NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

February 18, 2014

**VIA ELECTRONIC FILING**

Rachelle Verret Morphy
Saskatchewan Electric Reliability Authority
2025 Victoria Avenue
Regina, Saskatchewan, Canada S4P 0S1

Re: *North American Electric Reliability Corporation*

Dear Ms. Morphy:

The North American Electric Reliability Corporation ("NERC") hereby submits Notice of Filing of the North American Electric Reliability Corporation of Proposed Reliability Standard MOD-001-2 and Retirement of Reliability Standards MOD-001-1a, MOD-004-1, MOD-008-1, MOD-028-2, MOD-029-1a and MOD-030-2. NERC requests, to the extent necessary, a waiver of any applicable filing requirements with respect to this filing.

Please contact the undersigned if you have any questions.

Respectfully submitted,

*/s/ Holly A. Hawkins*
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*Corporation*

Enclosure

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**BEFORE THE**
**CROWN INVESTMENT CORPORATION**
**OF THE PROVINCE OF SASKATCHEWAN**

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

# NOTICE OF FILING OF THE NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION OF PROPOSED RELIABILITY STANDARD MOD-001-2 AND RETIREMENT OF RELIABILITY STANDARDS MOD-001-1a, MOD-004-1, MOD-008-1, MOD-028-2, MOD-029-1a AND MOD-030-2


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February 18, 2014

# TABLE OF CONTENTS

**BEFORE THE**
**CROWN INVESTMENT CORPORATION**
**OF THE PROVINCE OF SASKATCHEWAN**

| | |
|---|---|
| **NORTH AMERICAN ELECTRIC** | **)** |
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# NOTICE OF FILING OF THE NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION OF PROPOSED RELIABILITY STANDARD MOD-001-2 AND RETIREMENT OF RELIABILITY STANDARDS MOD-001-1a, MOD-004-1, MOD-008-1, MOD-028-2, MOD-029-1a AND MOD-030-2

The North American Electric Reliability Corporation ("NERC") hereby submits proposed Reliability Standard MOD-001-2. The proposed Reliability Standard MOD-001-2 (Exhibit A) is just, reasonable, not unduly discriminatory or preferential, and in the public interest.[1] NERC also provides notice of (i) the associated implementation plan (Exhibit B); (ii) the associated Violation Risk Factors ("VRFs") and Violation Severity Levels ("VSLs") (Exhibits A and F); and (iii) the proposed retirement of the currently effective Reliability Standards MOD-001-1a, MOD-004-1, MOD-008-1, MOD-028-2, MOD-029-1a and MOD-030-2 (the " Existing MOD A Standards"), as detailed in this filing.

This filing presents the technical basis and purpose of proposed Reliability Standard MOD-001-2, a summary of the development history (Exhibit G), and a demonstration that the proposed Reliability Standard meets the Reliability Standards criteria (Exhibit C). The NERC Board of Trustees approved proposed Reliability Standard MOD-001-2 and the retirement of the Existing MOD A Standards on February 6, 2014.

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

## I. EXECUTIVE SUMMARY

The proposed Reliability Standard is designed to replace, consolidate and improve upon the Existing MOD A Standards in addressing the reliability issues associated with determinations of Available Transfer Capability ("ATC") and Available Flowgate Capability ("AFC"). As discussed below, ATC and AFC values are commercial in nature, representing the amount of unused transmission capacity that a Transmission Service Provider is willing to make available for sale to third parties to accommodate additional requests for transmission service. The purpose of proposed MOD-001-2 is to help ensure that determinations of ATC and AFC are accomplished in a manner that supports the reliable operation of the Bulk-Power System.

ATC and AFC values derive from the Federal Energy Regulatory Commission's ("FERC") open access policies designed to develop non-discriminatory wholesale electricity markets, including a non-discriminatory market for the sale of unused transmission capacity. ATC and AFC represent two different approaches for estimating the amount of transfer capability that could be available for sale for a particular period of time. ATC measures the *transfer capability remaining on a path between two systems* for further commercial activity over and above already committed uses, and AFC measures the *flow capability remaining on a Flowgate* for further commercial activity over and above already committed uses. As defined in the NERC Glossary, ATC and AFC values are determined using the following equations: (1) ATC equals Total Transfer Capability ("TTC") less Existing Transmission Commitments ("ETC"), less a Capacity Benefit Margin ("CBM"), less a Transmission Reliability Margin ("TRM"), plus postbacks[2] and counterflows; and (2) AFC equals Total Flowgate Capability ("TFC") less ETC, less a CBM, less a TRM, plus postbacks and counterflows, where:

[2] Postbacks are adjustments to ATC or AFC to account for, among other things, processing of redirects and unscheduled service.

- *TTC* represents the total amount of power that can be moved or transferred on a path between two systems;
- *TFC* represents the maximum flow capability on a particular Flowgate;
- *ETC* represents committed uses of a Transmission Service Provider's transmission system, including retail customer service, for the applicable period;
- *CBM* represents the amount of transmission capacity that needs to be set aside for Load Serving Entities ("LSEs") to meet certain generation reliability requirements; and
- *TRM* represents the amount of transmission capacity that needs to be set aside to establish margins for system reliability.

ATC and AFC are commercial values that do not directly control the reliable operation of the Bulk-Power System. Nevertheless, there are reliability considerations associated with ATC and AFC determinations. As explained further below, ATC and AFC values have the potential to influence Real-time conditions on the Bulk-Power System and impact Real-time operations. In general, as more ATC/AFC is posted, sold and scheduled in Real-time, the transmission system is closer to exceeding its reliable operating limits. If a Transmission Service Provider overestimates ATC or AFC and, in turn, sells more transmission service than is actually available, it could result in a potential or actual violation of System Operating Limits on its system or a neighbor's system, triggering the need for Transmission Operators to take corrective action to maintain system reliability.

To reduce the potential for oversold condition and make it easier for Transmission Operators to reliably operate their systems within System Operating Limits, it is necessary to: (1) account for system limits (e.g., facility ratings, system voltage limits, transient stability limits, voltage stability limits, or other System Operating Limits) and relevant system conditions (e.g., load forecasts, transmission constraints, expected outages) when determining ATC/AFC; and (2) establish a framework whereby ATC/AFC determinations are made in a transparent fashion so that planners and operators of the Bulk-Power System maintain awareness of available

transmission system capability and future flows on their own systems as well as pertinent neighboring systems.

The Existing MOD A Standards, established in response to FERC Order Nos. 890[3] and 693,[4], seek to address these reliability concerns by standardizing the manner in which ATC/AFC is determined and requiring the documentation and sharing of ATC/AFC methodologies. The Existing MOD A Standards, however, include a number of requirements that are not necessary to address Bulk-Power System reliability and provide little to no reliability benefit. Certain existing requirements reflect commercial or business practices that address market-related concerns regarding the potential for undue discrimination. For instance, the Existing MOD A Standards prohibit Transmission Service Providers from making transmission capability available on a more conservative basis for commercial purposes than what is made available for either planning for native load or use in actual operations. This requirement is not reliability-based; it addresses the market-based concern regarding the potential for differing treatment of native load customers and transmission service customers. Similarly, the Existing MOD A Standards prescribe in detail the three methodologies that Transmission Service Providers and Transmission Operators may use to determine ATC/AFC. This specificity is not necessary from a reliability perspective. As explained further below, if an entity fails to follow one of those three methods, it would not necessarily impact reliability.

Proposed MOD-001-2 is designed to replace the six Existing MOD A Standards to exclusively focus on the reliability aspects of ATC and AFC determinations. This approach is

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[3] *Preventing Undue Discrimination and Preference in Transmission Service*, Order No. 890, 72 FR 12266 (Mar. 15, 2007), FERC Stats. & Regs. ¶ 31,241 (2007), *order on reh'g*, Order No. 890-A, 73 FR 2984 (Jan. 16, 2008), FERC Stats. & Regs. ¶ 31,261 (2007), *order on reh'g*, Order No. 890-B, 123 FERC ¶ 61,299 (2008), *order on reh'g*, Order No. 890-C, 126 FERC ¶ 61,228 (2009).

