UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

North American Electric Reliability Corporation	**)**	**Docket No. _____**
Texas Reliability Entity, Inc.	**)**	

JOINT PETITION OF THE NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION AND TEXAS RELIABILITY ENTITY, INC. FOR APPROVAL OF PROPOSED REGIONAL RELIABILITY STANDARD BAL-001-TRE-01 – PRIMARY FREQUENCY RESPONSE IN THE ERCOT REGION

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September 18, 2013

TABLE OF CONTENTS

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Pursuant to Section 215(d)(1) of the Federal Power Act ("FPA")[1] and Section 39.5[2] of the regulations of the Federal Energy Regulatory Commission ("FERC" or "Commission"), the North American Electric Reliability Corporation ("NERC")[3] and the Texas Reliability Entity, Inc. ("Texas RE") hereby submit proposed regional Reliability Standard BAL-001-TRE-01 for Commission approval. NERC and Texas RE request that the Commission approve proposed regional Reliability Standard BAL-001-TRE-01 (**Exhibit A**) as just, reasonable, not unduly discriminatory or preferential, and in the public interest.[4] NERC and Texas RE also request approval of the associated implementation plan (**Exhibit B**), and the associated Violation Risk Factors ("VRFs") and Violation Severity Levels ("VSLs") (**Exhibits A and D**), as detailed in this petition.

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1 16 U.S.C. § 824o (2006).

2 18 C.F.R. § 39.5 (2013).

3 The Commission certified NERC as the electric reliability organization ("ERO") in accordance with Section 215 of the FPA on July 20, 2006. *N. Am. Elec. Reliability Corp.*, 116 FERC ¶ 61,062 (2006).

4 Unless otherwise designated, all capitalized terms shall have the meaning set forth in the *Glossary of Terms Used in NERC Reliability Standards, available at* http://www.nerc.com/files/Glossary_of_Terms.pdf

As required by Section 39.5(a)[5] of the Commission's regulations, this petition presents the technical basis and purpose of the proposed regional Reliability Standard, a summary of the development proceedings (**Exhibit E**), and a demonstration that the proposed Reliability Standard meets the criteria identified by the Commission in Order No. 672[6] (**Exhibit C**). Proposed Reliability Standard BAL-001-TRE-01 was approved by the Texas RE Board of Directors on April 23, 2013 and by the NERC Board of Trustees on August 15, 2013.

NERC proposes an effective date of the first day of the first calendar quarter following applicable regulatory approval. This standard will only be effective within the Texas RE footprint (the Electric Reliability Council of Texas ("ERCOT") Interconnection). Registered entities within the Texas RE footprint must comply with the requirements of the proposed regional Reliability Standard in accordance with the schedule set forth in the associated implementation plan provided in **Exhibit B**.

I. EXECUTIVE SUMMARY

The purpose of proposed BAL-001-TRE-01 is to provide a regional Reliability Standard for the ERCOT Interconnection related to the maintenance of steady-state frequency within defined limits by balancing real power demand and supply in real-time. Proposed BAL-001-TRE-1 seeks to establish and maintain adequate Frequency Response in the ERCOT region by ensuring prompt and sufficient Frequency Response from resources to stabilize frequency during

[5] 18 C.F.R. § 39.5(a) (2013).

[6] The Commission specified in Order No. 672 certain general factors it would consider when assessing whether a particular Reliability Standard is just and reasonable. *See Rules Concerning Certification of the Electric Reliability Organization; and Procedures for the Establishment, Approval, and Enforcement of Electric Reliability Standards*, Order No. 672, FERC Stats. & Regs. ¶ 31,204, at P 262, 321-37, *order on reh'g*, Order No. 672-A, FERC Stats. & Regs. ¶ 31,212 (2006).

changes in the system generation-demand balance.[7] As explained below, the proposed regional Reliability Standard improves upon ERCOT's existing practices for Frequency Response, is necessitated by physical differences in the ERCOT system and represents an alternative, more stringent means of assuring Frequency Response performance than the continent-wide NERC Reliability Standard.

