February 1, 2012

VIA ELECTRONIC FILING

Ms. Kimberly D. Bose
Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426

Re: *North American Electric Reliability Corporation*
Docket No. RD12-___-000

Dear Ms. Bose:

The North American Electric Reliability Corporation ("NERC") hereby submits this petition in accordance with Section 215(d) (1) of the Federal Power Act ("FPA") and Part 39.5 of the Federal Energy Regulatory Commission's ("FERC") regulations seeking approval of proposed Regional Reliability Standard IRO-006-TRE-1 — IROL and SOL Mitigation on the ERCOT Interconnection, associated Violation Severity Levels ("VSL") and Violation Risk Factors ("VRF"), and the implementation plan for IRO-006-TRE-1.

The proposed Regional Reliability Standard was developed by the Texas Reliability Entity ("Texas RE") and approved by the NERC Board of Trustees during its November 4, 2011, meeting. NERC requests the standard become effective upon the first day of the first calendar quarter following the effective date of a Final Rule in this docket.

This petition consists of the following:

- this transmittal letter;
- a table of contents for the entire petition;
- a narrative description explaining how the proposed Regional Reliability Standard meets FERC's requirements;
- Regional Reliability Standard IRO-006-TRE-1 — IROL and SOL Mitigation in the ERCOT Interconnection and Implementation Plan, submitted for approval (**Exhibit A**);
- the NERC Board of Trustees' Resolution approving IRO-006-TRE-1 — IROL and SOL Mitigation in the ERCOT Interconnection and directing it be filed with FERC (**Exhibit B**);
- the complete Development Record of the proposed Regional Reliability Standard (**Exhibit C**);
- the Standard Drafting Team roster (**Exhibit D**); and
- the Violation Severity Level and Violation Risk Factor Guideline Analysis (**Exhibit E**).

Please contact the undersigned if you have any questions.

Respectfully submitted,

/s/ Andrew M. Dressel
Andrew M. Dressel
Attorney for North American Electric Reliability Corporation

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION	**) Docket Nos. RD12-__-000)**

PETITION OF THE NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION FOR APPROVAL OF PROPOSED TEXAS RELIABILITY ENTITY REGIONAL RELIABILITY STANDARD IRO-006-TRE-1 — IROL AND SOL MITIGATION IN THE ERCOT INTERCONNECTION

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I. INTRODUCTION

The North American Electric Reliability Corporation ("NERC")[1] hereby requests the Federal Energy Regulatory Commission ("FERC") to approve, in accordance with Section 215(d)(1) of the Federal Power Act ("FPA")[2] and Section 39.5 of FERC's regulations, 18 C.F.R. § 39.5, proposed Regional Reliability Standard IRO-006-TRE-1 included in **Exhibit A**.

This petition is the first request by NERC for FERC approval of this proposed Regional Reliability Standard. The Regional Reliability Standard proposed will be in effect only for applicable registered entities within the jurisdiction of the Texas Reliability Entity ("Texas RE") in the Electric Reliability Council of Texas ("ERCOT") Interconnection. This Regional Reliability Standard was developed to provide and execute transmission loading relief procedures that can be used to avoid and mitigate System Operating Limits ("SOL") or Interconnection Reliability Operating Limits ("IROL") exceedences for the purpose of maintaining the reliable operation of the bulk electric system in the ERCOT region. Additionally, this standard will provide enforceable requirements to support the NERC continent-wide standard IRO-006-5 — Transmission Loading Relief in the ERCOT Region. NERC continent-wide Reliability Standards do not presently address the issues covered in this proposed Regional Reliability Standard.

On November 4, 2011, the NERC Board of Trustees approved IRO-006-TRE-1 — IROL and SOL Mitigation in the ERCOT Interconnection. NERC requests that FERC approve this Regional Reliability Standard and make it effective upon FERC approval.

[1] NERC has been certified by FERC as the Electric Reliability Organization ("ERO") authorized by Section 215 of the Federal Power Act. FERC certified NERC as the ERO in its order issued July 20, 2006 in Docket No. RR06-1-000. 116 FERC ¶ 61,062 (2006) ("ERO Certification Order").
[2] 16 U.S.C. 824o.

Exhibit A to this filing sets forth the proposed Regional Reliability Standard and Implementation Plan. **Exhibit B** is the NERC Board of Trustees' resolution to approve the proposed Regional Reliability Standard. **Exhibit C** contains the complete record of development for the proposed Regional Reliability Standard. **Exhibit D** includes the standard drafting team roster. **Exhibit E** is the Violation Severity Level ("VSL") and Violation Risk Factor ("VRF") guideline analysis.

II. NOTICES AND COMMUNICATIONS

Notices and communications with respect to this filing may be addressed to the following:[3]

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III. BACKGROUND

a. Regulatory Framework

By enacting the Energy Policy Act of 2005,[4] Congress entrusted FERC with the duties of approving and enforcing rules to ensure the reliability of the Nation's Bulk

[3] Persons to be included on FERC's service list are indicated with an asterisk. NERC requests waiver of FERC's rules and regulations to permit the inclusion of more than two people on the service list

Power System ("BPS"), and with the duties of certifying an ERO that would be charged with developing and enforcing mandatory Reliability Standards, subject to FERC approval. Section 215 of the FPA states that all users, owners and operators of the BPS in the United States will be subject to FERC-approved Reliability Standards.

b. Basis for Approval of Proposed Regional Reliability Standard

Section 39.5(a) of FERC's regulations requires the ERO to file with FERC for its approval each Reliability Standard that the ERO proposes to become mandatory and enforceable in the United States, and each modification to a Reliability Standard that the ERO proposes to be made effective. FERC has the regulatory responsibility to approve standards that protect the reliability of the BPS. In discharging its responsibility to review, approve, and enforce mandatory Reliability Standards, FERC is authorized to approve those proposed Reliability Standards that meet the criteria detailed by Congress:

> FERC may approve, by rule or order, a proposed reliability standard or modification to a reliability standard if it determines that the standard is just, reasonable, not unduly discriminatory or preferential, and in the public interest.[5]

When evaluating proposed Reliability Standards, FERC is expected to give "due weight" to the technical expertise of the ERO and to the technical expertise of a Regional Entity *organized on an Interconnection-wide basis* with respect to a Reliability Standard to be applicable within that Interconnection.[6] Order No. 672 provides guidance on the

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[4] 16 U.S.C. § 824o.
[5] 16 U.S.C. § 824o(d)(2).
[6] *Rules Concerning Certification of the Electric Reliability Organization; Procedures for the Establishment, Approval and Enforcement of Electric Reliability Standards,* FERC Stats. & Regs., ¶ 31,204 (2006) ("Order No. 672") at P 344, *order on reh'g,* FERC Stats. & Regs. ¶ 31,212 (2006) ("Order No. 672-A").

factors FERC will consider when determining whether proposed Reliability Standards meet the statutory criteria.[7]

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.[8] FERC's 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 that addresses matters that the continent-wide Reliability Standard does not), or (2) a Regional Reliability Standard that is necessitated by a physical difference in the Bulk Power System.[9]

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 Standards Development Process*,[10] 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;
- Does not have an adverse impact on commerce that is not necessary for reliability;
- Provides a level of BPS reliability that is adequate to protect public health, safety, welfare, and national security and does not have a significant adverse impact on reliability; and

[7] *Id* at P 320-338.
[8] Section 215(d)(2) of the FPA and 18 C.F.R. §39.5(a).
[9] Order No. 672 at P 291.
[10] The Texas Reliability Entity Standards Development Process is available at http://texasre.org/CPDL/Texas%20Reliability%20Entity%20Standards%20Development%20Process.pdf.

- Based on a justifiable difference between regions or between sub-regions within the Regional geographic area.

Proposed Texas RE standards are subject to approval by NERC, as the ERO, and FERC before becoming mandatory and enforceable under Section 215 of the FPA.[11] The Texas RE Regional Reliability Standard was developed in an open, transparent, and inclusive fashion. NERC Reliability Standards and the Texas RE Regional Reliability Standards are both enforced through the Texas RE Compliance Program.

As previously noted, Texas RE is a Regional Entity that is organized on an Interconnection-wide basis, with jurisdiction to enforce Reliability Standards throughout the ERCOT Region. Therefore, NERC is required to rebuttably presume the proposed standard is just, reasonable, not unduly discriminatory or preferential, and in the public interest. The proposed Regional Reliability Standard was developed using the *Texas Reliability Entity Standards Development Process*[12] that enables all parties with an interest in the standard to participate in its development. NERC's public posting of this proposed Regional Reliability Standard did not elicit any significant procedural or technical objections. NERC has determined that the proposed standard meets the criteria for consideration and approval as a Regional Reliability Standard.

IV. JUSTIFICATION FOR APPROVAL OF PROPOSED REGIONAL RELIABILITY STANDARD

This section summarizes the development of the proposed Regional Reliability Standard IRO-006-TRE-1 — IROL and SOL Mitigation in the ERCOT Interconnection; describes the reliability objectives to be achieved by the Regional Reliability Standard;

[11] 16 U.S.C. 824o.
[12] The Texas Reliability Entity *Texas Reliability Entity Standards Development Process* is available at http://texasre.org/CPDL/Texas%20Reliability%20Entity%20Standards%20Development%20Process.pdf

explains the development history of the Regional Reliability Standard; and demonstrates how the standard meets the FERC criteria for approval. In its analysis and approval of the proposed Regional Reliability Standard, NERC determined that the standard is just, reasonable, not unduly discriminatory or preferential, and in the public interest.