[4] *Mandatory Reliability Standards for the Bulk-Power System*, Order No. 693, 72 FR 16416, PP 1020-1126 (2007), FERC Stats. & Regs. ¶ 31,242, *order on reh'g*, Order No. 693-A, 120 FERC ¶ 61,053 (2007).

consistent with the ERO's expertise and primary mission to develop and enforce standards that support the *reliable* operation of the Bulk-Power System. It is also consistent with FERC orders supporting (1) the removal of requirements from NERC's Reliability Standards that provide little protection for Bulk-Power System reliability, and (2) the modification of Reliability Standards to increase the efficiency of the ERO compliance program.[5]

Proposed MOD-001-2 contains six requirements that improve upon the reliability-related elements of the Existing MOD A Standards. The proposed Reliability Standard requires that: (1) determinations of TTC/TFC and ATC/AFC account for applicable system limits and relevant system conditions (Requirements R1 and R2); (2) an entity's ATC, AFC, TTC, TFC, CBM and TRM methodologies are documented and available to other entities (Requirements R1-R5); (3) registered entities with a reliability need to do so have an opportunity to request that a Transmission Service Provider or Transmission Operator clarify its methodologies (Requirement R5); and (4) data underlying determinations of ATC, AFC, TTC, TFC, CBM and TRM are available to other Transmission Service Providers and Transmission Operators for use in their own determinations of such values (Requirement R6). Proposed MOD-001-2 also addresses FERC directives from Order No. 729.

While the proposed Reliability Standard does not retain those elements from the Existing MOD A Standards that are not necessary for reliability purposes, NERC and the standard drafting team for proposed MOD-001-2 recognize that certain of those elements may be essential for market or commercial purposes and should be considered by an organization, like the North American Energy Standards Board ("NAESB"), that administer business practice standards for the electric industry. As discussed further below, NERC is working with NAESB to explain the

[5] *See Electric Reliability Organization Proposal to Retire Requirements in Reliability Standards*, 145 FERC ¶ 61,147 (2013); *North American Electric Reliability Corp.*, 138 FERC ¶ 61,193, at P 81, *order on reh'g and clarification*, 139 FERC ¶ 61,168 (2012).

revised approach to the Existing MOD A Standards and provide NAESB an opportunity to consider, through its standards development process, which elements of the Existing MOD A Standards, if any, should be incorporated into NAESB's Wholesale Electric Quadrant Standards for Business Practices and Communication Protocols for Public Utilities (the "WEQ Standards"). The proposed Implementation Plan for MOD-001-2 is designed to accommodate NAESB's consideration of those elements from the Existing MOD A Standards that relate to commercial or business practices and are candidates for inclusion into its WEQ Standards.[6]

## II. NOTICES AND COMMUNICATIONS

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


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## III. BACKGROUND

### A. NERC Reliability Standards Development Procedure

The proposed Reliability Standard was developed in an open and fair manner and in accordance with the Reliability Standard development process. NERC develops Reliability

[6] To the extent that the proposed implementation period does not provide NAESB sufficient time to consider the issues, NERC is committed to working with NAESB and applicable governmental authority staff to address any timing issues.

Standards in accordance with Section 300 (Reliability Standards Development) of its Rules of Procedure and the NERC Standard Processes Manual.[7] NERC's rules provide for reasonable notice and opportunity for public comment, due process, openness, and a balance of interests in developing Reliability Standards and thus satisfies certain of the criteria for approving Reliability Standards. The development process is open to any person or entity with a legitimate interest in the reliability of the Bulk-Power System. NERC considers the comments of all stakeholders, and a vote of stakeholders and the NERC Board of Trustees is required to approve a Reliability Standard before the Reliability Standard is submitted to the applicable governmental authorities for approval.

### B. History of the Existing MOD A Standards and Project 2012-05 ATC Revisions

#### 1. Development of the Existing MOD A Standards

As noted, the Existing MOD A Standards derive from FERC's open access policies designed to develop non-discriminatory wholesale electricity markets. The obligation for Transmission Service Providers to determine ATC or AFC was first introduced in FERC Order Nos. 888[8] and 889.[9] In seeking to prohibit transmission providers from potentially using their monopoly power over transmission to unduly discriminate against others, FERC, among other things, directed transmission providers to calculate ATC, describe their methodology for such

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

[8] *Promoting Wholesale Competition Through Open Access Non-discriminatory Transmission Services by Public Utilities; Recovery of Stranded Costs by Public Utilities and Transmitting Utilities*, Order No. 888, 61 FR 21540 (May 10, 1996), FERC Stats. & Regs. ¶ 31,036 (1996), *order on reh'g*, Order No. 888-A, 62 FR 12274 (Mar. 14, 1997), FERC Stats. & Regs. ¶ 31,048 (1997), *order on reh'g*, Order No. 888-B, 81 FERC ¶ 61,248 (1997), *order on reh'g*, Order No. 888-C, 82 FERC ¶ 61,046 (1998), *aff'd in relevant part sub nom. Transmission Access Policy Study Group v. FERC*, 225 F.3d 667 (D.C. Cir. 2000), *aff'd sub nom. New York v. FERC*, 535 U.S. 1 (2002).

[9] *See Open Access Same-Time Information System (Formerly Real-Time Information Networks) and Standards of Conduct*, Order No. 889, 61 FR 21737 (May 10, 1996), FERC Stats. & Regs. ¶ 31,035 at 31,749 (1996), *order on reh'g*, Order No. 889-A, FERC Stats. & Regs. ¶ 31,049 (1997), *order on reh'g*, Order No. 889-B, 81 FERC ¶ 61,253 (1997).

calculations in an Attachment C to their Open Access Transmission Tariffs ("OATT"), and post those calculations on their Open Access Same-Time Information Systems. FERC concluded that it was "important to give potential transmission customers an easy-to-understand indicator of service availability."[10]

At that time, however, formal methods for calculating ATC or AFC did not exist.[11] Although Order Nos. 888 and 889 obligated each public utility to calculate and post ATC, and to describe their methodologies for such calculations in their OATT, FERC did not mandate the use of specific methodologies. FERC only required Transmission Service Providers to base their calculations on "current industry practices, standards and criteria."[12] As a result, FERC noted in Order No. 729, "a variety of methodologies to calculate ATC were used with very few clear rules governing their use and very often little transparency about the nature of the calculations."[13]

In February 2007 FERC issued Order No. 890 to address and remedy continued opportunities for undue discrimination under the pro forma OATT adopted in Order No. 888. Among other things, FERC sought to standardize the manner in which ATC/AFC was calculated to address market-related concerns that "the lack of a consistent and transparent methodology for calculating ATC gives transmission providers the ability and opportunity to unduly discriminate in the provision of open access transmission service."[14] FERC asserted that "[i]mproving transparency and consistency of ATC calculation methodologies will eliminate transmission service providers' wide discretion in calculating ATC and ensure that customers are treated fairly

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10 Order No. 889, FERC Stats. & Regs. ¶ 31,035 at 31,749.

11 *See* Order No. 729 at P 7.

12 Order No. 889, FERC Stats. & Regs. ¶ 31,035 at 31,750.

13 Order No. 729 at P8.

14 Order No. 890 at P 68. FERC also noted in Order No. 729 that "[o]n systems where transmission capacity is constrained, a lack of transparency and consistency in the calculation of available transfer capability has led to recurring disputes over whether transmission service providers have performed those calculations in a way that discriminates against competitors." Order No. 729 at P 90.

in seeking alternative power supplies."[15] In addition to these market-related concerns, FERC also noted that ATC/AFC calculations raise reliability issues, namely, the need for a transmission provider to know of its neighbors' system conditions affecting its own ATC values.[16]

In Order No. 890, FERC required industry-wide consistency and transparency of all components of ATC and AFC calculations and certain definitions, data and modeling assumptions.[17] In Order No. 693, FERC reiterated its concerns articulated in Order No. 890 and directed NERC and the industry to develop Reliability Standards that provide for consistency and transparency in the methodologies used by transmission providers to calculate ATC and the components thereto.[18]

In response to the requirements of Order No. 890 and related directives of Order No. 693, NERC submitted for the six Existing MOD A Standards. MOD-001-1a serves as an umbrella standard that contains the generic requirements applicable to determining ATC and AFC, and requires each applicable entity to select and implement one or more of the three methodologies found in MOD-028-2 (Area Interchange Methodology), MOD-029-1a (Rates System Path Methodology) and MOD-030-2 (Flowgate Methodology).[19] MOD-004-1 and MOD-008-1 provide for the consistent calculation, verification, preservation, and use of CBM and TRM, respectively, which, as noted above, are inputs into ATC/AFC calculations.