The proposed regional Reliability Standard responds to a Commission directive in Order No. 693 to develop a regional Reliability Standard for assuring frequency performance in the ERCOT Interconnection.[8] In Order No. 693, the Commission approved a regional difference for the ERCOT Interconnection from BAL-001-0, allowing ERCOT to be exempt from Requirement R2 of BAL-001-0.[9] ERCOT requested waiver of Requirement R2 because of physical differences in the ERCOT system and because compliance with Requirement R2 may not be feasible under ERCOT's competitive balancing energy market. In approving the regional difference, the Commission found that "ERCOT's approach to Frequency Response under section 5 of the ERCOT Protocols appears to be a more stringent practice than Requirement R2 in BAL-001-0."[10] The Commission directed the ERO to file a modification of the ERCOT regional difference to include the requirements concerning Frequency Response contained in section 5 of the ERCOT Protocols. As discussed below, proposed BAL-001-TRE-01 improves

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[7] In the proposed regional Reliability Standard, the term "resource" is synonymous with "generating unit" or "generating facility."

[8] *Mandatory Reliability Standards for the Bulk-Power System*, Order No. 693, 72 FR 16416 (Apr. 4, 2007), FERC Stats. & Regs. ¶ 31,242, at PP 313-15 (2007), *order on reh'g*, Order No. 693-A, 120 FERC ¶ 61,053 (2007).

[9] Order No. 693 at PP 313-15.

[10] Order No. 693 at P 314. The ERCOT Protocols contain the scheduling, operating, planning, reliability, and settlement (including Customer registration) policies, rules, guidelines, procedures, standards, and criteria of ERCOT. Section 5 of the ERCOT Protocols addresses Frequency Response. The ERCOT Protocols are available at http://www.ercot.com/mktrules/protocols/current.

upon the ERCOT Protocols by requiring individual generators to provide appropriate Frequency Response.[11]

The proposed regional Reliability Standard represents a comprehensive approach to assuring frequency response performance in the ERCOT Interconnection. The requirements of proposed BAL-001-TRE-01 relate to: (1) identifying Frequency Measureable Events;[12] (2) calculating the Primary Frequency Response[13] of each resource in the Interconnection; (3) calculating the Interconnection minimum Frequency Response and monitoring the actual Frequency Response of the Interconnection; (4) setting Governor[14] deadband and droop parameters under which resources must operate, and (5) providing Primary Frequency Response performance requirements. These requirements work together to help ensure that generation and load remain balanced (or are quickly restored to balance) in the ERCOT Interconnection so that system frequency is restored to stability and near-normal frequency even after a significant event, such as a large generator trip, occurs on the system.

For the reasons discussed in this petition, NERC and Texas RE respectfully request that the Commission approve the standard as just, reasonable, not unduly discriminatory or preferential, and in the public interest.

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[11] The Interconnection-wide Frequency Response required by the ERCOT Protocols is a function of the cumulative response provided by individual generators.

[12] The proposed regional standard defines Frequency Measureable Events as "an event that results in a Frequency Deviation identified at the [Balancing Authority's] sole discretion" and meeting one of two criteria set forth in the proposed regional standard.

[13] The proposed regional standard defines Primary Frequency Response as "[t]he immediate proportional increase or decrease in real power output provided by generating units/generating facilities and the natural real power dampening response provided by Load in response to system Frequency Deviations. This response is in the direction that stabilizes frequency."

[14] The proposed regional standard defines Governor as "[t]he electronic, digital or mechanical device that implements Primary Frequency Response of generating units/generating facilities or other system elements."

II. NOTICES AND COMMUNICATIONS

Notices and communications with respect to this filing may be addressed to the following:[15]

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III. BACKGROUND

A. Regulatory Framework

By enacting the Energy Policy Act of 2005,[16] Congress entrusted the Commission with the duties of approving and enforcing rules to ensure the reliability of the Nation's Bulk-Power System, and with the duties of certifying an ERO that would be charged with developing and enforcing mandatory Reliability Standards, subject to Commission approval. Section 215(b)(1)[17] of the FPA states that all users, owners, and operators of the Bulk-Power System in the United States will be subject to Commission-approved Reliability Standards. Section 215(d)(5)[18] of the FPA authorizes the Commission to order the ERO to submit a new or modified Reliability

[15] Persons to be included on the Commission's service list are identified by an asterisk. NERC respectfully requests a waiver of Rule 203 of the Commission's regulations, 18 C.F.R. § 385.203 (2013), to allow the inclusion of more than two persons on the service list in this proceeding.

