NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

February 18, 2016

VIA ELECTRONIC FILING

Kirsten Walli, Board Secretary
Ontario Energy Board
P.O Box 2319
2300 Yonge Street
Toronto, Ontario, Canada
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RE: *North American Electric Reliability Corporation*

Dear Ms. Walli:

The North American Electric Reliability Corporation ("NERC") hereby submits Petition of the North American Electric Reliability Corporation for Approval of Proposed Reliability Standard BAL-002-2. 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.

Respectfully submitted,

/s/ Holly A. Hawkins

Holly A. Hawkins
Associate General Counsel for the North American Electric Reliability Corporation

Enclosure

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ONTARIO ENERGY BOARD
OF THE PROVINCE OF ONTARIO

NORTH AMERICAN ELECTRIC	**)**
RELIABILITY CORPORATION	**)**

PETITION OF THE NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION FOR APPROVAL OF PROPOSED RELIABILITY STANDARD BAL-002-2

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TABLE OF CONTENTS

ONTARIO ENERGY BOARD
OF THE PROVINCE OF ONTARIO

NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION)
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PETITION OF THE NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION FOR APPROVAL OF PROPOSED RELIABILITY STANDARD BAL-002-2

The North American Electric Reliability Corporation ("NERC") hereby requests approval of proposed Reliability Standard BAL-002-2 (Disturbance Control Performance - Contingency Reserve for Recovery from a Balancing Contingency Event) (**Exhibit C**), related NERC Glossary definitions included in **Exhibit D**, the associated Implementation Plan (**Exhibit D**), retirement of currently-effective Reliability Standard BAL-002-1 (Disturbance Control Performance), and the Violation Risk Factors ("VRFs") or Violation Severity Levels ("VSLs") (**Exhibit G**). These proposed revisions address and supersede the interpretation under pending Reliability Standard BAL-002-1.a..

Proposed Reliability Standard BAL-002-2 reflects revisions developed in Project 2010-14.1 (Phase 1 of Balancing Authority Reliability-based Controls). The proposed standard was designed to properly identify entities that have the ability to take actions that will ensure reliable operation of the Bulk Power System by preparing responsible entities to balance resources and demand and return the relevant Area Control Error ("ACE") to defined values. Proposed Reliability Standard BAL-002-2 has been developed to be a performance standard and to fulfill the goals of the NERC Balancing Authority Controls Standards Authorization Request ("SAR") developed in Project 2007-05 and the NERC Reliability-Based Control SAR developed in

Project 2007-18, both of which incorporate Federal Energy Regulatory Commission ("FERC") directives from Order No. 693.[1] The NERC Board of Trustees adopted proposed Reliability Standard BAL-002-2 on November 5, 2015.

Proposed Reliability Standard BAL-002-2 and associated NERC Glossary definitions are just, reasonable, not unduly discriminatory or preferential, and in the public interest. As described below, NERC also requests approval of the Implementation Plan (**Exhibit D**) and the Violation Risk Factors ("VRFs") and Violation Severity Levels ("VSLs") for proposed Reliability Standard BAL-002-2. The proposed Reliability Standard and associated NERC Glossary definitions and VRFs and VSLs are to become effective as prescribed in the Implementation Plan for BAL-002-2.

This filing presents the technical basis and purpose of proposed Reliability Standard BAL-002-2, a summary of the development history (**Exhibit H**), and a demonstration that the proposed Reliability Standard meets the Reliability Standards criteria (**Exhibit F**).

I. EXECUTIVE SUMMARY

Reliable operation of the interconnected power system depends upon the ability of responsible entities to balance resources and demand and to recover from a system contingency through restoration of frequency and deployment of reserves necessary to replace capacity and energy lost due to generation or transmission equipment outages. Proposed Reliability Standard BAL-002-2 and the associated definitions, developed by the standard drafting team for Project 2010-14.1, address these considerations. The purpose of the standard is to ensure that "the Balancing Authority or Reserve Sharing Group balances resources and demand and returns the

[1] *Mandatory Reliability Standards for the Bulk-Power System*, Order No. 693, FERC Stats. & Regs. ¶ 31,242, *order on reh'g*, Order No. 693-A, 120 FERC ¶ 61,053 (2007).

Balancing Authority's or Reserve Sharing Group's Area Control Error to defined values (subject to applicable limits) following a Reportable Balancing Contingency Event." The proposed Reliability Standard BAL-002-2 and associated definitions improve upon the existing Reliability Standard BAL-002-1 by streamlining currently effective requirements, clarifying specific timelines for recovery, setting continent-wide requirements for events that impact frequency, and coordinating with requirements in BAL-003-1.1 to implement a continent-wide reserve policy with clear, objective parameters for measuring reserves.

In this filing, NERC requests approval of proposed Reliability Standard BAL-002-2, which consolidates the six requirements in Reliability Standard BAL-002-1 into three requirements by streamlining the required actions and improving existing language. As described in more detail below, these requirements are supported by several proposed associated NERC Glossary definitions, along with a revised Applicability section that incorporates language from the existing standard. Proposed Reliability Standard BAL-002-2 will achieve its stated reliability goal by requiring responsible entities to maintain and deploy energy reserves and to stabilize system frequency through identification of a Reportable ACE deviation and restoration of Reporting ACE to defined values after a system disturbance. The proposed standard will also require the responsible entity to maintain an Operating Process to ensure maintenance of Contingency Reserves to a level at least equal to the responsible entity's Most Severe Single Contingency ("MSSC"). While not required, these Contingency Reserves may include readiness to reduce Firm Demand and successful deployment and recovery of these reserves upon a Reportable Balancing Contingency Event. By doing so, proposed Reliability Standard BAL-002-2 creates and implements a continent-wide reserve policy to ensure that responsible entities will always have adequate Contingency Reserves to be deployed as necessary. Further, entities

will be required to document each Reportable Balancing Contingency Event and restore reserves necessary to address other events.

In addition to proposed Reliability Standard BAL-002-2, NERC proposes Glossary definitions of Balancing Contingency Event, MSSC, Reportable Balancing Contingency Event, Contingency Event Recovery Period, Contingency Reserve Restoration Period, Pre-Reporting Contingency Event ACE Value, Reserve Sharing Group Reporting ACE, and Contingency Reserve to clarify obligations and facilitate effective implementation of the proposed standard. Together, the proposed Reliability Standard BAL-002-2 and associated Glossary definitions will address Balancing Contingency Events within the MSSC (which may include multiple Balancing Contingency Events, as explained below) in an effort to ensure responsible entities retain flexibility to maintain service to Demand, while managing reliability, and to avoid duplication with other Reliability Standards. The proposed standard and definitions will also avoid any gaps in reliability coverage and will address outstanding FERC directives from Order No. 693 regarding a contingent-wide contingency reserve policy.[2] The proposed standard would also operate in coordination with requirements under other Reliability Standards, including BAL-001-2, BAL-003-1, TOP-007-0, EOP-002-3, and EOP-011-1, that may be implicated upon a significant system disruption.[3]

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[2] Order No. 693 at P 344.

[3] Reliability Standard BAL-002-2 is not intended to address events greater than a Responsible Entity's Most Severe Single Contingency, as these large multi-unit events are addressed by various elements of other standards. For example, the Balancing Authority ACE Limit in BAL-001-2 looks at Interconnection frequency to provide a range in which a Balancing Authority should strive to operate as well as a 30-minute period to address instances when the Balancing Authority is outside of that range. As another example, Reliability Standard TOP-007-0 addresses transmission line loading to account for transmission overloads if certain units were lost and reserves responded.

