and Transmission Operator operating with insufficient generation or transmission capacity must have the capability and authority to shed load rather than risk an uncontrolled failure of the Interconnection.
4. **Applicability:**
 - 4.1. Transmission Operators.
 - 4.2. Balancing Authorities.
5. **Effective Date:** One year following the first day of the first calendar quarter after applicable regulatory approvals (or the standard otherwise becomes effective the first day of the first calendar quarter after NERC Board of Trustees adoption in those jurisdictions where regulatory approval is not required).

B. Requirements

- R1.** After taking all other remedial steps, a Transmission Operator or Balancing Authority operating with insufficient generation or transmission capacity shall shed customer load rather than risk an uncontrolled failure of components or cascading outages of the Interconnection. *[Violation Risk Factor: High]*
- R2.** Each Transmission Operator shall establish plans for automatic load shedding for undervoltage conditions if the Transmission Operator or its associated Transmission Planner(s) or Planning Coordinator(s) determine that an under-voltage load shedding scheme is required. *[Violation Risk Factor: High]*
- R3.** Each Transmission Operator and Balancing Authority shall coordinate load shedding plans, excluding automatic under-frequency load shedding plans, among other interconnected Transmission Operators and Balancing Authorities. *[Violation Risk Factor: High]*
- R4.** A Transmission Operator shall consider one or more of these factors in designing an automatic under voltage load shedding scheme: voltage level, rate of voltage decay, or power flow levels. *[Violation Risk Factor: High]*
- R5.** A Transmission Operator or Balancing Authority shall implement load shedding, excluding automatic under-frequency load shedding, in steps established to minimize the risk of further uncontrolled separation, loss of generation, or system shutdown. *[Violation Risk Factor: High]*
- R6.** After a Transmission Operator or Balancing Authority Area separates from the Interconnection, if there is insufficient generating capacity to restore system frequency following automatic underfrequency load shedding, the Transmission Operator or Balancing Authority shall shed additional load. *[Violation Risk Factor: High]*
- R7.** The Transmission Operator shall coordinate automatic undervoltage load shedding throughout their areas with tripping of shunt capacitors, and other automatic actions that will occur under abnormal voltage, or power flow conditions. *[Violation Risk Factor: High]*
- R8.** Each Transmission Operator or Balancing Authority shall have plans for operator controlled manual load shedding to respond to real-time emergencies. The Transmission Operator or

Balancing Authority shall be capable of implementing the load shedding in a timeframe adequate for responding to the emergency. *[Violation Risk Factor: High]*

C. Measures

- M1.** Each Transmission Operator that has or directs the deployment of undervoltage load shedding facilities, shall have and provide upon request, its automatic load shedding plans. (Requirement 2)
- M2.** Each Transmission Operator and Balancing Authority shall have and provide upon request its manual load shedding plans that will be used to confirm that it meets Requirement 8. (Part 1)

D. Compliance

1. Compliance Monitoring Process

1.1. Compliance Monitoring Responsibility

Regional Reliability Organizations shall be responsible for compliance monitoring.

1.2. Compliance Monitoring

One or more of the following methods will be used to assess compliance:

- Self-certification (Conducted annually with submission according to schedule.)
- Spot Check Audits (Conducted anytime with up to 30 days notice given to prepare.)
- Periodic Audit (Conducted once every three years according to schedule.)
- Triggered Investigations (Notification of an investigation must be made within 60 days of an event or complaint of noncompliance. The entity will have up to 30 days to prepare for the investigation. An entity may request an extension of the preparation period and the extension will be considered by the Compliance Monitor on a case-by-case basis.)

1.3. Additional Reporting Requirement

No additional reporting required.

1.4. Data Retention

Each Balancing Authority and Transmission Operator shall have its current, in-force load shedding plans.

If an entity is found non-compliant the entity shall keep information related to the noncompliance until found compliant or for two years plus the current year, whichever is longer.

Evidence used as part of a triggered investigation shall be retained by the entity being investigated for one year from the date that the investigation is closed, as determined by the Compliance Monitor.

The Compliance Monitor shall keep the last periodic audit report and all requested and submitted subsequent compliance records.

