

May 20, 2014

**VIA ELECTRONIC FILING**

David Erickson  
President and Chief Executive Officer  
Alberta Electric System Operator  
2500, 330 - 5 Avenue SW  
Calgary, Alberta  
T2P 0L4

RE: *North American Electric Reliability Corporation*

Dear Mr. Erickson:

The North American Electric Reliability Corporation (“NERC”) hereby submits Notice of Filing of the North American Electric Reliability Corporation of Proposed Reliability Standard MOD-031-1 and Retirement of Reliability Standards MOD-016-1.1, MOD-017-0.1, MOD-018-0, MOD-019-0.1 and MOD-021-1. NERC requests, to the extent necessary, a waiver of any applicable filing requirements with respect to this filing.

NERC understands the AESO may adopt the proposed reliability standards subject to Alberta legislation, principally as established in the *Transmission Regulation* (“the T Reg.”). Briefly, it is NERC’s understanding that the T Reg. requires the following with regard to the adoption in Alberta of a NERC Reliability Standard:

1. The AESO must consult with those market participants that it considers are likely to be directly affected.
2. The AESO must forward the proposed reliability standards to the Alberta Utilities Commission for review, along with the AESO’s recommendation that the Commission approve or reject them.
3. The Commission must follow the recommendation of the AESO that the Commission approve or reject the proposed reliability standards unless an interested person satisfies the Commission that the AESO’s recommendation is “technically deficient” or “not in the public interest.”

Further, NERC has been advised by the AESO that the AESO practice with respect to the adoption of a NERC Reliability Standard includes a review of the NERC Reliability Standard for applicability to Alberta legislation and electric industry practice. NERC has been advised that, while the

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objective is to adhere as closely as possible to the requirements of the NERC Reliability Standard, each NERC Reliability Standard approved in Alberta (called an “Alberta reliability standard”) generally varies from the similar and related NERC Reliability Standard.

NERC requests the AESO consider MOD-031-1, as described in the attached filing, for adoption in Alberta as an “Alberta reliability standard(s),” and the retirement of Reliability Standards MOD-016-1.1, MOD-017-0.1, MOD-018-0, MOD-019-0.1 and MOD-021-1, subject to the required procedures and legislation of Alberta.

Please contact the undersigned if you have any questions.

Respectfully submitted,

/s/ Holly A. Hawkins

Holly A. Hawkins

*Associate General Counsel for  
North American Electric Reliability  
Corporation*

Enclosure

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**BEFORE THE  
ALBERTA ELECTRIC SYSTEM OPERATOR**

**NORTH AMERICAN ELECTRIC )  
RELIABILITY CORPORATION )**

**NOTICE OF FILING OF THE NORTH AMERICAN ELECTRIC RELIABILITY  
CORPORATION OF PROPOSED RELIABILITY STANDARD MOD-031-1 AND  
RETIREMENT OF RELIABILITY STANDARDS MOD-016-1.1, MOD-017-0.1, MOD-  
018-0, MOD-019-0.1 AND MOD-021-1**

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*Counsel for the North American Electric  
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May 20, 2014

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<b>Exhibit A</b>	Proposed Reliability Standard
<b>Exhibit B</b>	Implementation Plan
<b>Exhibit C</b>	Reliability Standards Criteria
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<b>Exhibit E</b>	Analysis of Violation Risk Factors and Violation Security Levels
<b>Exhibit F</b>	Summary of Development History and Record of Development
<b>Exhibit G</b>	Standard Drafting Team Roster

**BEFORE THE  
ALBERTA ELECTRIC SYSTEM OPERATOR**

**NORTH AMERICAN ELECTRIC )  
RELIABILITY CORPORATION )**

**NOTICE OF FILING OF THE NORTH AMERICAN ELECTRIC RELIABILITY  
CORPORATION OF PROPOSED RELIABILITY STANDARD MOD-031-1 AND  
RETIREMENT OF RELIABILITY STANDARDS MOD-016-1.1, MOD-017-0.1, MOD-  
018-0, MOD-019-0.1 AND MOD-021-1**

The North American Electric Reliability Corporation (“NERC”) hereby submits proposed Reliability Standard MOD-031-1 – Demand and Energy Data. Proposed Reliability Standard MOD-031-1 (Exhibit A) is just, reasonable, not unduly discriminatory or preferential, and in the public interest.<sup>1</sup> 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 E), (iii) the proposed NERC Glossary definitions for the terms Demand Side Management (“DSM”) and Total Internal Demand, and (iv) the retirement of currently effective Reliability Standards MOD-016-1.1, MOD-017-0.1, MOD-018-0, MOD-019-0.1 and MOD-021-1 (the “Existing MOD C Standards”), as detailed in this filing.

This filing presents the technical basis and purpose of proposed Reliability Standard MOD-031-1, a summary of the development history (Exhibit F) 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-031-1, the associated Implementation Plan and the new and modified NERC Glossary terms on May 7, 2014.

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<sup>1</sup> 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](http://www.nerc.com/files/Glossary_of_Terms.pdf)

## **I. EXECUTIVE SUMMARY**

Proposed Reliability Standard MOD-031-1 is designed to replace, consolidate and improve upon the Existing MOD C Standards in addressing the collection and aggregation of Demand and energy data necessary to support reliability assessments performed by the ERO and Bulk-Power System planners and operators.<sup>2</sup> The reliability of the Bulk-Power System is dependent on having an adequate amount of resources and transmission infrastructure available to serve peak Demand while also maintaining a sufficient margin to address operating events.<sup>3</sup> Accordingly, it is vital for entities and the ERO, consistent with its U.S. statutory obligation,<sup>3</sup> to perform reliability studies to assess resource and transmission adequacy, and identify the need for any Bulk-Power System reinforcements (e.g., new generation plants or transmission lines) to help ensure the continued reliable operation of the Bulk-Power System. The purpose of the proposed Reliability Standard is to provide applicable entities the authority to establish comprehensive data requirements and reporting procedures for the collection of actual and forecast Demand and energy (i.e., Demand, Net Energy for Load and Demand Side Management) data necessary to support the development of reliability assessments.

As explained below, the framework established in proposed MOD-031-1 provides planners and operators of the Bulk-Power System access to actual and forecast Demand and energy data, as well as other related information, needed to perform resource adequacy studies. The proposed Reliability Standard also supports the continued development of the reliability

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<sup>2</sup> Currently effective Reliability Standard MOD-020-0 also relates to the collection of Demand and energy data, specifically, the provision of interruptible Demand and direct control load management data to System Operators and Reliability Coordinators. Because Reliability Standard MOD-020-0 applies to the operational time frame, as opposed to the planning horizon to which the Existing MOD C Standards apply, the proposed Reliability Standard does not address the issues currently covered by Reliability Standard MOD-020-0 nor is Reliability Standard MOD-020-0 proposed for retirement. However, the proposed Reliability Standard addresses the outstanding FERC directive related to MOD-020-0, as discussed below.