II. NOTICES AND COMMUNICATIONS

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

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III. BACKGROUND

A. NERC Reliability Standards Development Procedure

The proposed Reliability Standard was developed in an open and fair manner and in accordance with the Reliability Standard development process. NERC develops Reliability Standards in accordance with Section 300 (Reliability Standards Development) of the NERC Rules of Procedure ("ROP") and the NERC Standard Processes Manual ("SPM").[4]

NERC's proposed rules provide for reasonable notice and opportunity for public comment, due process, openness, and a balance of interests in developing Reliability Standards, and thus satisfy certain of the criteria for approving Reliability Standards. The ANSI-accredited development process is open to any person or entity with a legitimate interest in the reliability of

[4] The NERC *Rules of Procedure* are available at http://www.nerc.com/AboutNERC/Pages/Rules-of-Procedure.aspx. The NERC *Standard Processes Manual* is available at http://www.nerc.com/comm/SC/Documents/Appendix_3A_StandardsProcessesManual.pdf.

the Bulk-Power System. NERC considers the comments of all stakeholders, and stakeholders must approve, and the NERC Board of Trustees must adopt, a Reliability Standard before the Reliability Standard is submitted to the applicable governmental authorities.

B. Procedural History of Proposed Reliability Standard BAL-002-2

In Order No. 693, FERC evaluated 107 Reliability Standards, including Reliability Standard BAL-002-0 (Disturbance Control Performance), which requires Balancing Authorities ("BA"), Reserve Sharing Groups ("RSG"), and regional reliability organizations to use contingency reserves to balance resources and demand to return Interconnection frequency to within defined limits following a reportable disturbance. In that order, FERC approved Reliability Standard BAL-002-0 and directed development of modifications that (i) include a Requirement that explicitly provides that Demand Side Management may be used as a contingency reserve resource; (ii) incorporate a continent-wide contingency reserve policy; and (iii) refer to the ERO rather than NERC Operating Committee in Requirements R4.2 and R6.2.[5] FERC also directed modification of Reliability Standard BAL-002-0 "in a manner that recognizes the loss of transmission as well as generation, thereby providing a realistic simulation of possible events that might affect the contingency reserves."[6] Other directives in Order No. 693 instructed NERC to develop (i) "a modification to the Reliability Standard requiring that any single reportable disturbance that has a recovery time of 15 minutes or longer be reported as a violation[;]" and (ii) a modification to "define a significant deviation and a reportable event, taking into account all events that have an impact on frequency, *e.g.,* loss of supply, loss of load

[5] Order No. 693, at P 356.
[6] *Id.*

and significant scheduling problems, which can cause frequency disturbances and to address how balancing authorities should respond."[7]

After issuance of Order No. 693, BAL-002-0 was revised to address FERC's directives to (i) "develop a modification…that refers to the ERO rather than to the NERC Operating Committee in Requirements R4.2 and R6.2…." and (ii) "modify this Reliability Standard to substitute Regional Entity for regional reliability organization as the compliance monitor."[8] As noted in the filing for Reliability Standard BAL-002-1, other directives from Order No. 693 were not addressed at that time due to their technical complexity.[9] Over the course of the next several years, NERC and industry continued reviewing BAL-002 to address FERC's remaining directives from Order No. 693 and to clarify confusion regarding applicable requirements.

On July 28, 2010, the NERC Standards Committee ("SC") approved the merger of existing Project 2007-05 (Balancing Authority Controls) and Project 2007-18 (Reliability-based Controls) as Project 2010-14 (Balancing Authority Reliability-based Controls) (the "Project"), given the inherent overlap in those projects, to continue addressing remaining FERC directives from Order No. 693 that were not addressed in the development of BAL-002-1. Specifically, this consolidated effort would, among other things, address the FERC Order No. 693 directive to create a continent-wide Contingency Reserve standard through revisions to Reliability Standards BAL-002-1 (Disturbance Control Performance) and BAL-001-1a (later superseded by BAL-001-1) (Real Power Balancing Control Performance), [10] and development of new Reliability

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[7] *Id.* at PP 354-355 (adding, at P 355, "As suggested by NRC, this or a related Reliability Standard should also include a frequency response requirement. The present Control Performance Standards represent the monthly and yearly averages which are appropriate for measuring long-term trends but may not be appropriate for measuring short-term events. In addition, the measures should be available to the balancing authorities to assist in real-time operations.").

[8] *Id*. at PP 321 and 356.

[9] BAL-002-1 filing, submitted on March 4, 2011.

[10] *N. Am. Elec. Reliability Corp*., Docket No. RD13-11-000 (Oct. 16, 2013) (unpublished letter order) (approving BAL-001-1).

Standards BAL-012-1 (Operating Reserve Policy) and BAL-013-1 (Large Loss of Load Performance). After initial SC approval of the Project, on July 13, 2011, the SC approved the separation of the Project into two phases and moved Phase 1 of the Project (Project 2010-14.1 Balancing Authority Reliability-based Controls – Reserves), which is the subject of this filing, into formal standards development.

The Project initially included revisions to BAL-001-0.1a (Real Power Balancing Control Performance) and BAL-002-1 (Disturbance Control Performance) and development of two new standards, BAL-012-1 (Operating Reserve Policy) and BAL-013-1 (Large Loss of Load Performance). In 2013, the standard drafting team ("SDT") for the Project ceased development of BAL-012-1 and BAL-013-1 based on industry comments and ongoing development of related Reliability Standard revisions that resolved surviving issues. Meanwhile, during development in the Project, NERC developed a Reliability Standard Interpretation of BAL-002-1 pursuant to Section 7.0 of the SPM in Appendix 3A of the NERC ROP[11] based on a request for interpretation submitted by the Northwest Power Pool Reserve Sharing Group ("NWPP"). Later in 2013, NERC filed a petition with FERC seeking approval for the proposed interpretation of BAL-002-1, referred to as BAL-002-1a, stating that the proposed interpretation was intended to prevent Registered Entities from shedding load to avoid possible violations of BAL-002-1. The interpretation also proposed to clarify that:

> (1) a Disturbance that exceeds the most severe single Contingency, regardless if it is a simultaneous Contingency or nonsimultaneous multiple Contingency, would be a reportable event, but would be excluded from compliance evaluation; (2) a pre-acknowledged Reserve Sharing Group would be treated in the same manner as an individual Balancing Authority; however, in a dynamically allocated Reserve Sharing Group, exclusions are only provided on a Balancing Authority member by member basis;

[11] The NERC *Rules of Procedure* are available at http://www.nerc.com/AboutNERC/Pages/Rules-of-Procedure.aspx. The NERC *Standard Processes Manual* is available at http://www.nerc.com/comm/SC/Documents/Appendix_3A_StandardsProcessesManual.pdf.

and (3) an excludable Disturbance was an event with a magnitude greater than the magnitude of the most severe single Contingency.[12]

In its Interpretation Petition, NERC acknowledged that the proposed interpretation differed from a settlement reached in *PacifiCorp*, noting that the settlement was limited to the unique facts of that case and that the settlement did not establish legal precedent.[13] In its subsequent Notice of Proposed Rulemaking, issued on May 16, 2013, FERC proposed to remand the proposed interpretation on procedural grounds, stating that "interpretations can only clarify, not change, a Reliability Standard."[14] The proposed interpretation has been pending since 2013, and development under the Project has continued. The proposed BAL-002-2 standard addresses and supersedes the proposed interpretation under Reliability Standard BAL-002-1.a.

