

**Compliance Questionnaire and**

**Reliability Standard Audit Worksheet**

**MOD-017-0.1 — Aggregated Actual and Forecast Demands and Net Energy for Load**

**Registered Entity:** *(Must be completed by the Compliance Enforcement Authority)*

**NCR Number:** *(Must be completed by the Compliance Enforcement Authority)*

**Applicable Function(s): LSE, PA, RP**

**Auditors:**

**Disclaimer**

 NERC developed this Reliability Standard Audit Worksheet (RSAW) language in order to facilitate NERC’s and the Regional Entities’ assessment of a registered entity’s compliance with this Reliability Standard. The NERC RSAW language is written to specific versions of each NERC Reliability Standard. Entities using this RSAW should choose the version of the RSAW applicable to the Reliability Standard being assessed. While the information included in this RSAW provides some of the methodology that NERC has elected to use to assess compliance with the requirements of the Reliability Standard, this document should not be treated as a substitute for the Reliability Standard or viewed as additional Reliability Standard requirements. In all cases, the Regional Entity should rely on the language contained in the Reliability Standard itself, and not on the language contained in this RSAW, to determine compliance with the Reliability Standard. NERC’s Reliability Standards can be found on NERC’s website at <http://www.nerc.com/page.php?cid=2|20>. Additionally, NERC Reliability Standards are updated frequently, and this RSAW may not necessarily be updated with the same frequency. Therefore, it is imperative that entities treat this RSAW as a reference document only, and not as a substitute or replacement for the Reliability Standard. It is the responsibility of the registered entity to verify its compliance with the latest approved version of the Reliability Standards, by the applicable governmental authority, relevant to its registration status.

The NERC RSAW language contained within this document provides a non‑exclusive list, for informational purposes only, of examples of the types of evidence a registered entity may produce or may be asked to produce to demonstrate compliance with the Reliability Standard. A registered entity’s adherence to the examples contained within this RSAW does not necessarily constitute compliance with the applicable Reliability Standard, and NERC and the Regional Entity using this RSAW reserves the right to request additional evidence from the registered entity that is not included in this RSAW. Additionally, this RSAW includes excerpts from FERC Orders and other regulatory references. The FERC Order cites are provided for ease of reference only, and this document does not necessarily include all applicable Order provisions. In the event of a discrepancy between FERC Orders, and the language included in this document, FERC Orders shall prevail.

# Subject Matter Experts

Identify your company’s subject matter expert(s) responsible for this Reliability Standard. Include the person's title, organization and the requirement(s) for which they are responsible. Insert additional lines if necessary.

**Response: *(Registered Entity Response Required)***

|  |  |  |  |
| --- | --- | --- | --- |
| **SME Name** | **Title** | **Organization** | **Requirement** |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

# Reliability Standard Language

 **MOD-017-0.1 — Aggregated Actual and Forecast Demands for Net Energy for Load**

**Purpose:**

To ensure that assessments and validation of past events and databases can be performed, reporting of actual Demand data is needed. Forecast demand data is needed to perform future system assessment to identify the need for system reinforcement for continued reliability. In addition to assist in proper real-time operating, load information related to controllable Demand-Side Management programs is needed.

**Applicability:**

Load Serving Entity

Planning Authority

Resource Planner

**NERC BOT Approval Date: 10/29/2008**

**FERC Approval Date: 5/13/2009**

**Reliability Standard Enforcement Date in the United States: 5/13/2009**

**Requirements**:

1. The Load-Serving Entity, Planning Authority and Resource Planner shall each provide the following information annually on an aggregated Regional, subregional, Power Pool, individual system, or Load-Serving Entity basis to NERC, the Regional Reliability Organizations, and any other entities specified by the documentation in Standard MOD-016-1\_R1.
	1. Integrated hourly demands in megawatts (MW) for the prior year.
	2. Monthly and annual peak hour actual demands in MW and Net Energy for Load in gigawatthours (GWh) for the prior year.
	3. Monthly peak hour forecast demands in MW and Net Energy for Load in GWh for the next two years.
	4. Annual Peak hour forecast demands (summer and winter) in MW and annual Net Energy for load in GWh for at least five years and up to ten years into the future, as requested.

**Describe, in narrative form, how you meet compliance with this requirement: *(Registered Entity Response Required)***

# R1 Supporting Evidence and Documentation

**Response: *(Registered Entity Response Required)***

|  |  |
| --- | --- |
|  |   **Provide the following:** **Document Title and/or File Name, Page & Section, Date & Version** |
| **Title** | **Date** | **Version** |
|  |  |  |
|  |  |  |
|  |  |  |
| *Audit Team: Additional Evidence Reviewed:* |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

***This section must be completed by the Compliance Enforcement Authority.***

**Compliance Assessment Approach Specific to MOD-017.0.1 R1**

 \_\_\_ Verify the LSE, PA and RP each provided the following information annually on an aggregated Regional, subregional, Power Pool, individual system, or LSE basis to NERC, the RRO, and any other entities specified by the documentation in Standard MOD-016-1 R1.