<sup>3</sup> FPA Section 215(g) requires the ERO to conduct periodic assessments of the reliability and adequacy of the Bulk-Power System in North America. 16 U.S.C. § 824o(g) (2006).

assessments prepared by the ERO. NERC has the responsibility under Section 215 of the Federal Power Act (“FPA”) to prepare assessments of the overall reliability and adequacy of the North American Bulk-Power System.<sup>4</sup> NERC prepares seasonal and long-term assessments to examine the current and future reliability, adequacy and security of the North American Bulk-Power System in accordance with Section 800 of its Rules of Procedure. NERC’s reliability assessments identify notable trends, emerging issues, and potential concerns regarding future electricity supply, as well as the overall adequacy of the Bulk-Power System to meet future Demand. These assessments inform industry, policy makers, and governmental authorities of Bulk-Power System reliability needs and guide their decisions for the electric industry.

Proposed MOD-031-1 was developed to address Federal Energy Regulatory Commission (“FERC”) directives from Order No. 693<sup>5</sup> to modify the Existing MOD C Standards. Consistent with those directives, proposed MOD-031-1 improves upon the Existing MOD C Standard by: (1) streamlining the Reliability Standards to clarify data collection requirements; (2) including Transmission Planners as applicable entities that must report Demand and energy data; (3) requiring applicable entities to report weather-normalized annual peak hour actual Demand data from the previous year to allow for meaningful comparison with forecasted values; and (4) requiring applicable entities to provide an explanation of, among other things: (i) how their Demand Side Management forecasts compare to actual Demand Side Management for the prior calendar year and, if applicable, how the assumptions and methods for future forecasts were adjusted.; and (ii) how their peak Demand forecasts compare to actual Demand for the prior calendar year with due regard to any relevant weather-related variations (e.g., temperature,

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<sup>4</sup> 16 U.S.C. § 824o(g); 18 C.F.R. § 39.11.

<sup>5</sup> *Mandatory Reliability Standards for the Bulk-Power System*, Order No. 693, 72 FR 16416 (Apr. 4, 2007), FERC Stats. & Regs. ¶ 31,242, at PP 1131-1222 (2007), *order on reh’g*, Order No. 693-A, 120 FERC ¶ 61,053 (2007).

humidity, or wind speed) and, if applicable, how the assumptions and methods for future forecasts were adjusted. Consistent with FERC's directives, NERC is also proposing to revise the definition of Demand-Side Management to include activities or programs undertaken by *any applicable entity*, not just a Load Serving Entity or its customers, to achieve a reduction in Demand.

Proposed Reliability Standard MOD-031-1 consists of four requirements that collectively help to ensure that the necessary Demand and energy data is available to those entities that perform reliability assessments, as follows:

- *Requirement R1* mandates that each Planning Coordinator<sup>6</sup> or Balancing Authority<sup>7</sup> that identifies a need for the collection of Demand and energy data shall develop and issue a data request for such data from relevant entities in its area. The requirement mandates that the data request clearly identify: (i) the entities responsible for providing the data; (ii) the data to be provided by each entity; and (iii) the schedule for providing the data. Requirement R1 also specifies the type of Demand and energy data that may be requested.
- *Requirement R2* obligates the entities identified in a data request issued pursuant to Requirement R1 to provide the requested data to their Planning Coordinator or Balancing Authority, as applicable, pursuant to the format and schedule specified in the data request.
- *Requirement R3* requires that the Planning Coordinator or the Balancing Authority, as applicable, provide the data collected under Requirement R2 to their Regional Entity, if requested, to facilitate the ERO's development of reliability assessments.
- *Requirement R4* requires entities to share their Demand and energy data with any Planning Coordinator, Balancing Authority, Transmission Planner or Resource Planner that demonstrates a reliability need for such data, subject to applicable confidentiality,

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<sup>6</sup> As provided in the NERC Glossary, a Planning Coordinator is the same functional entity as a Planning Authority. Both are defined as "[t]he responsible entity that coordinates and integrates transmission facility and service plans, resource plans, and protection systems." The Reliability Functional Model uses the phrase "Planning Coordinator" to refer to such entities while NERC's registration criteria uses the term "Planning Authority." Applicability Section 4.1.1 of the proposed Reliability Standard lists both Planning Coordinators and Planning Authorities to avoid confusion as to which registered entities are subject to the proposed Reliability Standard. As explained in Applicability Section 4.1.1, however, the requirements of the proposed Reliability Standard only use the term "Planning Coordinator."

<sup>7</sup> As explained further below, Planning Coordinators are the entities that collect and aggregate the Demand and energy data in certain regions while in other regions Balancing Authorities serve that function. The proposed Reliability Standard does not change those practices.



regulatory or security restrictions. The requirement to share such data helps ensure that planners and operators of the Bulk-Power System have access to complete and accurate data necessary to conduct their own resource adequacy assessments.

By providing for consistent documentation and information sharing practices for the collection and aggregation of Demand and energy data, proposed Reliability Standard MOD-031-1 promotes efficient planning practices and supports the identification of needed system reinforcements. Furthermore, the requirement in the proposed Reliability Standard to report actual Demand, Net Energy for Load and Demand-Side Management data from the prior year will allow for comparison to prior forecasts and further contribute to enhanced accuracy of load forecasting practices. These activities ultimately enhance the reliability of the Bulk Electric System.

## **II. NOTICES AND COMMUNICATIONS**

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

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### **III. BACKGROUND**

#### **A. NERC Reliability Standards Development Procedure**

The proposed Reliability Standard was developed in an open and fair manner and in accordance with the Reliability Standard development process. NERC develops Reliability Standards in accordance with Section 300 (Reliability Standards Development) of its Rules of Procedure and the NERC Standard Processes Manual.<sup>8</sup> NERC's proposed rules provide for reasonable notice and opportunity for public comment, due process, openness, and a balance of interests in developing Reliability Standards and thus 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. The Existing MOD C Standards**

The Existing MOD C Standards are designed to help ensure that historical and forecasted Demand and energy data is available for past event validation and future system assessment. In particular, the Existing MOD C Standards, along with Reliability Standard MOD-020-0, require the collection of actual and forecast Demand data necessary to analyze the resource needs to serve peak Demand while maintaining a sufficient margin to address operating events, as follows:

- MOD-016-1.1 is the umbrella standard that contains the documentation required for the data collection requirements. Specifically, it requires the Planning Authority and the

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<sup>8</sup> 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](http://www.nerc.com/comm/SC/Documents/Appendix_3A_StandardsProcessesManual.pdf).

Regional Reliability Organization (now referred to as the Regional Entity) to have documentation identifying the scope and details of the actual and forecast Demand and load data, and controllable DSM data to be reported for system modeling and reliability analysis.