Given clear industry consensus for approval of BAL-001-2, in 2014, NERC proceeded to file on May 13, 2014 Reliability Standard BAL-001-2 as developed through the Project to define Balancing Authority Area Control Error ("ACE") limits as a function of Interconnection frequency. In a Supplemental Information filing NERC submitted to FERC, NERC noted that revisions to Reliability Standard BAL-002 were "in development and w[ould] complement the proposed revisions to the BAL-001-2 Reliability Standard and w[ould] also address the Commission's concerns in Order No. 693 regarding the need to define reportable events."[15] The

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[12] *Petition of the North American Electric Reliability Corporation for Approval of Interpretation to BAL-002-1 - Disturbance Control Performance*, Docket No. RM13-6-000, at p. 2 (filed Feb. 12, 2013) ("Interpretation Petition").

[13] *Id.* at pp. 16-17 (discussing the difference between the interpretation and the Commission determination in *PacifiCorp*, 137 FERC ¶ 61,176 at n. 5 (2011) ("Enforcement and NERC concluded that BAL-002-0 Requirement R4 applies any time there is a Reportable Disturbance regardless of the number or type of contingencies and that this requirement is not altered by the Additional Compliance Information in Section D.1.4 of BAL-002-0. In Order No. 693, in which the Commission approved this standard, among others, the Commission emphasized that compliance was determined by the requirements, not other parts of a Reliability Standard….") (internal citations omitted)).

[14] *Electric Reliability Organization Interpretation of Specific Requirements of the Disturbance Control Performance Standard*, 143 FERC ¶ 61,138, at PP 18 and 23 (2013).

[15] See *Supplemental Information to Petition of the North American Electric Reliability Corporation for Approval of Reliability Standard BAL-001-2-Real Power Balancing Control Performance* ("Supplemental Information filing"), Docket No. RM14-10-000 (filed May 9, 2014)..

SDT for the Project continued to address the remaining FERC directives related to BAL-002-0 that were evinced in Order No. 693.

Until October of 2015, over five years since initial consolidation of the Project into its current form, revised versions of Reliability Standard BAL-002-2 were developed by the Project SDT and balloted for stakeholder review. During that time, seven iterations of Reliability Standard BAL-002-2 were posted for industry feedback and ballot, and after each ballot, the standard was revised to account for industry concerns. On October 8, 2015, industry stakeholders approved a final version of BAL-002-2, and on November 5, 2015, the NERC Board of Trustees approved the standard.

As described above, proposed Reliability Standard BAL-002-2 is the culmination of efforts under the Project, and it represents substantial improvement over the existing standard and satisfies all remaining directives on prior Reliability Standard BAL-002-0. As such, the proposed standard is intended to replace and retire Reliability Standard BAL-002-1 and supersede the proposed interpretation under Reliability Standard BAL-002-1.a. A review of the foregoing procedural history, the summary of development history, and complete record of development for Reliability Standard BAL-002-2 are attached herein as **Exhibit H**. The Project SDT Roster is attached as **Exhibit K**.

IV. JUSTIFICATION FOR APPROVAL

As discussed in **Exhibit F**, proposed Reliability Standard BAL-002-2 satisfies the Reliability Standards criteria for standard development. Additionally, as explained throughout this filing, the standard satisfies remaining directives on Reliability Standard BAL-002-0 from Order No. 693 and is just, reasonable, not unduly discriminatory or preferential, and in the public interest. The following subsections provide: (A) a description of the proposed standard, its

reliability purpose, responsible entities for compliance, and enforceability of the proposed Reliability Standard; (B) justification for the proposed Reliability Standard, detailing the proposed Requirements; and (C) justification for the new and revised NERC Glossary definitions.

A. Proposed Reliability Standard BAL-002-2

1. Purpose and Overview of Proposed BAL-002-2

The purpose of proposed Reliability Standard BAL-002-2 is "[t]o ensure the Balancing Authority or Reserve Sharing Group balances resources and demand and returns the Balancing Authority's or Reserve Sharing Group's Area Control Error to defined values (subject to applicable limits) following a Reportable Balancing Contingency Event." The primary objective of the proposed standard is, therefore, to ensure that the responsible entity is prepared to balance resources and demand by requiring the maintenance of adequate reserves and deployment of those reserves to return its ACE to defined values following a Reportable Balancing Contingency Event. Proposed Reliability Standard BAL-002-2 is an improvement to BAL-002-1, as it addresses additional outstanding FERC directives from Order No. 693 and it clarifies obligations associated with achieving the objective of BAL-002 by streamlining and organizing the responsibilities required therein, enhancing the obligation to maintain reserves, and further defining events that predicate action under the standard. For a concise comparison of the requirements and information in the currently-effective BAL-002-1 and the revised BAL-002-2, please refer to the Mapping Document for BAL-002-2, attached herein as **Exhibit I**.

First, proposed Reliability Standard BAL-002-2 improves the language of each requirement by consolidating overlapping requirements and streamlining elements of the standard to improve efficiency and clarity. The proposed standard also clarifies the entities responsible for compliance and removes unnecessary entities from compliance to capture only

those entities that are vital for reliability. Further, the standard more clearly defines Balancing Contingency Event and Reportable Balancing Contingency Event to eliminate ambiguity regarding the type of event that causes a frequency deviation for which action is necessary under proposed Reliability Standard BAL-002-2, and it provides additional detail about the types of resources that may be identified as Contingency Reserves. Finally, the proposed standard ensures objectivity of the reserve measurement process by guaranteeing a continent-wide reserve policy. Given these improvements, proposed Reliability Standard BAL-002-2 fulfills FERC's directive in Order No. 693 for NERC to "develop a continent-wide contingency reserve policy through the Reliability Standards development process, which should include uniform elements such as certain definitions and requirements as discussed in this section."[16]

Proposed Reliability Standard BAL-002-2 fulfills a vital role in addressing frequency and reserve issues, as described below. The proposed standard is intended to address frequency and reserve issues when events occur that are within a responsible entity's MSSC. However, the proposed Standard does not address events above a responsible entity's MSSC, because recovery of ACE within a specified time period and restoration of Contingency Reserves due to unlikely events above a responsible entity's MSSC is not within the scope of proposed Reliability Standard BAL-002-2. Instead, Balancing Authorities and Reserve Sharing Groups must respond to these large events under a coordinated suite of NERC standards including TOP-007-0, EOP-002-3, and EOP-011-1 to ensure system stability and frequency control under a variety of circumstances. Reliability Standard TOP-007-0 addresses transmission line loading by ensuring that the Reliability Coordinator is apprised of exceedances of Interconnection Reliability Operating Limits and System Operating Limits so that the Reliability Coordinator can direct

[16] Order No. 693, at PP 340, 344.

appropriate corrective action. Because transmission overloads could occur if certain units are lost and reserves are deployed, TOP-007-0 is critical to ensure reliability upon an energy event. Reliability Standard EOP-002-3 applies during the real-time time horizon, and it addresses capacity and energy emergencies by requiring Balancing Authorities to take certain actions to prepare for emergencies. Once the situations for which an entity was anticipating under EOP-002-3 have occurred, Reliability Standard EOP-011-1 requires mitigation of energy emergencies after the entity has entered a Reliability Coordinator declared emergency situation. This integrated and coordinated approach would ensure reliability while also avoiding any gap in coverage and providing means to address complex issues arising during events that exceed MSSC.

Additionally, as noted in the "Background" section of proposed Reliability Standard BAL-002-2, "Reliably balancing an Interconnection requires frequency management and all of its aspects. Inputs to frequency management include Tie-Line Bias Control, Area Control Error (ACE), and the various Requirements in NERC Resource and Demand Balancing Standards, specifically BAL-001-2 Real Power Balancing Control Performance and BAL-003-1 Frequency Response and Frequency Bias Setting." Thus, when implemented together, Reliability Standards BAL-001-2, BAL-003-1, and proposed BAL-002-2 guide entities towards establishing a continent-wide contingency reserves policy pursuant to FERC's directive in Order No. 693.