[16] 16 U.S.C. § 824o (2006).

[17] *Id.* § 824(b)(1).

[18] *Id.* § 824o(d)(5).

Standard. Section 39.5(a)[19] of the Commission's regulations requires the ERO to file with the Commission for its approval each Reliability Standard that the ERO proposes should become mandatory and enforceable in the United States, and each modification to a Reliability Standard that the ERO proposes should be made effective.

The Commission has the regulatory responsibility to approve Reliability Standards that protect the reliability of the Bulk-Power System and to ensure that such Reliability Standards are just, reasonable, not unduly discriminatory or preferential, and in the public interest. Pursuant to Section 215(d)(2) of the FPA[20] and Section 39.5(c)[21] of the Commission's regulations, the Commission will give due weight to the technical expertise of the ERO with respect to the content of a Reliability Standard and to the technical expertise of a Regional Entity, like Texas RE, that is organized on an Interconnection-wide basis with respect to a regional Reliability Standard to be applicable within that Interconnection.[22]

A Regional Reliability Standard proposed by a Regional Entity must meet the same standards that NERC's Reliability Standards must meet, *i.e.*, the Regional Reliability Standard must be shown to be just, reasonable, not unduly discriminatory or preferential, and in the public interest.[23] Order No. 672 also requires additional criteria that a regional Reliability Standard must satisfy. A regional difference from a continent-wide Reliability Standard must either be (1) more stringent than the continent-wide Reliability Standard (which includes a regional standard

19 18 C.F.R. § 39.5(a) (2012).

20 16 U.S.C. § 824o(d)(2).

21 18 C.F.R. § 39.5(c)(1).

22 Order No. 672 at P 344.

23 Section 215(d)(2) of the FPA and 18 C.F.R. §39.5(a).

that addresses matters that the continent-wide Reliability Standard does not), or (2) necessitated by a physical difference in the Bulk Power System.[24]

Texas RE is an "interconnection-wide" Regional Entity, and its standards are intended to apply to the ERCOT Interconnection. As discussed in the *Texas Reliability Entity Standard Development Process*,[25] Texas RE's standards are developed according to the following characteristic attributes:

- Developed in a fair and open process that provides an opportunity for all interested parties to participate;
- Drafted to help ensure that the standard does not have an adverse impact on commerce that is not necessary for reliability;
- Provides a level of Bulk Power System reliability that is adequate to protect public health, safety, welfare, and national security and does not have a significant adverse impact on reliability; and
- Based on a justifiable difference between regions or between sub-regions within the Regional geographic area.

Proposed Texas RE regional standards are subject to approval by the Texas RE Board of Directors, NERC, as the ERO, and the Commission before becoming mandatory and enforceable under Section 215 of the FPA.[26] Applicable users, owners, and operators of the Bulk-Power System in the ERCOT Interconnection must adhere to the NERC Reliability Standards as well as the Texas RE regional Reliability Standards. NERC Reliability Standards and the Texas RE regional Reliability Standards are both enforced through the Texas RE Compliance Program.

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[24] Order No. 672 at P 291.

[25] The *Texas Reliability Entity Standard Development Process* is available at: http://www.nerc.com/pa/Stand/Procedures%20and%20Comments/Texas_Reliability_Entity_Standards_Development_Process.pdf.

[26] 16 U.S.C. 824o.

B. History and Basis of the Proposed Regional Reliability Standard

As noted above, the proposed regional Reliability Standard responds to a Commission directive in Order No. 693 to develop a regional Reliability Standard as an alternate means of assuring frequency performance in the ERCOT Interconnection. In Order No. 693, the Commission approved a regional difference to the continent-wide NERC Reliability Standard BAL-001-0 for the ERCOT Interconnection, exempting ERCOT from Requirement R2 of BAL-001.[27] Requirement R2, referred to as the Control Performance Standard 2, requires that each Balancing Authority operate such that its average Area Control Error for each of the six ten-minute periods during the hour be within specific limits, and that it achieve 90 percent compliance.