In Order No. 729, FERC approved the six Existing MOD A Standards but directed NERC to modify certain aspects of those standards.

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[15] See Order No. 729 at P 2.

[16] Order No. 890 at P 195.

[17] Order No. 890 at P 1029.

[18] Order No. 693 at PP 1020-22.

[19] Reliability Standards MOD-028, MOD-029, and MOD-030 share fundamental equations that, while mathematically equivalent, are written in slightly different forms. As a result, the manner of determining the components varies between methodologies. The employment of any two methodologies, given the same inputs, may produce similar, but not identical, results.

### 2. History of Project 2012-05 ATC Revisions

In February 2013 NERC initiated an informal process to develop proposed modifications to the Existing MOD A Standards to address the outstanding FERC directives from Order No. 729. Participants in this informal process were industry subject matter experts, NERC staff, and FERC staff from its Office of Electric Regulation. The informal group met numerous times between February 2013 and July 2013, both in person and by conference call, to discuss the outstanding FERC directives and, given their experience with the Existing MOD A Standards, ways to improve those standards. The informal group also conducted industry outreach to obtain feedback on the existing standards.

In evaluating the Existing MOD A Standards, the participants in the informal process concluded that a number of the requirements in those Reliability Standards provided little or no reliability benefit and may only serve a commercial function. The participants concluded, for instance, that a requirement detailing the specific methodologies that must be used to determine ATC or AFC was not necessary from a reliability perspective. Rather, the participants maintained, to address any reliability concerns, NERC's Reliability Standards need only require that: (1) entities that determine ATC/AFC and/or TTC/TFC, do so in a manner that accounts for system limits and relevant system conditions; and (2) entities share the methodologies and data used to determine ATC/AFC, TTC/TFC, CBM and TRM with other entities that need such information for their own determinations or to operate and/or plan the Bulk-Power System in a reliable manner.

The informal participants sought to reorient the Existing MOD A Standards to focus exclusively on Bulk-Power System reliability issues, consistent with the ERO's expertise and core mission of developing and enforcing standards that address Bulk-Power System reliability. To that end, the informal participants developed a proposed standard that consolidated the

Existing MOD A Standards into a single standard that exclusively addressed the reliability-related impact of ATC and AFC determinations. The intent was to remove those elements of the Existing MOD A Standards that were unnecessary from a reliability perspective, while retaining and improving upon those elements that address Bulk-Power System reliability concerns. In drafting the consolidated standard, the informal participants also sought to respond to FERC's directives from Order No. 729.

Project 2012-05 ATC Revisions (MOD A) was formally initiated on July 11, 2013 with the posting of a Standard Authorization Request along with the draft standard for a 45-day formal comment period and ballot. Following this posting, a standard drafting team of industry experts was formed, many of whom were participants in the informal process. On October 4, 2013, after addressing industry comment on the initial draft, a second draft of the proposed standard was posted for an additional 45-day comment period and ballot, which received a quorum of 81.69% and an approval of 82.97%. Following approval of the proposed standard in a Final Ballot, the NERC Board of Trustees approved proposed MOD-001-2 and the retirement of the Existing MOD A Standards on February 6, 2014.

## IV. JUSTIFICATION

As discussed in Exhibit C, proposed Reliability Standard MOD-001-2 satisfies the Reliability Standards criteria and is just, reasonable, not unduly discriminatory or preferential, and in the public interest. This section provides: (i) a discussion of the reliability issues associated with ATC and AFC determinations; (ii) an explanation of how the proposed Reliability Standard comprehensively addresses those reliability issues; (iii) a discussion of outstanding FERC directives; and (iv) a discussion of the enforceability of the proposed Reliability Standard.

### A. Reliability Issues Associated with ATC and AFC Determinations

As noted, ATC and AFC are commercially-based values used to facilitate a market for unused transmission capacity in an open access environment. Across North America there are a variety of methods used to determine ATC/AFC values based on the Transmission Service Provider's specific transmission system, market conditions, and available data, although all of the methods fall under one of the three broad methodologies set forth in MOD-028, MOD-029, and MOD-030. In general, ATC/AFC values represent a Transmission Service Provider's reasonable estimate of the transmission capacity available for sale at a particular point in time based on the following forecasted inputs: TTC/TFC, ETC, CBM, TRM, postbacks and counterflows.

ATC/AFC determinations thus reflect a Transmission Service Provider's prediction of future system conditions. For instance, when a Transmission Service Provider posts ATC/AFC values for a daily transfer 30 days in advance of the operating day for which ATC/AFC is being determined, those values are a prediction of the amount of transfer capability that will be available during that operating day based on expected system uses, load forecasts, expected outages and other system conditions. As that operating day approaches Real-time, these conditions may vary from unconstrained market conditions, to constrained, to oversold, and back to unconstrained as forecast data changes.

ATC/AFC values also reflect the Transmission Service Provider's tolerance for curtailment or redispatch risk. Depending on the type of transmission service being sold (firm or non-firm), Transmission Service Providers may reserve (or set aside) capacity – either through a TRM value or the manner in which they determine ETC, or both – to provide themselves a greater margin for responding to changing system conditions and/or Real-time events without having to curtail service. The level of risk tolerance is unique to each Transmission Service

Provider based on its expectations of the amount of committed capacity that will be used at a given point in time.[20] In some regions, Transmission Service Providers determine ATC/AFC in a manner that seeks to ensure that, following a single event, no transmission service has to be curtailed. In other regions, it is expected that following a single event, some transmission service may have to be curtailed.

Regardless of the differences in methodology or the level of a Transmission Service Provider's risk tolerance, ATC/AFC values do not directly control the operation of the Bulk-Power System. Transmission Operators are ultimately responsible for operating the grid in a reliable manner consistent with System Operating Limits, not ATC/AFC values.[21] NERC's Reliability Standards prohibit the scheduling and delivery of transmission service if such action would cause a violation of System Operating Limits or otherwise adversely affect reliability, regardless of the amount of ATC or AFC that is posted and sold by the Transmission Service Provider. It is the Transmission Operator's responsibility, when operating its system in Real-time, to monitor changing system conditions and respond to any events, such as a facility exceeding its System Operating Limit.

Nevertheless, ATC/AFC values have the potential to influence Real-time conditions on the Bulk-Power System and impact Real-time operations, and, in turn, it is important for these

[20] The amount of committed capacity will not necessarily match the amount of capacity transmission customers will actually use in Real-time. This is increasingly the case because of the proliferation of variable resources and renewable portfolio standards that encourage transmission customers to purchase transmission rights in excess of their needs so as to maintain flexibility to use energy from a number of different resources.

[21] The Transmission Operations (TOP) and Interconnection Reliability Operations and Coordination (IRO) group of Reliability Standards mandate that Transmission Operators and Reliability Coordinators operate to System Operating Limits and Interconnection Reliability Operating Limits, not ATC or AFC values. It is important to recognize that some Transmission Operators equate TTC/TFC and System Operating Limits such that the TTC/TFC value and subsequent ATC/AFC value has direct relevance to the reliability of the grid. In these areas, exceeding the TTC/TFC value would be a violation of a System Operating Limit. For other Transmission Operators, due to the configuration of their systems, TTC/TFC values do not necessarily equate to System Operating Limits. For these systems, while ATC/AFC values remain an accurate predictor of transfer capability, they are not necessarily good predictors of system reliability limits.

values to be determined in a manner that supports the reliable operation of the Bulk-Power System. Specifically, the amount of ATC/AFC that is actually purchased and scheduled has an effect on the system conditions that Transmission Operators monitor in Real-time. As more ATC/AFC is posted, sold and scheduled, the transmission system is closer to reaching its reliability operating limits. If, for instance, there is 200 MW of ATC/AFC but only 100 MW is sold and delivered in Real-time, then the transmission system is operating below its predicted limit. If all 200 MW were sold and delivered, the system is operating at the predicted limit. If, however, ATC/AFC is overestimated such that the predicted transfer capability is not consistent with or exceeds the Real-time reliability limits, it could lead to oversold conditions that place significant burdens on the Transmission Operator. That is, oversold conditions could result in the overscheduling of a constraint, Real-time system loadings approaching System Operating Limits or violations of System Operating Limits, which trigger the need for the Transmission Operator to take corrective action to maintain system reliability, whether by curtailing transmission service, redispatching generation or other means.