The complete development record for the proposed Regional Reliability Standard is provided in **Exhibit C** and includes the development and approval process, comments received during the industry comment period, responses to those comments, ballot information, and NERC's evaluation of the proposed standard.

a. Basis and Purpose of Standard IRO-006-TRE-1 — IROL and SOL Mitigation in the ERCOT Interconnection

The proposed regional standard, IRO-006-TRE-1 — IROL and SOL Mitigation in the ERCOT Interconnection, builds upon the Texas RE's existing transmission loading relief procedure (congestion management procedures) that FERC described as superior to the continent-wide standard.[13] The proposed standard also addresses the FERC directive in Paragraph 964 of Order 693 in which the Commission directed the ERO "to modify the … ERCOT procedures to ensure consistency with the standard form of the Reliability Standards including Requirements, Measures and Levels of Non-Compliance.[14] This standard is intended to integrate with NERC standard IRO-006-5, which recently became effective.[15] The existing ERCOT congestion management procedures are set forth in the ERCOT Nodal Protocols,[16] Operating Guides,[17] and Operating Procedures.[18]

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[13] Order No. 693 at P 964.
[14] *Id.*
[15] IRO-006-5 was approved by the Commission on April 21, 2011. *Order Approving Reliability Standards*, 135 FERC ¶ 61,043 (2011).
[16] ERCOT Nodal Protocols can be accessed at: http://www.ercot.com/mktrules/nprotocols/.
[17] ERCOT Operating Guides can be accessed at: http://www.ercot.com/mktrules/guides/operating/.
[18] ERCOT Operating Procedures can be accessed at: http://www.ercot.com/mktrules/guides/procedures/index.

b. Order No. 672 Criteria

In Order No. 672, FERC identified criteria it will use to analyze Reliability Standards proposed for approval to ensure they are just, reasonable, not unduly discriminatory or preferential, and in the public interest. The discussion below identifies these factors and explains how the proposed Reliability Standards have met or exceeded the criteria:

1. Proposed Reliability Standards must be designed to achieve a specified reliability goal.

> Order No. 672 at P 321. The proposed Reliability Standard must address a reliability concern that falls within the requirements of section 215 of the FPA. That is, it must provide for the reliable operation of Bulk-Power System facilities. It may not extend beyond reliable operation of such facilities or apply to other facilities. Such facilities include all those necessary for operating an interconnected electric energy transmission network, or any portion of that network, including control systems. The proposed Reliability Standard may apply to any design of planned additions or modifications of such facilities that is necessary to provide for reliable operation. It may also apply to Cybersecurity protection.

The proposed Regional Reliability Standard, IRO-006-TRE-1 — IROL and SOL Mitigation in the ERCOT Interconnection, is designed to ensure that the Reliability Coordinator ("RC") has the tools and authority needed to identify and mitigate congestion on critical transmission facilities. This standard will provide fully enforceable requirements associated with existing ERCOT transmission load relief (congestion management) procedures.

2. Proposed Reliability Standards must be applicable to users, owners, and operators of the bulk power system, and not others.

> Order No. 672 at P 322. The proposed Reliability Standard may impose a requirement on any user, owner, or operator of such facilities, but not on others.

The proposed Regional Reliability Standard is only applicable to the Reliability Coordinator functional entity, which is ERCOT.

3. Proposed Reliability Standards must contain a technically sound method to achieve the goal.

> Order No. 672 at P 324. The proposed Reliability Standard must be designed to achieve a specified reliability goal and must contain a technically sound means to achieve this goal. Although any person may propose a topic for a Reliability Standard to the ERO, in the ERO's process, the specific proposed Reliability Standard should be developed initially by persons within the electric power industry and community with a high level of technical expertise and be based on sound technical and engineering criteria. It should be based on actual data and lessons learned from past operating incidents, where appropriate. The process for ERO approval of a proposed Reliability Standard should be fair and open to all interested persons.

The proposed Regional Reliability Standard contains a technically sound means to achieve the reliability goal described above, by requiring the Reliability Coordinator have and implement procedures to provide Transmission Loading Relief for critical transmission facilities. Congestion is ordinarily managed in the ERCOT Interconnection by automatically re-dispatching supply resources to respect transmission system operating limits. This standard requires ERCOT to have procedures for managing congestion in rare situations where automatic action of the ERCOT Nodal market operations system will not solve the problem. Such procedures already exist as part of Section 5 of the ERCOT Nodal Protocols (and related operational documents), which prescribes the procedures for managing congestion on the ERCOT Region transmission system.

4. Proposed Reliability Standards must be clear and unambiguous as to what is required and who is required to comply.

> Order No. 672 at P 325. The proposed Reliability Standard should be clear and unambiguous regarding what is required and who is required to

> comply. Users, owners, and operators of the Bulk-Power System must know what they are required to do to maintain reliability.

The proposed Regional Reliability Standard clearly and unambiguously states what is required from the Reliability Coordinator. In particular, the scope of the standard is clear in that it applies only to IROLs and SOLs, and when "automatic action of the ERCOT Nodal market operations system" will not effectively manage congestion.

5. Proposed Reliability Standards must include clear and understandable consequences and a range of penalties (monetary and/or non-monetary) for a violation.

> Order No. 672 at P 326. The possible consequences, including range of possible penalties, for violating a proposed Reliability Standard should be clear and understandable by those who must comply.

The proposed Regional Reliability Standard includes a Violation Risk Factor ("VRF") and Violation Severity Level ("VSL") for each requirement. The ranges of penalties for violations will be based on the applicable VRF and VSL and will be administered based on the sanctions table and supporting penalty determination process described in the FERC-approved NERC Sanction Guidelines.[19]

Texas RE developed the VSLs and VRFs proposed for assignment to IRO-006-TRE-1 following applicable NERC and FERC guidance. **Exhibit E** to this filing contains the VSL and VRF guideline analysis for IRO-006-TRE-1.

6. 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.

> Order No. 672 at P 327. There should be a clear criterion or measure of whether an entity is in compliance with a proposed Reliability Standard. It should contain or be accompanied by an objective measure of compliance so that it can be enforced and so that enforcement can be applied in a consistent and non-preferential manner.

[19] NERC Rules of Procedure Appendix 4B. Available at: http://www.nerc.com/files/NERC_Rules_of_Procedure_EFFECTIVE_20110101.pdf.

Each requirement of IRO-006-TRE-1 has an associated measure of compliance that will assist those enforcing the standard in enforcing it in a consistent and non-preferential manner. The proposed measures are as follows:

M1. The RC shall provide evidence including documentation of procedures to identify and mitigate exceedances of identified IROLs and SOLs to demonstrate compliance with Requirement R1.

M2. To demonstrate compliance with Requirement R2, the RC shall provide evidence, such as system logs, voice recordings, or operating messages that shows that it acted to identify and to mitigate exceedances of IROLs and SOLs in accordance with the procedures required by R1.

M1.

7. 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.

> Order No. 672 at P 328. The proposed Reliability Standard does not necessarily have to reflect the optimal method, or "best practice," for achieving its reliability goal without regard to implementation cost or historical regional infrastructure design. It should however achieve its reliability goal effectively and efficiently

Regional Reliability Standard IRO-006-TRE-1 achieves its reliability goal effectively and efficiently, by making the ERCOT congestion-relief procedures enforceable under the NERC system. These existing procedures have proven to be effective and efficient, and the ERCOT Reliability Coordinator is familiar with applying these procedures when necessary. This standard ensures that these procedures will be maintained in the future so that no reliability gap will occur.

8. Proposed Reliability Standards cannot be "lowest common denominator," i.e., cannot reflect a compromise that does not adequately protect bulk power system reliability.

> Order No. 672 at P 329. The proposed Reliability Standard must not simply reflect a compromise in the ERO's Reliability Standard development process based on the least effective North American practice — the so-called "lowest common denominator" — if such practice does not adequately protect Bulk-Power System reliability. Although [FERC]

> will give due weight to the technical expertise of the ERO, [FERC] will not hesitate to remand a proposed Reliability Standard if [FERC is] convinced it is not adequate to protect reliability.

The IRO-006-TRE-1 Regional Reliability Standard does not represent a "lowest common denominator" approach. The ERCOT procedures have been recognized by FERC in Order 693 to be superior to other standards that address similar risks.[20]

9. Proposed Reliability Standards may consider costs to implement for smaller entities but not at consequence of less than excellence in operating system reliability.

> Order No. 672 at P 330. A proposed Reliability Standard may take into account the size of the entity that must comply with the Reliability Standard and the cost to those entities of implementing the proposed Reliability Standard. However, the ERO should not propose a "lowest common denominator" Reliability Standard that would achieve less than excellence in operating system reliability solely to protect against reasonable expenses for supporting this vital national infrastructure. For example, a small owner or operator of the Bulk-Power System must bear the cost of complying with each Reliability Standard that applies to it.

This Regional Reliability Standard does not impose any implementation expense on smaller entities. The new requirements will only apply to the Reliability Coordinator.

10. Proposed Reliability Standards must be designed to apply throughout North America to the maximum extent achievable with a single Reliability Standard while not favoring one area or approach.

> Order No. 672 at P 331. A proposed Reliability Standard should be designed to apply throughout the interconnected North American Bulk-Power System, to the maximum extent this is achievable with a single Reliability Standard. The proposed Reliability Standard should not be based on a single geographic or regional model but should take into account geographic variations in grid characteristics, terrain, weather, and other such factors; it should also take into account regional variations in the organizational 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.

[20] Order No. 693 at P 964.

The proposed Regional Reliability Standard was developed on a regional basis and will only apply to the Texas RE region. It is not intended to be applied throughout North America. The proposed IRO-006-TRE-1 Regional Standard is part of a comprehensive set of standards designed to cover transmission loading relief. NERC Project 2006-08 developed the continent-wide standard IRO-006-5 Reliability Standard, which provides a requirement for all Interconnections in North America. There are corresponding standards that address similar reliability objectives in the Eastern and Western Interconnections.[21]

11. Proposed Reliability Standards should cause no undue negative effect on competition or restriction of the grid.

> Order No. 672 at P 332. As directed by section 215 of the FPA, [FERC] itself will give special attention to the effect of a proposed Reliability Standard on competition. The ERO should attempt to develop a proposed Reliability Standard that has no undue negative effect on competition. Among other possible considerations, a proposed Reliability Standard should not unreasonably restrict available transmission capability on the Bulk-Power System beyond any restriction necessary for reliability and should not limit use of the Bulk-Power System in an unduly preferential manner. It should not create an undue advantage for one competitor over another.

The proposed Regional Reliability Standard will not cause any negative effects on competition or restriction of the grid. Because this standard will be applied equally across the ERCOT region, IRO-006-TRE-1 will not negatively affect competition, or restrict available transmission capability within the ERCOT footprint. The Regional Reliability Standard does not cause negative effects on competition or restriction of the grid, because it does not require any changes to current operating procedures. Furthermore, this standard does not affect the ordinary operation of the ERCOT market-

[21] *See* IRO-006-EAST-1 and IRO-006-WECC-1.

based dispatch system. It will only apply when the normal operating systems are unable to resolve congestion on IROLs and SOLs (such as under certain emergency conditions).

12. The implementation time for the proposed Reliability Standards must be reasonable.

> Order No. 672 at P 333. In considering whether a proposed Reliability Standard is just and reasonable, [FERC] will consider also the timetable for implementation of the new requirements, including how the proposal balances any urgency in the need to implement it against the reasonableness of the time allowed for those who must comply to develop the necessary procedures, software, facilities, staffing or other relevant capability.

The short implementation time of the proposed Reliability Standard is reasonable because this standard does not require any new transmission loading relief procedures to be developed or implemented.