The basis for the exemption relates to the physical differences in the ERCOT system and its competitive market structure. The ERCOT Interconnection is separated electrically from the rest of North America. Two DC (direct current) ties link the ERCOT system with Southwest Power Pool to the north and east. ERCOT schedules and centrally dispatches its grid within a single control area, ensures transmission reliability and wholesale open access, and manages financial settlement in the wholesale power market. It also administers the Texas competitive retail market, including customer switching. ERCOT requested a waiver of BAL-001-0, Requirement R2 because (1) ERCOT, as a single Balancing Authority asynchronously connected to the Eastern Interconnection, cannot create inadvertent flows or time errors in other control areas, and (2) Control Performance Standard 2 may not be feasible under ERCOT's competitive balancing energy market. In support of this argument, ERCOT cited to a study showing that under its market structure, the ten control areas in its region (at that time) individually were able

[27] Order No. 693 at PP 313-15.

to meet Control Performance Standard 2 while the aggregate performance of the ten control areas was not in compliance.

In approving the regional difference, the Commission directed the ERO to file a modification of the ERCOT regional difference to include the requirements concerning frequency response contained in section 5 of the ERCOT Protocols, which identifies the necessary frequency controls needed for reliable operation in ERCOT. The Commission found that "ERCOT's approach to frequency response under section 5 of the ERCOT Protocols appears to be a more stringent practice than Requirement R2 in BAL-001-0."[28]

In response, Texas RE developed proposed BAL-001-TRE-01. Proposed BAL-001-TRE-01was developed in an open, transparent, and inclusive fashion in accordance with the *Texas Reliability Entity Standard Development Process*, as more fully described in **Exhibit E** hereto.[29] In short, the development of proposed BAL-001-TRE-01 was initiated with the posting of a Standard Authorization Request for comment on April 24, 2008. Texas RE's Reliability Standards Committee approved the Standard Authorization Request for development on May 27, 2008 and an initial standard drafting team was formed on June 24, 2008.[30] Between February 2009 and November 2010, the standard drafting team posted a draft of proposed BAL-001-TRE-01 for formal comment on three separate occasions before posting for ballot. Several technical workshops were conducted in conjunction with the comment periods, in order to inform stakeholders about the proposed regional standard and to solicit and receive valuable feedback from registered entities.

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[28] Order No. 693 at P 314.

[29] The applicable standard development process for the Texas RE region changed from the *Texas Regional Entity Standards Development Process* to the *Texas Reliability Entity Standards Development Process* on July 1, 2010. The proposed regional Reliability Standard was initiated under the *Texas Regional Entity Standards Development Process* and completed under the *Texas Reliability Entity Standards Development Process*.

[30] The standard drafting team roster is provided in **Exhibit E** hereto.

Following an unsuccessful first ballot, the standard drafting team conducted a Field Trial to test the performance metrics in the draft standard, to demonstrate the application of the proposed standard, and to educate entities regarding the purpose and benefits of the proposed standard. Following the Field Trial and associated revisions to the proposed regional standard, a second ballot was conducted, which passed with an 80% affirmative segment-weighted vote. The proposed regional Reliability Standard was approved by the Texas RE Board of Directors on April 23, 2013 and by the NERC Board of Trustees on August 15, 2013.

IV. JUSTIFICATION FOR APPROVAL

As discussed in detail in **Exhibit C**, proposed regional Reliability Standard BAL-001-TRE-01 satisfies the Commission's criteria in Order No. 672 and is just, reasonable, not unduly discriminatory or preferential, and in the public interest. The following section provides (1) a discussion of the purpose of the proposed regional Reliability Standard, (2) a description of the requirements of proposed BAL-001-TRE-01, and (3) a discussion of the enforceability of proposed BAL-001-TRE-01.