Accordingly, there is a need for NERC's Reliability Standards to help ensure that ATC/AFC values are determined in a manner that supports, or is consistent with, the reliable operation of the Bulk-Power System (i.e., in a manner that seeks to reduce the possibility of oversold conditions and the potential for violations of System Operating Limits). The first step in achieving this objective is to require that entities that determine TTC/TFC and/or ATC/AFC values do so in a manner that accounts for relevant reliability limits and expected system conditions. The more closely these values align with system limits and conditions in Real-time, the lesser the likelihood that oversold conditions will occur. Although ATC/AFC predictions are unlikely to exactly match system conditions in Real-time, requiring entities to account for system

limits and expected system conditions should increase the accuracy of ATC/AFC predictions and ease the burden on Transmission Operators in Real-time.

Additionally, there is a need for NERC's Reliability Standards to require Transmission Service Providers and Transmission Operators that determine ATC/AFC, TTC/TFC, ETC, CBM and TRM to do so in a transparent manner and to share information and data underlying those determinations with those who need such data for their own determinations or other reliability purposes. As FERC recognized in Order No. 890, it is important that Transmission Service Providers know of its neighbors' system conditions affecting its own ATC/AFC values.[22] The standard drafting team agreed that increasing transparency and coordination can help reduce the number of instances where ATC/AFC is overestimated. Accordingly, it is important for planners and operators of the Bulk-Power System to understand the manner in which ATC/AFC is determined by their neighbors and maintain awareness of available transmission system capability and future flows on their own systems as well as pertinent neighboring systems.

### B. Proposed MOD-001-2 Comprehensively Addresses the Reliability Issues Associated with ATC and AFC Determinations

The purpose of the proposed Reliability Standard is to replace, consolidate and improve upon the Existing MOD A Standards in establishing an efficient framework that comprehensively addresses the reliability concerns identified above. The proposed Reliability Standard helps ensure that: (1) ATC/AFC and TTC/TFC determinations account for system limits and relevant system conditions; (2) ATC/AFC, TTC/TFC, CBM and TRM methodologies are documented and available to *any* registered entity with a demonstrated reliability need for such information; (3) the data supporting those determinations are available to those entities who need such data to conduct their own determinations; and (4) *any* entity with a reliability need has

[22] Order No. 890 at P 195.

a mechanism for requesting that the Transmission Service Provider or the Transmission Operator respond to requests for clarifications regarding their ATC/AFC, TTC/TFC, CBM or TRM methodologies, as applicable.

The proposed Reliability Standard contains six requirements. Requirements R1, R2, R3 and R4 require documentation of the methodologies for determining TTC/TFC, ATC/AFC, CBM and TRM, respectively. Requirements R5 and R6 cover information and data sharing requirements. The following is a description of each requirement of proposed MOD-001-2.

Requirement R1 requires each Transmission Operator that determines TTC or TFC to "develop a written methodology (or methodologies) for determining TFC or TTC values." As noted, TTC and TFC represent the total amount of power that may be transferred from one area to another area of the system by way of all paths between those areas (TTC) or the maximum flow capability on a particular Flowgate (TFC) under specific conditions.[23] As such, TTC and TFC values are the starting points for determining ATC and AFC values. The requirement to document the TTC/TFC methodology, together with the information sharing requirements in Requirements R5 and R6, discussed below, will provide Transmission Service Providers and other Transmission Operators (and, to the extent necessary, other functional entities that need such information for reliability purposes), the ability to clearly understand how TTC/TFC values are determined. To ensure that Transmission Operators follow their written methodology and that the written methodology is updated whenever necessary, Requirement R1 provides that the written methodology must "reflect the Transmission Operator's current practices for determining TFC or TTC values."

[23] In NERC's Glossary, TTC is defined as "[t]he amount of electric power that can be moved or transferred reliably from one area to another area of the interconnected transmission systems by way of all transmission lines (or paths) between those areas under specified system conditions." TFC is defined as "[t]he maximum flow capability on a Flowgate, [] not to exceed its thermal rating, or in the case of a Flowgate used to represent a specific operating constraint (such as a voltage or stability limit), [] not to exceed the associated System Operating Limit."

As discussed above, to help ensure that ATC/AFC determinations support the reliable operation of the Bulk-Power System, TTC/TFC values need to have a sound basis in, and be derived from, system limits. To that end, Requirement R1, part 1.1 provides that each Transmission Operator's TTC/TFC methodology must describe the method used to account for the following limitations in both the pre- and post-contingency state: facility ratings, system voltage limits, transient stability limits, voltage stability limits, and other System Operating Limits.

Additionally, as noted above, to provide for reliable ATC/AFC determinations, TFC and TTC values need to account for any reliability constraints that limit those values and other system conditions forecasted for the time period for which those values are determined. Accordingly, pursuant to Requirement R1, part 1.2, a Transmission Operator's TTC/TFC methodology must describe the method used to account for each of the following elements, provided such elements impact the determination of TFC or TTC: (1) the simulation of transfers performed through the adjustment of generation, Load, or both; (2) transmission topology, including, but not limited to, additions and retirements; (3) expected transmission uses; (4) planned outages; (5) parallel path (loop flow) adjustments; (6) Load forecast; and (7) generator dispatch, including, but not limited to, additions and retirements.

Lastly, to help ensure that TTC/TFC determinations account for reliability constraints on neighboring systems, Requirement R1, part 1.3 requires that a Transmission Operator's TTC/TFC methodology "describe the process for including any reliability-related constraints that are requested to be included by another Transmission Operator." This will provide other Transmission Operators the opportunity to ensure that constraints on their systems are properly considered by neighboring entities. Part 1.3 also sets the threshold for when a requested

constraint need be included. For users of the Flowgate Method, part 1.3.1 states that an impact test must be used and, if a generator to Load transfer in a registered entity's area or a transfer to a neighboring registered entity impacts the requested constraint by five percent or greater, the requested constraint shall be included in the TFC determination. Part 1.3.2 states that users of the Area Interchange or Rated System Path Methodology must account for requested constraints that have a five percent or greater distribution factor for a transfer between areas in the TTC determination. Under part 1.3.3, a different method for determining whether requested constraints need to be included in the TFC or TTC determination may be used if agreed to by the Transmission Operators.

Assigning the responsibility for determining TTC/TFC values to Transmission Operators is consistent with the NERC Functional Model[24] and the Existing MOD A Standards. It also aligns with a Transmission Operator's responsibility of determining System Operating Limits. The Transmission Operations (TOP) and Facilities Design, Connections and Maintenance (FAC) group of Reliability Standards require that Transmission Operators establish System Operating Limits that help ensure acceptable performance criteria both pre- and post-contingency. In doing so, Transmission Operators perform power flow analyses that reflect the expected system conditions of the Bulk-Power System. To determine TTC/TFC values, a transfer analysis needs to be performed to help ensure that the TTC/TFC values are established in a manner that accounts for System Operating Limits for any specified system conditions. These transfer analyses will simulate power system transfers and establish a TTC/TFC that does not cause Facility Ratings, voltage limits, transient stability limits, and voltage stability limits to be exceeded in the pre- and post-contingency state. As such, while TTC/TFC values may not

[24] The NERC Functional Model (at 39) states that the Transmission Operator "[p]rovides Total Transfer Capabilities and System Operating Limits to, and coordinates Available Transfer Capability with, Transmission Service Provider."

necessarily equate to System Operating Limits for all systems and in all instances,[25] TTC/TFC values are most appropriately determined by the functional entity that is responsible for ensuring that Facility Ratings, voltage limits, transient stability limits, and voltage stability limits are not violated in the pre- and post-contingency state.

The standard drafting team acknowledged, however, that certain Transmission Operators may not determine TTC or TFC values because, among other things, another Transmission Operator makes the determination for their system (e.g., Regional Transmission Organizations and Independent System Operators may determine TTC/TFC for Transmission Operators in their footprint) or because it does not have a path or Flowgate for which ATC or AFC is determined. It is unnecessary for such Transmission Operators to be subject to a requirement to determine TTC/TFC. Requirement R1 is thus specifically limited to Transmission Operators that determine TTC or TFC and establishes the requirements that such Transmission Operators must satisfy in determining TTC/TFC. It does not mandate which Transmission Operators must determine TTC/TFC.