13. The Reliability Standard development process must be open and fair.

> Order No. 672 at P 334. Further, in considering whether a proposed Reliability Standard meets the legal standard of review, we will entertain comments about whether the ERO implemented its [FERC]-approved Reliability Standard development process for the development of the particular proposed Reliability Standard in a proper manner, especially whether the process was open and fair. However, we caution that we will not be sympathetic to arguments by interested parties that choose, for whatever reason, not to participate in the ERO's Reliability Standard development process if it is conducted in good faith in accordance with the procedures approved by [FERC].

Texas RE develops Regional Reliability Standards in accordance with **Exhibit C** (*Texas Reliability Entity Standards Development Process*) of its FERC-approved Regional Delegation Agreement with NERC. The development process is open to any person or entity with a legitimate interest in the reliability of the BPS. Texas RE considers the comments of all stakeholders during the development process. A stakeholder ballot is conducted, and the Texas RE Board of Directors must approve a Regional Reliability Standard for submission to NERC and FERC.

The proposed Regional Reliability Standard was developed and approved by industry stakeholders using Texas RE's *Texas Reliability Entity Standards Development Process*. The standard was endorsed by unanimous stakeholder ballot, and approved by the Texas RE Board of Directors on June 28, 2011. The standard was subsequently presented to and approved by the NERC Board of Trustees on November 4, 2011. Therefore, Texas RE has utilized its standard development process in good faith and in a manner that is open and fair. No commenters disagreed with the open and fair implementation of the Texas RE process.

14. Proposed Reliability Standards must be balanced against other vital public interests.

> Order No. 672 at P 335. Finally, we understand that at times development of a proposed Reliability Standard may require that a particular reliability goal must be balanced against other vital public interests, such as environmental, social and other goals. We expect the ERO to explain any such balancing in its application for approval of a proposed Reliability Standard.

Neither NERC nor Texas RE believes there are competing public interests with the request for approval of this proposed Regional Reliability Standard. No comments were received that indicated the proposed standard conflicts with other vital public interests.

15. Proposed Reliability Standards must not conflict with prior FERC Rules or Orders.

> Order No. 672 at P 444. A potential conflict between a Reliability Standard under development and a Transmission Organization function, rule, order, tariff, rate schedule, or agreement accepted, approved, or ordered by the Commission should be identified and addressed during the ERO's Reliability Standard Development Process.

The proposed IRO-006-TRE-1 Regional Reliability Standard does not conflict with any prior FERC Rules or Orders, and it adequately addresses the directives identified in FERC Order No. 693.

16. Proposed Reliability Standards must consider any other relevant factors.

> Order No. 672 at P 323. In considering whether a proposed Reliability Standard is just and reasonable, we will consider the following general factors, as well as other factors that are appropriate for the particular Reliability Standard proposed.

All comments and concerns were addressed using the *Texas Reliability Entity Standards Development Process* which is consensus-based, technically sound, and open to the public and bordering entities that may be impacted by a Regional Reliability Standard. No other factors were identified as necessary for consideration by the standard drafting team in the development of the proposed Regional Reliability Standard.

c. Additional Order No. 672 Criteria for Regional Reliability Standards

FERC's Order No. 672 also establishes 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 including a regional difference that addresses matters the continent-wide Reliability Standard does not, or (2) a Regional Reliability Standard that is necessitated by a physical difference in the Bulk-Power System."[22] The proposed standard satisfies these additional criteria.

The proposed Regional Reliability Standard is more stringent than the continent-wide Reliability Standard, because it addresses a matter that the continent-wide Reliability Standard does not. The existing NERC continent-wide standard, IRO-006-5 Reliability Coordination — Transmission Loading Relief (TLR) only addresses Interchange Transactions that cross Interconnection boundaries. The proposed Regional Reliability Standard is part of a set of such standards – one for each Interconnection –

[22] Order No. 672 at P 291.

that support IRO-006-5 by providing requirements relating to transmission loading relief within each Interconnection.[23] The proposed standard, IRO-006-TRE-1, supports reliability within the ERCOT Interconnection by providing enforceable requirements relating to transmission loading relief (congestion management) procedures within the ERCOT Interconnection. Those procedures already exist in the ERCOT Nodal Protocols, Operating Guides, and related documents, and this Regional Reliability Standard will require the Reliability Coordinator to continue to maintain and implement those procedures.

V. SUMMARY OF THE REGIONAL RELIABILITY STANDARD DEVELOPMENT PROCEEDINGS

Texas RE Regional Reliability Standards Development:

The Texas RE standard development project that resulted in proposed Regional Reliability Standard IRO-006-TRE-1 began with the submission of a Standards Authorization Request ("SAR") dated June 4, 2010, by the ERCOT Independent System Operator ("ISO"). The SAR was initiated at the request of NERC staff in connection with their work on NERC Standard IRO-006-5. NERC staff asked Texas RE to prepare a regional standard to address the directive in Paragraph 964 of Order 693, where FERC found that the ERCOT transmission load relief procedures were superior to the national standard, and directed the ERO to provide Reliability Standards including Requirements, Measures and Levels of Non-Compliance corresponding to the ERCOT procedures for application in the ERCOT Region.[24]

A Standard Drafting Team ("SDT") was formed in August 2010, which included balanced representation from various industry segments. The SDT met several times

[23] *See* IRO-006-EAST-1 and IRO-006-WECC-1.
[24] Order No.693 at P 964.

from August 2010 to March 2011 to develop the Regional Reliability Standard and to address comments received. The resulting standard was unanimously approved by stakeholder ballot in May 2011, after being posted for pre-ballot review for at least 30 days. The Texas RE Board of Directors approved the Regional Reliability Standard on June 28, 2011.

Additional details are provided in **Exhibit C**, the Record of Development of IRO-006-TRE-1.

NERC Evaluation: On July 6, 2011, Texas RE submitted the proposed Regional Reliability Standard for evaluation and approval to NERC in accordance with NERC's *Rules of Procedure* and *Regional Reliability Standards Evaluation Procedure,*[25] which was approved by NERC's Regional Reliability Standards Working Group. NERC provided its evaluation of the proposed IRO-006-TRE-1 standard to Texas RE as comments during the 45-day public posting by NERC, included as **Exhibit C**. In this report, NERC staff made two observations: The phrase "shall act to identify and mitigate" was ambiguous, and R1 and R2 could be combined to state that the RC shall "document and implement procedures." Texas RE replied that Requirements R1 and R2 are two independent tasks intended to require different, yet interrelated, activities by the RC. Developing and maintaining a procedure is a separate task, involving different personnel at a different time, than acting to implement the procedure in real-time. Significantly, each Requirement has a different VRF and time horizon. The phrase "shall act to identify and mitigate" in R2 is intended to be non-prescriptive, so that the RC has the flexibility to define specific actions in the procedure required by R1.

[25] Regional Reliability Standards Evaluation Procedure, Version 1 (2009). Available at: http://www.nerc.com/docs/sac/rrswg/NERC_Regional_Reliability_Evaluation_Procedure.pdf.

Key Issues:

There were no minority issues raised during the comment periods that have not been resolved.

The standard was approved by an ERCOT Region stakeholder ballot with twelve votes in favor, zero votes against, and one abstention. All industry segments participated in the ballot. The proposed VRFs and VSLs were approved in a non-binding poll with seven votes in favor and zero votes against.

Violation Risk Factors and Violation Severity Levels

The VRFs and VSLs for this standard were developed and reviewed for consistency with NERC and FERC guidelines.[26] Analyses of the assigned VRFs and VSLs to this standard are included in **Exhibit E**.

VI. CONCLUSION

For the reasons stated above, NERC respectfully requests that FERC approve the proposed IRO-006-TRE-1 Regional Reliability Standard, the associated proposed definitions, and the associated Implementation Plan included in **Exhibit A** to this filing in accordance with Section 215(d)(1) of the FPA and Part 39.5 of FERC's regulations. NERC requests that these approvals be made effective in accordance with the Implementation Plan for IRO-006-TRE-1 included in **Exhibit A** to this filing.

[26] *See Order on Violation Risk Factors*, 119 FERC ¶ 61,145 (2007) and *Order on Violation Severity Levels Proposed by the Electric Reliability Organization*, 123 FERC ¶ 61,284 (2008).

Respectfully submitted,

Andrew M. Dressel
Andrew M. Dressel

Attorney for North American Electric Reliability Corporation

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CERTIFICATE OF SERVICE

I hereby certify that I have served a copy of the foregoing document upon all parties listed on the official service list compiled by the Secretary in this proceeding.

Dated at Washington, D.C. this 1st day of February, 2012.

/s/ Andrew M. Dressel
Andrew M. Dressel
Attorney for North American Electric Reliability Corporation

Exhibit A

Proposed Regional Reliability Standard IRO-006-TRE-1 — IROL and SOL Mitigation in the ERCOT Interconnection and Implementation Plan for Approval

Effective Dates

This standard becomes effective on the first day of the first calendar quarter after applicable regulatory approval.

Requirement	Jurisdiction									
	Alberta	British Columbia	Manitoba	New Brunswick	Newfound-land	Nova Scotia	Ontario	Quebec	Saskatch-ewan	USA
R1 and R2	NA	NA	NA	NA	NA	NA	NA	NA	NA	TBD

Introduction

1. Title: IROL and SOL Mitigation in the ERCOT Region

2. Number: IRO-006-TRE-1

3. Purpose: To provide and execute transmission loading relief procedures that can be used to mitigate SOL or IROL exceedances for the purpose of maintaining reliable operation of the bulk electric system in the ERCOT Region.

4. Applicability:

4.1 Functional Entities:
Reliability Coordinator

5. Effective Date: The first day of the first calendar quarter after applicable regulatory approval.

Requirements and Measures

R1. The RC shall have procedures to identify and mitigate exceedances of identified Interconnection Reliability Operating Limits (IROL) and System Operating Limits (SOL) that will not be resolved by the automatic actions of the ERCOT Nodal market operations system. The procedures shall address, but not be limited to, one or more of the following:

- redispatch of generation;
- reconfiguration of the Transmission system;
- controlled load reductions (including both firm and non-firm load shedding).

[Violation Risk Factor: Medium] [Time Horizon: Operations Planning]

M1. The RC shall provide evidence including documentation of procedures to identify and mitigate exceedances of identified IROLs and SOLs to demonstrate compliance with Requirement R1.

R2. The RC shall act to identify and mitigate exceedances of identified Interconnection Reliability Operating Limits and System Operating Limits that will not be resolved by the automatic actions of the ERCOT Nodal market operations system, in accordance with the procedures required by R1.

[Violation Risk Factor: High] [Time Horizon: Real Time Operations]

M2. To demonstrate compliance with Requirement R2, the RC shall provide evidence, such as system logs, voice recordings, or operating messages that shows that it acted to identify and to mitigate exceedances of IROLs and SOLs in accordance with the procedures required by R1.

Compliance

Compliance Enforcement Authority

- Texas Reliability Entity, Inc.