 \_\_\_\_ Integrated hourly demands in megawatts (MW) for the prior year

 \_\_\_\_ Monthly and annual peak hour actual demands in MW and Net Energy for Load in gigawatthours (GWh) for the prior year

 \_\_\_\_ Monthly peak hour forecast demands in MW and Net Energy for Load in GWh for the next two years

 \_\_\_\_ Annual Peak hour forecast demands (summer and winter) in MW and annual Net Energy for load in GWh for at least five years and up to ten years into the future, as requested.

**Detailed notes:**

# Supplemental Information

**Other ‑** The list of questions above is not all inclusive of evidence required to show compliance with the Reliability Standard. Provide additional information here**, as necessary that** demonstrates compliance with this Reliability Standard.

  **Entity** **Response: *(Registered Entity Response)***

# Compliance Findings Summary (to be filled out by auditor)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Req.** | **C** | **PV** | **OEA** | **NA** | **Statement** |
| **1** |  |  |  |  |  |

**Excerpts from FERC Orders -- For Reference Purposes Only**

**Updated Through August 2010**

**MOD-017-0.1**

**Order 693**

1246. The Commission approves MOD-017-0 as mandatory and enforceable. In addition, the Commission directs the ERO to modify MOD-017-0 as discussed below.

1247. As an initial matter, we disagree that MOD-017-0 cannot be implemented because it is dependent on MOD-016-0, which further depends on various unapproved standards. As previously stated, we direct the ERO to provide a Work Plan and compliance filing regarding the collection of information specified under standards that are deferred, and believe there should be no difficulty complying with this Reliability Standard. We reiterate that ongoing collection of data is necessary to maintain system reliability, and approval of MOD-017-0 will help achieve this goal.

1248. As a general matter, the Commission is required to insure that the Reliability Standards are sufficient to adequately protect Bulk-Power System reliability.One of the main drivers in achieving Reliable Operation is to accurately predict the firm transactions and native load that must be served. Understanding the accuracy, error and bias of the forecast and taking action to minimize them would improve the Reliability Standards and achieve the goal.

1249. The Commission also directs the ERO to modify the Reliability Standard to require reporting of temperature and humidity along with peak load because actual load must be weather normalized for meaningful comparison with forecasted values.**361** In response to MidAmerican’s observation that it sees little value in collecting this data, we believe that collecting it will allow all load data to be weather-normalized, which will provide greater confidence when comparing data accuracy, which ultimately will enhance reliability. As a result, we reject Xcel’s proposal that the standard be revised to include only the generic term “peak producing weather conditions” because it is too generic for a mandatory Reliability Standard.

1250. We also reject Alcoa’s proposal that the reporting of temperature and humidity along with peak loads should apply only to load that varies with temperature and humidity because it essentially is a request for an exemption from the requirements of the Reliability Standard and should therefore be directed to the ERO as part of the Reliability Standards development process. We agree, however, with APPA that certain types of load are not sensitive to temperature and humidity. We therefore find that the ERO should address Alcoa’s concerns in its Reliability Standards development process.

1251. The Commission adopts the NOPR proposal directing the ERO to modify the Reliability Standard to require reporting of the accuracy, error and bias of load forecasts compared to actual loads with due regard to temperature and humidity variations. This requirement will measure the closeness of the load forecast to the actual value. We understand that load forecasting is a primary factor in achieving Reliable Operation. Underestimating load growth can result in insufficient or inadequate generation and transmission facilities, causing unreliability in real-time operations. Measuring 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.

1252. The Commission agrees with APPA that accuracy, error and bias of load forecasts alone will not increase the reliability of load forecasts, and, as a result, will not affect system reliability. Understanding of the differences without action based on that understanding would not change anything. Therefore, we direct the ERO to add a Requirement that addresses correcting forecasts based on prior inaccuracies, errors and bias.

1253. Regarding TAPS’s concern that accuracy of reporting may be used as a compliance Measure, we clarify that the compliance Measures for this Reliability Standard do not measure accuracy as a compliance Measure. Any change in the Measures would be arrived at in the Reliability Standards development process.

1254. The Commission acknowledges EEI’s concern that a requirement for additional information may impose an expansion of existing Energy Information Administration section 411 reporting requirements.**362** We believe, however, that the ERO can ensure that the additional reporting of temperature and humidity along with peak loads does not conflict with or jeopardize the Energy Information Administration section 411 reporting process.

1257. The Commission approves Reliability Standard MOD-017-0 as mandatory and enforceable. In addition, the Commission directs the ERO to develop a modification to MOD-017-0 through the Reliability Standards development process that includes requirements for: (1) reporting of temperature and humidity along with the peak loads; (2) reporting of accuracy, error and bias of load forecasts compared to actual loads taking temperature and humidity variations into account; (3) addressing methods to correct forecasts to minimize prior inaccuracies, errors and bias and (4) including the transmission planner in the applicability section.

**Revision History**

|  |  |  |  |
| --- | --- | --- | --- |
| **Version** | **Date** | **Reviewers** | **Revision Description** |
| 1 | July 2010 | RSAW Working Group | New Document. |
| 1 | September 2010 | NERC Legal & NERC Compliance | Added regulatory language & reviewed for formatting consistency. |
| 1 | December 2010 | QRSAW WG | Revised Findings Table, modified Supporting Evidence tables. |
| 1 | January 2011 | Craig Struck | Reviewed for format consistency and content. |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |