

January 9, 2020

**VIA ELECTRONIC FILING**

Veronique Dubois  
Régie de l'énergie  
Tour de la Bourse  
800, Place Victoria  
Bureau 255  
Montréal, Québec H4Z 1A2

Re: *North American Electric Reliability Corporation*

Dear Mr. Dubois:

The North American Electric Reliability Corporation (“NERC”) hereby submits Notice of Filing of the North American Electric Reliability Corporation of Proposed Reliability Standard PRC-006-NPCC-2. NERC requests, to the extent necessary, a waiver of any applicable filing requirements with respect to this filing.

Please contact the undersigned if you have any questions concerning this filing.

Respectfully submitted,

/s/ Lauren Perotti

Lauren Perotti  
*Senior Counsel for the North American Electric  
Reliability Corporation*

Enclosure

3353 Peachtree Road NE  
Suite 600, North Tower  
Atlanta, GA 30326  
404-446-2560 | [www.nerc.com](http://www.nerc.com)

---

**BEFORE THE  
RÉGIE DE L'ÉNERGIE  
THE PROVINCE OF QUÉBEC**

**NORTH AMERICAN ELECTRIC )  
RELIABILITY CORPORATION )**

**NOTICE OF FILING OF THE  
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION OF  
PROPOSED REGIONAL RELIABILITY STANDARD PRC-006-NPCC-2**

James McGrane  
Senior Counsel  
Lauren Perotti  
Senior Counsel  
North American Electric Reliability Corporation  
1325 G Street, N.W., Suite 600  
Washington, D.C. 20005  
(202) 400-3000  
(202) 644-8099– facsimile  
james.mcgrane@nerc.net  
lauren.perotti@nerc.net

*Counsel for the North American Electric  
Reliability Corporation*

January 9, 2020

## TABLE OF CONTENTS

I.	SUMMARY .....	2
II.	NOTICES AND COMMUNICATIONS .....	3
III.	BACKGROUND .....	3
A.	NPCC Regional Reliability Standards Development Process.....	3
B.	History of the PRC-006-NPCC Standard.....	4
C.	Development of the Proposed Regional Reliability Standard.....	5
IV.	JUSTIFICATION .....	6
A.	Overview of Proposed Modifications .....	6
B.	Proposed Modifications to NPCC Regional Reliability Standard PRC-006-NPCC-2 ....	7
C.	Enforceability of Proposed Regional Reliability Standard .....	14
V.	EFFECTIVE DATE.....	14
<b>Exhibit A</b>	Proposed Reliability Standard PRC-006-NPCC-2 – Automatic Underfrequency Load Shedding	
<b>Exhibit B</b>	Implementation Plan for Proposed Regional Reliability Standard PRC-006-NPCC-2	
<b>Exhibit C</b>	Reliability Standards Criteria for Proposed Regional Reliability Standard PRC-006-NPCC-2	
<b>Exhibit D</b>	Summary of Development History and Complete Record of Development	
<b>Exhibit E</b>	NPCC Standard Drafting Team Roster	
<b>Exhibit F</b>	Violation Risk Factor and Violation Severity Level Justification	

**BEFORE THE  
RÉGIE DE L'ÉNERGIE  
THE PROVINCE OF QUÉBEC**

**NORTH AMERICAN ELECTRIC )  
RELIABILITY CORPORATION )**

**NOTICE OF FILING OF THE  
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION OF  
PROPOSED REGIONAL RELIABILITY STANDARD PRC-006-NPCC-2**

The North American Electric Reliability Corporation (“NERC”)<sup>1</sup> hereby submits proposed Regional Reliability Standard PRC-006-NPCC-2 – Automatic Underfrequency Load Shedding (“UFLS”). Proposed Regional Reliability Standard PRC-006-NPCC-2 establishes consistent and coordinated requirements for the design, implementation, and analysis of automatic UFLS programs among all NPCC applicable entities.

Proposed Regional Reliability Standard PRC-006-NPCC-2 (**Exhibit A**) is just, reasonable, not unduly discriminatory or preferential, and in the public interest. NERC also provides notice of the associated implementation plan (**Exhibit B**), and the associated Violation Risk Factors (“VRFs”) and Violation Severity Levels (“VSLs”) (**Exhibit F**), and the retirement of Regional Reliability Standard PRC-006-NPCC-1.