Compliance Monitoring and Assessment Processes

- Compliance Audits
- Self-Certifications
- Spot Checks
- Compliance Violation Investigations
- Self-Reporting
- Complaints

Evidence Retention

The Reliability Coordinator shall keep data or evidence to show compliance as identified below unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation:

- The Reliability Coordinator shall retain evidence to show compliance with requirements R1 and R2 for the period since it became subject to these requirements or since its last compliance audit, whichever is shorter.

- If a Reliability Coordinator is found non-compliant, it shall retain all evidence for the period in which it was non-compliant until it is found compliant or for the duration specified above, whichever is longer.

The Compliance Enforcement Authority shall keep the last audit records and all requested and submitted subsequent audit records.

Additional Compliance Information

None.

Time Horizons, Violation Risk Factors, and Violation Severity Levels

Table 1						
R#	Time Horizon	VRF	Violation Severity Level			
			Lower	Moderate	High	Severe
R1	Operations Planning	Medium	N/A	N/A	N/A	The RC did not have procedures to identify and mitigate exceedances of identified IROLs and SOLs.
R2	Real-time Operations	High	N/A	N/A	The RC failed to follow its procedures in identifying and mitigating an exceedance of an SOL.	The RC failed to follow its procedures in identifying and mitigating an exceedance of an IROL.

Guideline and Technical Basis

Rationale:

During development of this standard, text boxes were embedded within the standard to explain the rationale for various parts of the standard. Upon BOT approval, the text from each of the rationale text boxes was moved to this section.

Rationale for R1:
The methodology for identifying IROLs and SOLs is addressed in FAC standards, including FAC-014.

Rationale for R2:
IRO-005-2a (Requirements 3 and 5) calls for relieving IROL violations in no longer than 30 minutes.

Version History

Version	Date	Action	Change Tracking
1	June 28, 2011	Texas RE Board Approval	
1	November 3, 2011	Adopted by NERC Board of Trustees	

Implementation Plan for IRO-006-TRE-1

There are no other Reliability Standards or Standard Authorization Requests (SARs), in progress or approved, that must be implemented before this standard can be implemented.

IRO-006-TRE-1 – IROL and SOL Mitigation in the ERCOT Region

Revisions to Sections of Approved Standards and Definitions
There are no proposed revisions to requirements in other already approved standards.

Compliance with Standard
The standard applies to Reliability Coordinator.

Effective Date
The effective date is the date entities are expected to meet the performance identified in this standard.

The first day of the first calendar quarter after applicable regulatory approval.

Exhibit B

NERC Board of Trustees' Resolution on the IRO-006-TRE-1 — IROL and SOL Mitigation in the ERCOT Interconnection Regional Reliability Standard

FURTHER RESOLVED, that the board approves the associated implementation plan, which provides the following **(Exhibit J)**:

(a) Upon regulatory approval, the standard will be mandatory and enforceable (with monetary penalties for non-compliance) to all applicable NERC registered entities within the Reliability*First* footprint;

FURTHER RESOLVED, that the board approves the Violation Risk Factors and the Violation Severity Levels for the proposed MOD-025-1-RFC-1 – Reactive Power Capability Reliability Standard **(Exhibit K)**;

FURTHER RESOLVED, that NERC Staff shall make the appropriate filings with ERO governmental authorities.

Reliability Standards: IRO-006-TRE-1: IRO and SOL Mitigation in the ERCOT Interconnection
On motion of Paul Barber, the board approved the following resolutions:

RESOLVED, that the board approves the IRO-006-TRE-1: IRO and SOL Mitigation in the ERCOT Interconnection Regional Reliability Standard **(Exhibit L)**;

FURTHER RESOLVED, that the board approves the associated implementation plan, which provides the following **(Exhibit M)**:

(a) An effective date of the first day of the first calendar quarter after applicable regulatory approval.

FURTHER RESOLVED, that the board approves the Violation Risk Factors and the Violation Severity Levels for the proposed IRO-006-TRE-1: IRO and SOL Mitigation in the ERCOT Interconnection Regional Reliability Standard d **(Exhibit N)**;

FURTHER RESOLVED, that NERC Staff shall make the appropriate filings with ERO governmental authorities.

Reliability Standards: PRC-006-SERC-1: Automatic Underfrequency Load Shedding (UFLS) Requirements
On motion of Paul Barber , the board approved the following resolutions:

RESOLVED, that the board approves the PRC-006-SERC-01 – Automatic Underfrequency Load Shedding (UFLS) Requirements Regional Reliability Standard **(Exhibit O)**;

FURTHER RESOLVED, that the board approves the associated implementation plan, which provides the following **(Exhibit P)**:

Exhibit C

Complete Development Record of Proposed IRO-006-TRE-1 — IROL and SOL Mitigation in the ERCOT Interconnection Regional Reliability Standard

Regional Reliability Standards - Under Development				
Standard No.	**Title**	**Regional Status**	**Dates**	**NERC Status**
Texas Reliability Entity (TRE)				
IRO-006-TRE-01	IROL and SOL Mitigation in the ERCOT Region	NERC Board Adopted November 3, 2011	07/07/11-08/22/11	Info **(6)** Submit Comments Comment Form **(5)** IRO-006-TRE-1 **(4)** Implementation Plan **(3)** Comments Received **(2)** Consideration of Comments **(1)**

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Consideration of Comments on Regional Reliability Standards IRO-006-TRE-1

Texas Reliability Entity and NERC thank all commenters who submitted comments on the Regional Reliability Standard IRO-006-TRE-1, IROL and SOL Mitigation in the ERCOT Region. These standards were posted for a 45-day public comment period from July 7, 2011 through August 22, 2011. The stakeholders were asked to provide feedback on the standards through a special Electronic Comment Form. There were 4 sets of comments, including comments from approximately 7 different people from 5 companies representing 5 of the 10 Industry Segments as shown in the table on the following pages.

http://www.nerc.com/filez/regional_standards/regional_reliability_standards_under_development.html

If you feel that your comment has been overlooked, please let us know immediately. Our goal is to give every comment serious consideration in this process! If you feel there has been an error or omission, you can contact the Vice President and Director of Standards, Herb Schrayshuen, at 404-446-2560 or at herb.schrayshuen@nerc.net. In addition, there is a NERC Reliability Standards Appeals Process.[1]

[1] The appeals process is in the Reliability Standards Development Procedures: http://www.nerc.com/standards/newstandardsprocess.html.

Index to Questions, Comments, and Responses

The Industry Segments are:

1 — Transmission Owners
2 — RTOs, ISOs
3 — Load-serving Entities
4 — Transmission-dependent Utilities
5 — Electric Generators
6 — Electricity Brokers, Aggregators, and Marketers
7 — Large Electricity End Users
8 — Small Electricity End Users
9 — Federal, State, Provincial Regulatory or other Government Entities
10 — Regional Reliability Organizations, Regional Entities

Group/Individual		Commenter	Organization	Registered Ballot Body Segment									
				1	2	3	4	5	6	7	8	9	10
1.	Group	Chris Higgins	Bonneville Power Administration	X		X		X	X				

Additional Member		Additional Organization	Region	Segment Selection
1.	Rebecca Berdahl	Long Term Sales and Purchases	WECC	5
2.	Ted Snodgrass	Munro Dispatch	WECC	
3.	Robin Chung	Pre-Schedule & Real Time	WECC	

2.	Group	Howard Gugel	NERC Staff Technical Review										
No additional members listed.													
3.	Individual	Thad Ness	American Electric Power	X		X		X	X				
4.	Individual	H. Steven Myers	ERCOT		X								

1. Was the proposed standard developed in a fair and open process, using the associated Regional Reliability Standards Development Procedure?

Summary Consideration: No negative comments were received. One comment was received from an entity in the ERCOT Region confirming that appropriate procedures were followed. Note that ERCOT, as RC, is the only entity that has responsibilities under this Regional Standard.

Organization	Yes or No	Question 1 Comment
Bonneville Power Administration		BPA has no concerns or comments.
NERC Staff Technical Review	Yes	
American Electric Power	Yes	
ERCOT	Yes	The Texas RE regional standards development procedure was followed. A SAR was received and processed. The Texas RE Reliability Standards Committee reviewed the process and approved the project to proceed. A standard drafting team was assigned in accordance with the procedure, and the drafting team met numerous times, iterated through several drafts, and posted the draft for comments. The drafting responded to the minimal comments received and requested approval to proceed to ballot. The Texas RE Reliability Standards Committee approved for the ballot to proceed and the proposed standard was approved by ballot. The Texas RE then submitted the standard to the Texas RE Board of Directors and it was approved there. The Texas RE then submitted the standard to NERC for NERC's process.
Response: Thank you for providing your observation that Texas RE followed all steps required in our Regional Reliability Standard Development Process.		

2. Does the proposed standard pose an adverse impact to reliability or commerce in a neighboring region or interconnection?

Summary Consideration: No adverse impacts to reliability or commerce were identified.

Organization	Yes or No	Question 2 Comment
Bonneville Power Administration		BPA has no concerns or comments.
NERC Staff Technical Review	No	
American Electric Power	No	AEP is not aware of any potential adverse impact to reliability or commerce in a neighboring region or interconnection that would be caused by the proposed standard.
Response: Thank you for your comment.		
ERCOT	No	The standard establishes requirements designed to improve reliability and coordinates with processes required by other NERC reliability standards which require transmission loading management.
Response: Thank you for your comment.		

3. Does the proposed standard pose a serious and substantial threat to public health, safety, welfare, or national security?

Summary Consideration: No threats were identified.

Organization	Yes or No	Question 3 Comment
Bonneville Power Administration		BPA has no concerns or comments.
NERC Staff Technical Review	No	
American Electric Power	No	
ERCOT	No	The standard requires action which will improve congestion management in rare instances when ERCOT nodal market-based congestion management actions do not resolve congestion. The effect of this is to relieve potential threat to the public health, safety, welfare, or national security which may accompany congestion management which could occur if limit exceedances were allowed to persist to violation.
Response: Thank you for your comment.		

4. Does the proposed standard pose a serious and substantial burden on competitive markets within the interconnection that is not necessary for reliability?

Summary Consideration: No burdens on competitive markets were identified.

Organization	Yes or No	Question 4 Comment
Bonneville Power Administration		BPA has no concerns or comments.
NERC Staff Technical Review	No	
American Electric Power	No	
ERCOT	No	The standard contains requirements that are used when the ERCOT nodal market-based actions do not resolve congestion completely, thus the actions are outside and in addition to the competitive market actions.
Response: Thank you for your comment.		