First, Reliability Standard BAL-001-2 requires entities to operate based on interconnection frequency and requires Balancing Authorities to respond to meet the Control Performance Standard 1 and Balancing Authority ACE Limit, both terms defined in the NERC Glossary. If an event larger than the MSSC occurs, the Balancing Authority ACE Limit will likely decrease, and the Balancing Authority must respond to any exceedance of that value

within thirty minutes. In ensuring that the Control Performance Standard 1 is met, the Balancing Authority may be required to respond in less than 10 minutes, thus strengthening the effects of recovery under BAL-001-2. Second, to further support system frequency, Reliability Standard BAL-003-1 requires Balancing Authorities to implement frequency response actions to sustain Interconnection Frequency within predefined limits. This frequency responsive reserve obligation, created in response to Order No. 693, stabilizes system operations from a frequency perspective. Finally, as described throughout this filing, proposed Reliability Standard BAL-002-2 completes development required by Order No. 693 to establish a continent-wide contingency reserve policy by requiring responsible entities to review, maintain, and implement an Operating Process for assurance of Contingency Reserves and to return the entity's Reporting ACE to predefined limits upon a Reportable Balancing Contingency Event.

2. Responsible Entities

The requirements under proposed Reliability Standard BAL-002-2 apply to BAs and RSGs. This proposed iteration of BAL-002 removes the regional reliability organization as a responsible entity, based on a FERC directive.[17] Further, it adds a clarifying subpart to the "Applicability" section to explain a distinction for Reserve Sharing Groups currently located in Requirement R1.1 of currently effective BAL-002-1. To this end, Section 4.1.1.1 (the "Applicability" section) of the proposed standard states that "[a] Balancing Authority that is a member of a Reserve Sharing Group is the Responsible Entity only in periods during which the Balancing Authority is not in active status under the applicable agreement or governing rules for the Reserve Sharing Group." Based on this clarification, a BA is not responsible for compliance with BAL-002-2 when that BA is a member of a RSG for monitoring and deploying reserves for

[17] *Id*. at P 321.

that BA to balance resources and demand. Instead, the RSG is responsible for compliance with BAL-002-2.

As explained above, the responsible entities for compliance with proposed Reliability Standard BAL-002-2 are clear and unambiguous to ensure that the responsible party is held accountable for performance of each Requirement. This change in Applicability in the revised Reliability Standard BAL-002-2 represents an improvement over the existing standard.

3. Enforceability of Proposed Reliability Standard BAL-002-2

Proposed Reliability Standard BAL-002-2 includes Measures that support each Requirement to provide guidance to industry about compliance expectations and to ensure that the Requirements are enforced in a clear, consistent, non-preferential manner and without prejudice to any party. The proposed standard also includes VRFs and VSLs associated with each Requirement, which are part of several elements used to determine an appropriate sanction when the associated Requirement is violated. The VRFs assess the impact to reliability of violating a specific Requirement. The VSLs provide guidance on the way that NERC will enforce the Requirements of the proposed Reliability Standards. All of the Requirements in proposed Reliability Standard BAL-002-2 have been assigned a "Medium" VRF. This is consistent with other Reliability Standards, such as BAL-001-1 and BAL-003-1. **Exhibit G** includes a detailed analysis of the assignment of VRFs and the VSLs for the proposed Reliability Standard. As described in that document, the VRFs and VSLs for proposed Reliability Standard BAL-002-2 comport with NERC and FERC guidelines.

B. Requirement by Requirement Justification

Proposed Reliability Standard BAL-002-2 consists of three Requirements that are applicable to BAs and RSGs. These proposed Requirements comply with FERC's outstanding

directives in Order No. 693,[18] and the standard complies with criteria for Reliability Standard development as further supported in **Exhibit F**.

As reflected in the redlined version of Reliability Standard BAL-002-2, attached herein as **Exhibit C**, and as explained below, Requirements R1 and R2 are modified versions of currently effective Requirement R3 of Reliability Standard BAL-002-1. Similarly, currently effective Requirement R4 of Reliability Standard BAL-002-1 has been incorporated within Requirement R1 and the proposed definition of Contingency Event Recovery Period discussed above. Requirement R5 of currently effective Reliability Standard BAL-002-1 has been moved into Requirement R1 of proposed Reliability Standard BAL-002-2 and to the proposed definition "Reserve Sharing Group Reporting ACE." Finally, Requirement R6 of currently effective Reliability Standard BAL-002-1 has been incorporated into Requirement R3 of proposed Reliability Standard BAL-002-2 and the proposed definition of "Contingency Event Restoration Period."

1. Requirement R1

R1. The Responsible Entity experiencing a Reportable Balancing Contingency Event shall: *[Violation Risk Factor: Medium] [Time Horizon: Real-time Operations]*

1.1. within the Contingency Event Recovery Period, demonstrate recovery by returning its Reporting ACE to at least the recovery value of:

- zero (if its Pre-Reporting Contingency Event ACE Value was positive or equal to zero); however, any Balancing Contingency Event that occurs during the Contingency Event Recovery Period shall reduce the required recovery: (i) beginning at the time of, and (ii) by the magnitude of, such individual Balancing Contingency Event, or,
- its Pre-Reporting Contingency Event ACE Value (if its Pre-Reporting Contingency Event ACE Value was negative); however, any Balancing Contingency Event that occurs during the Contingency Event Recovery

[18] *Id.* at P 356.

Period shall reduce the required recovery: (i) beginning at the time of, and (ii) by the magnitude of, such individual Balancing Contingency Event.

1.2. document all Reportable Balancing Contingency Events using CR Form 1.

1.3. deploy Contingency Reserve, within system constraints, to respond to all Reportable Balancing Contingency Events, however, it is not subject to compliance with Requirement R1 part 1.1 if:

1.3.1 the Responsible Entity:
- is a Balancing Authority experiencing a Reliability Coordinator declared Energy Emergency Alert Level or is a Reserve Sharing Group whose member, or members, are experiencing a Reliability Coordinator declared Energy Emergency Alert level, and
- is utilizing its Contingency Reserve to mitigate an operating emergency in accordance with its emergency Operating Plan, and
- has depleted its Contingency Reserve to a level below its Most Severe Single Contingency

or,

1.3.2 the Responsible Entity experiences:
- multiple Contingencies where the combined MW loss exceeds its Most Severe Single Contingency and that are defined as a single Balancing Contingency Event, or
- multiple Balancing Contingency Events within the sum of the time periods defined by the Contingency Event Recovery Period and Contingency Reserve Restoration Period whose combined magnitude exceeds the Responsible Entity's Most Severe Single Contingency.

Requirement R1 mandates certain actions that an entity must take upon occurrence of a Reportable Balancing Contingency Event. Specifically, Requirement R1 obligates responsible entities to (i) return Reporting ACE to defined values within the Contingency Event Recovery Period (Requirement R1.1), (ii) document Reportable Balancing Contingency Events using CR Form 1 (Requirement R1.2), and (iii) deploy Contingency Reserves to respond to Reportable Balancing Contingency Events. Requirement R1.3 also provides certain limited exemptions from the obligation for a responsible entity to restore Reporting ACE within the Contingency Event Recovery Period found in Requirement R1.1 (please note, for clarity, that Requirement

R1.3 does not exempt responsible entities from responding to a Reportable Balancing Contingency Event).