This filing presents the technical basis and purpose of the proposed Regional Reliability Standard, a summary of the development history (**Exhibit D**), and a demonstration that the proposed Regional Reliability Standard meets the Reliability Standards criteria (**Exhibit C**). Proposed Regional Reliability Standard PRC-006-NPCC-2 was approved by the NPCC Board of

---

Unless otherwise indicated, capitalized terms used in this filing shall have the meaning set forth in the *Glossary of Terms Used in NERC Reliability Standards* (“NERC Glossary”), [https://www.nerc.com/pa/Stand/Glossary%20of%20Terms/Glossary\\_of\\_Terms.pdf](https://www.nerc.com/pa/Stand/Glossary%20of%20Terms/Glossary_of_Terms.pdf), or Appendix 2 to the NERC Rules of Procedure, *Definitions Used in the NERC Rules of Procedure*, <https://www.nerc.com/AboutNERC/Pages/Rules-of-Procedure.aspx>.

Directors on May 1, 2019. On September 5, 2019, the NPCC Board of Directors approved the correction of an errata to the proposed Regional Reliability Standard. On November 5, 2019, the NERC Board of Trustees adopted the proposed Regional Reliability Standard PRC-006-NPCC-2.

## **I. SUMMARY**

The purpose of proposed Regional Reliability Standard PRC-006-NPCC-2 is to establish more stringent and specific NPCC underfrequency load shedding (“UFLS”) program requirements than the NERC continent-wide PRC-006 standard, such that declining frequency is arrested and recovered in accordance with established NPCC performance requirements.<sup>2</sup> NPCC has revised currently effective Regional Reliability Standard PRC-006-NPCC-1 to remove redundancies with the currently effective continent-wide UFLS Reliability Standard PRC-006-3, clarify obligations for registered entities, improve communication of island boundaries to affected registered entities, and provide entities with the flexibility to calculate net load shed for UFLS in certain situations.

The following filing presents the justification and supporting documentation for proposed Regional Reliability Standard PRC-006-NPCC-2, the associated VRFs and VSLs, the Effective Date, and the retirement of currently effective Regional Reliability Standard PRC-006-NPCC-1.

---

<sup>2</sup> NPCC is not an “interconnection-wide” Regional Entity and its standards are intended to apply only to that part of the Eastern Interconnection within the NPCC geographical footprint and Québec.

## **II. NOTICES AND COMMUNICATIONS**

Notices and communications with respect to this filing may be addressed to the following:

Edward Schwerdt  
President and CEO  
Northeast Power Coordinating Council, Inc.  
1040 Avenue of the Americas, 10<sup>th</sup> Floor  
New York, NY 10018  
(212) 840-1070  
eschwerdt@npcc.org

James McGrane  
Senior Counsel  
Lauren Perotti  
Senior Counsel  
North American Electric Reliability  
Corporation  
1325 G Street, N.W., Suite 600  
Washington, D.C. 20005  
202-400-3000  
james.mcgrane@nerc.net  
lauren.perotti@nerc.net

## **III. BACKGROUND**

The following background information is provided below: (a) an explanation of the NPCC Regional Reliability Standards development process; and (b) the history of development of proposed Regional Reliability Standard PRC-006-NPCC-2.

### **A. NPCC Regional Reliability Standards Development Process**

The proposed Regional Reliability Standard was developed in an open and fair manner and in accordance with the NPCC Regional Standard Processes Manual (“RSPM”).<sup>3</sup> NPCC’s RSPM provides for reasonable notice and opportunity for public comment, due process, openness, inclusiveness, balance of interests, transparency, and timeliness in developing Reliability Standards and thus addresses certain of the criteria for approving Reliability Standards. The development process is “open to all persons and organizations that are directly