5. Does the proposed regional reliability standard meet at least one of the following criteria?

- **The proposed standard has more specific criteria for the same requirements covered in a continent-wide standard**
- **The proposed standard has requirements that are not included in the corresponding continent-wide reliability standard**
- **The proposed regional difference is necessitated by a physical difference in the bulk power system.**

Summary Consideration: This proposed Regional Reliability Standard is intended to complement a continent-wide standard, in order to provide enforceable requirements associated with existing ERCOT transmission load relief (congestion management) procedures. The comments confirm that the proposed regional standard contains more specific criteria than the continent-wide standards.

Organization	Yes or No	Question 5 Comment
Bonneville Power Administration		BPA has no concerns or comments.
NERC Staff Technical Review	Yes	
American Electric Power		
ERCOT	Yes	The standard gives more specific criteria for congestion management when additional actions are needed following ERCOT nodal market-based congestion management activities. Although the requirement to resolve congestion is redundant with actions required by reliability standard IRO-009, the specific criteria strengthens required actions within the ERCOT Interconnection.
Response: Thank you for your comment.		

6. If you have any other comments that you have not already provided in the response to the prior questions, please provide them here.

Summary Consideration: The Standard Drafting Team views Requirements R1 and R2 to be two independent tasks intended to require different, yet interrelated, activities by the RC. Developing and maintaining a procedure is a separate task, involving different personnel at a different time, than acting to implement the procedure. Significantly, each Requirement has a different VRF and time horizon. The phrase "shall act to identify and mitigate" is intended to be non-prescriptive, so that the RC has the flexibility to define appropriate specific actions in the procedure required by R1.

Organization	Yes or No	Question 7 Comment
Bonneville Power Administration		BPA has no concerns or comments.
NERC Staff Technical Review		A few observations: The phrase "shall act to identify and mitigate" is somewhat ambiguous. It appears that the intent of Requirement R2 is to implement R1. It appears that R1 and R2 could be combined to say that the RC shall "document and implement procedures."R2 restricts the action of the RC to only the procedures identified in R1. There may be times that the RC's actions are not specified in the procedures in R1, but may be the right thing to do for reliability. Those exceptions could be noted and provided in a feedback loop to R1 to modify the procedures for the next occurrence.
Response: Thank you for your comments. The Standard Drafting Team views Requirements R1 and R2 to be two independent tasks intended to require different, yet interrelated, activities by the RC. Developing and maintaining a procedure is a separate task, involving different personnel at a different time, than acting to implement the procedure in real-time. Significantly, each Requirement has a different VRF and time horizon. The phrase "shall act to identify and mitigate" in R2 is intended to be non-prescriptive, so that the RC has the flexibility to define specific actions in the procedure required by R1.		
American Electric Power		
ERCOT		ERCOT believes that the requirements in the regional standard IRO-006-1-TRE exceed the FERC directive in Paragraph 964 of FERC Order 693. The nature of congestion management procedures within the ERCOT Interconnection and the absence of a transmission service market make these requirements redundant to IRO-009. However, since these requirements are designed to be used when other congestion management processes implemented with nodal market-based products do not mitigate the congestion, ERCOT supports this standard.

Organization	Yes or No	Question 7 Comment
Response: Thank you for your comment. The NERC Transmission Loading Relief drafting team requested ERCOT to address the FERC directive (Paragraph 964 of Order 693) regarding the ERCOT Interconnection-wide congestion management process. This proposed Regional Standard is responsive to that request.		

END OF REPORT

Individual or group. (4 Responses)
Name (2 Responses)
Organization (2 Responses)
Group Name (2 Responses)
Lead Contact (2 Responses)
Question 1 (3 Responses)
Question 1 Comments (4 Responses)
Question 2 (3 Responses)
Question 2 Comments (4 Responses)
Question 3 (3 Responses)
Question 3 Comments (4 Responses)
Question 4 (3 Responses)
Question 4 Comments (4 Responses)
Question 5 (2 Responses)
Question 5 Comments (4 Responses)
Question 6 (0 Responses)
Question 6 Comments (4 Responses)

Group
Bonneville Power Administration
Chris Higgins
BPA has no concerns or comments.
BPA has no concerns or comments.
BPA has no concerns or comments.
BPA has no concerns or comments.
BPA has no concerns or comments.
BPA has no concerns or comments.
Group
NERC
Howard Gugel
Yes
No
No
No
Yes
A few observations: The phrase "shall act to identify and mitigate" is somewhat ambiguous. It appears that the intent of Requirement R2 is to implement R1. It appears that R1 and R2 could be combined to say that the RC shall ”document and implement procedures.” R2 restricts the action of the RC to only the procedures identified in R1. There may be times that the RC’s actions are not specified in the procedures in R1, but may be the right thing to do for reliability. Those exceptions could be noted and provided in a feedback loop to R1 to modify the procedures for the next occurrence.
Individual
Thad Ness
American Electric Power
Yes

No
AEP is not aware of any potential adverse impact to reliability or commerce in a neighboring region or interconnection that would be caused by the proposed standard.
No
No
Individual
H. Steven Myers
ERCOT
Yes
The Texas RE regional standards development procedure was followed. A SAR was received and processed. The Texas RE Reliability Standards Committee reviewed the process and approved the project to proceed. A standard drafting team was assigned in accordance with the procedure, and the drafting team met numerous times, iterated through several drafts, and posted the draft for comments. The drafting responded to the minimal comments received and requested approval to proceed to ballot. The Texas RE Reliability Standards Committee approved for the ballot to proceed and the proposed standard was approved by ballot. The Texas RE then submitted the standard to the Texas RE Board of Directors and it was approved there. The Texas RE then submitted the standard to NERC for NERC's process.
No
The standard establishes requirements designed to improve reliability and coordinates with processes required by other NERC reliability standards which require transmission loading management.
No
The standard requires action which will improve congestion management in rare instances when ERCOT nodal market-based congestion management actions do not resolve congestion. The effect of this is to relieve potential threat to the public health, safety, welfare, or national security which may accompany congestion management which could occur if limit exceedances were allowed to persist to violation.
No
The standard contains requirements that are used when the ERCOT nodal market-based actions do not resolve congestion completely, thus the actions are outside and in addition to the competitive market actions.
Yes
The standard gives more specific criteria for congestion management when additional actions are needed following ERCOT nodal market-based congestion management activities. Although the requirement to resolve congestion is redundant with actions required by reliability standard IRO-009, the specific criteria strengthens required actions within the ERCOT Interconnection.
ERCOT believes that the requirements in the regional standard IRO-006-1-TRE exceed the FERC directive in Paragraph 964 of FERC Order 693. The nature of congestion management procedures within the ERCOT Interconnection and the absence of a transmission service market make these requirements redundant to IRO-009. However, since these requirements are designed to be used when other congestion management processes implemented with nodal market-based products do not mitigate the congestion, ERCOT supports this standard.

Implementation Plan for IRO-006-TRE-1

There are no other Reliability Standards or Standard Authorization Requests (SARs), in progress or approved, that must be implemented before this standard can be implemented.

IRO-006-TRE-1 – IROL and SOL Mitigation in the ERCOT Region

Revisions to Sections of Approved Standards and Definitions
There are no proposed revisions to requirements in other already approved standards.

Compliance with Standard
The standard applies to Reliability Coordinator.

Effective Date
The effective date is the date entities are expected to meet the performance identified in this standard.

The first day of the first calendar quarter after applicable regulatory approval.

Standard Development Timeline

This section is maintained by the drafting team during the development of the standard and will be removed when the standard becomes effective.

Development Steps Completed
1. SAR-009 SDT Kickoff Call (August 12, 2010).
2. SAR-009 SDT meeting; designated target date at meeting (August 17, 2010).
3. SAR-009 SDT meeting (September 20, 2010).
4. SAR-009 SDT meeting (October 11, 2010).
5. SAR-009 SDT meeting (November 8, 2010).
6. SAR-009 SDT meeting (January 20, 2011).
7. Standard IRO-006-TRE-1 was posted on the Texas RE Standards Tracking site for a 30-day public comment period. (February 3-March 7, 2011).
8. SAR-009 SDT meeting (March 17, 2011 - teleconference).
9. Standard approved by SDT for submission to RSC for approval to post for ballot (March 28, 2011).
10. RSC approved posting regional standard IRO-006-TRE-1 for ballot (April 6, 2011)
11. Standard IRO-006-TRE-1 was posted for a pre-ballot review and 15-day ballot period. (April 11-May 26, 2011).
12. RSC approved the ballot results and forwarded the standard to the Texas RE BoD (June 10, 2011).
13. Presented IRO-006-TRE-1 Regional Standard and supporting documents to the Texas RE BoD for approval to submit to NERC (June 28, 2011).

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1. RSM accepted SAR as revised (July 1, 2010)
2. SAR posted for comment (posted July 2, comments accepted July 6 to July 20, 2010).
3. RSC approved SDT members and authorized moving the SAR forward to standard development (August 4, 2010).

Proposed Action Plan and Description of Current Draft
This is the first draft of the proposed Regional Standard, which is coordinated with the continent-wide revisions to IRO-006.

Future Development Plan:

Anticipated Actions	Anticipated Date
Texas RE Board of Directors Approval	June 2011
Submit to NERC/FERC	July 2011

Introduction

1. Title: **IROL and SOL Mitigation in the ERCOT Region**

2. Number: IRO-006-TRE-1

3. Purpose: To provide and execute transmission loading relief procedures that can be used to mitigate SOL or IROL exceedances for the purpose of maintaining reliable operation of the bulk electric system in the ERCOT Region.

4. Applicability:

4.1 Functional Entities:
Reliability Coordinator

5. Effective Date: The first day of the first calendar quarter after applicable regulatory approval.

6. Background (Will not be included in Standard):

NERC Reliability Standards require the establishment of Operating Plans, monitoring of the system, and mitigation of limit exceedances by operational actions which may include implementing re-dispatch of system resources and facilities. The ERCOT regional congestion management process is used to achieve this purpose in the ERCOT Region. The requirements and responsibilities for the process are described in the ERCOT Nodal Protocols (Protocols) and Nodal Operating Guides. The Protocols and Nodal Operating Guides are binding documents established by the ERCOT Nodal electricity market.

The ERCOT Nodal electricity market construct provides for meeting reliability requirements through a robust system of operating actions that use ancillary services in dispatch actions by the ERCOT Independent System Operator (ISO). The ancillary services are procured and deployed through a comprehensive market system to ensure reliable operations in accordance with the NERC Reliability Standards, as well as with the Protocols and Nodal Operating Guides. ERCOT uses a centralized energy dispatch process as described in the Protocols and applies Equipment Operating Ratings and Limits as described in the Protocols.