Requirement R1.1, which operates as a frequency management requirement, ensures that a responsible entity will return its Reporting ACE to a predefined value within fifteen minutes (or within the Contingency Event Recovery Period) to ensure stability of the system. The predefined value for recovery is zero if the Pre-Reporting Contingency Event ACE Value was greater than or equal to zero, or it is the value of the Pre-Reporting Contingency Event ACE Value if that value is negative. However, the required recovery value can be reduced for both situations if a Balancing Contingency Event occurs during the Contingency Event Recovery Period. Further, the 15-minute threshold was identified by FERC in Order No. 693 as appropriate to recovery reserves.[19] Requirement R1.1 allows reprieve for total recovery after a Reportable Balancing Contingency Event and a subsequent Balancing Contingency Event, as this deduction of required recovery is necessary to provide responsible entities the opportunity to initiate recovery from the Reportable Balancing Contingency Event and continue, in good faith, to facilitate adequate recovery without sacrificing reliability.

Requirement R1.2 requires a responsible entity to document the Reportable Balancing Contingency Events in its area using CR Form 1. The SDT determined that it is most efficient and clear to require responsible entities to document events using a designated form that captures all relevant information about the event, rather than providing specific criteria necessary for proper documentation. The information obtained through CR Form 1 will supplement all other information provided to the Regional Entity to show compliance with Requirement R1 after a Reportable Balancing Contingency Event has occurred.

[19] *Id*. at PP 354-355.

Pursuant to Requirement R1.3, responsible entities must deploy Contingency Reserves to cover the loss caused by a Reportable Balancing Contingency Event. Requirements R1.3 works in tandem with Requirement R1.1 and R2 to ensure a constant requisite level of Contingency Reserves available for deployment. While including the affirmative obligation to deploy Contingency Reserves after a Reportable Balancing Contingency Event, Requirement R1.3.1 and R1.3.2 also exempt responsible entities from compliance with Requirement R1.1 if the entity meets one of three exemptions detailed immediately below.[20] Requirement R1.3, in conjunction with the definition of Reportable Balancing Contingency Event, addresses FERC concerns in Order No. 693 outlined above by requiring applicable entities to respond to events and measure performance.

a) Requirement R1.3.1

As alluded to above, Requirement R1.3.1 excuses a responsible entity from the timeframe for recovering its Reporting ACE to predefined limits if the responsible entity meets all of three conditions. First, a responsible entity must be a BA or RSG whose member or members are experiencing a Reliability Coordinator-declared Energy Emergency Alert level pursuant to proposed Reliability Standard EOP-011-1.[21] Second, the responsible entity must be actively utilizing its available Contingency Reserves to mitigate an operating emergency in accordance with its emergency Operating Plan created to comply with EOP-011-1. Third, the Responsible Entity must have depleted all of its Contingency Reserves to a level below its MSSC.

[20] NERC notes that there are three exemptions, as Requirement R1.3.1 provides the first exemption and the Requirement R1.3.2 contains two exemptions.

[21] Reliability Standard EOP-011-1 was submitted on January 8, 2015. For a visual representation of how EOP-011-1 works in coordination with other Reliability Standards to mitigate emergency events, see the Reliability Standard EOP-011-1 Mapping Document, attached herein as **Exhibit J**.

If each of these three circumstances exist simultaneously, a responsible entity is excused from compliance with Requirement R1.1 (in that the entity is not bound to its time frame for recovery of Reporting ACE) because the entity will be recovering from an emergency event under EOP-011-1 and is not expected to have the resources to also comply with BAL-002-2. This provision eliminates the existing conflict with EOP-011-1, as it removes undefined auditor discretion when assessing compliance and allows the responsible entity flexibility to maintain service to load while managing reliability. In other words, if a responsible entity meets all three conditions contained within Requirement R1.3.1, the responsible entity has exhausted all of its available resources and the Reliability Coordinator has declared an energy emergency. The responsible entity will be subject to Reliability Standard EOP-011-1 for purposes of responding to the event and must coordinate with the Reliability Coordinator to reestablish reliable operation through creation of an Operating Plan. This iterative restoration process between the responsible entity and a Reliability Coordinator through creation and implementation of an Operating Plan under EOP-011-1 is adequate to maintain reliability and preferable to Requirement R1.1 in light of immediate concerns, such as transmission frequency, voltage, line loading.

Further, a responsible entity is still required to document the Reportable Balancing Contingency Event and deploy Contingency Reserves to meet the Reportable Balancing Contingency Event, as Requirement 1.3.1 does not exempt responsible entities from Requirements R1.2 and R1.3. When recovery is complete, as outlined in the Emergency Operating Plan under EOP-011, and the Reliability Coordinator removes the Energy Emergency Alert level associated with the emergency event, Requirement R1.3.1 will no longer apply and the responsible entity will again be responsible for compliance with the entirety of BAL-002-2. Requirement R5 of Reliability Standard EOP-011-1 requires a Reliability Coordinator to declare

an energy emergency if the Balancing Authority is "experiencing a potential or actual Energy Emergency." Thus, given the relationship between Requirement R1.3.1 of Reliability Standard BAL-002-2 and required RC and BA communications under Requirement R6 of Reliability Standard EOP-011-1, it is unnecessary and would be redundant to include obligations in proposed Reliability Standard BAL-002-2 regarding RC authorization for application of Requirement R1.3.1.[22] Reliability Standard BAL-002-2 also eliminates any duplicative reporting and inconsistencies with other standards. Accordingly, as explained above, the exemptions under R1.3.1 do not interfere with maintenance of system reliability and coordinate with Reliability Standard EOP-011-1.

b) Requirement R1.3.2

Requirement R1.3.2 also excuses responsible entities from the timeframe for recovering its Reporting ACE to predefined limits if the entity meets either one of two criteria (thereby providing the remaining two possible exemptions from Requirement R1.1). First, a responsible entity is excused from Requirement R1.1 if the entity experiences more than one Contingency, defined as a single Balancing Contingency Event, where the combined loss exceeds the MSSC. As discussed under the proposed definitions, a "single" Balancing Contingency Event can include otherwise single events separated from each other by one minute or less. Second, a responsible entity is also excused from compliance with Requirement R1.1 if it experiences more than one Balancing Contingency Event with a combined magnitude that exceeds the MSSC and is within the sum of the time periods defined by the Contingency Event Recovery Period and Contingency Reserve Restoration Period.

[22] *See e.g.*, the Reliability Standard EOP-011-1 Mapping Document, attached herein as **Exhibit J**.

If an entity meets Requirements R1.3.1 or R1.3.2, the entity is excused compliance with the requirement to return its Reporting ACE to the predefined value in Requirement R1.1. As explained above, the three exclusions in Requirement R1.3.1 and R1.3.2 do not exempt responsible entities from responding to a Reportable Balancing Contingency Event; rather, these exclusions simply allow entities more time to return the Reporting ACE to the defined limits than would otherwise be allowed. These exemptions from compliance are just and reasonable and in the public interest because they providing additional time for responsible entities to recover Reporting ACE if multiple events arise within one-minute, allowing the entity the flexibility to continue recovery after multiple losses while maintaining service to meet demand and managing reliability.

2. Requirement R2

> **R2.** Each Responsible Entity shall develop, review and maintain annually, and implement an Operating Process as part of its Operating Plan to determine its Most Severe Single Contingency and make preparations to have Contingency Reserve equal to, or greater than the Responsible Entity's Most Severe Single Contingency available for maintaining system reliability. [*Violation Risk Factor: Medium*] [*Time Horizon: Operations Planning*]

In Order No. 693, FERC directed NERC to develop BAL-002 as a continent-wide contingency reserve policy inclusive of an appropriate mix of operating reserve, spinning reserve, and non-spinning reserve. After issuing Order No. 693, FERC approved BAL-003-1 to address frequency responsive reserve and the amount of frequency response obligation required to adequately address potential loss of resources. Requirement R2 of Reliability Standard BAL-002-2 continues the work begun by development of BAL-003-1 to address this directive. In so doing, Requirement R2 establishes a uniform continent-wide contingency reserve policy by requiring a responsible entity to create an Operating Process to determine its MSSC and to assure maintenance of Contingency Reserves at least as great as the entity's MSSC.

