

NB Appendix
PRC-025-2-NB-1 - Generator Relay Loadability

This appendix establishes modifications to the FERC approved NERC standard PRC-025-2 for its specific application in New Brunswick. This appendix must be read with PRC-025-2 to determine a full understanding of the requirements of the standard for New Brunswick. Where the standard and appendix differ, the appendix shall prevail.

For the purpose of this standard the term “Bulk Electric System” and its acronym, “BES” shall mean the “bulk power system” as defined in the New Brunswick Reliability Standards Regulation – Electricity Act.

A. Introduction

- 1. Title: Generator Relay Loadability**
- 2. Number: PRC-025-2**
- 3. Purpose: No New Brunswick modifications**
- 4. Applicability:**
 - 4.1. Functional Entities:**
 - 4.1.1 No New Brunswick modifications**
 - 4.1.2 No New Brunswick modifications**
 - 4.1.3 No New Brunswick modifications**
 - 4.2. Facilities: No New Brunswick modifications**
 - 4.2.1 No New Brunswick modifications**
 - 4.2.2 No New Brunswick modifications**
 - 4.2.3 No New Brunswick modifications**
 - 4.2.4 No New Brunswick modifications**
 - 4.2.5 No New Brunswick modifications**

5. Effective Date:

Standard Effective Date: April 1, 2019

Phased-In Effective Dates

R1 where replacement or removal is not necessary except for the options listed below: April 1, 2020,

R1 where replacement or removal is necessary, except as for the options listed

below: April 1, 2022

Relay Loadability Evaluation Criteria Options (please see the NERC Implementation Plan for more information on applicability)

- Options 5b, 14b, 15b, 16b where replacement or removal is not necessary: October 1, 2021
- Options 5b, 14b, 15b, 16b where replacement or removal is necessary: April 1, 2023
- Options 2a, 2b, 2c, 5a, 5b, 8a, 8b, 8c, 11, 13a, 13b where replacement or removal is not necessary (50 element only): April 1, 2024
- Options 2a, 2b, 2c, 5a, 5b, 8a, 8b, 8c, 11, 13a, 13b where replacement or removal is necessary (50 element only): April 1, 2026

6. Background:

No New Brunswick modifications

7. Standard Only Definition: No New Brunswick modifications

B. Requirements and Measures

R1. No New Brunswick modifications

M1. No New Brunswick modifications

C. Compliance

1. Compliance Monitoring Process

1.1. Compliance Enforcement Authority: No New Brunswick modifications

1.2. Evidence Retention: No New Brunswick modifications

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Violation Severity Levels

R #	Violation Severity Levels			
	Lower VSL	Moderate VSL	High VSL	Severe VSL
R1	No New Brunswick modifications			

D. Regional Variances

No New Brunswick modifications

E. Associated Documents

No New Brunswick modifications

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Version History (maintained by NBEUB)

Version	NBEUB Approval Date	NB Appendix Effective Date	Change Tracking	Comments
0	01/16/19	04/01/19	1. Replace the term “Bulk Electric System” and its acronym “BES” with “bulk power system” throughout. 2. Revised Section A to replace “NERC” with “New Brunswick Energy and Utilities Board approved reliability standard”	Approved by NBEUB under Matter No. 414
1	8/19/20	10/1/21	Updated the deferred effective dates based on New Brunswick implementation of << Generator Relay Loadability PRC-025-2>>	Approved by NBEUB, Matter 472.

PRC-025-2 – Attachment 1: Relay Settings

Introduction

No New Brunswick modifications

Generators

No New Brunswick modifications

Transformers

No New Brunswick modifications

Multiple Lines

No New Brunswick modifications

Exclusions

No New Brunswick modifications

1. No New Brunswick modifications
2. No New Brunswick modifications
3. No New Brunswick modifications
4. No New Brunswick modifications
5. Protective relay elements used only for Remedial Action Schemes that are subject to one or more requirements in a New Brunswick Energy and Utilities Board approved reliability standard.
6. No New Brunswick modifications
7. No New Brunswick modifications
8. No New Brunswick modifications

Table 1

No New Brunswick modifications

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Table 1. Relay Loadability Evaluation Criteria				
Application	Relay Type	Option	Bus Voltage ⁵	Setting Criteria
No New Brunswick modifications	No New Brunswick modifications	1a	No New Brunswick modifications	
		OR		
		1b	No New Brunswick modifications	
		OR		
		1c	No New Brunswick modifications	
	No New Brunswick modifications			

⁵ No New Brunswick modifications.