A. Purpose of Proposed BAL-001-TRE-01

As noted, the purpose of proposed BAL-001-TRE-01 is to maintain ERCOT Interconnection steady-state frequency within defined limits by balancing real-power demand and supply in real-time. This reliability goal is accomplished by requiring prompt and sufficient Frequency Response from resources to stabilize frequency during changes in the system generation-demand balance. To that end, the standard drafting team designed performance metrics and requirements to: (a) require generators to operate within specified Governor settings; (b) evaluate the actual Frequency Response performance of each generator; and (c) require the

Balancing Authority to monitor the Interconnection-wide Frequency Response and direct any necessary actions to improve Frequency Response.

As noted above, the proposed regional Reliability Standard is responsive to a FERC directive to incorporate section 5.9 of ERCOT's Protocols concerning frequency control into an enforceable Reliability Standard specific to the ERCOT region. The proposed regional Reliability Standard improves upon the ERCOT Protocols by requiring individual generators to provide appropriate Frequency Response. The Interconnection-wide Frequency Response currently required by the ERCOT Protocols is a function of the cumulative response provided by individual generators.

Although the proposed regional Reliability Standard is focused on requiring Frequency Response from each individual generator, it does not restrict the Balancing Authority's ability to employ other sources of Frequency Response to meet the Interconnection's required level of performance. For instance, the proposed regional standard does not prohibit the development of a market for Frequency Response that allows other sources to assist in meeting the region's needs. This market could allow generators to be re-dispatched to more economic operating levels, which would reduce their operating margins (and available Frequency Response) but improve the overall operating efficiency of the region. However, any generator with adequate operating margin would still be expected to meet the performance measures of the proposed regional standard, subject to applicable exclusions and limitations.

B. Requirements in Proposed BAL-001-TRE-01

As noted above, the requirements of proposed BAL-001-TRE-01 relate to: (1) identifying and posting Frequency Measureable Events (Requirement R1); (2) calculating the Primary Frequency Response of each resource in the Interconnection (Requirement R2); (3) calculating

the Interconnection minimum Frequency Response and monitoring the actual Frequency Response of the Interconnection (Requirements R3-R5); (4) requiring resources to operate in accordance with specified Governor deadband and droop parameters and to promptly notify the Balancing Authority of any change in Governor status (Requirements R6-R8); and (5) providing Primary Frequency Response performance requirements for each generator (Requirements R9-R10). The requirements in proposed BAL-001-TRE-01 work together to help ensure that generation and load remain balanced (or are quickly restored to balance) in the ERCOT Interconnection so that system frequency is restored to stability and near normal frequency even after a significant event occurs on the system. A discussion of each of the requirements in proposed BAL-001-TRE-01 follows.

Requirement R1 requires the Balancing Authority to identify system events qualifying as Frequency Measurable Events and to post basic information about such events, including event time and pre- and post-event frequency. Frequency Measureable Events are defined as "an event that results in a Frequency Deviation, identified at the [Balancing Authority's] sole discretion, and meeting one of two conditions" specified in the standards.[31] Requirement R1 states as follows:

> The [Balancing Authority] shall identify Frequency Measurable Events (FMEs), and within 14 calendar days after each FME the [Balancing Authority] shall notify the Compliance Enforcement Authority and make FME information (time of FME (t(0)), pre-perturbation average frequency, post-perturbation average frequency) publicly available.

[31] Those condition are: (i) a Frequency Deviation that has a pre-perturbation [the 16-second period of time before t(0)] average frequency to post-perturbation [the 32-second period of time starting 20 seconds after t(0)] average frequency absolute deviation greater than 100 mHz (the 100 mHz value may be adjusted by the BA to capture 30 to 40 events per year); or (ii) a cumulative change in generating unit/generating facility, DC tie and/or firm load pre-perturbation megawatt value to post-perturbation megawatt value absolute deviation greater than 550 MW (the 550 MW value may be adjusted by the BA to capture 30 to 40 events per year).

The identification and posting information on Frequency Measurable Events allows all applicable entities to know which events are subject to performance measurement under the proposed regional standard (Requirements R9 and R10), and to allow entities to perform their own Primary Frequency Response performance measurement calculations.