---

<sup>3</sup> The currently-effective NPCC RSPM is available at [https://www.npcc.org/Standards/Regional%20Standards%20General/NPCC%20Regional%20%20Standard%20Processes%20Manual\\_FERC\\_Aproved\\_version\\_1\\_20141223.pdf](https://www.npcc.org/Standards/Regional%20Standards%20General/NPCC%20Regional%20%20Standard%20Processes%20Manual_FERC_Aproved_version_1_20141223.pdf).

and materially affected by the reliability of the NPCC’s Bulk Electric System.”<sup>4</sup> NPCC considers the comments of all stakeholders, and a vote of stakeholders and the NPCC Board of Directors is required to approve a Regional Reliability Standard. After approval by the NPCC Board of Directors, NERC posts each proposed Regional Reliability Standard for an additional comment period and must consider any comments received. The NERC Board of Trustees must adopt the proposed Regional Reliability Standard before the proposed Regional Reliability Standard is submitted to the applicable governmental authorities.

## **B. History of the PRC-006-NPCC Standard**

The PRC-006-NPCC Standard was originally developed to “ensure[ ] the development of an effective automatic [UFLS] program in order to preserve the security and integrity of the [BPS] during declining system frequency events, in coordination with the NERC UFLS reliability standard characteristics.”<sup>5</sup> The first version of the Regional Reliability Standard, PRC-006-NPCC-1, became effective in 2015. In approving Regional Reliability Standard PRC-006-NPCC-1, the Federal Energy Regulatory Commission (“FERC”) stated,

“Regional Reliability Standard PRC-006-NPCC-1 is designed to operate in conjunction with the NERC continent-wide UFLS Reliability Standard PRC-006-1 by mitigating the consequences of underfrequency events, while accommodating differences in system transmission and distribution topology among NPCC planning coordinators. Regional Reliability Standard PRC-006-NPCC-1 includes requirements that are not found in the corresponding NERC Reliability Standard PRC-006-1 and that are more stringent than Reliability

---

<sup>4</sup> NPCC RSPM at 5.

<sup>5</sup> *Notice of Filing of the North American Electric Reliability Corporation of Proposed NPCC Regional Reliability Standard PRC-006-NPCC-1 – Automatic Underfrequency Load Shedding*, at 1 (May 11, 2012).

Standard PRC-006-1 while accommodating differences in system transmission and distribution topology among NPCC planning coordinators due to historical design criteria, makeup of load demands, and generation resources.”<sup>6</sup>

### **C. Development of the Proposed Regional Reliability Standard**

Following revisions to NERC’s PRC-006 Automatic Underfrequency Load Shedding and PRC-024 Generator Frequency and Voltage Protective Relay Settings Standards, NPCC initiated a project to review currently effective Regional Reliability Standard PRC-006-NPCC-1 requirements for potential revisions or retirements. As further described in **Exhibit D** hereto, proposed Regional Reliability Standard PRC-006-NPCC-2 was developed in accordance with the NPCC RSPM. On February 10, 2019, proposed Regional Reliability Standard PRC-006-NPCC-2 was approved by the NPCC ballot body with a 95.9% percent affirmative vote at 80.0% quorum. The NPCC Board of Directors approved the proposed Regional Reliability Standard on May 1, 2019. NERC posted the Regional Reliability Standard for a 45-day comment period concluding on June 21, 2019. The single commenter agreed that NPCC’s process was open, inclusive, balanced, transparent, and that due process was followed. On August 6, 2019, prior to adoption of the proposed Regional Reliability Standard by the NERC Board of Trustees, NPCC was notified of an errata in the proposed Regional Reliability Standard and took steps pursuant to Section 8 of the NPCC RSPM to correct the errata. On September 5, 2019, the NPCC Board of Directors approved the correction of the errata to the proposed Regional Reliability Standard. On November 5, 2019, the NERC Board of Trustees adopted proposed Regional Reliability Standard PRC-006-NPCC-2.