Requirement R2 requires each Transmission Service Provider that determines ATC or AFC to "develop an Available Transfer Capability Implementation Document (ATCID) that describes the methodology (or methodologies) it uses to determine AFC or ATC values." The ATCID must "reflect the Transmission Service Provider's current practices for determining AFC or ATC values." The requirement to have an ATCID works in concert with the information sharing requirements of Requirements R5 and R6 to provide the necessary transparency and coordination.

[25] In some instances, TTC/TFC values will be the same as the System Operating Limit. For instance, transient and voltage stability limits are calculated and expressed as pre-contingent path or interface flow values. Accordingly, transfer analyses are required to establish the transient and voltage stability limits. It is possible that transient stability limits and voltage stability limits may define TTC/TFC for certain paths, rendering TTC/TFC and the path's SOL to be the same value.

Because it is important for ATC/AFC values to account for system conditions at the time for which those values are determined, Requirement R2, part 2.1 provides that the ATCID must describe the method used to account for each of the following elements, provided such elements impact the determination of ATC/AFC: (1) the simulation of transfers performed through the adjustment of generation, Load, or both; (2) transmission topology, including, but not limited to, additions and retirements; (3) expected transmission uses; (4) planned outages; (5) parallel path (loop flow) adjustments; (6) Load forecast; and (7) generator dispatch, including, but not limited to, additions and retirements. This provision is not duplicative of Requirement R1, part 1.2 because some methods for determining ATC/AFC account for these elements in the determination of TTC/TFC while others do not. Part 2.1 of Requirement R2 is thus necessary to ensure that where those elements are not accounted for in the determination of TTC/TFC, the Transmission Service Provider does so in its ultimate determination of ATC/AFC.[26]

Lastly, part 2.2 of Requirement R2 provides that Transmission Service Providers that use the Flowgate Methodology shall, for reliability-related constraints identified in Requirement R1, part 1.3, use the AFC determined by the Transmission Service Provider for that constraint. This will help ensure that each Transmission Service Provider uses consistent values for those constraints.

Requirement R3 requires Transmission Service Providers to "develop a Capacity Benefit Margin Implementation Document (CBMID) that describes its method for determining CBM values." The CBMID must "reflect the Transmission Service Provider's current practices for determining CBM values." As noted above, CBM is a component of ATC/AFC and, as defined in the NERC Glossary, is the "amount of firm transmission transfer capability preserved by the

[26] Where the Transmission Operator accounts for these elements in its TTC/TFC determination, the Transmission Service Provider's ATCID need only explain that the Transmission Operator accounts for such elements when determining TTC/TFC.

[Transmission Service Provider] for Load Serving Entities (LSEs), whose loads are located on that Transmission Service Provider's system, to enable access by the LSEs to generation from interconnected systems to meet generation reliability requirements." Preservation of CBM allows an LSE to reduce its installed generating capacity below that which may otherwise have been necessary without interconnections to meet its generation reliability requirements. The transmission transfer capability preserved as CBM is intended to be used by the LSE only in times of emergency generation deficiencies. A clear explanation of how the CBM value is determined is an important aspect of a Transmission Service Provider's ability to communicate its method for determining ATC/AFC values to Transmission Operators and other entities. Because Transmission Service Providers have other obligations that reference CBM, the standard drafting team decided to require Transmission Service Providers to keep a CBMID in a separate requirement.

Requirement R4 requires each Transmission Service Provider to "develop a Transmission Reliability Margin Implementation Document (TRMID) that describes its method for determining TRM values." The TRMID must "reflect the Transmission Operator's current practices for determining TRM values." As noted above, TRM is a component of ATC/AFC and, as defined in the NERC Glossary, is the "[t]he amount of transmission transfer capability necessary to provide reasonable assurance that the interconnected transmission network will be secure." TRM accounts for the inherent uncertainty in system conditions and the need for operating flexibility to ensure reliable system operation as system conditions change. A clear explanation of how the TRM value is determined is an important aspect of a Transmission Service Provider's ability to communicate its method for determining ATC/AFC values to Transmission Operators and others. Because Transmission Service Providers have other

obligations that reference TRM, the standard drafting team decided to keep a TRMID in a separate requirement.

Requirement R5 requires each Transmission Operator and Transmission Service Provider, within 45 days of a written request from a Planning Coordinator, Reliability Coordinator, Transmission Operator, Transmission Planner, Transmission Service Provider, or any other registered entity with a reliability need, to provide the requesting entity: (1) a written response to any request for clarification of its TTC/TFC methodology, ATCID, CBMID or TRMID, as applicable; and (2) its TTC/TFC methodology, ATCID, CBMID and TRMID, as applicable, if not already publicly posted. Requirement R5 addresses the reliability need for other entities to understand the methodologies used by Transmission Service Providers for determining ATC/AFC and CBM, and the methodologies used by Transmission Operator for determining TTC/TFC and TRM. Clearly communicating the methods for determining ATC/AFC, TTC/TFC, CBM, and TRM is necessary for the reliable operation of the Bulk-Power System. As noted above, a lack of coordination and transparency could result in cases where ATC or AFC is overestimated. The requirement to provide a written response to a request for clarification provides entities a formal mechanism for the necessary coordination.

Requirement R6 provides a data sharing mechanism that allows each Transmission Operator and Transmission Service Provider to access the best available data (e.g., load forecasts, expected dispatch, planned outages) for use in its determination of AFC/ATC, TTC/TFC, CBM and TRM values, as applicable. The sharing of data is designed to help increase the accuracy of ATC/AFC, TTC/TFC, CBM and TRM determinations and, in turn, decrease the potential for oversold conditions. Requirement R6 covers both requests for data on an ongoing basis (e.g., a request for load data on a weekly or monthly basis) and requests for

data that is limited to a single occasion or on a non-recurring basis. Specifically, Requirement R6 provides as follows:

**R6.** Each Transmission Operator or Transmission Service Provider that receives a written request from another Transmission Operator or Transmission Service Provider for data related to AFC, ATC, TFC, or TTC determinations that (1) references this specific requirement, and (2) specifies that the requested data is for use in the requesting party's AFC, ATC, TFC, or TTC determination shall take one of the actions below.

**6.1** In responding to a written request for data on an ongoing basis, the Transmission Service Provider or Transmission Operator shall make available its data on an ongoing basis no later than 45 calendar days from receipt of the written request. Unless otherwise agreed upon, the Transmission Operator or Transmission Service Provider is not required to alter the format in which it maintains or uses the data or make available the requested data on a more frequent basis than it produces the data and in no event shall it be required to provide the data more frequently than once an hour.

**6.2** In responding to all other data requests, each Transmission Operator or Transmission Service Provider shall make available the requested data within 45 calendar days of receipt of the written request. Unless otherwise agreed upon, the Transmission Operator or Transmission Service Provider is not required to alter the format in which it maintains or uses the data

To ensure that Requirement R6 does not conflict with an entity's confidentiality, regulatory or security obligations, part 6.3 of Requirement R6 provides:

> If making available any requested data under parts 6.1 or 6.2 of this requirement is contrary to the Transmission Operator's or Transmission Service Provider's confidentiality, regulatory, or security requirements, the Transmission Operator or Transmission Service Provider shall not be required to make available that data; provided that, within 45 calendar days of the written request, it responds to the requesting registered entity specifying the data that is not being provided, on what basis and whether there are any options for resolving any of the confidentiality, regulatory or security concerns.

The proposed Reliability Standard includes all of the requirements necessary to facilitate a market for available transmission capacity that protects Bulk-Power System reliability. As noted above, the standard drafting team concluded that a number of requirements from the Existing MOD A Standards were not necessary to protect Bulk-Power System reliability and need not be included in the proposed Reliability Standard. The standard drafting team found that

the only requirements necessary for reliability are those that: (1) require entities to account for system limits and relevant system conditions when determining TTC/TFC and ATC/AFC; and (2) establish a framework whereby such determinations are made in a transparent fashion so that planners and operators of the Bulk-Power System maintain awareness of available transmission system capability and future flows on their own systems as well as those of their neighbors.

