

This appendix establishes modifications to the FERC approved NERC standard PRC-005-2(i) for its specific application in New Brunswick. This appendix must be read with PRC-005-2(i) 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: Protection System Maintenance**
- 2. Number: PRC-005-2(i)**
- 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:

- 4.2.1 No New Brunswick modifications**
- 4.2.2 Protection Systems used for underfrequency load-shedding systems installed per underfrequency load-shedding requirements as set out in New Brunswick Energy and Utilities Board approved reliability standards.**
- 4.2.3 No New Brunswick modifications**
- 4.2.4 No New Brunswick modifications**
- 4.2.5 No New Brunswick modifications**
 - 4.2.5.1 No New Brunswick modifications**

4.2.5.2 No New Brunswick modifications

4.2.5.3 No New Brunswick modifications

4.2.6 No New Brunswick modifications

4.2.6.1 No New Brunswick modifications

5. Effective Date: No New Brunswick modifications

B. Requirements

R1. No New Brunswick modifications

1.1. No New Brunswick modifications

1.2. No New Brunswick modifications

R2. No New Brunswick modifications

R3. No New Brunswick modifications

R4. No New Brunswick modifications

R5. No New Brunswick modifications

C. Measures

M1. No New Brunswick modifications

M2. No New Brunswick modifications

M3. No New Brunswick modifications

M4. No New Brunswick modifications

M5. No New Brunswick modifications

D. Compliance

1. Compliance Monitoring Process

1.1. Compliance Enforcement Authority

New Brunswick Energy and Utilities Board

1.2. Compliance Monitoring and Enforcement Processes:

No New Brunswick modifications

1.3. Evidence Retention

No New Brunswick modifications

1.4. Additional Compliance Information

No New Brunswick modifications

2. Violation Severity Levels

Requirement Number	Lower VSL	Moderate VSL	High VSL	Severe VSL
R1	No New Brunswick modifications			
R2				
R3				
R4				
R5				

E. Regional Variances

No New Brunswick modifications

F. Supplemental Reference Document

No New Brunswick modifications

Version History

Version	NBEUB Approval Date	NB Appendix Effective Date	Change Tracking	Comments
0	12/14/15	12/14/15	1. Bulk Electric System(BES)replaced with "Bulk power system" throughout 2. Revised Section A to replace "ER0" with "New Brunswick Energy and Utilities Board approved reliability standard" 3. Revised Section C to clarify the NBEUB as the entity	Approved Under NBEUB Matter 295 Effective dates: R1, R2 and R5 12/14/15 R3 and R4 * See Implementation Plan Timelines below

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			having the compliance enforcement authority for NB	

***Implementation Plan Timelines for R3 and R4**

Max. Maintenance Interval	% Compliant	By
Less than 1 year	100%	04/01/16
1-2 calendar years	100%	10/01/17
3 calendar years	30%	10/01/16
3 calendar years	60%	10/01/17
3 calendar years	100%	10/01/18
6 calendar years	30%	10/01/17
6 calendar years	60%	10/01/19
6 calendar years	100%	10/01/21
12 calendar years	30%	10/01/19
12 calendar years	60%	10/01/23
12 calendar years	100%	10/01/27

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Table 1-1 Component Type - Protective Relay Excluding distributed UFLS and distributed UVLS (see Table 3)		
Component Attributes	Maximum Maintenance Interval ¹	Maintenance Activities
No New Brunswick modifications		

Table 1-2 Component Type - Communications Systems Excluding distributed UFLS and distributed UVLS (see Table 3)		
Component Attributes	Maximum Maintenance Interval	Maintenance Activities
No New Brunswick modifications		

¹ No New Brunswick modifications

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Table 1-3 Component Type - Voltage and Current Sensing Devices Providing Inputs to Protective Relays Excluding distributed UFLS and distributed UVLS (see Table 3)		
Component Attributes	Maximum Maintenance Interval	Maintenance Activities
No New Brunswick modifications		

Table 1-4(a) Component Type - Protection System Station dc Supply Using Vented Lead-Acid (VLA) Batteries Excluding distributed UFLS and distributed UVLS (see Table 3) Protection System Station dc supply used only for non-BES interrupting devices for SPS, non-distributed UFLS systems, or non-distributed UVLS systems is excluded (see Table 1-4(e)).		
Component Attributes	Maximum Maintenance Interval	Maintenance Activities
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Table 1-4(b) Component Type – Protection System Station dc Supply Using Valve-Regulated Lead-Acid (VRLA) Batteries Excluding distributed UFLS and distributed UVLS (see Table 3) Protection System Station dc supply used only for non-BES interrupting devices for SPS, non-distributed UFLS systems, or non-distributed UVLS systems is excluded (see Table 1-4(e)).		
Component Attributes	Maximum Maintenance Interval	Maintenance Activities
No New Brunswick modifications		

Table 1-4(c) Component Type – Protection System Station dc Supply Using Nickel-Cadmium (NiCad) Batteries Excluding distributed UFLS and distributed UVLS (see Table 3) Protection System Station dc supply used only for non-BES interrupting devices for SPS, non-distributed UFLS system, or non-distributed UVLS systems is excluded (see Table 1-4(e)).		
Component Attributes	Maximum Maintenance Interval	Maintenance Activities
No New Brunswick modifications		

Table 1-4(d) Component Type - Protection System Station dc Supply Using Non Battery Based Energy Storage Excluding distributed UFLS and distributed UVLS (see Table 3) Protection System Station dc supply used only for non-BES interrupting devices for SPS, non-distributed UFLS system, or non-distributed UVLS systems is excluded (see Table 1-4(e)).		
Component Attributes	Maximum Maintenance Interval	Maintenance Activities
No New Brunswick modifications		

Table 1-4(e) Component Type - Protection System Station dc Supply for non-BES Interrupting Devices for SPS, non-distributed UFLS, and non- distributed UVLS systems		
Component Attributes	Maximum Maintenance Interval	Maintenance Activities
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Table 1-4(f) Exclusions for Protection System Station dc Supply Monitoring Devices and Systems		
Component Attributes	Maximum Maintenance Interval	Maintenance Activities
No New Brunswick modifications		

Table 1-5 Component Type - Control Circuitry Associated With Protective Functions Excluding distributed UFLS and distributed UVLS (see Table 3) Note: Table requirements apply to all Control Circuitry Components of Protection Systems, and SPSs except as noted.		
Component Attributes	Maximum Maintenance Interval	Maintenance Activities
No New Brunswick modifications		

Table 2 - Alarming Paths and Monitoring In Tables 1-1 through 1-5 and Table 3, alarm attributes used to justify extended maximum maintenance intervals and/or reduced maintenance activities are subject to the following maintenance requirements		
Component Attributes	Maximum Maintenance Interval	Maintenance Activities

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Table 3 Maintenance Activities and Intervals for distributed UFLS and distributed UVLS Systems		
Component Attributes	Maximum Maintenance Interval	Maintenance Activities
No New Brunswick modifications		

PRC-005 – Attachment A

No New Brunswick modifications

Application Guidelines

No New Brunswick modifications