---

<sup>6</sup> *Regional Reliability Standard PRC-006-NPCC-1 was approved by FERC in Order No. 775. Regional Reliability Standard PRC-006-NPCC-1 – Automatic Underfrequency Load Shedding, Order No. 775, 142 FERC ¶ 61,128, P 11 (2013).*



#### **IV. JUSTIFICATION**

As discussed below and in Exhibit C, proposed Regional Reliability Standard PRC-006-NPCC-2 – Automatic Underfrequency Load Shedding is just, reasonable, not unduly discriminatory or preferential, and in the public interest. As described more fully herein, the proposed Regional Reliability Standard provides reliability benefits for the BPS in the NPCC region by establishing more stringent and specific NPCC UFLS program requirements than the NERC continent-wide PRC-006 Reliability Standard and ensuring that the program is designed such that declining frequency is arrested and recovered in accordance with established NPCC performance requirements stipulated in the proposed Regional Reliability Standard. The remainder of this section of the filing addresses: (a) an overview of the proposed modifications, (b) the proposed modifications to the proposed Regional Reliability Standard, and (c) the enforceability of the proposed Regional Reliability Standard.

##### **A. Overview of Proposed Modifications**

Proposed Regional Reliability Standard PRC-006-NPCC-2 makes the following changes to the prior version:

- removes redundancies with the most recent version of continent-wide NERC Reliability Standard, PRC-006-3;
- ensures UFLS island boundaries, once identified, are provided upon request to affected entities;
- removes a requirement for minimum time UFLS relay time delays and adds it to a table in an Attachment;
- adds the ability for a Transmission Owner or Distribution Provider to calculate net load shed for UFLS if direct metering is not available;

- makes a number of minor clarifications; and
- clarifies that any compensatory load shedding for non-conformance with the Underfrequency trip specification for generation (in service prior to July 1, 2015) must be within the same island as the generator resides.

These changes resulted in a reduction in the number of Requirements from 23 in currently enforceable Regional Reliability Standard PRC-006-NPCC-1, to 16 in proposed Regional Reliability Standard PRC-006-NPCC-2. A detailed explanation of the changes in proposed Regional Reliability Standard PRC-006-NPCC-2 is provided below. A Summary of Changes and the NPCC mapping document are provided in Exhibit D.

**B. Proposed Modifications to NPCC Regional Reliability Standard PRC-006-NPCC-2**

This section discusses the modifications in proposed Regional Reliability Standard PRC-006-NPCC-2.

1) Requirement R1

Proposed Requirement R1 requires each Planning Coordinator within the Eastern Interconnection portion of NPCC to design a UFLS program, pertaining to islands wholly within the NPCC region, having specific performance characteristics. Proposed Requirement R1 replaces in part currently effective PRC-006-NPCC-1 Requirement R2, the substance of which is now addressed by proposed Requirements R1, R2, and R3.

2) Requirement R2

Proposed Requirement R2 requires each Planning Coordinator to provide UFLS island boundaries, as identified per the NERC continent-wide PRC-006 Standard on UFLS, to Distribution Providers, Generator Owners, and Transmission Owners within 30 calendar days of

receipt of a request. Proposed Requirement R2 ensures that the entities aggregating load are aware of the island boundaries. Proposed Requirement R2 carries forward currently effective PRC-006-NPCC-1 Requirement R3 largely unchanged, keeping the requirement to provide information about UFLS island boundaries to affected entities while moving the requirements regarding compensatory load shedding to proposed Requirement R13. Aspects of currently effective PRC-006-NPCC-1 Requirements R1 and R2 were incorporated into proposed Requirement R2 as well.

### 3) Requirement R3

Proposed Requirement R3 requires each Distribution Provider and Transmission Owner in the Eastern Interconnection portion of NPCC to implement an automatic UFLS program pursuant to more detailed requirements specified in Attachment C, Tables 1-3. Proposed Requirement R3 also ensures that the entities aggregating load are aware of the island boundaries. Proposed Requirement R3 replaces in part currently effective PRC-006-NPCC-1 Requirement R1, the substance of which is now addressed by proposed Requirements R2, R3, and R13, and also replaces in part currently effective PRC-006-NPCC-1 Requirement R2, the substance of which is now addressed by proposed Requirements R1, R2, and R3.