Accordingly, in contrast to the Existing MOD A Standards, proposed MOD-001-2 does not prescribe the specific methods an entity must use to determine ATC/AFC and its components.[27] The standard drafting team concluded that such detail is not necessary for reliability purposes. So long as an entity accounts for system limits and relevant system conditions, and shares its methodology and data with entities that need such information for reliability purposes, failure to follow one of the predetermined methods in the Existing MOD A Standards would not lead to oversold condition or otherwise adversely affect reliability. Additionally, proposed MOD-001-2 does not include requirements that address commercial or business practice issues rather than reliability needs. For example, proposed MOD-001-2 does not include the requirement from the Existing MOD A Standards that prohibits Transmission Service Providers from making transmission capability available on a more conservative basis for commercial purposes than for either planning for native load or use in actual operations. This requirement addresses the market-based concern regarding the potential for differing treatment of native load customers and transmission service customers.[28] Exhibit D hereto is a mapping document that shows which of the requirements from the Existing MOD A Standards have been

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[27] This is consistent with the approach for the calculation of System Operating Limits, Interconnection Reliability Operating Limits, and facility ratings. *See* FAC-008-3 – Facility Ratings; FAC-101-2.1 – System Operating Limits Methodology for the Planning Horizon; FAC-011-2 – System Operating Limits Methodology for the Operations Horizon. NERC's Reliability Standards do not mandate the methods an entity must use to calculate these values.

[28] *See* Order No. 729 at P 15.

carried over to the proposed Reliability Standard and which are not included, along with the standard drafting team's reasoning.

The consolidation of the reliability-based requirements of the Existing MOD A Standards into a single standard focused exclusively on requirements necessary to protect reliability is consistent with the ERO's jurisdiction over reliability matters and NERC's primary mission to develop standards that support the ***reliable*** operation of the Bulk-Power System. It is also consistent with FERC orders supporting (1) the removal of requirements from NERC's Reliability Standards that provide little protection for Bulk-Power System reliability, and (2) the modification of standards to increase the efficiency of the ERO compliance program."[29]

NERC and the standard drafting team recognize, however, that certain of the requirements from the Existing MOD A Standards that are not included in the proposed Reliability Standard may be necessary for market or commercial purposes. Accordingly, on February 7, 2014, NERC formally requested that NAESB, which administers business practice standards for the electric industry, consider whether any of those requirements are appropriate for incorporation into NAESB's WEQ Standards to help ensure a non-discriminatory market for transmission service. Prior to its formal request, NERC and the standard drafting team worked with NAESB to explain the approach in the proposed Reliability Standard and discuss the requirements that are were not being retained. NERC understands that NAESB, working through its business practice development process, is considering whether to incorporate into its WEQ Standards those elements from the Existing MOD A Standards, if any, that relate to commercial or business practices. The proposed implementation plan for MOD-001-2, as discussed below, is intended to accommodate NAESB's business practice development process.

[29] *See Electric Reliability Organization Proposal to Retire Requirements in Reliability Standards*, 145 FERC ¶ 61,147 (2013); *North American Electric Reliability Corp.*, 138 FERC ¶ 61,193, at P 81, *order on reh'g and clarification*, 139 FERC ¶ 61,168 (2012).

### C. Proposed MOD-001-2 Satisfies Outstanding FERC Directives

In Order No. 729, FERC directed the ERO to develop certain modifications to the Existing MOD A Standards. As discussed below, the standard drafting team addressed those directives to the extent that they relate to the reliability requirements retained in proposed MOD-002-1. For those directives that relate to requirements that were not retained in the proposed Reliability Standard, NAESB may consider whether those directives are appropriately addressed in its WEQ Standards. The following is a discussion of each of the outstanding directives from Order No. 729, which are also described in Exhibit E hereto.

*Date Retention*: FERC directed NERC to increase the document retention requirements of the Existing MOD A Standards to a term of five years to be consistent with the enforcement provisions in Order No. 670.[30] Consistent with FERC's directive, proposed MOD-001-2 requires applicable registered entities to retain the implementation/methodology documents required under Requirements R1-R4 for five years. The proposed standard provides a graduated time frame for the retention of data related to the calculation of hourly, daily, and monthly values. Evidence of hourly values must be retained for 14 days, daily values for 30 days and monthly values for 60 days. The standard drafting team concluded there was little to no reliability benefit of requiring entities to retain such detailed supporting data of the calculations for longer periods. To comply with FERC requirements under Order No. 670, however, entities may be required to retain such supporting data for longer periods.

*Disclosure of Methodology Documents*: FERC directed NERC to modify MOD-001-1 to require disclosure of implementation documents to *any* registered entity who demonstrates a

[30] Order No. 729 at P 129.

reliability need for such information.[31] Consistent with FERC's directive, Requirement R5 of the proposed Reliability Standard requires that the implementation documents be made available to *any* registered entity that demonstrates a reliability need for such information.

*Consideration of Generator and Transmission Line Ratings*: FERC directed NERC to consider the treatment of generator nameplate ratings and transmission line ratings in the calculation of ATC/AFC.[32] FERC has since withdrawn this directive and it is not addressed in the proposed standard.[33] NERC notes that because the treatment of generator nameplate and transmission line ratings relate to the determination of TTC/TFC and ETC, a Transmission Operator's and Transmission Service Provider's treatment of facility ratings will be disclosed in its written methodology for TTC/TFC or its ATCID, respectively, in accordance with Requirements R1 and R2 of the proposed standard. Further, to the extent that this issue relates to a commercial or business practice, NAESB may consider whether it is appropriate to address this directive in its WEQ Standards.

*Benchmarking and Updating Requirements*: FERC directed NERC to develop benchmarking and updating requirements to measure modeled available transfer and Flowgate capabilities against actual values.[34] FERC stated that "[u]pdating and benchmarking of models to actual events will ensure greater accuracy, which will benefit information provided to and used by adjacent transmission service providers who rely upon such information to plan their systems"[35] The standard drafting team concluded that, by improving transparency, the proposed

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31 Order No. 729 at P 151.

32 Order No. 729 at P 160.

33 *Electric Reliability Organization Proposal to Retire Requirements in Reliability Standards*, 145 FERC ¶ 61,147 at PP 25-26, Attachment A (2013).

34 Order No. 729 at P 162.

35 *Id*.

Reliability Standard is responsive to FERC's concern of increasing accuracy of ATC/AFC predictions. Requirements R1 (part 1.2) and R2 (part 2.1) of the proposed standard require that a Transmission Operator's and a Transmission Service Provider's methods for determining TTC/TFC and AFC/ATC, respectively, account for system topology, including additions and retirements as well as expected system usage, planned outages, Load forecast and expected generation dispatch. By describing how the methodology accounts for these elements, adjacent systems will be able to effectively model their own transfer or Flowgate capabilities. The standard drafting team found that because each part of the country has a different sensitivity to these elements and the frequency with which they change, there was no additional reliability benefit in mandating the frequency with which an entity must benchmark or update its models. Additionally, under Requirement R5, a Transmission Service Provider or a Transmission Operator may be requested to clarify its benchmarking and updating practices, if not already set forth in its documented methodology. Finally, pursuant to Requirement R6 of the proposed standard, entities are required to share their data with others, which also increases the accuracy of ATC/AFC predictions by proving entities access to the most up to date information available.

*Specifying Base Generation Schedules*: FERC directed that NERC develop modifications to MOD-028-1 and MOD-029-1 related to the treatment of base generation schedules used in the calculation of ATC.[36] The standard drafting team determined that this directive does not relate to the reliability issues associated with ATC or AFC determinations and, in turn, it did not explicitly address this directive in the proposed standard. Specifically, the standard drafting

[36] Order No. 729 at P 173. Specifically, FERC directed NERC to modify MOD-028-1 and MOD-029-1 to specify that base generation schedules used in the calculation of available transfer capability will reflect the modeling of all designated network resources and other resources that are committed to or have the legal obligation to run, as they are expected to run, and to address the effect on available transfer capability of designating and undesignating a network resource.

team concluded that there is no reliability purpose served by mandating how generation and network resources should be treated so long as it is transparent. Under Requirement R2 of the proposed standard, a Transmission Service Provider is expected to describe its practices related to the treatment of base generation schedules and the effect of designating and undesignating a network resource. Additionally, under Requirement R5 of the proposed Reliability Standard, the Transmission Service Provider is required to respond to requests for clarification of its practices on this issue. To the extent necessary from a market perspective, NAESB may consider whether to address this issue in its WEQ Standards.