ERCOT market dispatch is done using the energy dispatch process according to the Protocols. Market-based congestion management techniques are embedded in a Security Constrained Economic Dispatch (SCED) process. This IRO-006-TRE-1 Regional Standard is not intended to apply to routine system dispatch using SCED. This standard applies when an IROL or SOL exceedance is identified (or anticipated), and extraordinary transmission loading relief procedures (non-market dispatch) are required to mitigate (or avoid) the exceedance.

For the purposes of this standard, the following are considered to be part of routine system dispatch and are not subject to this standard: (1) dispatch under normal SCED operation; (2) redispatch using manual SCED operation; (3) remedial action plans; and (4) pre-contingency action plans.

Situations where the Market system fails to reach a solution are addressed as failure(s) of the SCED process and are considered reason for an Emergency Notice. Typically, actions taken for transmission loading relief which would be subject to this standard would be taken within the context of an Emergency Notice. Such actions may include, for example: (1) system reconfiguration (pre- and

post-contingency); (2) non-synchronous transfer of load to other systems not within the ERCOT Interconnection; and (3) reduction of interruptible or firm load.

This proposed ERCOT regional standard provides enforceable requirements and measures relating to the process that is used in the ERCOT Interconnection to effect transmission loading relief. NERC Project 2006-08 includes the continent-wide standard IRO-006-5, which prescribes a requirement for all Interconnections in the North American continent, and regional standard IRO-006-EAST-1, which prescribes Interconnection-wide requirements for the Eastern Interconnection. A corresponding WECC Regional Standard was recently approved by FERC. The NERC Transmission Loading Relief drafting team requested ERCOT to address the FERC directive (Paragraph 964 of Order 693) regarding the description of the ERCOT Interconnection-wide congestion management process. This Regional Standard is responsive to that request.

Requirements and Measures

R1. The RC shall have procedures to identify and mitigate exceedances of identified Interconnection Reliability Operating Limits (IROL) and System Operating Limits (SOL) that will not be resolved by the automatic actions of the ERCOT Nodal market operations system. The procedures shall address, but not be limited to, one or more of the following:

The methodology for identifying IROLs and SOLs is addressed in FAC standards, including FAC-014.

- redispatch of generation;
- reconfiguration of the Transmission system;
- controlled load reductions (including both firm and non-firm load shedding).

[Violation Risk Factor: Medium] [Time Horizon: Operations Planning]

M1. The RC shall provide evidence including documentation of procedures to identify and mitigate exceedances of identified IROLs and SOLs to demonstrate compliance with Requirement R1.

R2. The RC shall act to identify and mitigate exceedances of identified Interconnection Reliability Operating Limits and System Operating Limits that will not be resolved by the automatic actions of the ERCOT Nodal market operations system, in accordance with the procedures required by R1.

IRO-005-2a (Requirements 3 and 5) calls for relieving IROL violations in no longer than 30 minutes.

[Violation Risk Factor: High] [Time Horizon: Real Time Operations]

M2. To demonstrate compliance with Requirement R2, the RC shall provide evidence, such as system logs, voice recordings, or operating messages that shows that it acted to identify and to mitigate exceedances of IROLs and SOLs in accordance with the procedures required by R1.

Compliance

Compliance Enforcement Authority

- Texas Reliability Entity, Inc.

Compliance Monitoring and Assessment Processes

- Compliance Audits
- Self-Certifications
- Spot Checks
- Compliance Violation Investigations
- Self-Reporting
- Complaints

Evidence Retention

The Reliability Coordinator shall keep data or evidence to show compliance as identified below unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation:

- The Reliability Coordinator shall retain evidence to show compliance with requirements R1 and R2 for the period since it became subject to these requirements or since its last compliance audit, whichever is shorter.

- If a Reliability Coordinator is found non-compliant, it shall retain all evidence for the period in which it was non-compliant until it is found compliant or for the duration specified above, whichever is longer.

The Compliance Enforcement Authority shall keep the last audit records and all requested and submitted subsequent audit records.

Additional Compliance Information

None.

Time Horizons, Violation Risk Factors, and Violation Severity Levels

Table 1						
R#	Time Horizon	VRF	Violation Severity Level			
			Lower	Moderate	High	Severe
R1	Operations Planning	Medium	N/A	N/A	N/A	The RC did not have procedures to identify and mitigate exceedances of identified IROLs and SOLs.
R2	Real-time Operations	High	N/A	N/A	The RC failed to follow its procedures in identifying and mitigating an exceedance of an SOL.	The RC failed to follow its procedures in identifying and mitigating an exceedance of an IROL.

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Unofficial Comment Form for Regional Reliability Standard IRO-006-TRE-1

Please **DO NOT** use this form. Please use the electronic form located at the link below to submit comments on the Regional Reliability Standard **IROL and SOL Mitigation in the ERCOT Region IRO-006-TRE-1.** Comments must be submitted by **August 22, 2011.** If you have questions please contact Howard Gugel at howard.gugel@nerc.net or Barb Nutter at barbara.nutter@nerc.net.

http://www.nerc.com/filez/regional_standards/regional_reliability_standards_under_development.html

Background Information
A regional reliability standard shall be: (1) a regional reliability standard that is more stringent than the continent-wide reliability standard, including a regional standard that addresses matters that the continent-wide reliability standard does not; or (2) a regional reliability standard that is necessitated by a physical difference in the bulk power system. Regional reliability standards shall provide for as much uniformity as possible with reliability standards across the interconnected bulk power system of the North American continent. Regional reliability standards, when approved by FERC and applicable authorities in Mexico and Canada shall be made part of the body of NERC reliability standards and shall be enforced upon all applicable bulk power system owners, operators, and users within the applicable area, regardless of membership in the region.

IRO-006-TRE-1 was developed to support bulk power system reliability by providing enforceable requirements associated with the existing ERCOT congestion management procedures. This Regional Standard addresses the FERC directive in Paragraph 964 or Order 693, where FERC found that the ERCOT transmission loading relief procedures were superior to the national standard, and directed the ERO to provide Reliability Standards including Requirements, Measures and Levels of Non-Compliance corresponding to the ERCOT procedures for application in the ERCOT Region.

Each Texas Reliability Entity Regional Reliability Standard shall enable or support one or more of the NERC reliability principles, thereby ensuring that each standard serves a purpose in support of the reliability of the regional bulk electric system. Each of those standards shall also be consistent with all of the NERC reliability principles, thereby ensuring that no standard undermines reliability through an unintended consequence. The NERC reliability principles supported by this standard are the following:

- **Reliability Principle 1** — Interconnected bulk electric systems shall be planned and operated in a coordinated manner to perform reliably under normal and abnormal conditions as defined in the NERC Standards.
- **Reliability Principle 2** — The frequency and voltage of interconnected bulk electric systems shall be controlled within defined limits through the balancing of real and reactive power supply and demand.
- **Reliability Principle 3** — Information necessary for the planning and operation of interconnected bulk power systems shall be made available to those entities responsible for planning and operating the systems reliably.

The proposed Texas Reliability Entities Regional Reliability Standard is not inconsistent with, or less stringent than established NERC Reliability Standards. Once approved by the appropriate authorities, the TRE Regional Reliability Standard obligates the TRE to monitor and enforce compliance, apply sanctions, if any, consistent with any regional agreements and the NERC rules.

The TRE IRO-006-TRE-1 standard contains two main requirements for application entities within the Texas Reliability Entities geographic area. The standard contains the following:

Requirement 1

The RC shall have procedures to identify and mitigate exceedances of identified Interconnection Reliability Operating Limits (IROL) and System Operating Limits (SOL) that will not be resolved by the automatic actions of the ERCOT Nodal market operations system. The procedures shall address, but not be limited to, one or more of the following:

- redispatch of generation;
- reconfiguration of the Transmission system;
- controlled load reductions (including both firm and non-firm load shedding).

Requirement 2

The RC shall act to identify and mitigate exceedances of identified Interconnection Reliability Operating Limits and System Operating Limits that will not be resolved by the automatic actions of the ERCOT Nodal market operations system, in accordance with the procedures required by R1.

The approval process for a regional reliability standard requires NERC to publicly notice and request comment on the proposed standard. Comments shall be permitted only on the following criteria (technical aspects of the standard are vetted through the regional standards development process):

Unfair or Closed Process — The regional reliability standard was not developed in a fair and open process that provided an opportunity for all interested parties to participate. Although a NERC-approved regional reliability standards development procedure shall be presumed to be fair and open, objections could be raised regarding the implementation of the procedure.

Adverse Reliability or Commercial Impact on Other Interconnections — The regional reliability standard would have a significant adverse impact on reliability or commerce in other interconnections.

Deficient Standard — The regional reliability standard fails to provide a level of reliability of the bulk power system such that the regional reliability standard would be likely to cause a serious and substantial threat to public health, safety, welfare, or national security.

Adverse Impact on Competitive Markets within the Interconnection — The regional reliability standard would create a serious and substantial burden on competitive markets within the interconnection that is not necessary for reliability.

You do not have to answer all questions. Enter All Comments in Simple Text Format.

Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.

1. **Was the proposed standard developed in a fair and open process, using the associated Regional Reliability Standards Development Procedure?**

   ☐ Yes

   ☐ No

   Comments:

2. **Does the proposed standard pose an adverse impact to reliability or commerce in a neighboring region or interconnection?**

   ☐ Yes

   ☐ No

   Comments:

3. **Does the proposed standard pose a serious and substantial threat to public health, safety, welfare, or national security?**

   ☐ Yes
   ☐ No

   Comments:

4. **Does the proposed standard pose a serious and substantial burden on competitive markets within the interconnection that is not necessary for reliability?**

   ☐ Yes

   ☐ No

   Comments:

5. **Does the proposed regional reliability standard meet at least one of the following criteria?**

   - **The proposed standard has more specific criteria for the same requirements covered in a continent-wide standard**
   - **The proposed standard has requirements that are not included in the corresponding continent-wide reliability standard**
   - **The proposed regional difference is necessitated by a physical difference in the bulk power system.**

   ☐ Yes

   ☐ No

   Comments:

6. If you have any other comments that you have not already provided in the response to the prior questions, please provide them here.

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Regional Reliability Standards Announcement

Comment Period Open for IRO-006-TRE-1
July 7- August 22, 2011

Now available at:
http://www.nerc.com/filez/regional_standards/regional_reliability_standards_under_development.html

Proposed Standard for the Texas Reliability Entity (TRE)
Texas Reliability Entity has requested NERC to post regional reliability standard IRO-006-TRE-1 — IROL and SOL Mitigation in the ERCOT Interconnection for a 45-day industry review as permitted by the NERC Rules of Procedure.