### 4) Requirement R4

Proposed Requirement R4 requires each Distribution Provider or Transmission Owner in the Eastern Interconnection portion of NPCC or the Quebec Interconnection that cannot meet the UFLS program parameters specified in Attachment C, Tables 1-3 or by its Planning Coordinator, respectively, to notify its Planning Coordinator that it does not meet the UFLS program parameters and either develop a Corrective Action Plan, provide its Planning Coordinator with a technical study showing that the deviations from the program parameters will not result in failure

of UFLS performance criteria being met for any island, or provide its Planning Coordinator with an analysis that no alternative load shedding solution is available that would allow the entity to comply with Attachment C Table 2 or Table 3. Proposed Requirement R4 combines currently effective PRC-006-NPCC-1 Requirements R4 and R5 into a single new requirement and clarifies what registered entities must do in the event they are unable to meet the UFLS program parameters specified in the Tables of Attachment C or by its Planning Coordinator, and in what timeframe the registered entities must take the defined actions.

5) Requirement R5

Proposed Requirement R5 requires each Planning Coordinator to develop and review settings for inhibit thresholds at least once per five calendar years to be utilized within its region's UFLS program. Proposed Requirement R5 carries forward currently effective PRC-006-NPCC-1 Requirement R8 largely unchanged, but lengthens the periodicity of developing and reviewing settings for inhibit thresholds from once per calendar year to once per five calendar years. This timeframe coincides with the periodicity of UFLS studies and reduces the administrative burden of developing and reviewing such settings on an annual basis as required in currently effective PRC-006-NPCC-1 Requirement R8.

6) Requirement R6

Proposed Requirement R6 requires each Planning Coordinator to provide each Transmission Owner and Distribution Provider within its Planning Coordinator area the applicable inhibit thresholds within 30 calendar days of any changes. Proposed Requirement R6 carries forward currently effective PRC-006-NPCC-1 Requirement R9 substantively unchanged, clarifying matters by removing language about each Planning Coordinator providing each Transmission Owner and Distribution Provider within its Planning Coordinator area the

applicable inhibit thresholds within 30 days of the initial determination of those inhibit thresholds, which is no longer needed because the initial determination of the inhibit thresholds occurred as a consequence of the implementation of currently effective PRC-006-NPCC-1.

7) Requirement R7

Proposed Requirement R7 requires that each Distribution Provider and Transmission Owner that receives a notification pursuant to proposed Requirement R6 develop and submit an implementation plan with respect to inhibit thresholds for approval by the Planning Coordinator within 90 calendar days of the request from the Planning Coordinator. Proposed Requirement R7 carries forward currently effective PRC-006-NPCC-1 Requirement R11 substantively unchanged, clarifying that the trigger for action is receipt of a notification pursuant to proposed Requirement R6, and changing the requirement numbers that are referenced.

8) Requirement R8

Proposed Requirement R8 requires each Distribution Provider and Transmission Owner to implement the inhibit thresholds provided by the Planning Coordinator in accordance with proposed Requirement R6 and based on the Planning Coordinator approved implementation plan in accordance with proposed Requirement R7. Proposed Requirement R8 carries forward currently effective Requirement R10 substantively unchanged, updating the requirement numbers referenced and adding clarification that the Planning Coordinator provides the inhibit thresholds and approves the implementation plan.

9) Requirement R9

Proposed Requirement R9 requires each Transmission Owner and Distribution Provider to annually provide documentation, with no more than 15 calendar months between updates, to its Planning Coordinator of the actual net Load that would have been shed by the UFLS relays at

each UFLS stage. If measured data is unavailable, then calculated data may be used. Proposed Requirement R9 revises currently effective PRC-006-NPCC-1 Requirement R12 by adding language that allows the calculation of load from the nearest available metering rather than actual metering. Currently effective PRC-006-NPCC-1 Requirement R12 had been placing undue burden on registered entities to install metering when the actual net Load that would have been shed by the UFLS relays at each UFLS stage could be accurately calculated as a cost-effective alternative.

#### 10) Requirement R10

Proposed Requirement R10 requires each Generator Owner to set each generator underfrequency trip relay, if so equipped, on or below the appropriate generator underfrequency trip protection setting threshold curve in Figure 2, except as otherwise exempted in proposed Requirements R13 and R16. Proposed Requirement R10 carries forward currently effective PRC-006-NPCC-1 Requirement R13 substantively unchanged, but clarifies that the Underfrequency trip relay must be set to operate “on or below” the appropriate curve instead of “below” the appropriate curve in order to clarify what settings are considered compliant under the proposed Regional Reliability Standard.