*Updates for Constrained Facilities*: FERC directed NERC to consider comments regarding the need to require more frequent updates on constrained facilities.[37] FERC has since withdrawn this directive and it is not addressed in the proposed standard.[38] NERC notes, however, that an entity's ATCID could address this issue. To the extent this issue is relevant from a commercial perspective, NAESB may also consider whether to address this issue in its WEQ standards.

*Updates due to Changes in System Conditions*: FERC directed modifications to MOD-001-1 and MOD-030-2 to clarify that material changes in system conditions will trigger an update to ATC/AFC values whenever practical.[39] The standard drafting team determined that it was not necessary to explicitly address this directive in the proposed standard. That is because the methodology described in the ATCID should include the entity's updating practices. An explicit requirement to update values whenever practical is unnecessary. Further, updating ATC/AFC values as soon as practical primarily serves a commercial need to provide updated

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[37] Order No. 729 at P 179.

[38] *Electric Reliability Organization Proposal to Retire Requirements in Reliability Standards*, 145 FERC ¶ 61,147 at PP 25-26, Attachment A (2013).

[39] Order No. 729 at P 179.

information to the market. From a reliability perspective, it is ultimately the Transmission Operator's responsibility to operate the system in a reliable manner and consistent with SOLs, which update as system conditions change. To the extent necessary from a commercial perspective, NAESB may consider whether to address this issue in its WEQ Standards.

*Double Counting*: FERC directed modifications to MOD-001-1 to prevent double counting of data inputs and assumptions.[40] The standard drafting team concluded that the proposed Reliability Standard is responsive to FERC's concern. By requiring the documentation and disclosure of the methodologies for determining TTC/TFC, AFC/ATC, CBM and TRM, entities will understand how Transmission Operators and Transmission Service Providers determine these values and, in turn, understand where there is potential for double counting. If the potential for double counting is identified, entities can take the necessary steps to reduce the risks associated with double-counting, including using Requirement R5 to request that the applicable Transmission Operator or Transmission Service Provider provide clarification. To the extent it deems necessary, NAESB may consider whether the potential for double-counting needs to be addressed in greater detail in its business practice standards to address any market-related concerns.

*Inconsistent Modeling Practices*: FERC directed modifications to MOD-001-1 to require that entities "include in their implementation documents any inconsistent modeling practices along with a justification for such inconsistencies."[41] The proposed standard is responsive to FERC's concern. Requirement R1, part 1.2 and Requirement R2, part 2.1 require that Transmission Operators and Transmission Service Providers document their modeling practices

[40] Order No. 729 at P 184.

[41] Order No. 729 at P 192.

for determining TTC/TFC and AFC/ATC, respectively.[42] Entities will thus be required to disclose any inconsistent modeling practices (e.g., whether they use different modeling practices for different time frames). Additionally, Requirement R5 allows entities to request that Transmission Service Providers and Transmission Operators clarify their methodologies, which may include requests related to the Transmission Service Providers' and Transmission Operators' modeling practices. Should NAESB see a need for additional detail on modeling practices for purposes of ensuring a non-discriminatory market, it may further consider this directive.

*Clarification of Requirements R6 and R7 of MOD-001-1*: FERC directed the ERO to consider comments regarding (i) clarifying the terms "assumptions" and "no more limiting" as used in Requirements R6 and R7 of MOD-001-1, and (ii) the use of data and assumptions for ATC/AFC and TTC/TFC determinations that are consistent with those used in the planning of operations and system expansion.[43] FERC has since withdrawn this directive and it is not addressed in the proposed standard.[44] To the extent these issues relate to business practices, NAESB may consider this issue in its standards development process.

*Determination of Generation Capability Import for CBM*: FERC directed modification to MOD-004-1 to require Load Serving Entities and Resource Planners to determine generation capability import requirements by reference to one or more relevant studies and applicable reserve margin or resource adequacy requirements.[45] The standard drafting team determined that it was not necessary to specifically address this directive in the proposed standard. The purpose

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[42] For example, entities must describe how they account for "[t]ransmission topology, including, but not limited to, additions and retirements."

[43] Order No. 729 at P 200.

[44] *Electric Reliability Organization Proposal to Retire Requirements in Reliability Standards*, 145 FERC ¶ 61,147 at PP 25-26, Attachment A (2013).

[45] Order No. 729 at P 220.

of the proposed Reliability Standard is to help ensure that the determination of ATC/AFC is accomplished in a manner that supports the reliable operation of the Bulk-Power System. Because CBM is an input into ATC/AFC values, it is important to understand how a Transmission Service Provider determines CBM; however, there is no additional reliability benefit to the transmission system in prescribing the manner in which it determines CBM or the manner in which Load Serving Entities or Resource Planners determine the appropriate generation capacity import requirement as part of the sum of CBM to be requested. From a reliability perspective, it is only important to understand the manner in which such determinations are made. To the extent this is relevant from a commercial perspective, NAESB may consider this directive in its standards development process.

*Clarification of Term "manage"*: FERC directed NERC to modify MOD-004-1 to clarify the term "manage" in Requirement R1.3 to clarify how the transmission service provider will manage situations where the requested use of CBM exceeds the CBM available. As noted above, under the proposed Reliability Standard, the Transmission Service Provider must describe its method for determining CBM in its CBMID. As part of describing its method in the CBMID, a TSP is expected to describe the manner in which it will manage situations where the requested use of CBM exceeds the CBM available. As such, the standard drafting team determined that it is unnecessary to include a specific requirement obligating the TSP to clarify how it will manage such situations. Additionally, the standard drafting team notes that should a Load Serving Entity not receive all of the CBM it requests, it has the opportunity to make other arrangements to obtain any necessary capacity. To the extent this issue is relevant to commercial practices, NAESB may consider this issue further.

*Clarification of Phrase "adjacent and beyond Reliability Coordination areas"*: FERC understood sub-requirement R2.2 of MOD-028-1 to mean that, when determining TTC, a Transmission Operator shall use a transmission model that includes relevant data from reliability coordination areas that are not adjacent. FERC directed NERC to modify sub-requirement R2.2 to clarify the phrase "adjacent and beyond Reliability Coordination areas." FERC has since withdrawn this directive and it is not addressed in the proposed standard.[46] Additionally, proposed MOD-001-2 does not use the phrase "adjacent and beyond Reliability Coordination areas."

*Graduated Timeframe for Posting TTC*: FERC directed NERC to consider modifications to MOD-028-01 related to including a graduated timeframe for posting TTC.[47] FERC has since withdrawn this directive and it is not addressed in the proposed standard.[48] To the extent this issue relates to commercial practices, NAESB may consider this issue in its standards process.

*Distribution Factors used in Calculating TTC*: FERC directed NERC to modify MOD-028-1 to state that the distribution factors used in calculating TTC must be clearly stated in the implementation document and applied consistently.[49] The standard drafting team concluded that the proposed Reliability Standard is responsive to FERC's concern. First, the proposed reliability standard requires disclosure of the Transmission Operator's method(s) for determining TTC/TFC and the Transmission Service Provider's method(s) for determining ATC/AFC. These methods will describe the manner in which such entities use distribution factors. The description must reflect current practices. Further, to the extent an entity seeks clarity on how distribution

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[46] *Electric Reliability Organization Proposal to Retire Requirements in Reliability Standards*, 145 FERC ¶ 61,147 at PP 25-26, Attachment A (2013).

[47] Order No. 729 at P 234.

[48] *Electric Reliability Organization Proposal to Retire Requirements in Reliability Standards*, 145 FERC ¶ 61,147 at PP 25-26, Attachment A (2013).

[49] Order No. 729 at P 237.

factors are used, it may request such clarification under Requirement R5. Additionally, Requirement R1, part 1.3 of the proposed Reliability Standard requires that Transmission Operators include, upon request, transmission constraints on neighboring systems that could impact their TTC/TFC determination. Users of the Area Interchange or Rated System Path Methodology must describe the process they use in their TTC determinations to account for requested constraints that have a five percent or greater distribution factor for a transfer between areas, unless a different method is agreed upon.