- MOD-017-0.1 provides for the data requirements for actual and forecast peak Demand and Net Energy for Load. It requires Load Serving Entities, Planning Authorities, and Resource Planners to annually provide aggregated information on: (1) integrated hourly Demands; (2) actual monthly and annual peak Demand (MW) and net load energy (GWh) for the prior year; (3) monthly peak Demand forecasts and net load energy for the next two years and (4) annual peak demand forecasts (summer and winter) and annual net load energy for at least five and up to ten years into the future.
- MOD-018-0 requires Load Serving Entities, Planning Authorities, Transmission Planners and Resource Planners to submit load data reports that: (1) indicate whether the Demand data includes the Regional Reliability Organization's non-members' Demands and (2) addresses how assumptions, methods and uncertainties are treated.
- MOD-019-0.1 provides for the collection of Interruptible Demand and Direct Control Load Management. It requires that Load Serving Entities, Planning Authorities, Transmission Planners, and Resource Planners annually provide their forecasts of interruptible Demands and Direct Control Load Management to NERC, the Regional Reliability Organization and other entities as specified in the documentation required by MOD-016-1.1.
- MOD-020-0 addresses the need to provide Interruptible Demand and Direct Control Load Management Data to System Operators and Reliability Coordinators. It requires that each Load Serving Entity, Planning Authority, Transmission Planner, and Resource Planner identify its amount of: (1) interruptible Demand and (2) Direct Control Load Management to Transmission Operators, Balancing Authorities and Reliability Coordinators upon request.
- MOD-021-1 requires Load Serving Entities, Transmission Planners, and Resource Planners to clearly document how they address the Demand and energy effects of DSM programs. The standard also requires an applicable entity to include information detailing how DSM measures are addressed in the forecasts of its peak demand and annual Net Energy for Load in the data reporting procedures required by MOD-016-0.

In Order No. 693, FERC approved Reliability Standards MOD-016-1.1, MOD-017-0.1, MOD-018-0, MOD-019-0.1, MOD-020-0, and MOD-021-1 but directed NERC to make, or consider, the following modifications:

- Modify MOD-016-1 and MOD-017-0 to “expand the applicability section to include the Transmission Planner, on the basis that under the NERC Functional Model the

Transmission Planner is responsible for collecting system modeling data, including actual and forecast load, to evaluate transmission expansion plans.”<sup>9</sup>

- Modify MOD-017-0 to require “reporting of temperature and humidity [data] along with peak load because actual load must be weather normalized for meaningful comparison with forecasted values.”<sup>10</sup> In responding to this directive, FERC stated that the Commission should address how to treat entities whose load does not vary with temperature and humidity.<sup>11</sup>
- Modify MOD-017-0 “to require reporting of the accuracy, error and bias of load forecasts compared to actual loads with due regard to temperature and humidity variations.”<sup>12</sup>
- Modify MOD-017-0 “to add a requirement that addresses correcting forecasts based on prior inaccuracies, errors and bias.”<sup>13</sup>
- Consider whether to modify MOD-017-0 to allow some exceptions to the requirement to provide hourly Demand data.<sup>14</sup>
- Consider whether to modify MOD-018-0 to exclude small entities from complying with the standard.<sup>15</sup>
- Modify MOD-019-0 “to require reporting of the accuracy, error and bias of controllable load forecasts.”<sup>16</sup>
- Modify MOD-019-0 to add a new requirement “that would oblige resource planners to analyze differences between actual and forecasted demands for the five years of actual controllable load and identify what corrective actions should be taken to improve controllable load forecasting for the 10-year planning horizon.”<sup>17</sup>
- Modify MOD-020-0 “to require reporting of the accuracy, error and bias of controllable load forecasts.”<sup>18</sup>

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<sup>9</sup> Order No. 693 at PP 1232, 1255.

<sup>10</sup> *Id.* at P 1249.

<sup>11</sup> *Id.* at P 1250.

<sup>12</sup> *Id.* at P 1251.

<sup>13</sup> *Id.* at P 1252.

<sup>14</sup> Order No. 693 at P 1256.

<sup>15</sup> *Id.* at P 1265.

<sup>16</sup> *Id.* at P 1276

<sup>17</sup> *Id.* at P 1277.

<sup>18</sup> *Id.* at P 1287.

- Modify MOD-021-0 by adding a requirement for the standardization of principles on reporting and validating DSM program information.<sup>19</sup>
- Modify the definition of the term “Demand Side Management” to add to the definition “any other entities” that undertake activities or programs to influence the amount or timing of electricity they use.<sup>20</sup>

### **C. Procedural History of Proposed Reliability Standard MOD-031-1**

The proposed Reliability Standard was developed as part of NERC Project 2010-04 Demand Data (MOD C), which was formally initiated on July 18, 2013 with the posting of a Standard Authorization Request along with a draft of proposed Reliability Standard MOD-031-1 for a 45-day comment period and ballot. The project arose from an informal development process that NERC initiated in February 2013 to address the outstanding FERC directives from Order No. 693 related to Existing MOD C Standards. Participants in this informal process were industry subject matter experts, NERC staff, and staff from FERC’s Office of Electric Reliability. The informal group met numerous times between February 2013 and July 2013, both in person and in conference calls, to discuss the outstanding FERC directives and, given their experience with the Existing MOD C Standards, ways to improve those standards. The informal group also conducted industry outreach to obtain feedback on the Existing MOD C Standards.

In discussing these Reliability Standards, the informal participants concluded that there is a continued need for NERC’s Reliability Standards to address the collection and aggregation of Demand and energy data to help ensure that registered entities and the ERO continue to have complete and accurate data necessary for conducting the reliability assessments that are vital to understanding and identifying the reliability needs of the Bulk-Power System. The informal group proposed to consolidate the Existing MOD C Standards into a single, more easily

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<sup>19</sup> *Id.* at P 1298.

<sup>20</sup> *Id.* at P 1232.

understandable Reliability Standard that responded to FERC directives and comprehensively addressed the data requirements and reporting procedures in a clear and efficient manner. Because Reliability Standard MOD-020-0 applies to the operational time frame, as opposed to the planning horizon to which the Existing MOD C Standards apply, it was not included in the proposed Reliability Standard nor is it proposed for retirement. The proposed Reliability Standard, however, addresses the outstanding FERC directive related to MOD-020-0, as discussed below.

Following the July 18, 2013 posting of the Standard Authorization Request along with the informal participant's draft of proposed MOD-031-1 for a 45-day formal comment period and ballot, a standard drafting team was formed. As further described in Exhibit F hereto, drafts of the proposed Reliability Standard were posted for two additional 45-day comment periods and ballots to address industry comment. The third additional ballot received a quorum of 76.92% and an approval of 83.40%. The final ballot received a quorum of 80.37% and an approval of 90.00%. On May 7, 2014, the NERC Board of Trustees approved proposed Reliability Standard MOD-031-1, the proposed new and modified definitions used therein, and the retirement of the Existing MOD C Standard.

#### **IV. JUSTIFICATION**

As discussed below and in Exhibit C, proposed Reliability Standard MOD-031-1 satisfies the Reliability Standards criteria and is just, reasonable, not unduly discriminatory or preferential, and in the public interest. The following section provides: (1) the basis and purpose of the proposed Reliability Standard; (2) a discussion of each of the requirements in the proposed Reliability Standard; (3) an explanation of how the proposed Reliability Standard satisfies

outstanding FERC directives from Order No. 693; and (4) a discussion of the enforceability of the proposed Reliability Standard.