#### 11) Requirement R11

Proposed Requirement R11 requires each Generator Owner to transmit the generator underfrequency trip setting and time delay within 45 calendar days of the Planning Coordinator’s request. Proposed Requirement R11 carries forward currently effective PRC-006-NPCC-1 Requirement R14 substantively unchanged, updating only the numbering of the requirement.

#### 12) Requirement R12

Proposed Requirement R12 requires each Generator Owner with a new generating unit, or an existing generator increasing its net capacity by greater than 10% to design measures or auxiliary systems or devices used for the control and protection of auxiliary systems such that the generating unit will not trip for underfrequency conditions above the appropriate generator underfrequency trip protection setting threshold curve in Figure 2. Proposed Requirement R12 carries forward currently effective PRC-006-NPCC-1 Requirement R15 substantively unchanged, removing “on or after the effective date” language from the currently effective Requirement because Version 1 of the Regional Reliability Standard has been in place and transition and implementation concerns no longer need to be addressed in the proposed Requirement, and also changes the numbers of Figures referenced in the currently effective Requirement.

### 13) Requirement R13

Proposed Requirement R13 requires each Generator Owner with existing non-nuclear units in service prior to July 1, 2015 that have underfrequency protections set to trip above the appropriate curve in Figure 2 to set the underfrequency protection to operate at the lowest frequency allowed by the plan design and licensing limitations and to transmit the existing underfrequency settings and any changes to them along with the technical basis for the settings to the Planning Coordinator. The proposed Requirement also requires each Planning Coordinator to arrange for compensatory load shedding in accordance with Attachments A and B, depending on geographic location, and as provided by a Distribution Provider or Transmission Owner that is adequate to compensate for the loss of generator(s) due to early tripping that is within the UFLS island identified by the Planning Coordinator in Requirement R2. Proposed Requirement R13 carries forward currently effective PRC-006-NPCC-1 Requirement R16 substantively

unchanged, adding language to clarify that any compensatory load shedding must be within the same island as the generating unit resides.

#### 14) Requirement R14

Proposed Requirement R14 requires each Planning Coordinator in Ontario, Quebec, and the Maritime provinces to apply the criteria described in Attachment A to determine the compensatory load shedding that is required in Requirement R13.3 for generating units in its respective NPCC area. Proposed Requirement R14 carries forward currently effective PRC-006-NPCC-1 Requirement R17 substantively unchanged, updating only the numbering of the requirement and the number of a referenced requirement.

#### 15) Requirement R15

Proposed Requirement R15 requires each Planning Coordinator in the ISO-NE and NYISO Planning Coordinator areas to apply the criteria described in Attachment B to determine the compensatory load shedding that is required in Requirement R13.4 for generating units in its respective NPCC area. Proposed Requirement R15 carries forward currently effective PRC-006-NPCC-1 Requirement R18 substantively unchanged, updating only the numbering of the requirement and the number of a referenced requirement.

#### 16) Requirement R16

Proposed Requirement R16 requires each Generator Owner of existing nuclear generating plants with units that have underfrequency relay threshold settings above the Eastern Interconnection generator tripping curve in Figure 2 based on their licensing design to set the underfrequency protection to operate at a frequency as low as possible in accordance with the plan design and licensing limitations but not greater than 57.8 Hz, set the frequency trip setting upper tolerance to no greater than + 0.1 Hz, and transmit the initial frequency trip setting and any



changes to the setting and the technical basis for the setting to the Planning Coordinator.

Proposed Requirement R16 carries forward currently effective PRC-006-NPCC-1 Requirement R19 substantively unchanged, updating only the numbering of the requirement and the number of a Figure referenced in the requirement.

### **C. Enforceability of Proposed Regional Reliability Standard**

The proposed Regional Reliability Standard includes Measures that support each requirement by clearly identifying what is required and how the requirement will be enforced. These Measures help ensure that the requirements will be enforced in a clear, consistent, and non-preferential manner and without prejudice to any party. Additionally, the proposed Regional Reliability Standard includes VRFs and VSLs. The VRFs and VSLs provide guidance on the way that the requirements of the proposed Regional Reliability Standard will be enforced. The VRFs and VSLs for the proposed Regional Reliability Standard continue to comport with NERC and FERC guidelines related to their assignment. Exhibit F provides a detailed review of the revised VRFs and VSLs, and the analysis of how the VRFs and VSLs were determined using these guidelines.

### **V. EFFECTIVE DATE**

The proposed implementation plan is provided in Exhibit B hereto. Under the proposed implementation plan, the proposed Regional Reliability Standard would become effective on the first day of the first calendar quarter following the applicable governmental and regulatory approvals. Applicable registered entities would be required to comply with all proposed Requirements, except for proposed Requirement R3, on that date. Proposed Requirement R3 would become enforceable on the first day of the first calendar quarter 12 months following applicable governmental and regulatory approvals. Requirement R3 requires a 12 month

implementation because entities need time to modify their circuits (in terms of the percentage of load shed) in order to meet the attributes described in Tables 1-3 of Attachment C due to the increasing penetration of Distributed Energy Resources (“DERs”) in the NPCC region. Currently effective Regional Reliability Standard PRC-006-NPCC-1 would be retired immediately prior to the effective date of proposed Regional Reliability Standard PRC-006-NPCC-2.

Respectfully submitted,

/s/ James McGrane

James McGrane  
Senior Counsel  
Lauren Perotti  
Senior Counsel  
North American Electric Reliability  
Corporation  
1325 G Street, N.W., Suite 600  
Washington, D.C. 20005  
202-400-3000  
james.mcgrane@nerc.net  
lauren.perotti@nerc.net

*Counsel for the North American Electric  
Reliability Corporation*

Date: January 9, 2020

**EXHIBITS A-B and D-F**

**Exhibit C**  
**Reliability Standards Criteria**

The discussion below explains how the proposed Regional Reliability Standard meets or exceeds the Reliability Standards criteria.

**1. Proposed Reliability Standards must be designed to achieve a specified reliability goal and must contain a technically sound means to achieve that goal.**

The purpose of proposed Regional Reliability Standard PRC-006-NPCC-2 is to establish more stringent and specific NPCC UFLS program requirements than the NERC continent-wide PRC-006 Standard. The program is designed such that declining frequency is arrested and recovered in accordance with established NPCC performance requirements. The proposed Regional Reliability Standard PRC-006-NPCC-2 is technically sound as it retains the reliability-related content of Regional Reliability Standard PRC-006-NPCC-1, while updating the document to remove redundancies with the latest NERC continent-wide PRC-006 Standard and clarify several points of confusion from the currently effective Regional Reliability Standard.

**2. Proposed Reliability Standards must be applicable only to users, owners and operators of the bulk power system, and must be clear and unambiguous as to what is required and who is required to comply.**

The proposed Regional Reliability Standard is clear and unambiguous as to what is required and who is required to comply. The proposed Regional Reliability Standard applies to the following entities within the NPCC region: Generator Owners; Planning Coordinators; Distribution Providers that are responsible for the ownership, operation, or control of UFLS equipment as required by the UFLS program established by the Planning Coordinators; and Transmission Owners that are responsible for the ownership, operation, or control of UFLS equipment as required by the UFLS program established by the Planning Coordinators. The

proposed Regional Reliability Standard clearly articulates the actions that such entities must take to comply with the Regional Reliability Standard.

**3. A proposed Reliability Standard must include clear and understandable consequences and a range of penalties (monetary and/or non-monetary) for a violation.**

The Violation Risk Factors (“VRFs”) and Violation Severity Levels (“VSLs”) for the proposed Reliability Standard comport with NERC and FERC guidelines related to their assignment, as discussed further in Exhibit F. The assignment of the severity level for each VSL is consistent with the corresponding requirement. The VSLs do not use any ambiguous terminology, thereby supporting uniformity and consistency in the determination of similar penalties for similar violations. The ranges of penalties for violations will continue to be based, in part, on the applicable VRF and VSL in accordance with the sanctions table and the supporting penalty determination process described in the NERC Sanction Guidelines, Appendix 4B to the NERC Rules of Procedure. For these reasons, the proposed Reliability Standard includes clear and understandable consequences and a range of penalties for a violation.