Instructions
Please use this electronic form to submit comments. If you experience any difficulties in using the electronic form, please contact Monica Benson at Monica.benson@nerc.net. An off-line, unofficial copy of the comment form is posted on the regional standards development page:
http://www.nerc.com/filez/regional_standards/regional_reliability_standards_under_development.html

Background
NERC Reliability Standards require the establishment of Operating Plans, monitoring of the system, and mitigation of limit exceedances by operational actions which may include implementing re-dispatch of system resources and facilities. The ERCOT regional congestion management process is used to achieve this purpose in the ERCOT Region. The requirements and responsibilities for the process are described in the ERCOT Nodal Protocols (Protocols) and Nodal Operating Guides. The Protocols and Nodal Operating Guides are binding documents established by the ERCOT Nodal electricity market.

The ERCOT Nodal electricity market construct provides for meeting reliability requirements through a robust system of operating actions that use ancillary services in dispatch actions by the ERCOT Independent System Operator (ISO). The ancillary services are procured and deployed through a comprehensive market system to ensure reliable operations in accordance with the NERC Reliability Standards, as well as with the Protocols and Nodal Operating Guides. ERCOT uses a centralized energy dispatch process as described in the Protocols and applies Equipment Operating Ratings and Limits as described in the Protocols.

ERCOT market dispatch is done using the energy dispatch process according to the Protocols. Market-based congestion management techniques are embedded in a Security Constrained Economic Dispatch (SCED) process. This IRO-006-TRE-1 Regional Standard is not intended to apply to routine system dispatch using SCED. This standard applies when an IROL or SOL exceedance is identified (or anticipated), and extraordinary transmission loading relief procedures (non-market dispatch) are required to mitigate (or avoid) the exceedance.

For the purposes of this standard, the following are considered to be part of routine system dispatch and are not subject to this standard: (1) dispatch under normal SCED operation; (2) redispatch using manual SCED operation; (3) remedial action plans; and (4) pre-contingency action plans.

Situations where the Market system fails to reach a solution are addressed as failure(s) of the SCED process and are considered reason for an Emergency Notice. Typically, actions taken for transmission loading relief which would be subject to this standard would be taken within the context of an Emergency Notice. Such actions may include, for example: (1) system reconfiguration (pre- and post-contingency); (2) non-synchronous transfer of load to other systems not within the ERCOT Interconnection; and (3) reduction of interruptible or firm load.

This proposed ERCOT regional standard provides enforceable requirements and measures relating to the process that is used in the ERCOT Interconnection to effect transmission loading relief. NERC Project 2006-08 includes the continent-wide standard IRO-006-5, which prescribes a requirement for all Interconnections in the North American continent, and regional standard IRO-006-EAST-1, which prescribes Interconnection-wide requirements for the Eastern Interconnection. A corresponding WECC Regional Standard was recently approved by FERC. The NERC Transmission Loading Relief drafting team requested ERCOT to address the FERC directive (Paragraph 964 of Order 693) regarding the description of the ERCOT Interconnection-wide congestion management process. This Regional Standard is responsive to that request.

Regional Reliability Standards Development Process

Section 300 of the *Rules of Procedure for the Electric Reliability Organization* governs the regional reliability standards development process. The success of the NERC standards development process depends on stakeholder participation. We extend our thanks to all those who participate.

For more information or assistance, please contact Monica Benson, Standards Process Administrator at monica.benson@nerc.net or at 404-446-2560.

Exhibit D

Standard Drafting Team Roster

Regional Standard Drafting Team for IRO-006-TRE-1

Name and Title Affiliation Contact Info	Relevant Education and Experience
Sathibabu Chakka (Babu) Manager Market Analysis and Planning Energy Market Operations Austin Energy Phone: 512-322-6010 Sathibabu.Chakka@austinenergy.com Municipal Utility	**Babu Chakka** is the Manager for Energy Market Analysis Group in the Energy Market Wholesale and Operations division of Austin Energy since 2009. He is responsible for the Energy Market Operations including energy marketing and dispatching, resource planning, Wholesale market analysis, fuel procurement, energy supply and sales. He also oversees the integration of renewable generation resources, primarily wind and Solar, into the Austin Energy footprint. He is an Austin Energy representative at the Wholesale Market Subcommittee of ERCOT. Prior to joining Austin Energy, Mr. Chakka worked at the Midwest ISO where he oversaw the Congestion Management, Seams Agreements between neighboring entities, Reliability Coordination and Transmission assets management functions. He has more than 11 years of experience in the operation of electrical power systems, and he is skilled at identifying and implementing best practices in Energy Markets. Mr. Chakka earned a Master's degree in Electrical Power Systems from Arizona State University and is a registered Professional Engineer from the State of Ohio. He is also a member of IEEE.
Adrian Pieniazek Director of Market Policy – ERCOT Region NRG Energy Phone: 512-844-9888 Adrian.Pieniazek@nrgenergy.com Generation	**Adrian Pieniazek** is the Director of Market Policy – ERCOT Region for NRG Energy, Inc. He manages regulatory matters for NRG Texas with an emphasis on wholesale market design and policy in ERCOT. He is a member of the ERCOT Technical Advisory Committee, the market participant group responsible for making recommendations to the board regarding ERCOT policies and procedures. Adrian has over 28 years of experience in the electric industry. Prior to his current position, he was the Director of Asset Management for Reliant Energy HL&P. In that position he was responsible for real-time dispatch operations, fuel procurement, and energy trading functions for a 14,000 megawatt generation portfolio. Adrian has also served as the Director of Generation Planning for CPS Energy in San Antonio, TX, and in various engineering roles at several large coal and gas-fired power plants. Adrian holds a Bachelor of Science in Mechanical Engineering from Texas A&M University, a Masters of Business Administration from Our Lady of the Lake University in San Antonio, TX, and is a registered professional engineer in Texas.

Bill Blevins Manager Operations Support ERCOT Phone: (512) 248-6691 bblevins@ercot.com System Planning & Coordination	**Bill Blevins**, the Manager of Operations Support for ERCOT since 2008, is responsible for the Operations Engineering and Advanced Network Applications support for day-to-day operations. Prior to joining ERCOT, Mr. Blevins worked at NERC as Manager of Interchange and Manger of Business Practices. His responsibilities included facilitating the NERC and NAESB standards, NERC Interchange Subcommittee, e-tagging, Transmission System information Network, Functional Model and the Join Interface Committee. Bill has over 24 years of electrical system operations experience including managerial roles at Duke Energy where he was responsible for Control Area Operations. In addition, he has worked as a day-ahead planner at Houston Lighting and Power, a system operator at South Texas Nuclear Power Plant, and in the nuclear engineering department for the U.S. Navy. Mr. Blevins is a graduate of the U.S. Navy Nuclear power engineering program.
Jeremy Carpenter Director of Operations Tenaska Power Services Co. Phone: (817) 303-1869 jcarpenter@tnsk.com Load Serving & Marketing	**Jeremy Carpenter** is the Director of Operations for Tenaska Power Services Co., and is responsible for overseeing TPS's day-ahead and real-time QSE operations in ERCOT as well as operations in other power markets. As a QSE, Tenaska Power Services provides QSE services to a diverse group of wholesale market participants including traditional fossil fueled generators, wind powered generators, retail electric providers, and large industrial load resources. Through his work as the Director of Operations, Mr. Carpenter has gained experience and understanding of reliability standards and how they affect different types of market participants and has played an integral role in developing company procedures to ensure the compliance with such standards. Prior to joining the TPS Operations group, Mr. Carpenter worked in other related groups at TPS including Asset Management, Long Term Development Forecasting, and Risk Management. Mr. Carpenter received his B.S. of Industrial Engineering from Texas A&M University.

Leo H. Haas, Jr. Sr. Transmission Policy Consultant CenterPoint Energy Phone: (713) 207-6022 leo.haas@centerpointenergy.com Transmission & Distribution	**Leo H. Haas, Jr.** has over thirty-eight years of transmission and distribution related experience. His current responsibilities in Transmission Policy and Compliance at CenterPoint Energy include all aspects of NERC/FERC compliance and participation in NERC processes. This work includes Interfacing with subject matter experts from Transmission, Substation, and Distribution to establish and coordinate training programs related to the NERC Standards. Previously, Leo was responsible for relay protective schemes and other devices for distribution feeders, and for construction standards and material specifications for over 19,000 miles of overhead and underground distribution system facilities. He also coordinated West Region Distribution Planning activities, and he worked on coordinating infrastructure needs with Substation Projects, System Analysis, and Transmission Project divisions. He has provided expert technical evaluation and analysis for Planning Design Criteria and problem analysis for operational problems. Mr. Haas received a Bachelor of Science in Electrical Engineering degree from the University of Houston in 1984. In addition, he is a Registered Professional Engineer (PE) in the State of Texas. He is also a member of the Institute of Electrical & Electric Engineers and was a member of the National Fire Protection Association and principal representative on the National Electric Code Panel 11 from 1998 through 2008.
Marguerite Wagner Director, Market Policy & Regulatory Affairs Edison Mission Marketing Phone: (617) 529-3127 mwagner@edisonmission.com Generation	**Marguerite Wagner** has worked in the electric industry for 20 years in varied positions in multiple NERC Regions. Her roles have included environmental permitting & compliance for fossil resources, engineering & IT project management, electric market design, regulatory interaction with Utility Commissions and ISOs, and ISO and market participant support in both reliability and commercial operations. In these roles, she has led implementation of multiple projects, including implementation of Continuing Emission Monitoring programs, and boiler retrofits for NOx Compliance, and development of ISO IT projects. Ms. Wagner supported implementation of both ERCOT zonal and nodal markets and has worked with both fossil and renewable resources. Working within the regulatory processes, she has been instrumental in the ongoing development of requirements in ERCOT to reliably integrate renewable resources. Ms. Wagner earned a Bachelor's Degree in Applied Math from Michigan State University, and Master of Science Degrees in Probability & Statistics and Technology and Policy from MIT.

Brenda Hampton Senior Project Manager Luminant Phone: (512) 349-6415 Brenda.hampton@luminant.com Generation	**Brenda Hampton** is a Senior Project Manager in Luminant's Regulatory Affairs group. She joined Luminant in December 2009, after 19 years of experience with Ameren (Saint Louis, MO). She has held positions in nuclear, coal-fired, and gas-fueled generating plants and led fleet-wide initiatives. Brenda has worked in the utility industry for the past 21 years. She has engineering experience associated with Materials Procurement and Safety Related Systems at a nuclear power plant. She has held leadership positions in Business Planning and Development and Refueling Outage planning and implementation at a Nuclear Plant. Brenda has also served as Superintendent at coal and natural gas power plants, and as a Quality Management Consultant leading a fleet-wide Project Management initiative. Brenda has a Bachelor's degree in Mechanical Engineering from the University of Missouri Columbia, and a Masters in Engineering Management from the University of Missouri Rolla (now Missouri University of Science and Technology).