**A. Basis and Purpose of the Proposed Reliability Standard**

The proposed Reliability Standard serves the vital reliability goal of establishing a framework for the collection and aggregation of Demand and energy data necessary to support the development of Bulk-Power System reliability assessments. As noted above, a fundamental test for determining the reliability of the Bulk-Power System is an assessment of whether there is an adequate amount of resources available to serve peak Demand while also maintaining a sufficient margin to address operating events. Planners and operators of the Bulk-Power System, policy makers, and governmental authorities rely on the results of these assessments to identify system reinforcements, such as whether to construct new generation or transmission infrastructure, that are necessary for the continued reliable operation of the Bulk-Power System.

Studying whether existing and planned Bulk-Power System resources and transmission infrastructure are sufficient to meet current and projected future Demand requires the collection and aggregation of Demand and energy forecasts on a normalized basis from those functional entities (i.e., Transmission Planners, Balancing Authorities, Load Serving Entities, and Distribution Providers) that develop such data. A forecast on a normalized basis is a forecast that has been adjusted to reflect normal weather conditions and is expected on a 50 percent probability basis, also known as a 50/50 forecast (i.e., there is a 50 percent probability that the actual peak realized will be either under or over the projected peak).<sup>21</sup> These forecasts form the baseline for assessing resource adequacy and are a significant factor in achieving Reliable Operation.

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<sup>21</sup> Normalized forecasts are used to test against more extreme conditions.

Additionally, there is a need to obtain historical data to compare past forecasts with the actual data. Such comparisons are necessary to improve forecasting methods and enhance the accuracy of the forecasts. The accuracy of Demand and energy forecasts is vital to the development of reliability assessments that provide the correct signals to owners and operators of the Bulk-Power System with respect to resource adequacy. Underestimating load growth and/or Net Energy for Load can result in insufficient or inadequate generation and transmission facilities and may cause reliability issues during Real-time operations. Conversely, overestimating load growth and/or Net Energy for Load can result in over-investment in infrastructure and under-utilization of network capacity.

The proposed Reliability Standard is designed to replace, consolidate and improve upon the Existing MOD C Standards in addressing the collection and aggregation of the actual and forecast Demand and energy data necessary to perform complete and accurate reliability assessments. Like the Existing MOD C Standards, proposed Reliability Standard MOD-031-1 support both the reliability assessments prepared by the ERO and those prepared by various Bulk-Power System planners and operators to assess resource adequacy in their areas. The ERO prepares seasonal and long-term assessments of the overall reliability and adequacy of the North American Bulk-Power System. For these assessments, the ERO divides the Bulk-Power System into assessment areas, both within and across the boundaries of the eight Regional Entities. The preparation of these assessments involves the collection and consolidation of data provided by the Regional Entities, including forecasts for on-peak Demand and energy, demand response, resource capacity, and transmission projects. The Regional Entities currently obtain the Demand and energy data used in these assessment by requesting the information from the relevant functional entities pursuant to the Existing MOD C Standards. Proposed Reliability Standard



MOD-031-1 continues to require entities to provide their data to Regional Entities, upon request, to facilitate the EROs reliability assessments.

The proposed Reliability Standard also continues to provide planners and operators of the Bulk-Power System access to complete and accurate Demand and energy data to allow such entities to conduct their own resource adequacy analyses. By providing for consistent documentation and information sharing practices for Demand and energy data, proposed MOD-031-1 promotes efficient planning practices across the industry and supports the identification of needed system reinforcements.

Proposed Reliability Standard MOD-031-1 improves upon the existing MOD C Standards by consolidating the five Existing MOD C Standards into a single, streamlined standard that provides authority for applicable entities to collect Demand and energy data, and related information to support reliability assessments. The proposed Reliability Standard enumerates the responsibilities of applicable entities with respect to the provision and/or collection of such data. Proposed Reliability Standard MOD-031-1 also addresses FERC directives from Order No. 693<sup>22</sup> to modify the Existing MOD C Standards, as discussed below.

## **B. Requirements in the Proposed Reliability Standard**

Proposed Reliability Standard MOD-031-1 provides an efficient and enforceable mechanism for entities that conduct reliability assessments to obtain all of the Demand and energy data that is necessary to accurately assess resource adequacy. The data subject to the standard falls into three general categories: (1) Total Internal Demand; (2) Net Energy for Load; and (3) Demand Side Management. The term “Total Internal Demand” is a new term proposed for inclusion in the NERC Glossary. The standard drafting team developed the term in response

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<sup>22</sup> *Mandatory Reliability Standards for the Bulk-Power System*, Order No. 693, 72 FR 16416 (Apr. 4, 2007), FERC Stats. & Regs. ¶ 31,242, at PP 1131-1222 (2007), *order on reh’g*, Order No. 693-A, 120 FERC ¶ 61,053 (2007).

to industry comment on the proposed Reliability Standard to provide more specificity to the type of Demand data subject to the Reliability Standard. The proposed definition of “Total Internal Demand” is “[t]he Demand of a metered system which includes, the Firm Demand, plus any controllable and dispatchable DSM Load and the Load due to the energy losses incurred within the boundary of the metered system.”

NERC is also proposing changes to the definition of Demand Side Management, which is currently defined as: “The term for all activities or programs undertaken by a Load-Serving Entity or its customers to influence the amount or timing of electricity they use.” NERC proposes to define “Demand Side Management” as “[a]ll activities or programs undertaken by any applicable entity to achieve a reduction in Demand.” Consistent with the FERC directive in Order No. 693, the proposed definition for Demand Side Management is not limited to “activities or program undertaken *by Load Serving Entities or its customers*” but is expanded to include “activities or programs undertaken *by any applicable entity*.” Additionally, the standard drafting team determined that to more accurately reflect the purpose of Demand Side Management activities and programs, the definition should include the phrase “to achieve a reduction in Demand” instead of “to influence the amount or timing of electricity they use.”

Proposed Reliability Standard MOD-031-1 provides clear expectations for “who” provides “what” data to “whom” while also providing entities the flexibility to develop data requirements and reporting procedures that are appropriate to their specific circumstances. Proposed Reliability Standard MOD-031-1 consists of four requirements, as follows:

- *Requirement R1* mandates that each Planning Coordinator or Balancing Authority that identifies a need for the collection of Demand and energy data shall develop and issue a data request for such data from relevant entities in their area. The requirement mandates that the data request clearly identify: (i) the entities responsible for providing the data; (ii) the data to be provided by each entity; and (iii) the schedule for providing the data.

Requirement R1 also specifies the type of Demand and energy data that may be requested under the proposed Reliability Standard.

- *Requirement R2* obligates the entities identified in a data request issued pursuant to Requirement R1 to provide the requested data to their Planning Coordinator or Balancing Authority, as applicable, pursuant to the format and schedule specified in the data request.
- *Requirement R3* requires that the Planning Coordinator or the Balancing Authority, as applicable, provide the data collected under Requirement R2 to their Regional Entity, upon request, to facilitate the ERO's development of reliability assessments.
- *Requirement R4* requires entities to share their Demand and energy data with any Planning Coordinator, Balancing Authority, Transmission Planner or Resource Planner that demonstrates a reliability need for such data, subject to applicable confidentiality, regulatory or security restrictions. The requirement to share such data helps ensure that planners and operators of the Bulk-Power System have access to complete and accurate data necessary to conduct their own resource adequacy assessments.