Proper valuation of the MSSC is critical for ensuring reliable operation of the Bulk Electric System. Requirement R2 works in conjunction with the definition of MSSC, discussed below, to obligate Responsible entities to accurately calculate MSSC according to system models maintained by the RSG or BA. Specifically, Requirement R2 requires responsible entities to demonstrate proper design and implementation of an Operating Process that surveys all contingencies, including single points of failure, to identify the event that would cause the greatest loss of resource output used by the RSG or BA to meet Firm Demand and export obligation (excluding export obligation for which Contingency Reserve is met by the Sink BA).[23] Further, Requirement R2 supports Requirements R1 and R3 in BAL-002-2, as these requirements rely on proper calculation of MSSC. A further explanation of how an entity may calculate the MSSC, along with illustrative examples, has been prepared by the SDT and is attached herein as **Exhibit B.**

As described above, the performance-based obligations in Requirement R2 of BAL-002-2, along with previously approved BAL-003-1, collectively accomplish the tasks directed by FERC in Order No. 693 with respect to a continent-wide contingency reserves policy.

3. Requirement R3

> **R3.** Each Responsible Entity, following a Reportable Balancing Contingency Event, shall restore its Contingency Reserve to at least its Most Severe Single Contingency, before the end of the Contingency Reserve Restoration Period, but any Balancing Contingency Event that occurs before the end of a Contingency Reserve Restoration Period resets the beginning of the Contingency Event Recovery Period. *[Violation Risk Factor: Medium] [Time Horizon: Real-time Operations]*

[23] Single points of failure in the context of transmission planning will be addressed in ongoing Project 2015-10: Single Points of Failure TPL-001 in response to Order No. 754. In that Order, FERC directed FERC staff to meet with to explore the reliability concern associated with single points of failure in the context of transmission planning. *See, Interpretation of Transmission Planning Reliability Standard*, Order No. 754, 136 FERC ¶ 61,186 at PP 19-20 (2011).

Requirement R3 requires responsible entities to restore Contingency Reserve within a defined period (as delineated in the proposed definition of Contingency Reserve Restoration Period) after a Reportable Balancing Contingency Event to ensure maintenance of sufficient reserves. Specifically, Contingency Reserves must be restored to "at least its Most Severe Single Contingency" to ensure that responsible entities may meet Firm Demand and export obligation. This measure of assurance confirms adequacy of Contingency Reserves on an ongoing basis.

Contingency Reserves must be restored within the Contingency Reserve Restoration Period, defined in this project as a period not exceeding 90 minutes following the end of the Contingency Event Recovery Period, or 15 minutes after the first minute of resource output decline. As such, responsible entities must recover Contingency Reserves within 105 minutes of the occurrence of a Reportable Balancing Contingency Event in order to comply with Requirement R3. This period is just and reasonable by providing adequate opportunity for a responsible entity to recover from an event while also maintaining reliability and recovery of reserves in a timely manner. If, however, an entity experiences another Balancing Contingency Event before the end of the Contingency Reserve Restoration Period (or in the 90 minute period following the end of the Contingency Event Recovery Period), the Contingency Reserve Recovery Period resets to provide time and flexibility for an entity's ongoing recovery. The extended period to restore Contingency Reserve is triggered by a Balancing Contingency Event (rather than a Reportable Balancing Contingency Event) that arises prior to the end of a Contingency Reserve Restoration Period for a Reportable Balancing Contingency Event, due to the heightened sensitivities applicable during such a Contingency Reserve Restoration Period.

The Contingency Reserve Recovery Period "reset" avoids punishing a responsible entity for an unexpected event, occurring within Contingency Reserve Restoration Period, which may

make it infeasible to fully restore the requisite level of Contingency Reserves as intended. In other words, R3 applies when a responsible entity experiencing a Reportable Balancing Contingency Event has developed a plan for recovery of Contingency Reserves and has begun restoration of its Contingency Reserves, but due to unforeseen circumstances, experiences another Balancing Contingency Event before full recovery. This compounding loss inevitably increases the total recovery necessary to replenish Contingency Reserves, thus making it more difficult to replenish the reserves while also meeting current demand.

An entity implementing a properly executed Operating Plan for recovery of Contingency Reserves that experiences a Reportable Balancing Contingency Event and a subsequent Balancing Contingency Event within the Contingency Reserve Restoration Period should not be held in non-compliance until the entity has had adequate opportunity to recover. As explained above, the "reset" function of Requirement R3 is necessary and in the public interest, as it allows entities to manage reliability of its system while properly recovering from an event within a reasonable time. Several examples of an application of the "reset" feature can be found in the Examples of Reportable Balancing Contingency Events document, attached herein as **Exhibit A.**

C. Proposed NERC Glossary Definitions

NERC proposes eight definitions for inclusion in the NERC Glossary, included in **Exhibit C** herein. NERC also proposes to retire the current definition of Contingency Reserve. Below is the text of each proposed definition, followed by an explanation as to why the proposed definitions are necessary and how they work as an integrated proposal to support implementation of the proposed Reliability Standard BAL-002-2. As reflected in this filing and further demonstrated in the attached examples in **Exhibit A** and **Exhibit B**, the proposed definitions work together to support implementation of proposed Reliability Standard BAL-002-2.

1. Balancing Contingency Event

Balancing Contingency Event: Any single event described in Subsections (A), (B), or (C) below, or any series of such otherwise single events, with each separated from the next by one minute or less.

A. Sudden loss of generation:
  a. Due to
    i. unit tripping,
    ii. loss of generator Facility resulting in isolation of the generator from the Bulk Electric System or from the responsible entity's System, or
    iii. sudden unplanned outage of transmission Facility;
  b. And, that causes an unexpected change to the responsible entity's ACE;

B. Sudden loss of an import, due to unplanned outage of transmission equipment that causes an unexpected imbalance between generation and Demand on the Interconnection.

C. Sudden restoration of a Demand that was used as a resource that causes an unexpected change to the responsible entity's ACE.

The proposed definition of Balancing Contingency Event is necessary to eliminate potential confusion and ambiguity by setting forth the events or contingencies causing an unexpected change to a responsible entity's ACE that may give rise to a Reportable Balancing Contingency Event obligating the BA or RSG to return ACE within defined values per the Requirements of proposed Reliability Standard BAL-002-2. The proposed definition eliminates ambiguities present in the existing effective version of BAL-002 by defining an event that causes an unexpected change to the responsible entity's ACE. As such, the proposed definition of Balancing Contingency Event is necessary to assist a responsible entity in measuring responses for any event or contingency that causes a frequency deviation, consistent with FERC's directive in Order No. 693.[24]

A Balancing Contingency Event can be a single event, as described in subsections A through C of the definition, or more than one such event that is separated from the next by one

[24] Order No. 693, at P 355.

minute or less. The revised proposed definition of Balancing Contingency Event maintains the existing sixty (60) second threshold from currently enforceable Reliability Standard BAL-002-1 for consolidating more than one event into a single event for purposes of compliance. This one minute threshold is appropriate for purposes of determining whether otherwise multiple events constitute a single Balancing Contingency Event because, rather than requiring responsible entities to reset its restoration periods multiple times within a short period of time, a defined threshold sets an articulable starting point for calculating restoration times for multiple successive events by initiating the Contingency Event Recovery Period. In other words, a one-minute threshold ensures that an entity can aggregate multiple events within a minute given the fact that events occurring within this truncated period of time can function as a single event for purposes of recovery and compliance with the requirements of Reliability Standard BAL-002-2. Examples of a sudden declines in a Reportable ACE and how this decline impacts an entity's obligations under Reliability Standard BAL-002-2 can be found in **Exhibit A**, attached herein.

The definitions of MSSC and Contingency Reserve rely upon the proposed definition of Balancing Contingency Event for proper application. The term Balancing Contingency Event also affects substantive obligations under BAL-002-2 by requiring entities to take certain actions upon the occurrence of a Balancing Contingency Event. For instance, an entity may reduce its required recovery under Requirement R1.1 upon occurrence of a Balancing Contingency Event occurring during the Contingency Event Recovery Period. Furthermore, given the relationship between MSSC and Balancing Contingency Event mentioned above, the proposed definition of Balancing Contingency Event supports implementation of (i) Requirement R2, which obligates a responsible entity to determine its MSSC and maintain Contingency Reserves at least as great as the MSSC, and (ii) Requirement R3, which requires restoration of MSSC after a Reportable

Balancing Contingency Event subject to an additional Balancing Contingency Event. Therefore, the proposed definition of Balancing Contingency Event is integral to implementation of proposed Reliability Standard BAL-002-2 and necessary to delineate responsibilities that will foster system stability and ensure adequate reserves.

2. Reportable Balancing Contingency Event

> **Reportable Balancing Contingency Event**: Any Balancing Contingency Event occurring within a one-minute interval of an initial sudden decline in ACE based on EMS scan rate data that results in a loss of MW output less than or equal to the Most Severe Single Contingency, and greater than or equal to the lesser amount of: (i) 80% of the Most Severe Single Contingency, or (ii) the amount listed below for the applicable Interconnection. Prior to any given calendar quarter, the 80% threshold may be reduced by the responsible entity upon written notification to the Regional Entity.
>
> - Eastern Interconnection – 900 MW
> - Western Interconnection – 500 MW
> - ERCOT – 800 MW
> - Quebec – 500 MW

The definition of Reportable Balancing Contingency Event provides the scope of obligations required under Requirements R1 and R3 of BAL-002-2. Specifically, these requirements (discussed above) impose obligations on responsible entities to take certain recovery actions upon the occurrence of a Reportable Balancing Contingency Event to sustain Reporting ACE and adequate levels of Contingency Reserves.

The terms Reportable Balancing Contingency Event and Contingency Event Recovery Period operate together to specify timing requirements for recoveries from Reportable Balancing Contingency Events. For example, as detailed in connection with Requirements R1 and R3 above, occurrence of a Balancing Contingency Event after the occurrence of a Reportable Balancing Contingency Event may subject responsible entities to different compliance obligations. **Exhibit A**, attached herein, includes several examples that illustrate what events

would be deemed "Reportable Balancing Contingency Events" given the circumstances surrounding each event.

3. Most Severe Single Contingency (MSSC)

> **Most Severe Single Contingency (MSSC):** The Balancing Contingency Event, due to a single contingency as identified and maintained in the system models within the Reserve Sharing Group (RSG) or a Balancing Authority's area that is not part of a Reserve Sharing Group, that would result in the greatest loss (measured in MW) of resource output used by the RSG or a Balancing Authority that is not participating as a member of a RSG at the time of the event to meet Firm Demand and export obligation (excluding export obligation for which Contingency Reserve obligations are being met by the Sink Balancing Authority).

See above discussion supporting the proposed definitions of Balancing Contingency Event and Reportable Balancing Contingency Event, as well as the justification for Requirement R2. For a further explanation of MSSC and illustrative examples for calculating an entity's MSSC, refer to **Exhibit B**, attached herein.

4. Contingency Event Recovery Period

> **Contingency Event Recovery Period:** A period that begins at the time that the resource output begins to decline within the first one-minute interval of a Reportable Balancing Contingency Event, and extends for fifteen minutes thereafter.

See above discussion supporting the proposed definitions of Balancing Contingency Event and Reportable Balancing Contingency Event, as well as the justification for Requirement R3.

5. Contingency Reserve Restoration Period

> **Contingency Reserve Restoration Period:** A period not exceeding 90 minutes following the end of the Contingency Event Recovery Period.

See above discussion supporting the proposed definitions of Balancing Contingency Event and Reportable Balancing Contingency Event, as well as the justification for Requirement R3.

6. Pre-Reporting Contingency Event ACE Value

Pre-Reporting Contingency Event ACE Value: The average value of Reporting ACE, or Reserve Sharing Group Reporting ACE when applicable, in the 16-second interval immediately prior to the start of the Contingency Event Recovery Period based on EMS scan rate data.

See above discussion supporting the proposed definitions of Balancing Contingency Event and Reportable Balancing Contingency Event, as well as the justification for Requirement R3.

7. Reserve Sharing Group Reporting ACE

Reserve Sharing Group Reporting ACE: At any given time of measurement for the applicable Reserve Sharing Group (RSG), the algebraic sum of the ACEs (or equivalent as calculated at such time of measurement) of the Balancing Authorities participating in the RSG at the time of measurement.

Reserve Sharing Group Reporting ACE is term defining the unique calculation of Reporting ACE for Reserve Sharing Groups. As further justification for why this term is necessary, see, generally, the justification for Requirement R1.

8. Contingency Reserve

Contingency Reserve: The provision of capacity that may be deployed by the Balancing Authority to respond to a Balancing Contingency Event and other contingency requirements (such as Energy Emergency Alerts as specified in the associated EOP standard). A Balancing Authority may include in its restoration of Contingency Reserve readiness to reduce Firm Demand and include it if, and only if, the Balancing Authority:

- is experiencing a Reliability Coordinator declared Energy Emergency Alert level, and
- is utilizing its Contingency Reserve to mitigate an operating emergency in accordance with its emergency Operating Plan.

The existing definition of Contingency Reserve focuses primarily on generation and does not fully incorporate the use of demand-side management for balancing resources and demand to return an entity's ACE to defined values. The revised, proposed definition of Contingency

Reserve improves the existing definition by addressing a FERC directive in Order No. 693 to allow demand side management to be used as a resource for contingency reserve when necessary.

In allowing entities to use demand side management as a resource for Contingency Reserves in certain circumstances, the revised definition of Contingency Reserve, in conjunction with proposed Reliability Standard BAL-002-2, establishes an "adequate level of reliability" by requiring entities to plan for and recover from reportable disturbances but not requiring responsible entities to shed firm load only to restore Contingency Reserves. Rather, as intended by the SDT for BAL-002-2 and reiterated through its response to industry comments[25], an entity must include "readiness to reduce Firm Demand" as an available Contingency Reserve upon the occurrence of an event. In other words, shedding load, which would be an extreme action, is not required to restore Contingency Reserves when those reserves have been depleted, but should be considered a Contingency Reserve for deployment in response to the next event. The existing definition of Contingency Reserve should be retired at midnight of the day immediately prior to the effective date of BAL-002-2, in the jurisdiction in which the new standard is becoming effective.

[25] In the Background Document **(Exhibit E**), the SDT clearly stated that BAL-002-2 should not be enforceable during an EEA event where the EEA process requires the use of Contingency Reserve to maintain load service. Instead, the Reliability Coordinator, Transmission Operators, and the impacted Balancing Authorities should use real-time situational awareness, taking into account issues addressed in BAL-001, BAL-003, the IRO suite of standards and the TOP suite of standards, to determine what actions are appropriate when conditions are abnormal. This process would allow continued load service without arbitrarily requiring the interruption of firm load (i.e., shedding load) absent any significant risks to reliability. *See* BAL-002 Background Document (July 2015) at 27, *available at:* http://www.nerc.com/pa/Stand/Project%202010141%20%20Phase%201%20of%20Balancing%20Authority%20Re/BAL-002-2_Background_Document_Redline_09292015.pdf

As demonstrated above and underscored by the justification in support of the proposed Requirements, the proposed definitions will support proper implementation of proposed Reliability Standard BAL-002-2 and ensure that BAs and RSGs balance resources and demand and return ACE to defined values following a Reportable Balancing Contingency Event.

V. EFFECTIVE DATE

NERC respectfully provides the Implementation Plan for BAL-002-2 herein in **Exhibit D**. As explained in more detail in the Implementation Plan, responsible entities will be required to comply with the standard on the first day of the first calendar quarter that is six (6) months after this standard is approved by applicable regulatory authorities or as otherwise provided for in a jurisdiction where approval by an applicable governmental authority is required for a standard to go into effect. Where approval by an applicable governmental authority is not required, the standard shall become effective on the first day of the first calendar quarter that is six months after the date the standard is adopted by the NERC Board of Trustees, or as otherwise provided for in that jurisdiction.

VI. CONCLUSION

For the reasons set forth above, NERC respectfully requests approval of (i) proposed Reliability Standard BAL-002-2 (**Exhibit C**), and NERC Glossary definitions included in **Exhibit D**; (ii) the Implementation Plan in **Exhibit D**; (iii) the VRFs and VSLs in **Exhibit G**; and (v) the retirement of currently-effective Reliability Standard BAL-002-1 and the existing definition of Contingency Reserve.

Respectfully submitted,

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EXHIBITS A—E AND G—K

(Available on the NERC Website at

http://www.nerc.com/FilingsOrders/ca/Canadian%20Filings%20and%20Orders%20DL/BAL-002_%20exhibits.pdf)

Exhibit F

Reliability Standards Criteria

Reliability Standards Criteria

The discussion below explains how the revisions reflected in proposed Reliability Standard has met or exceeded 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.**

Proposed Reliability Standard BAL-002-2, attached as **Exhibit C**, achieves the specific reliability goal of ensuring that the Balancing Authority or Reserve Sharing Group balances resources and demand and returns the Balancing Authority's or Reserve Sharing Group's Area Control Error to defined values (subject to applicable limits) following a Reportable Balancing Contingency Event. Proposed Reliability Standard BAL-002-2 balances an Interconnection requiring frequency management by ensuring recovery of the Reportable Area Control Area (ACE), a value determined to be helpful in ensuring system stability, and appropriate levels of Contingency Reserves following a Reportable Balancing Contingency Event. This standard, along with BAL-001-2 Real Power Balancing Control Performance and BAL-003-1 Frequency Response and Frequency Bias Setting, utilize frequency management inputs, including Tie-Line Bias Control, ACE, and other various inputs from requirements in NERC Resource and Demand Balancing Standards.

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 Reliability Standard is applicable only to users, owners, and operators of the bulk power system and is clear and unambiguous as to what is required and who is required to comply. The proposed Reliability Standard applies to Reserve Sharing Groups and a Balancing Authorities, but a Balancing Authority that is a member of a Reserve Sharing Group is the Responsible Entity only in periods during which the Balancing Authority is not in active status under the applicable agreement or governing rules for the Reserve Sharing Group. The

proposed Reliability Standard clearly articulates the actions that such entities must take to comply with the standard, each of which are triggered by articulable actions and situations.

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, attached as **Exhibit G**, comport with NERC and FERC guidelines related to their assignment. The assignment of the severity level for each VSL is consistent with the corresponding Requirement and will ensure uniformity and consistency in the determination of penalties. The VSLs do not use any ambiguous terminology, thereby supporting uniformity and consistency in the determination of similar penalties for similar violations. For these reasons, the proposed Reliability Standard includes clear and understandable consequences.

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 Reliability Standard contains Measures that support each Requirement by clearly identifying what is required to demonstrate compliance and how the Requirement will be enforced. The Measures are as follows:

> **M1.** Each Responsible Entity shall have, and provide upon request, as evidence, a CR Form 1 with date and time of occurrence to show compliance with Requirement R1. If Requirement R1 part 1.3 applies, then dated documentation that demonstrates compliance with Requirement R1 part 1.3 must also be provided.
>
> **M2.** Each Responsible Entity will have the following documentation to show compliance with Requirement R2:
> - a dated Operating Process;
> - evidence to indicate that the Operating Process has been reviewed and maintained annually; and,
> - evidence such as Operating Plans or other operator documentation that demonstrate that the entity determines its Most Severe Single Contingency and that Contingency Reserves equal to or greater than its Most Severe Single Contingency are included in this process.
>
> **M3.** Each Responsible Entity will have documentation demonstrating its

Contingency Reserve was restored within the Contingency Reserve Restoration Period, such as historical data, computer logs or operator logs.

The above Measures work in coordination with the respective Requirements to ensure that the Requirements will each be enforced in a clear, consistent, and non-preferential manner 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 Reliability Standard achieves the reliability goal effectively and efficiently. The proposed Reliability Standard clearly enumerates the responsibilities of applicable entities with respect to balancing resources and demands, including deployment and subsequent recovery of adequate levels of Contingency Reserves, to return the Area Control Error to defined values. The proposed Reliability Standard provides entities with the flexibility to tailor their processes and plans to take into account system dynamics and characteristics while still maintaining reliability of the Bulk Power System.

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 Reliability Standard does not reflect a "lowest common denominator" approach. To the contrary, the proposed standard represents significant benefits for the reliability of the Bulk Power System because it requires entities to protect system stability by recovering an entity's Reporting Area Control Error and requisite levels of Contingency Reserves. The proposed Reliability Standard does not sacrifice excellence in operating system reliability for costs associated with implementation of the Reliability Standard.

7. **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 Reliability Standard applies throughout North America and does not favor one geographic area or regional model.

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 Reliability Standard has no undue negative impact on competition. The proposed Reliability Standard requires the same performance by each applicable entity. The standard does not unreasonably restrict the available transmission capability or limit use of the Bulk-Power System in a preferential manner.

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

The proposed effective date for the standard is just and reasonable and appropriately balances the urgency in the need to implement the standard against the reasonableness of the time allowed for those who must comply to develop necessary procedures, software, facilities, staffing or other relevant capability. The proposed Implementation Plan, attached as **Exhibit D**, will allow applicable entities adequate time to ensure compliance with the requirements. The proposed effective date is explained in the attached Implementation Plan for BAL-002-2.

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

The proposed Reliability Standard was developed in accordance with NERC's ANSI-accredited processes for developing and approving Reliability Standards.[1] **Exhibit H** includes a summary of the Reliability Standard development proceedings and details the processes

[1] *See* NERC Rules of Procedure, Section 300 (Reliability Standards Development) and Appendix 3A (Standard Processes Manual).

followed to develop the Reliability Standard. These processes included, among other things, multiple comment periods, pre-ballot review periods, and balloting periods. Additionally, all meetings of the standard drafting team were properly noticed and open to the public.

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

NERC has identified no competing public interests regarding the request for approval of proposed Reliability Standard BAL-002-2. No comments were received that indicated the proposed Reliability Standard conflict with other vital public interests.

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

NERC has identified no other factors relevant to whether the proposed Reliability Standard BAL-002-2 is just and reasonable