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Table 1. Relay Loadability Evaluation Criteria				
Application	Relay Type	Option	Bus Voltage ⁵	Pickup Setting Criteria
No New Brunswick modifications	No New Brunswick modifications	2a	No New Brunswick modifications	
		OR		
		2b	No New Brunswick modifications	
		OR		
		2c	No New Brunswick modifications	
	No New Brunswick modifications	3	No New Brunswick modifications	
No New Brunswick modifications				

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Table 1. Relay Loadability Evaluation Criteria					
Application	Relay Type	Option	Bus Voltage ⁵	Setting Criteria	
No New Brunswick modifications	No New Brunswick modifications	4	No New Brunswick modifications		
	No New Brunswick modifications	5a	No New Brunswick modifications		
		OR			
		5b	No New Brunswick modifications		
	No New Brunswick modifications	6	No New Brunswick modifications		
No New Brunswick modifications					

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Table 1. Relay Loadability Evaluation Criteria				
Application	Relay Type	Option	Bus Voltage ⁵	Setting Criteria
No New Brunswick modifications	No New Brunswick modifications	7a	No New Brunswick modifications	
		OR		
		7b	No New Brunswick modifications	
		OR		
		7c	No New Brunswick modifications	
	No New Brunswick modifications			

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Table 1. Relay Loadability Evaluation Criteria				
Application	Relay Type	Option	Bus Voltage ⁵	Setting Criteria
No New Brunswick modifications	No New Brunswick modifications	8a	No New Brunswick modifications	
		OR		
		8b	No New Brunswick modifications	
		OR		
		8c	No New Brunswick modifications	
	No New Brunswick modifications			

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Table 1. Relay Loadability Evaluation Criteria				
Application	Relay Type	Option	Bus Voltage ⁵	Setting Criteria
No New Brunswick modifications	No New Brunswick modifications	9a	No New Brunswick modifications	
		OR		
		9b	No New Brunswick modifications	
		OR		
		9c	No New Brunswick modifications	
No New Brunswick modifications				

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Table 1. Relay Loadability Evaluation Criteria				
Application	Relay Type	Option	Bus Voltage ⁵	Setting Criteria
No New Brunswick modifications	No New Brunswick modifications	10	No New Brunswick modifications	
	No New Brunswick modifications	11	No New Brunswick modifications	
	No New Brunswick modifications	12	No New Brunswick modifications	
No New Brunswick modifications				

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Table 1. Relay Loadability Evaluation Criteria				
Application	Relay Type	Option	Bus Voltage ⁵	Setting Criteria
No New Brunswick modifications				
No New Brunswick modifications	No New Brunswick modifications	13a	No New Brunswick modifications	
		OR		
		13b	No New Brunswick modifications	
No New Brunswick modifications	No New Brunswick modifications	14a	No New Brunswick modifications	
		OR		
		14b	No New Brunswick modifications	
	No New Brunswick modifications			

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Table 1. Relay Loadability Evaluation Criteria				
Application	Relay Type	Option	Bus Voltage ⁵	Setting Criteria
No New Brunswick modifications	No New Brunswick modifications	15a	No New Brunswick modifications	
		OR		
		15b	No New Brunswick modifications	
	No New Brunswick modifications			

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Table 1. Relay Loadability Evaluation Criteria				
Application	Relay Type	Option	Bus Voltage ⁵	Setting Criteria
No New Brunswick modifications	No New Brunswick modifications	16a	No New Brunswick modifications	
		OR		
		16b	No New Brunswick modifications	
No New Brunswick modifications				

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Table 1. Relay Loadability Evaluation Criteria				
Application	Relay Type	Option	Bus Voltage ⁵	Setting Criteria
No New Brunswick modifications	No New Brunswick modifications	17	No New Brunswick modifications	
	No New Brunswick modifications			

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Table 1. Relay Loadability Evaluation Criteria				
Application	Relay Type	Option	Bus Voltage ⁵	Pickup Setting Criteria
No New Brunswick modifications	No New Brunswick modifications	18	No New Brunswick modifications	
	No New Brunswick modifications			

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Table 1. Relay Loadability Evaluation Criteria				
Application	Relay Type	Option	Bus Voltage ⁵	Pickup Setting Criteria
No New Brunswick modifications	No New Brunswick modifications	19	No New Brunswick modifications	
No New Brunswick modifications				

PRC-025-2 Guidelines and Technical Basis

No New Brunswick modifications

Rationale:

No New Brunswick modifications

Rationale for R1:

No New Brunswick modifications