Requirement R2 requires the Balancing Authority to calculate the Primary Frequency Response of each applicable generating unit or facility. The Primary Frequency Response of a resource is defined as "[t]he immediate proportional increase or decrease in real power output provided by generating units/generating facilities and the natural real power dampening response provided by Load in response to system Frequency Deviations. This response is in the direction that stabilizes frequency." The calculations of each resource's Primary Frequency Response are used to determine whether Generation Owners comply with the Primary Frequency Response performance metrics set forth in Requirements R9 and R10.

Under Requirement R2, the Balancing Authority's calculation must provide a 12-month rolling average of initial and sustained Primary Frequency Response performance and must be completed each month for the preceding 12 calendar months. Requirement R2 also provides the following:

- The performance of a combined cycle facility will be determined using an expected performance droop of 5.78%.[32]
- The calculation results shall be submitted to the Compliance Enforcement Authority and made available to the Generator Operator by the end of the month in which they were completed.
- If a generating unit/generating facility has not participated in a minimum of eight Frequency Measureable Events in a 12-month period, its performance shall be based on a rolling eight Frequency Measureable Events average response.

[32] A combined cycle generating facility contains a combustion turbine that can provide Primary Frequency Response and a steam turbine that cannot. The 5.78% evaluation droop is used in the performance measurement process to correctly adjust the expected frequency response of the facility for the non- responsiveness of the steam turbine.

Requirement R2 specifies that the Primary Frequency Response must be calculated in accordance with Texas RE's Primary Frequency Response Reference Document.[33] The Primary Frequency Response Reference Document is maintained by Texas RE and provides the specific methodology for determining the Primary Frequency Response performance for individual resources. The technical details set forth in the Primary Frequency Response Reference Document were initially included in early drafts of the proposed standard. The standard drafting team, however, determined that it was preferable to create a separate document setting forth those details so as to provide for an efficient mechanism for revising the methodology used to calculate Primary Frequency Response.

The following process will be used to revise the Primary Frequency Response Reference Document. Any interested entity may submit a request for revision to the Primary Frequency Response Reference Document to the Texas RE Reliability Standards Manager. The Texas RE Reliability Standards Manager will, in turn, present the requested revision to the Texas RE Reliability Standards Committee for consideration. The requested revision will also be publicly posted in accordance with Reliability Standards Committee procedures. The Reliability Standards Committee must hold a public meeting to discuss the proposed revision, and will accept and consider verbal and written comments. Following the public meeting, the Reliability Standards Committee will make a recommendation to the Texas RE Board of Directors, which may adopt the proposed revision, reject it, or adopt it with modifications. Any approved revision to the Primary Frequency Response Reference Document shall be filed with NERC and FERC for informational purposes.

[33] The Primary Frequency Response Reference Document is provided as Attachment 2 to proposed BAL-001-TRE-01, **Exhibit A** hereto.

Requirement R3 requires the Balancing Authority to "determine the Interconnection minimum Frequency Response (IMFR) in December of each year for the following year, and make the IMFR, the methodology for calculation and the criteria for determination of the IMFR publicly available." The IMFR represents the desired response that the actual system performance will be measured against.

The standard drafting team decided not to specify a permanent IMFR in the proposed regional standard, as is provided for in the ERCOT Protocols,[34] because the desired IMFR is actually a dynamic amount that should reflect changes in system conditions from year-to-year and even season-to-season. Requirement R3 obligates the Balancing Authority to determine the IMFR each year so that changing system conditions can be taken into account.

Requirement R4 provides that "[a]fter each calendar month in which one or more Frequency Measureable Events occur, the [Balancing Authority] shall determine and make publicly available the Interconnection's combined Frequency Response performance for a rolling average of the last six Frequency Measureable Events by the end of the following calendar month." This six-event rolling average is then compared against the IMFR established pursuant to Requirement R3.