Exhibit E

IRO-006-TRE-1 – Violation Severity Level and Violation Risk Factor Analysis

Violation Risk Factor, Violation Severity Level, and Time Horizons Assignments

This document provides the drafting team's justification for assignment of violation risk factors (VRFs), violation severity levels (VSLs), and Time Horizons for each requirement in IRO-006-TRE-1 – IROL and SOL Mitigation in the ERCOT Region.

Each primary requirement is assigned a VRF, Time Horizon, and a set of one or more VSLs. These elements support the determination of initial value range for the Base Penalty Amount regarding violations of requirements in FERC-approved Reliability Standards, as defined in the ERO Sanction Guidelines.

Violation Risk Factors

The Standard Drafting Team (SDT) applied the following NERC criteria when proposing VRFs for the requirements in IRO-006-TRE-1:

High Risk Requirement
A requirement that, if violated, could directly cause or contribute to bulk electric system instability, separation, or a cascading sequence of failures, or could place the bulk electric system at an unacceptable risk of instability, separation, or cascading failures; or, a requirement in a planning time frame that, if violated, could, under emergency, abnormal, or restorative conditions anticipated by the preparations, directly cause or contribute to bulk electric system instability, separation, or a cascading sequence of failures, or could place the bulk electric system at an unacceptable risk of instability, separation, or cascading failures, or could hinder restoration to a normal condition.

Medium Risk Requirement
A requirement that, if violated, could directly affect the electrical state or the capability of the bulk electric system, or the ability to effectively monitor and control the bulk electric system. However, violation of a medium risk requirement is unlikely to lead to bulk electric system instability, separation, or cascading failures; or, a requirement in a planning time frame that, if violated, could, under emergency, abnormal, or restorative conditions anticipated by the preparations, directly and adversely affect the electrical state or capability of the bulk electric system, or the ability to effectively monitor, control, or restore the bulk electric system. However, violation of a medium risk requirement is unlikely, under emergency, abnormal, or restoration conditions anticipated by the preparations, to lead to bulk electric system instability, separation, or cascading failures, nor to hinder restoration to a normal condition.

Lower Risk Requirement
A requirement that is administrative in nature and a requirement that, if violated, would not be expected to adversely affect the electrical state or capability of the bulk electric

system, or the ability to effectively monitor and control the bulk electric system; or, a requirement that is administrative in nature and a requirement in a planning time frame that, if violated, would not, under the emergency, abnormal, or restorative conditions anticipated by the preparations, be expected to adversely affect the electrical state or capability of the bulk electric system, or the ability to effectively monitor, control, or restore the bulk electric system. A planning requirement that is administrative in nature.

The SDT also considered consistency with the FERC Violation Risk Factor Guidelines for setting VRFs:

Guideline 1 — Consistency with the Conclusions of the Final Blackout Report
The team did not address Guideline 1 directly because of an apparent conflict between Guidelines 1 and 4. Whereas Guideline 1 identifies a list of topics that encompass nearly all topics within NERC's Reliability Standards and implies that these requirements should be assigned a "High" VRF, Guideline 4 directs assignment of VRFs based on the impact of a specific requirement to the reliability of the system. The SDT believes that Guideline 4 is reflective of the intent of VRFs in the first instance and therefore concentrated its approach on the reliability impact of the requirements.

Guideline 2 — Consistency within a Reliability Standard

The Commission expects a rational connection between the sub-Requirement Violation Risk Factor assignments and the main Requirement Violation Risk Factor assignment.

Guideline 3 — Consistency among Reliability Standards

The Commission expects the assignment of Violation Risk Factors corresponding to Requirements that address similar reliability goals in different Reliability Standards would be treated comparably.

Guideline 4 — Consistency with NERC's Definition of the Violation Risk Factor Level

Guideline 4 was developed to evaluate whether the assignment of a particular Violation Risk Factor level conforms to NERC's definition of that risk level.

Guideline 5 — Treatment of Requirements that Co-mingle More Than One Obligation

Where a single Requirement co-mingles a higher risk reliability objective and a lesser risk reliability objective, the VRF assignment for such Requirements must not be watered down to reflect the lower risk level associated with the less important objective of the Reliability Standard.

The following discussion addresses how the SDT considered FERC's VSL Guidelines 2 through 5.

There are 2 requirements in IRO-006-TRE-1. Requirement R1 was assigned a "Medium" VRF, and Requirement R2 was assigned a "High" VRF.

Justification of VRFs for IRO-006-TRE-1, Requirements R1 and R2:

Req. #	**NERC Criteria and FERC Guideline 4** Consistency with NERC's Definition of a VRF.	**FERC Guideline 2** Consistency within a Reliability Standard.	**FERC Guideline 3** Consistency among Reliability Standards.	**FERC Guideline 5** Treatment of Requirements that Co-mingle More Than One Objective.
R1	***Medium:*** Failure to have the required procedures, which are associated with a planning time frame, may adversely affect the ability to effectively monitor or control the bulk electric system, but it is unlikely to lead to bulk electric system instability, separation, or cascading failures.	The requirement has no sub-requirements so only one VRF was assigned. The VRF for this requirement is consistent with others in this standard with regard to relative risk; therefore, there is no conflict.	The Medium VRF assigned to this requirement is consistent with other standards that require an entity to have procedures in place. See, e.g., IRO-002-2 (R2) and IRO-014-2 (R1).	This requirement has a single objective, that is, to have the required procedures.
R2	***High:*** Failure to act as required could directly cause, contribute to, or place the system at risk of bulk electric system instability, separation, or a cascading sequence of failures.	The requirement has no sub-requirements so only one VRF was assigned. The VRF for this requirement is consistent with others in this standard with regard to relative risk; therefore, there is no conflict.	The High VRF assigned to this requirement is the same as is assigned to R1 of IRO-006-5, which also relates to real-time actions required for transmission loading relief.	This requirement is assigned a single risk-level, and the High VRF level is consistent with the most severe potential violation, that is, failure to act to mitigate an exceedance of an IROL.

Violation Severity Levels

In developing the VSLs for the IRO standard, the SDT anticipated the evidence that would be reviewed during an audit, and developed its VSLs based on the noncompliance an auditor may find during a typical audit. The SDT based its assignment of VSLs on the following NERC criteria.

Lower	Moderate	High	Severe
The performance or product measured almost meets the full intent of the requirement.	The performance or product measured meets the majority of the intent of the requirement.	The performance or product measured does not meet the majority of the intent of the requirement, but does meet some of the intent.	The performance or product measured does not substantively meet the intent of the requirement.

FERC's VSL guidelines are presented below, followed by an analysis of whether the VSLs proposed for each requirement in IRO-006-TRE-1 meet the FERC Guidelines for assessing VSLs:

Guideline 1: Violation Severity Level Assignments Should Not Have the Unintended Consequence of Lowering the Current Level of Compliance

> Compare the VSLs to any prior Levels of Non-compliance and avoid significant changes that may encourage a lower level of compliance than was required when Levels of Non-compliance were used.

Guideline 2: Violation Severity Level Assignments Should Ensure Uniformity and Consistency in the Determination of Penalties

> A violation of a "binary" type requirement must be a "Severe" VSL. Do not use ambiguous terms such as "minor" and "significant" to describe noncompliant performance.

Guideline 3: Violation Severity Level Assignment Should Be Consistent with the Corresponding Requirement

> VSLs should not expand on what is required in the requirement.

Guideline 4: Violation Severity Level Assignment Should Be Based on A Single Violation, Not on A Cumulative Number of Violations

> . . . unless otherwise stated in the requirement, each instance of non-compliance with a requirement is a separate violation. Section 4 of the Sanction Guidelines states that assessing penalties on a per violation per day basis is the "default" for penalty calculations.

Requirement #	Lower VSL	Moderate VSL	High VSL	Severe VSL
R1				The RC did not have procedures to identify and mitigate exceedances of identified IROLs and SOLs.
R2			The RC failed to follow its procedures in identifying and mitigating an exceedance of an SOL.	The RC failed to follow its procedures in identifying and mitigating an exceedance of an IROL.

Justification of VSLs for IRO-006-TRE-1, Requirements R1 and R2:

Req. #	Compliance with NERC's VSL Guidelines	Guideline 1 Violation Severity Level Assignments Should Not Have the Unintended Consequence of Lowering the Current Level of Compliance	Guideline 2 Violation Severity Levels Assignments Should Ensure Uniformity and Consistency in the Determination of Penalties	Guideline 3 Violation Severity Level Assignment Should be Consistent with the Corresponding Requirement	Guideline 4 Violation Severity Level Assignment Should be Based on a Single Violation, Not on a Cumulative Number of Violations.
R1	Requirement 1 is assigned a "Severe" VSL because it is considered to be a "binary" requirement and anything less than a complete set of procedures is considered to be a failure to comply.	This is a new requirement which will increase the reliability of the BES.	The proposed VSL does not use any ambiguous terminology, thereby supporting uniformity and consistency in the determination of similar penalties for similar violations. In accordance with FERC guidelines, this "binary" requirement is assigned a Severe VSL.	The proposed VSL uses the similar terminology as used in the associated requirement, and does not expand on the requirement.	The VSL is based on a single violation and not on cumulative violations.

R2	Requirement 2 has multiple possible degrees of noncompliant performance. This requirement is assigned a “High” VSL for failure to act on an SOL exceedances, and a “Severe” VSL for failure to act on an IROL exceedances, which is considered to be a significantly more serious violation due to the potential risk to the BES.	This is a new requirement which will increase the reliability of the BES.	The proposed VSL does not use any ambiguous terminology, thereby supporting uniformity and consistency in the determination of similar penalties for similar violations. The distinction between SOLs and IROLs is well-established and will not be subject to dispute in case of a violation.	The proposed VSLs use similar terminology as is used in the associated requirement, and the VSLs do not expand on the requirement.	The VSLs are based on distinct instances of noncompliant performance and not on a cumulative number of violations.

Time Horizons

The SDT based its assignment of Time Horizons on the following NERC Criteria:

Long-term Planning — a planning horizon of one year or longer.

Operations Planning — operating and resource plans from day-ahead up to and including seasonal.

Same-day Operations — routine actions required within the timeframe of a day, but not real-time.

Real-time Operations — actions required within one hour or less to preserve the reliability of the bulk electric system.

Operations Assessment — follow-up evaluations and reporting of real time operations.

Justification of Time Horizons for IRO-006-TRE-1, Requirements R1 and R2:

R1 is assigned an “Operations Planning” time horizon because the required procedures should be in place and updated so that they reflect current system conditions on at least a seasonal basis.

R2 is assigned a “Real-time Operations” time horizon because action to identify and mitigate exceedances of IROL and SOL may be required within one hour or less to prevent instability, uncontrolled separation, or cascading outages.