**4. A proposed Reliability Standard must identify clear and objective criterion or measure for compliance, so that it can be enforced in a consistent and non-preferential manner.**

The proposed Regional Reliability Standard contains measures that support the requirements by clearly identifying what is required to demonstrate compliance. These measures help provide clarity regarding the manner in which the requirements will be enforced and help ensure that the requirements will be enforced in a clear, consistent, and non-preferential manner and without prejudice to any party.

- 5. Proposed Reliability Standards should achieve a reliability goal effectively and efficiently — but do not necessarily have to reflect “best practices” without regard to implementation cost or historical regional infrastructure design.**

The proposed Regional Reliability Standard achieves the reliability goals effectively and efficiently. The proposed Regional Reliability Standard builds upon the Bulk-Power System reliability protections provided by the NERC automatic UFLS standard by adding more specificity for the NPCC region.

- 6. Proposed Reliability Standards cannot be “lowest common denominator,” *i.e.*, cannot reflect a compromise that does not adequately protect Bulk-Power System reliability. Proposed Reliability Standards can consider costs to implement for smaller entities, but not at consequences of less than excellence in operating system reliability.**

The proposed Regional Reliability Standard does not reflect a “lowest common denominator” approach that does not adequately protect Bulk-Power System reliability.

- 7. Proposed Reliability Standards must be designed to apply throughout North America to the maximum extent achievable with a single Reliability Standard while not favoring one geographic area or regional model. It should take into account regional variations in the organization and corporate structures of transmission owners and operators, variations in generation fuel type and ownership patterns, and regional variations in market design if these affect the proposed Reliability Standard.**

The proposed Regional Reliability Standard PRC-006-NPCC-2 is designed to work in conjunction with NERC Reliability Standard PRC-006-3, while accommodating differences in

system transmission and distribution topology among NPCC planning coordinators and will be enforceable for registered entities within the NPCC region.

**8. Proposed Reliability Standards should cause no undue negative effect on competition or restriction of the grid beyond any restriction necessary for reliability.**

The proposed Regional Reliability Standard has no undue negative impact on competition and does not restrict the available transmission capability beyond what is necessary for reliability.

**9. The implementation time for the proposed Reliability Standard is reasonable.**

The implementation plan for the proposed Regional Reliability Standard is just and reasonable. Under the proposed implementation plan, the proposed Regional Reliability Standard would become effective on the first day of the first calendar quarter following the applicable governmental and regulatory approvals. Applicable registered entities would be required to comply with all proposed Requirements, except for proposed Requirement R3, on that date. Proposed Requirement R3 would become enforceable on the first day of the first calendar quarter 12 months following the applicable governmental and regulatory approvals. Requirement R3 requires a 12 month implementation because entities need time to modify their circuits (in terms of the percentage of load shed) in order to meet the attributes described in Tables 1-3 of Attachment C due to the increasing penetration of DERs in the NPCC region.

**10. The Reliability Standard was developed in an open and fair manner and in accordance with the Reliability Standard development process.**

The proposed Regional Reliability Standard was developed in accordance with NERC's and NPCC's processes for developing and approving Reliability Standards. NPCC develops

Regional Reliability Standards in accordance with the NPCC Regional Standard Processes Manual. The development process is open to all persons and organizations that are directly and materially affected by the reliability of the NPCC's Bulk Electric System. For more detail, please see the complete development history in Exhibit D.

**11. NERC must explain any balancing of vital public interests in the development of proposed Reliability Standards.**

NERC and NPCC have identified no competing vital public interests regarding the request for approval of the proposed Regional Reliability Standard. No comments were received that indicated the proposed Regional Reliability Standard conflicts with other vital public interests.

**12. Proposed Reliability Standards must consider any other appropriate factors.**

No other negative factors relevant to whether the proposed Reliability Standard is just and reasonable were identified.