The following is a discussion of each of the four requirements in proposed MOD-031-1:

Requirement R1 provides:

- R1.** Each Planning Coordinator or Balancing Authority that identifies a need for the collection of Total Internal Demand, Net Energy for Load, and Demand Side Management data shall develop and issue a data request to the applicable entities in its area. The data request shall include: [*Violation Risk Factor: Medium*] [*Time Horizon: Long-term Planning*]
- 1.1.** A list of Transmission Planners, Balancing Authorities, Load Serving Entities, and Distribution Providers that are required to provide the data (“Applicable Entities”).
  - 1.2.** A timetable for providing the data. (A minimum of 30 calendar days must be allowed for responding to the request).
  - 1.3.** A request to provide any or all of the following actual data, as necessary:
    - 1.3.1.** Integrated hourly Demands in megawatts for the prior calendar year.
    - 1.3.2.** Monthly and annual integrated peak hour Demands in megawatts for the prior calendar year.
      - 1.3.2.1.** If the annual peak hour actual Demand varies due to weather-related conditions (e.g., temperature, humidity or wind speed), the Applicable Entity shall also provide the weather normalized annual peak hour actual Demand for the prior calendar year.
    - 1.3.3.** Monthly and annual Net Energy for Load in gigawatthours for the prior calendar year.

- 1.3.4.** Monthly and annual peak hour controllable and dispatchable Demand Side Management under the control or supervision of the System Operator in megawatts for the prior calendar year. Three values shall be reported for each hour: 1) the committed megawatts (the amount under control or supervision), 2) the dispatched megawatts (the amount, if any, activated for use by the System Operator), and 3) the realized megawatts (the amount of actual demand reduction).
- 1.4.** A request to provide any or all of the following forecast data, as necessary:
- 1.4.1.** Monthly peak hour forecast Total Internal Demands in megawatts for the next two calendar years.
  - 1.4.2.** Monthly forecast Net Energy for Load in gigawatthours for the next two calendar years.
  - 1.4.3.** Peak hour forecast Total Internal Demands (summer and winter) in megawatts for ten calendar years into the future.
  - 1.4.4.** Annual forecast Net Energy for Load in gigawatthours for ten calendar years into the future.
  - 1.4.5.** Total and available peak hour forecast of controllable and dispatchable Demand Side Management (summer and winter), in megawatts, under the control or supervision of the System Operator for ten calendar years into the future.
- 1.5.** A request to provide any or all of the following summary explanations, as necessary:
- 1.5.1.** The assumptions and methods used in the development of aggregated Peak Demand and Net Energy for Load forecasts.
  - 1.5.2.** The Demand and energy effects of controllable and dispatchable Demand Side Management under the control or supervision of the System Operator.
  - 1.5.3.** How Demand Side Management is addressed in the forecasts of its Peak Demand and annual Net Energy for Load.
  - 1.5.4.** How the controllable and dispatchable Demand Side Management forecast compares to actual controllable and dispatchable Demand Side Management for the prior calendar year and, if applicable, how the assumptions and methods for future forecasts were adjusted.
  - 1.5.5.** How the peak Demand forecast compares to actual Demand for the prior calendar year with due regard to any relevant weather-related variations (e.g., temperature, humidity, or wind speed) and, if applicable, how the assumptions and methods for future forecasts were adjusted.

Requirement R1 consolidates the requirements from the Existing MOD C Standards related to the development of data requirements and reporting procedures for Demand and

energy data.<sup>23</sup> Like Reliability Standard MOD-016-1.1, the Planning Coordinator plays a central role in the collection and aggregation of Demand and energy data under the proposed Reliability Standard. It is appropriate to designate the Planning Coordinator as one of the entities to collect the data because, as described in the NERC Functional Model, it is the functional entity that coordinates, facilitates, integrates and evaluates transmission facility and service plans, and resource plans within a Planning Coordinator area and coordinates those plans with adjoining Planning Coordinator areas.<sup>24</sup> Balancing Authorities were also included to reflect that, in certain regions, Balancing Authorities collect and aggregate Demand and energy data used for reliability assessments.<sup>25</sup> Requirement R1 was drafted to allow entities to continue their existing data collection practices.<sup>26</sup>

Requirement R1 establishes the universe of Demand and energy data that entities may be compelled to provide under the proposed Reliability Standard and mandates that any requests for such data contain certain basic elements to help ensure that data is provided in a timely and accurate manner. When a Planning Coordinator or Balancing Authority issues a data request pursuant to Requirement R1, the data request must include: (i) a list of entities responsible for providing the data (the “Applicable Entities”) (Part 1.1); (ii) the schedule for providing the data, which can be no less than 30 days from the date of the request (Part 1.2); and (iii) the data to be

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<sup>23</sup> Exhibit D to this Petition is a mapping document comparing the existing MOD C Standards to proposed MOD-031-1.

<sup>24</sup> Additionally, the Functional Model states that Planning Coordinators are responsible for the collection of the following information: transmission facility characteristics and ratings from the Transmission Owners, Transmission Planners, and Transmission Operators; Demand and energy forecasts, capacity resources, and demand response programs from Load-Serving Entities, and Resource Planners; generator unit performance characteristics and capabilities from Generator Owners; and long-term capacity purchases and sales from Transmission Service Providers.

<sup>25</sup> For instance, Balancing Authorities serve this function in the Western Electricity Coordinating Council region.

<sup>26</sup> The standard drafting team concluded that such diversity of practice is acceptable from a reliability perspective.

provided (Part 1.3-1.5). These elements help to ensure that reporting entities are properly notified whether they must provide data, what data to provide, and when they must provide the data.

Part 1.1 identifies the functional entities (i.e., Transmission Planners, Balancing Authorities, Load Serving Entities, and Distribution Providers) that may be required to provide Demand and energy data under the proposed Reliability Standard. The list of entities tracks the entities responsible for providing data under the Existing MOD C Standards, except for the addition of Transmission Planners and the removal of Resource Planners. Transmission Planners were included because, as FERC notes in Order No. 693, they are responsible for collecting, and in some cases developing, system modeling data, including actual and forecast load, to evaluate transmission expansion plans. In contrast, Resource Planners do not develop any of the data requested under the proposed Reliability Standard. As such, the standard drafting team concluded that it was appropriate not to include Resource Planners in the list of entities in Part 1.1.

Parts 1.3-1.5 identify the Demand and energy data, and related information that entities must provide to support the development of reliability assessments. As explained below, Parts 1.3-1.5 carry forward the data included in the Existing MOD C Standards, as illustrated in Exhibit D. Compared to the Existing MOD C Standards, however, Parts 1.3-1.5 add specificity and clarity to the data requirements. Additionally, consistent with FERC directives, Parts 1.3-1.5 expands the list of data that may be requested to help ensure that entities that perform reliability assessments have all the necessary data to develop complete and accurate assessments.