*Calculating Non-Firm ATC Using Counterschedules*: FERC directed NERC to consider a commenters' concern regarding calculating non-firm ATC using counterschedules as opposed to counterflows. FERC has since withdrawn this directive and it is not addressed in the proposed standard.[50] To the extent this issue relates to commercial practices, NAESB may consider this issue in its standards process.

*Effective Date of MOD-030-2*: In Order No. 729, FERC noted that MOD-030-2 defines its effective date with reference to the effective date of MOD-030-1.[51] FERC directed NERC to make the effective date explicit in any future versions of MOD-030-2 or any other Reliability Standard. FERC has since withdrawn this directive and it is not addressed in the proposed standard.[52] In any event, the effective date for proposed MOD-001-2 is explicit and does not reference any earlier version of the Reliability Standard.

*Modifications to Defined Terms*: FERC directed NERC to clarify or modify the following terms used in the Existing MOD A Standards: "Postback," "Business Practices" and

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[50] *Electric Reliability Organization Proposal to Retire Requirements in Reliability Standards*, 145 FERC ¶ 61,147 at PP 25-26, Attachment A (2013).

[51] Order No. 729 at P 269.

[52] *Electric Reliability Organization Proposal to Retire Requirements in Reliability Standards*, 145 FERC ¶ 61,147 at PP 25-26, Attachment A (2013).

"ATC Path."[53] Because none of these terms are used in the proposed Reliability Standard, the standard drafting team did not address these directives. Removal of, or revisions to, these terms will be addressed in a subsequent standards development project related to the NERC Glossary. To the extent that these terms are used in NAESB's standards, NAESB may consider whether there is a need to clarify the meaning of those terms.

### D. Enforceability of Proposed MOD-001-2

The proposed Reliability Standard includes VRFs and VSLs. The VRFs and VSLs provide guidance on the way that NERC will enforce the requirements of the proposed Reliability Standard. The VRFs and VSLs for the proposed Reliability Standard comport with NERC and FERC guidelines related to their assignment. For a detailed review of the VRFs, the VSLs, and the analysis of how the VRFs and VSLs were determined using these guidelines, please see Exhibit F.

The proposed Reliability Standard also includes measures that support each requirement by clearly identifying what is required and how the requirement will be enforced. These measures help ensure that the requirements will be enforced in a clear, consistent, and non-preferential manner and without prejudice to any party.[54]

## V. EFFECTIVE DATE

The effective date of the proposed Reliability Standard and the retirement of the Existing MOD A Standards is described in the Implementation Plan, attached hereto as Exhibit B. The proposed implementation period is intended to provide NAESB sufficient time to include in its WEQ Standards, prior to the effective date of proposed MOD-001-2 and the retirement of the

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[53] Order No. 729 at PP 304, 305, 306.

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

Existing MOD A Standards, those elements from the Existing MOD A Standards, if any, that relate to commercial or business practices and are not included in proposed MOD-001-2. Should NAESB and its members determine that elements from the Existing MOD A Standards need to be incorporated into the WEQ Standards, 18 months provides NAESB time, working through its business practice development process, to adopt revised WEQ Standards and for the applicable governmental authority to incorporate by reference those revised WEQ Standards into its regulations. To the extent that the proposed implementation period does not provide NAESB sufficient time to consider the issues, NERC is committed to working with NAESB and applicable governmental authority staff to address any timing issues. NERC has requested that NAESB adopt any revised WEQ Standards to become effective on the same date that the proposed MOD-001-2 and the retirement of the Existing MOD A Standards will become effective.

Respectfully submitted,

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# Exhibits A, B, and D – H

## (Available on the NERC Website at

http://www.nerc.com/FilingsOrders/ca/Canadian%20Filings%20and%20Orders%20DL/Attachments_MOD-001-2_filing.pdf)

## EXHIBIT C

## Reliability Standards Criteria

The discussion below explains how the proposed Reliability Standard has met or exceeded the Reliability Standards criteria:

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

The proposed Reliability Standard achieves the specific reliability goal of ensuring that determinations of Available Transfer Capability ("ATC") and Available Flowgate Capability ("AFC") and their components – Total Transfer Capability ("TTC") or Total Flowgate Capability ("TFC"), Existing Transmission Commitments ("ETC"), Capacity Benefit Margins ("CBM"), and Transmission Reliability Margins ("TRM") – are accomplished in a manner that supports the reliable operation of the Bulk Power System. ATC and AFC values are commercial in nature, representing the amount of unused transmission capacity that a Transmission Service Provider is willing to make available for sale to third parties to accommodate additional requests for transmission service. To ensure that such determinations do not impact reliable operations, the proposed Reliability Standard requires that ATC and AFC values (1) account for applicable system limits and relevant system conditions, and (2) are determined in a transparent manner such that planners and operators of the Bulk-Power System maintain awareness of available transmission system capability and future flows on their own systems as well as pertinent neighboring systems.

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

The proposed Reliability Standard is clear and unambiguous as to what is required and who is required to comply. The proposed Reliability Standard applies to Transmission Service

Providers and Transmission Operators that determine ATC, AFC, TTC, TFC, CBM and/or TRM. The proposed Reliability Standard clearly articulates the actions that such entities must take to comply with the standard.

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

The Violation Risk Factors ("VRFs") and Violation Severity Levels ("VSLs") for the proposed Reliability Standard comport with NERC and FERC guidelines related to their assignment. The assignment of the severity level for each VSL is consistent with the corresponding requirement and the VSLs should ensure uniformity and consistency in the determination of penalties. The VSLs do not use any ambiguous terminology, thereby supporting uniformity and consistency in the determination of similar penalties for similar violations. For these reasons, the proposed Reliability Standard includes clear and understandable consequences in accordance with the Reliability Standards criteria.

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

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

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

The proposed Reliability Standard achieves the reliability goal effectively and efficiently. By exclusively focusing on the reliability issues associated with ATC and AFC determinations, the proposed Reliability Standard represents a more effective and efficient approach to addressing the reliability concerns associated with such determinations than currently exists in NERC's Reliability Standards.

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

The proposed Reliability Standard does not reflect a "lowest common denominator" approach. To the contrary, the proposed Reliability Standard represents a significant improvement over the existing standards pertaining to ATC/AFC. The proposed Reliability Standard requires that an entity's methodologies be documented and available to others and that those methodologies account for factors, like system limits, necessary to protect reliability.

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

The proposed Reliability Standard applies throughout North America and does not favor one geographic area or regional model. In fact, the proposed Reliability Standard supports the various ways in which ATC and AFC are determined across the continent.

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

The proposed Reliability Standard has no undue negative impact on competition. The standard does not restrict ATC/AFC or limit use of the Bulk-Power System in a preferential manner. In fact, the changes in the proposed Reliability Standard are designed, in part, to ensure that NERC's Reliability Standards do not address or impact market issues.

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

The proposed effective date for the standard is just and reasonable. Because the proposed Reliability Standard removes many requirements from the existing ATC-related standards that may be relevant to commercial or market practices, NERC has requested that the North American Energy Standards Board ("NAESB") consider whether any of those requirements should be adopted into its Wholesale Electric Quadrant Standards for Business Practices and Communication Protocols for Public Utilities (the "WEQ Standards"). The proposed implementation plan is designed to allow NAESB sufficient time to include in its WEQ Standards, prior to the effective date of proposed MOD-001-2 and the retirement of the currently effective MOD A Standards, those elements from the MOD A Standards that relate to commercial or business practices and are not included in proposed MOD-001-2. The implementation period also provides time for NERC registered entities to make any changes in their internal process necessary to implement MOD-001-2. The proposed effective dates are explained in the proposed Implementation Plan, attached as Exhibit B.

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

The proposed Reliability Standard was developed in accordance with NERC's ANSI-accredited processes for developing and approving Reliability Standards. Exhibit F includes a

summary of the Reliability Standard development proceedings, and details the processes followed to develop the Reliability Standards. These processes included, among other things, comment and balloting periods. Additionally, all meetings of the drafting team were properly noticed and open to the public. The initial and additional ballots achieved a quorum and exceeded the required ballot pool approval levels.

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

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

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

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