Requirement R5 provides that if any Frequency Measureable Event causes the Interconnection's six-event rolling average Frequency Response performance to be less than the IMFR, the Balancing Authority shall direct any necessary actions to improve Frequency Response. The Balancing Authority's actions may include, for example, directing generators to change their Governor settings, re-dispatching generators to adjust frequency responsive reserve margins, and seeking other sources to provide Primary Frequency Response.

[34] Section 5.9.2.1 of the ERCOT Protocols called for the Interconnection-wide Frequency Response to be at least 420 MW/0.1 Hz. ERCOT region market participants may consider whether to revise this protocol requirement when the proposed regional standard becomes effective.

Requirement R6 requires Generation Owners to set their Governor deadband and droop parameters to the limits set forth in the proposed Reliability Standard, which are based on the type of generating facility. This requirement helps ensure that every generator provides an appropriate contribution to system Frequency Response. Importantly, the proposed standard requires generators to remove step-functions from their Governor settings, which, along with reducing the deadband, significantly improves system stability and maintains system frequency closer to the desired level.

Requirement R7 requires Generator Operators to "operate each generating unit/generating facility that is connected to the interconnected transmission system with the Governor in service and responsive to frequency when the generating unit/generating facility is online and released for dispatch, unless the [Generator Owner] has a valid reason for operating with the Governor not in service and the [Generator Operator] has been notified that the Governor is not in service." In the ERCOT region, the normal communication path between a Generator Owner and the Balancing Authority is often through the Generator Operator. As such, Requirement R7 requires the Generator Owner to notify the Generator Operator of any deviation.

Requirement R8 requires "each [Generator Operator] to notify the [Balancing Authority] as soon as practical but within 30 minutes of the discovery of a status change (in service, out of service) of a Governor." This ensures that the Balancing Authority maintains awareness of Primary Frequency Response capabilities in its area.

Requirement R9 provides a specific Primary Frequency Response performance metric relating to a generator's *initial* response to a Frequency Measurable Event. Requirement R9 requires each generator to meet a minimum 12-month rolling average initial Primary Frequency Response performance metric of 0.75, based on a participation in at least eight Frequency

Measurable Events. Requirement R9 compares the actual megawatt response of each generator to the expected megawatt response of the generator in the first minute after a Frequency Measurable Event (average between 20 and 52 seconds). The results are averaged over one year (or at least 8 events), and the requirement threshold is set at 75% of the expected response. Failure to meet this threshold indicates incorrect Governor or control system settings, failure to operate with Governor-in-service, or a malfunction of the generator's Frequency Response function.

Requirement R10 provides a specific Primary Frequency Response performance metric relating to a generator's *sustained* response to a frequency event. Requirement R10 requires each generator to meet a minimum 12-month rolling average sustained Primary Frequency Response performance metric of 0.75, based on a participation in at least eight Frequency Measurable Events. Requirement R10 compares the actual megawatt response of a generator to the expected megawatt response of the generator after the first half minute of a Frequency Measurable Event (average between 46 and 60 seconds). Sustained Primary Frequency Response is important to facilitate system recovery after an event. There are a number of factors that can cause a generator's Frequency Response to be withdrawn prematurely, such as allowing the Governor response to be over-ridden by other control system operations, and this requirement helps to ensure that these factors do not interfere with correct Primary Frequency Response.

C. Enforceability of Proposed BAL-001-TRE-01

The proposed regional Reliability Standard includes VRFs and VSLs. The VRFs and VSLs provide guidance on the way that NERC will enforce the requirements of the proposed regional Reliability Standard. The proposed VRFs and VSLs comport with NERC and Commission guidelines related to their assignment. For a detailed review of the VRFs, the

VSLs, and the analysis of how the VRFs and VSLs were determined using these guidelines, please see **Exhibit D**.

The proposed regional Reliability Standard also 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.[35]

V. CONCLUSION

For the reasons set forth above, NERC respectfully requests that the Commission:

- approve the proposed regional Reliability Standard and associated elements included in **Exhibit A,** effective as proposed herein; and
- approve the implementation plan included in **Exhibit B.**

Respectfully submitted,

/s/ S. Shamai Elstein

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Date: September 18, 2013

[35] *See* Order No. 672 at P 327.