In particular, Part 1.3 identifies the historical Demand and energy data that entities must provide upon request. As noted above, the collection of actual Demand and energy data is

necessary to compare past forecasts with the actual data to improve the accuracy of the forecasts. Subparts 1.3.1, 1.3.2 and 1.3.3 include the data now covered by Reliability Standard MOD-017-0.1, Requirements R1.1 and R1.2. Part 1.3 adds specificity to the Existing MOD C Standard by using the NERC Glossary term for “Demand” and adds clarity by stating that the data to be provided is for the “prior *calendar* year” rather than just the “prior year.” Consistent with FERC’s directive,<sup>27</sup> the standard drafting team added Part 1.3.2.1 to require entities whose annual peak hour actual Demand varies due to weather-related conditions (e.g., temperature, humidity or wind speed), to also report the “*weather normalized* annual peak hour actual Demand for the prior calendar year.”<sup>28</sup> Weather normalized Demand data is actual Demand data that has been adjusted to account for weather effects (i.e., what the actual demand would have been under normal or expected weather conditions). Because weather condition can significantly affect the level of Demand, it is important to account for weather effects when comparing past Demand forecasts to the actual Demand. As FERC recognized in Order No. 693, weather normalized data allows for meaningful comparison with forecasted values.<sup>29</sup>

Additionally, the standard drafting team added part 1.3.4 to require the reporting of “monthly and annual peak hour controllable and dispatchable Demand Side Management under the control or supervision of the System Operator” for the prior calendar year. The standard drafting team concluded that such data is necessary to analyze the “accuracy, error and bias of controllable load forecasts,” consistent with the FERC directive.<sup>30</sup> The phrase “controllable and dispatchable Demand Side Management” was used so as to have a single phrase throughout the

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<sup>27</sup> Order No. 693 at P 1249.

<sup>28</sup> For those entities whose load does not vary with temperature, humidity, or other related conditions, there is no need to require them to report weather normalized data because it would be the same as the actual data reported under Part 1.3.2.

<sup>29</sup> Order No. 693 at P 1249.

<sup>30</sup> *Id.* at P 1276.

proposed Reliability Standard that would cover both Interruptible Demand as well as Direct Control Load Management.<sup>31</sup>

Part 1.4 identifies the forecast Demand and energy data that must be provided upon request. As noted above, the forecast data identified in Part 1.4 forms the baseline for assessing resource adequacy. Subparts 1.4.1 through 1.4.4 include the data now covered by Reliability Standard MOD-017-0.1, Requirements R1.3 and R1.4, and Subpart 1.4.5 includes the data now covered by MOD-019-0, Requirement R1. Part 1.4 adds specificity and clarity to the Existing MOD C Standard by: (1) using the newly defined phrase “Total Internal Demand” in Parts 1.4.1 and 1.4.3 instead of the word “demand” so as to more specifically describe the Demand data to be forecasted; and (2) using the phrase “controllable and dispatchable Demand Side Management...under the control and supervision of the System Operator” instead of “interruptible demands and Direct Control Load Management (DCLM),” for the reasons noted above; and (3) clarifying that the forecasts are for “calendar years.”

Part 1.5 identifies the related information that must be provided to enable system planners and the ERO to better understand and evaluate the forecasts provided pursuant to Part 1.4 of Requirement R1. Collectively, the information required by Part 1.5 will help to ensure that those entities that perform reliability assessments have insight into the assumptions, methods and accuracy of the forecasts underlying the assessments. Subpart 1.5.1 carries forward the information now covered by Reliability Standard MOD-018-0, Requirement R1.2. Subparts 1.5.2 and 1.5.3 carry forward the information now covered by Reliability Standard MOD-021-0,

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<sup>31</sup> Interruptible Demand is defined as “Demand that the end-use customer makes available to its Load-Serving Entity via contract or agreement for curtailment.” Direct Control Load Management (“DCLM”) is defined as “Demand-Side Management that is under the direct control of the system operator. DCLM may control the electric supply to individual appliances or equipment on customer premises. DCLM as defined here does not include Interruptible Demand.” The phrase controllable and dispatchable Demand Side Management is broad enough to cover both defined terms.



Requirements R1.1 and R1.2, respectively. As explained further below, Subparts 1.5.4 and 1.5.5 address FERC's directives to require the reporting of the accuracy, error, and bias of (1) load forecasts with due regard to temperature and humidity variations, and (2) controllable load forecasts.<sup>32</sup> These two additional explanations will require forecasting entities to explain the accuracy, error and bias of their forecasts as well as the steps they have taken to improve their forecasting methods.

Lastly, Requirement R1 applies when a Planning Coordinator or Balancing Authority "identifies a need" for the collection of Demand and energy data." This language is intended to reflect that certain Planning Coordinators and Balancing Authorities may not need to collect Demand and energy data through a data request issued pursuant to the proposed Reliability Standard. That is because certain Planning Coordinators and Balancing Authorities obtain the necessary Demand and energy data through alternative mechanisms or develop the data themselves. For instance, many Planning Coordinators, such as independent system operators ("ISOs") and regional transmission organizations ("RTOs"), collect the necessary data and information from entities within their footprint pursuant to requirements in their Open Access Transmission Tariffs. Additionally, ISOs/RTOs are often in a better position to develop the necessary Demand and energy forecasts or aggregate the historical data than the entities in their area. Accordingly, the requirement is drafted so as to only require a Planning Coordinator or Balancing Authority to issue a data request if there is a need to do so.

Requirement R2 provides:

- R2.** Each Applicable Entity identified in a data request shall provide the data requested by its Planning Coordinator or Balancing Authority in accordance with the data request issued pursuant to Requirement R1.

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<sup>32</sup> Order No. 693 at PP 1251, 1276.

Requirement R2 will ensure that Applicable Entities provide the Demand and energy data requested by their Planning Coordinator or Balancing Authority, as applicable, pursuant to Requirement R1. The intent of the requirement is to reinforce and emphasize accountability for those entities that are in the best position to have and provide the necessary data.

Requirement R3 helps ensure that the Planning Coordinator or, when applicable, the Balancing Authority, provides the data collected pursuant to Requirement R2 to the Regional Entity to support the reliability assessments performed by the ERO. Requirement R3 provides:

- R3.** The Planning Coordinator or the Balancing Authority shall provide the data collected under Requirement R2 to the applicable Regional Entity within 75 calendar days of receiving a request for such data, unless otherwise agreed upon by the parties.

The standard drafting team determined that 75 calendar days was an appropriate time frame for providing the data to the Regional Entity to accommodate the time it would take the Planning Coordinator or Balancing Authority to collect the data from Applicable Entities under Requirement R2 and then package that data for the Regional Entity.

Requirement R4 requires applicable entities to share their Demand and energy data to help ensure that planners and operators of the Bulk-Power System have access to complete and accurate data necessary to conduct their own resource adequacy assessments. The requirement to share data amongst entities will improve the efficiency of planning practices and ultimately enhance the reliability of the Bulk-Power System. Requirement R4 provides as follows:

- R4.** Any Applicable Entity shall, in response to a written request for the data included in parts 1.3-1.5 of Requirement R1 from a Planning Coordinator, Balancing Authority, Transmission Planner or Resource Planner with a demonstrated need for such data in order to conduct reliability assessments of the Bulk Electric System, provide or otherwise make available that data to the requesting entity. This requirement does not modify an entity's obligation pursuant to Requirement R2 to respond to data requests issued by its Planning Coordinator or Balancing Authority pursuant to Requirement R1. Unless otherwise agreed upon, the Applicable Entity:
- shall provide the requested data within 45 calendar days of the written request, subject to part 4.1 of this requirement; and

- shall not be required to alter the format in which it maintains or uses the data.

