
Project QC-2017-02

Standard PRC-012-2 – Remedial Action Schemes

1. Relevance assessment

A Remedial Action Scheme (RAS) is a scheme designed to detect predetermined conditions and take such action as generation rejection, load shedding or system reconfiguration to ensure system integrity and reliability. The purpose of Standard PRC-012-2 is to ensure that Remedial Action Schemes do not introduce unintentional or unacceptable risks to the Main Transmission System (RTP).

NERC proposed to develop PRC-012-2 as part of a project¹ to assess Remedial Action Schemes and all RAS-related matters. The purpose of its proposal was also to settle all the points raised by FERC Order No. 693,² which identified a series of standards as being incomplete, including PRC-012-0, PRC-013-0 and PRC-014-0. These standards assign to the Regional Reliability Organization, by reference, the responsibility to establish processes and databases, as well as to assess and document operation, coordination and compliance. PRC-012-2 therefore assigns the responsibility for the RAS reliability objectives specifically to RTP users, owners and operators.

FERC adoption of the concept “Remedial Action Scheme” (“RAS”), to ultimately replace the concept of “Special Protection System” (“SPS”), removed NPCC’s classification of the latter into categories. However, PRC-012-2 reintroduces the concept of “Type III SPS” under that of “limited impact RAS”. A limited impact RAS is defined in PRC-012-2 as a RAS that “cannot, by inadvertent operation or failure to operate, cause or contribute to BES Cascading, uncontrolled separation, angular instability, voltage instability, voltage collapse, or unacceptably damped oscillations”. The NPCC concept of Type III SPS is defined as “an SPS whose misoperation or failure to operate results in no significant adverse impact outside the local area” (“significant adverse impact” meaning system instability, unacceptable dynamic response on the grid, voltage level exceeding emergency limits in effect, level of load on transmission equipment exceeding emergency limits or unacceptable loss of load). A local area is an electrically confined or radial portion of the system with a geographic size and number of system elements that varies based on system characteristics. PRC-012-2 thus explicitly considers a Type III SPS to be a limited impact RAS.

2. Applicability

Functions covered:

- Reliability Coordinator (RC)
- Planning Coordinator (PC)

¹ NERC Standards Announcement, consulted online on August 10, 2019, at: http://www.nerc.com/pa/Stand/Prjct201005_3RmdialActnSchmsPhase3ofPrtctnSystmsDL/2010-05.3_Ph_3_of_PS_RAS_CP_Word_Announce_04302015.pdf

² FERC Order No. 693, consulted online on August 10, 2018, at: <https://www.ferc.gov/whats-new/comm-meet/2007/031507/E-13.pdf>

- RAS-entity: The Transmission Owner (TO), Generator Owner (GO) or Distribution Provider (DP) that owns all or part of a RAS.

3. Specific provisions for Québec

This standard applies to Remedial Action Schemes (RAS) protecting the Main Transmission System (RTP). The covered entities are identified by function in the Register of Entities.

4. Effective dates and implementation dates of the standard

The Coordinator proposes January 1, 2019, as the effective date of Standard PRC-012-2 and its appendix in Québec. In Québec, the Coordinator would like to apply the same implementation intervals as in the NERC Implementation Plan³ that are applicable in the United States. The requirements become applicable on the dates in the implementation plan provided below.

STANDARD PRC-012-2 IMPLEMENTATION PLAN

Requirement	Implementation date in the U.S.	Proposed implementation date in Québec	Justification
R1, R2, R3, R5, R6 and R7	January 1, 2021	January 1, 2022	Harmonization of practices with neighboring jurisdictions while allowing for a reasonable implementation time frame (one year) for registered entities in Québec
R4	<ul style="list-style-type: none"> January 1, 2023: Initial performance of obligations. 	<ul style="list-style-type: none"> January 1, 2024: Initial performance of obligations. 	
R8	<ul style="list-style-type: none"> January 1, 2023: Initial performance of obligations for RASs not designated as being “limited impact”. January 1, 2030: Initial performance of obligations for RASs designated as being “limited impact”. 	<ul style="list-style-type: none"> January 1, 2025: Initial performance of obligations for RASs not designated as being “limited impact”. January 1, 2031: Initial performance of obligations for RASs designated as being “limited impact”. 	
R9	<ul style="list-style-type: none"> January 1, 2021: RAS database established. 	<ul style="list-style-type: none"> January 1, 2022: RAS database established. 	

5. Phase 2 public consultation

As part of the phase 2 public consultation, the Coordinator is seeking comments from covered entities on the impact and relevance of Standard PRC-012-2, including the following three items:

1. Scope of the standard: Remedial Action Schemes (RAS) protecting the Main Transmission System (RTP).
2. The concept of “Remedial Action Scheme” (“RAS”) and particularly “limited impact RAS”.
3. The implementation dates.

³ NERC, Implementation Plan for PRC-012-2, consulted online on August 10, 2018, at: http://www.nerc.com/pa/Stand/Prct201005_3RmdialActnSchmsPhase3ofPrctctnSystmsDL/PRC-012-2_Implementation_Plan_clean_04182016_final.pdf

6. Modifications to other standards or to glossary definitions

PRC-012-2 does not impact any other standard existing in Québec. Though it introduces no new glossary definitions, it does reflect the modifications to the glossary made for PRC-005-6, specifically for the entries “Bulk Electric System” (“BES”), “Protection System”, “Type I SPS” and “Type II SPS”.

7. Preliminary impact assessment

	Low	Moderate	High
Implementation of the standard		x	
Enforcement of the standard		x	
Compliance monitoring		x	

Definitions:

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

Moderate: Change that requires the allocation of some physical, human or financial resources to implement, enforce and monitor the compliance with the proposed standard.

High: Change that requires the allocation of substantial physical, human or financial resources to plan and deploy the implementation, enforcement and compliance monitoring of the proposed standard.

8. 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 filing the reliability standards with the Régie de l’énergie.