1.5. Additional Compliance Information

None

2. Violation Severity Levels

R#	Lower VSL	Moderate VSL	High VSL	Severe VSL
R1.	N/A	N/A	N/A	The Transmission Operator or Balancing Authority failed to shed customer load.
R2	N/A	N/A	N/A	The Transmission Operator did not establish plans for automatic load shedding for undervoltage conditions as directed by the requirement.
R3.	The responsible entity did not coordinate load shedding plans, as directed by the requirement, affecting 5% or less of its required entities.	The responsible entity did not coordinate load shedding plans, as directed by the requirement, affecting more than 5% up to (and including) 10% of its required entities.	The responsible entity did not coordinate load shedding plans, as directed by the requirement, affecting more than 10%, up to (and including) 15% or less, of its required entities.	The responsible entity did not coordinate load shedding plans, as directed by the requirement, affecting more than 15% of its required entities.
R4.	N/A	N/A	N/A	The Transmission Operator failed to consider at least one of the three elements voltage level, rate of voltage decay, or power flow levels) listed in the requirement.
R5.	N/A	N/A	N/A	The Transmission Operator or Balancing Authority failed to implement load shedding in steps established to minimize the risk of further uncontrolled separation, loss of generation, or system shutdown.

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R#	Lower VSL	Moderate VSL	High VSL	Severe VSL
R6.	N/A	N/A	N/A	The Transmission Operator or Balancing Authority failed to shed additional load after it had separated from the Interconnection when there was insufficient generating capacity to restore system frequency following automatic underfrequency load shedding.
R7.	The Transmission Operator did not coordinate automatic undervoltage load shedding with 5% or less of the types of automatic actions described in the Requirement.	The Transmission Operator did not coordinate automatic undervoltage load shedding with more than 5% up to (and including) 10% of the types of automatic actions described in the Requirement.	The Transmission Operator did not coordinate automatic undervoltage load shedding with more than 10% up to (and including) 15% of the types of automatic actions described in the Requirement.	The Transmission Operator did not coordinate automatic undervoltage load shedding with more than 15% of the types of automatic actions described in the Requirement.
R8.	N/A	The responsible entity did not have plans for operator controlled manual load shedding, as directed by the requirement.	The responsible entity has plans for manual load shedding but did not have the capability to implement the load shedding, as directed by the requirement.	The responsible entity did not have plans for operator controlled manual load shedding, as directed by the requirement nor had the capability to implement the load shedding, as directed by the requirement.

E. Regional Differences

None identified.

Version History

Version	Date	Action	Change Tracking
0	April 1, 2005	Effective Date	New
0	August 8, 2005	Removed “Proposed” from Effective Date	Errata
1	November 1, 2006	Adopted by Board of Trustees	Revised
2	November 4, 2010	Adopted by Board of Trustees; Modified R4, R5, R6 and associated VSLs for R2, R4, and R7 to clarify that the requirements don’t apply to automatic underfrequency load shedding.	Revised to eliminate redundancies with PRC-006-1
2	May 7, 2012	FERC Order issued approving EOP-003-2 (approval becomes effective July 10, 2012)	

Standard EOP-003-2 — Load Shedding Plans

Appendix QC-EOP-003-2 Provisions specific to the standard EOP-003-2 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:** Load shedding Plans
2. **Number:** EOP-003-2
3. **Purpose:** No specific provision
4. **Applicability:** No specific provision
5. **Effective Date:**
 - 5.1. Adoption of the standard by the Régie de l'énergie: Month xx 201x
 - 5.2. Adoption of the appendix by the Régie de l'énergie: Month xx 201x
 - 5.3. Effective date of the standard and its appendix in Québec: Month xx 201x
6. **Scope:** No specific provision

B. Requirements

No specific provision

C. Measures

No specific provision

D. Compliance

1. Compliance Monitoring Process

1.1. Compliance Monitoring Responsibility

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

1.2. Compliance Monitoring

No specific provision

1.3. Additional Reporting Requirement

No specific provision

1.4. Data Retention

No specific provision

1.5. Additional Compliance Information

No specific provision

2. Violation Severity Levels

No specific provision

Standard EOP-003-2 — Load Shedding Plans

Appendix QC-EOP-003-2

Provisions specific to the standard EOP-003-2 applicable in Québec

E. Regional Differences

No specific provision

Version History of the Appendix

Version	Date	Action	Change Tracking
0	Month xx, 201x	Effective date	New