**4.1.** If the Applicable Entity does not provide data requested under this requirement because (1) the requesting entity did not demonstrate a reliability need for the data; or (2) providing the data would conflict with the Applicable Entity’s confidentiality, regulatory, or security requirements, the Applicable Entity shall, within 30 calendar days of the written request, provide a written response to the requesting entity specifying the data that is not being provided and on what basis.

To reduce the burdens associated with data sharing, Requirement R4 sets forth the following parameters:

- The only entities that may obtain the data are Planning Coordinator, Balancing Authority, Transmission Planner or Resource Planner with a demonstrated reliability need for the data to conduct their own reliability assessments. This will prevent entities from requesting data for purposes unrelated to reliability.
- Applicable entities are only required to provide the data included in Parts 1.3-1.5 of Requirement R1. An applicable entity may voluntarily provide additional data but cannot be compelled to do so under the proposed requirement.
- Applicable entities are not required to alter the format in which it maintains or uses the data.
- Lastly, applicable entities are not required to share data if it conflict with the applicable entity’s confidentiality, regulatory, or security requirements.

If an applicable entity does not provide some or all of the data requested because (1) the requesting entity did not demonstrate a reliability need for the data, or (2) providing the data would conflict with the entity’s confidentiality, regulatory, or security requirements, the applicable entity is required to provide a written response specifying the data that is not being provided and on what basis. This requirement will help ensure that applicable entities do not unjustifiably withhold data.

### **C. Proposed MOD-031-1 Satisfies Outstanding FERC Directives**

As noted, Project 2010-04 Demand Data (MOD C) was initiated to address outstanding FERC directives from Order No. 693. The following is a discussion of each of those directives and the manner in which proposed MOD-031-1 addresses those directives.

*Applicability to Transmission Planners:* FERC directed NERC to modify MOD-016-1 and MOD-017-0 to expand the applicability section to include Transmission Planner because under the NERC Functional Model the Transmission Planner is responsible for collecting system modeling data, including actual and forecast load, to evaluate transmission expansion plans.<sup>33</sup> Consistent with this directive, Transmission Planners are included in the applicability section of proposed MOD-031-1 and, pursuant to Requirement R2, are required to provide Demand and energy data upon request.

*Definition of Demand Side Management:* FERC directed NERC “to add to its definition of DSM ‘any other entities’ that undertake activities or programs to influence the amount or timing of electricity they use without violating other Reliability Standard Requirement.”<sup>34</sup> The standards drafting team modified the definition of Demand Side Management to be consistent with FERC’s directive and to add clarity, as discussed above.

*Reporting of Temperature and Humidity Data:* FERC directed NERC to modify MOD-017-0 to require the “reporting of temperature and humidity along with peak load because actual load must be weather normalized for meaningful comparison with forecasted values.”<sup>35</sup> FERC stated that collecting this data “will allow all load data to be weather-normalized, which will provide greater confidence when comparing data accuracy, which ultimately will enhance reliability.”<sup>36</sup> Rather than requiring entities to report actual temperature and humidity data, however, Subpart 1.3.2.1 requires entities whose peak hour actual Demand varies due to weather-related conditions (e.g., temperature, humidity or wind speed) to provide their weather

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<sup>33</sup> Order No. 693 at PP 1232; 1255.

<sup>34</sup> Order No. 693 at P 1232.

<sup>35</sup> *Id.* at P 1249.

<sup>36</sup> *Id.*

normalized annual peak hour actual Demand for the prior calendar year. The standard drafting team determined that this approach meets the goal of FERC's directive to get weather normalized data in a more efficient and an equally effective manner. This approach places the responsibility on each load forecasting entity to weather normalize their Demand data based on the particular weather conditions that affect their actual Demand. Whereas temperature and humidity play a large role in some regions, Demand in other regions is more affected by different weather conditions, such as wind speed. As such, simply requiring the reporting of temperature and humidity data may not provide the aggregators of the data (i.e., Planning Coordinators or Balancing Authorities) all the necessary information to weather normalize the data. The standard drafting team concluded that the load forecasting entities are in the best position to effectively weather normalize their Demand data in a timely manner.

In Order No. 693, FERC also directed NERC to consider whether to exempt entities from the reporting of temperature and humidity if their load does not vary with temperature and humidity.<sup>37</sup> Subpart 1.3.2.1 only requires entities to report weather normalized actual demand data if their Demand varies due to weather-related conditions. For those entities whose load does not vary with temperature, humidity, or other weather-related conditions, there is no need to require them to report weather normalized data because it would be the same as the actual data reported under Part 1.3.2

*Reporting of Accuracy, Error and Bias of Load Forecasts Compared to Actual Loads:*  
FERC directed NERC to modify MOD-017-0 to "require reporting of the accuracy, error and bias of load forecasts compared to actual loads with due regard to temperature and humidity

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<sup>37</sup> Order No. 693 at P 1250.

variations.”<sup>38</sup> FERC stated that “[m]easuring the accuracy, error and bias of load forecasts is important information for system planners to include in their studies, and also improves load forecasts themselves.”<sup>39</sup> Requirement R1, Subpart 1.5.5 of the proposed Reliability Standard satisfies this directive by requiring load forecasting entity to explain “[h]ow the peak Demand forecast compares to actual Demand for the prior calendar year with due regard to any relevant weather-related variations (e.g., temperature, humidity, or wind speed) and, if applicable, how the assumptions and methods for future forecasts were adjusted.” These explanations will describe the accuracy, error and bias of load forecasts, consistent with FERC’s directive. As noted by FERC, this information “is important [] for system planners to include in their studies, and also improves load forecasts themselves.”<sup>40</sup>

*Correcting Load Forecasts:* Consistent with the FERC directive to modify MOD-017-0 to “add a Requirement that addresses correcting forecasts based on prior inaccuracies, errors and bias,”<sup>41</sup> entities are required, pursuant to Subpart 1.5.5 of Requirement R1 to provide an explanation of “how the assumptions and methods for future forecasts were adjusted” based on a comparison of peak Demand forecasts and actual Demand for the prior year. This requirement will promote changes to an entity’s forecasting practices to increase the accuracy of those forecasts.

*Exceptions to Provide Hourly Demand Data:* FERC disagreed with a “recommendation to allow some exceptions to the requirement [in MOD-017-0] to provide hourly demand data” but, recognizing that the “metering for some customer classes may not be designed to provide

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<sup>38</sup> *Id.* at P 1251.

<sup>39</sup> *Id.*

<sup>40</sup> Order No. 693 at P 1251.

<sup>41</sup> *Id.* at P 1252.

certain types of data,” directed the ERO to consider this issue in the Reliability Standards development process.<sup>42</sup> The standards drafting team concluded that there should not be any such exceptions as the reporting of hourly load data is necessary to accurately model the Bulk-Power System. The proposed Reliability Standard also provides Planning Coordinators and Balancing Authorities the flexibility to modify their data requests to accommodate the capabilities of entities in their area.

*Small Entities:* FERC directed NERC to consider whether small entities should be required to comply with MOD-018-0 because their forecasts are not significant for reliability purposes.<sup>43</sup> The standard drafting team concluded that it was not appropriate to categorically exempt all small entities. Rather, the standard drafting team determined it was more appropriate to provide Planning Coordinators and Balancing Authorities, the functional entities that have a broader view of the significance of an entity’s forecast to their area, the discretion as to whether to require small entities to provide that data. Should a small entity disagree with their Planning Coordinator or Balancing Authority on the need for such data, the entity may, in its response to the data request, explain why its forecasts are not significant and request that it not be required to submit the data prospectively.

*Reporting of the Accuracy, Error and Bias of Controllable Load Forecasts:* FERC directed NERC to modify MOD-019-0 to add a requirement for the reporting of the accuracy, error and bias of controllable load forecasts.<sup>44</sup> FERC stated that “this requirement will enable planners to get a more reliable picture of the amount of controllable load that is actually available, therefore allowing planners to conduct more accurate system reliability

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<sup>42</sup> *Id.* at P 1256.

<sup>43</sup> Order No. 693 at P 1265.

<sup>44</sup> *Id.* at P 1276.

assessments.”<sup>45</sup> Consistent with FERC’s directive, Requirement R1, Subpart 1.5.4 of the proposed Reliability Standard requires entities to explain “[h]ow the controllable and dispatchable Demand Side Management forecast compares to actual controllable and dispatchable Demand Side Management for the prior calendar year and, if applicable, how the assumptions and methods for future forecasts were adjusted.” Additionally, as noted above, Part 1.3.4 requires entities to submit their actual Demand Side Management data, which will allow for comparison to prior forecasts.

*Analysis of Actual and Forecast Demands for Five Years for Actual Controllable Load:* FERC directed NERC to add a new requirement to MOD-019-0 that would obligate Resource Planners to analyze differences between actual and forecasted Demands for the five years of actual controllable load and identify what corrective actions should be taken to improve controllable load forecasting for the 10-year planning horizon.<sup>46</sup> The standard drafting team concluded that the intent of this directive is satisfied by Requirement R1, Subpart 1.5.4, which requires entities to explain “how the assumptions and methods for future forecasts were adjusted” based on a comparison of controllable and dispatchable Demand Side Management forecast forecasts to the actual controllable and dispatchable Demand Side Management for the prior calendar year. This requirement will promote changes to an entity’s forecasting practices to increase the accuracy of those forecasts. Additionally, the proposed Reliability Standard requires entities to submit their actual Demand Side Management data, which will allow for an analysis of the actual data to prior forecasts.

*Standardization of Principles on Reporting and Validating DSM Program Information:* FERC directed NERC to add a requirement to MOD-021-0 for standardization of principles on

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<sup>45</sup> *Id.*

<sup>46</sup> Order No. 693 at P 1277.



reporting and validating Demand Side Management program information.<sup>47</sup> To address this directive, the proposed Reliability Standard requires applicable entities to provide an explanation of (1) the Demand and energy effects of Demand Side Management; (2) the manner in which they forecast Demand Side Management; and (3) how such forecasts are adjusted to account for bias and errors. (Requirement R 1.5.3). These explanations will, consistent with FERC's directive, allow system planners and operators to understand how Demand Side Management program information is reported and validated, and, in turn, provide for a consistent and uniform evaluation of demand response.

#### **D. Enforceability of the Proposed Reliability Standards**

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. Exhibit E provides a detailed review of the VRFs and VSLs, and the analysis of how the VRFs and VSLs were determined using these guidelines.

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.<sup>48</sup>

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<sup>47</sup> *Id.* at P 1298.

<sup>48</sup> 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.”).

**V. EFFECTIVE DATE**

As described in the implementation plan attached hereto as Exhibit B, the proposed Reliability Standard, the proposed new and modified NERC Glossary terms and the retirement of the Existing MOD C Standards shall become effective the first day of the first calendar quarter that is twelve months after the date that this standard is approved by applicable regulatory authorities or as otherwise provided for in a jurisdiction where approval by an applicable governmental authority is required for a standard to go into effect. Where approval by an applicable governmental authority is not required, the standard shall become effective on the first day of the first calendar quarter that is twelve months after the date the standard is adopted by the NERC Board of Trustees or as otherwise provided for in that jurisdiction. This 12-month implementation period is designed to provide applicable entities sufficient time to transition from compliance with the Existing MOD C Standards to proposed Reliability Standard MOD-031-0. The standard drafting team concluded that a 12-month implementation period is appropriate as entities will need time to develop new processes or modify their existing processes to comply with the proposed Reliability Standard.

Respectfully submitted,

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Date: May 20, 2014

**Exhibits A, B, and D – G**

**(Available on the NERC Website at**

**[http://www.nerc.com/FilingsOrders/ca/Canadian%20Filings%20and%20Orders%20DL/Attachments\\_MOD-031-1\\_filing.pdf](http://www.nerc.com/FilingsOrders/ca/Canadian%20Filings%20and%20Orders%20DL/Attachments_MOD-031-1_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.**

Proposed Reliability Standard MOD-031-1 achieves the specific reliability goal of ensuring that Demand and energy data necessary to support reliability assessments conducted by the ERO and Bulk-Power System planners and operators is available to such entities. The proposed Reliability Standard enumerates the responsibilities of applicable entities with respect to the provision and/or collection of Demand and energy data. By providing for consistent documentation and information sharing practices for the collection and aggregation of such data, proposed Reliability Standard MOD-031-1 promotes efficient planning practices and supports the identification of needed system reinforcements. Furthermore, the requirement in the proposed Reliability Standard to report historical Demand, Net Energy for Load and Demand-Side Management data will allow for comparison to prior forecasts and further contribute to enhanced accuracy of load forecasting practices. These activities ultimately enhance the reliability of the Bulk Electric System.

**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 Planning Coordinators, Transmission Planners, Balancing Authorities, Resource Planners, Load Serving Entities and

Distribution Providers. 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.

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

The proposed Reliability Standard contains measures that support each requirement by clearly identifying what is required to demonstrate compliance. 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. The proposed Reliability Standard clearly enumerates the responsibilities of applicable entities with respect to the provision and/or collection of Demand and energy data necessary to support

reliability assessments. Proposed MOD-031-1 consolidates and streamlines the Existing MOD C Standards to more efficiently address the collection and aggregation of Demand and energy data.

- 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 contains significant benefits for the Bulk-Power System. The requirements of the proposed Reliability Standard help ensure that entities that conduct reliability assessments, which are fundamental to analyzing the reliability of the grid, have access to complete and accurate data necessary to conduct those assessments.

- 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 Demand and energy data is collected 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 proposed Reliability Standard requires the same performance by each of the applicable Functional Entities in the provision or collection of Demand and energy data. The standard does

not unreasonably restrict the available transmission capability or limit use of the Bulk-Power System in a preferential manner.

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

The proposed effective date for the standard is just and reasonable and appropriately balances the urgency in the need to implement the standard against the reasonableness of the time allowed for those who must comply to develop necessary procedures, software, facilities, staffing or other relevant capability. This will allow applicable entities adequate time to ensure compliance with the requirements. The proposed effective date is 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.