**NAESB Accreditation Requirements for Certification of Retail Demand Response**

**Measurement and Verification Products and Services**

1. INTRODUCTION

1.1 About this Document

This document provides the technical and managerial details that an Entity seeking certification through the NAESB Retail Demand Response Measurement and Verification Certification (DR M&V Certification) Program must demonstrate that its Retail Demand Response Measurement & Verification service (“DR M&V Services”) meets in its Certification Practice Statement filed as part of the NAESB accreditation requirements. The following requirements are intended to support the retail NAESB Business Practice REQ.13 Model Business Practices for Demand Response.

* 1. Certification Applicability

This retail DR M&V Certification is limited to retail Demand Response M&V Services described in the Certification Practice Statement. An M&V Service may be offered separately or as part of an integrated demand response service. The certification applies only to the M&V process described in the Certification Practice Statement and does not imply any guarantee of product performance, demand reduction, energy savings, or economic benefit associated with the energy efficiency product, service or program. The certification does not warrant compliance with applicable Governing Documents or Retail product specifications under any applicable tariff.

1. Definitions

2.1 **Certification Practice Statement**: A statement of the practices which a certification authority employs in issuing certificate.

2.2 **Demand Response:**  A temporary change in electricity usage by a Demand Resource in response to market or reliability conditions.

2.3 **Baseline**: A method of estimating the electricity that would have been consumed by a Retail Customer or Demand Resource in the absence of a Demand Response Event. It may be calculated using interval metering and/or statistical sampling techniques, pursuant to applicable Governing Documents.

2.4 **Measurement & Verification (M&V)**:  The process of determining reductions in usage and/or Demand resulting from a Demand Response measure, product or service.

2.5 **Validating, Editing, and Estimation (VEE)**:  The process of confirming the accuracy of raw meter data and, if necessary, replacing corrupt or missing data.  VEE guidelines are published in the Edison Electric Institute’s Uniform Business Practices for Unbundled Electricity Metering.

2.6 **Entity**: The organization, party or body seeking to provide its Certification Practice Statement pursuant to the requirements hereof.

2.7 **Governing Documents**: Documents that determine the interactions among parties, including but not limited to, applicable law, regulatory documents (e.g. tariffs, rules, and regulations), contractual agreements, operational manuals, and other relevant models and operational procedures.

1. Certification Practice Statement

The Entity must submit a Certification Practice Statement which shall demonstrate and describe how its DR M&V Services meets the following requirements and to which the Entity shall certify the accuracy of the representations contained in the Certification Practice Statement.

3.1 Summary

3.1.1 The Entity must identify the nature or character of the DR measure, product or service its DR M&V Services are intended to measure and verify.

3.1.2 The Entity must verify that the DR M&V Services for which certification is sought utilize one or more of the Measurement and Verification methodologies described in REQ.13.3.4. or describe in comparable detail the alternative method as allowed by REQ 13.3.4 and approved by the Program Administrator or other regulatory authority.

3.2 Participant Reporting - The Entity must describe if the Demand Response information is transmitted via Uniform Electronic Transaction as described in REQ 13.3.1.8 and enumerate all information provided in this transmission. The Entity should describe the process for reconciling error records and unsuccessful validations as described in REQ 13.3.1.9 and REQ 13.2.1.10.

3.3 Measurement Equipment - The Entity must describe the method(s) implemented for Measurement of Load as described in REQ 13.3.2.

3.3.1 The Entity should describe whether Telemetry or After-the-Fact Metering or both is implemented.

3.3.2 The Entity should describe whether comprehensive metering or statistical sampling is employed.

3.3.3 The Entity should indicate the meter accuracy that is implemented with technical references to substantiate the accuracy reported.

3.3.4. The Entity should list the manufacturer and model numbers of the meter and other equipment deployed. A copy of the relevant equipment specifications should be provided.

3.3.5 The Meter Data Reporting Deadline(s) should be documented.

3.3.6 The Meter Data Recording Interval(s) should be documented.

3.3.7 The meter or other equipment time accuracy should be reported. The process to synchronize and periodically validate time for the meter or other equipment should be described.

3.3.8 The method(s) for Validating, Editing and Estimation should be described with references to the applicable methodology as described in REQ 13.3.2.8.

3.4 Statistical Sampling – The certification should state if statistical sampling is implemented.

3.4.1 If a methodology or methodologies from the list in REQ 13.3.3.1 are used, the application should be described and references provided.

3.4.2 If a non-standard methodology is used that methodology should be described with the rationale for requiring a non-standard methodology

3.4.3 The procedures to be followed to characterize the required sample should be described including:

3.4.3.1 The population that is being modeled

3.4.3.2 The program objectives that inform the requirements that the sample should reflect

3.4.3.3 The process for defining and determining the sampling frame

3.4.3.4 Description and rationale for any identified design variables

3.4.3.5 Description of the sampling technique as described in REQ 13.3.3.2

3.4.3.6 Indicate if customers in the sample will be notified and if customers need to consent to participate.

3.4.3.7 Describe if applicable the process to enroll and install customers in the sample

3.4.3.8 Describe how alternates will be selected if necessary

3.4.3.9 Describe on-going processes to insure that the sample continues to be representative. For example, how will the Entity identify sample participants that opt-out of the Demand Response program or discontinue electric service and how will alternate participants be integrated into the sample as required.

3.4.4 Present the mathematical analysis that determined the sample size, the stratification, if any, and the alternate sample, if any.

3.4.5 Describe any parallel processes that aid in verifying that sample is representative. These activities may include communications tests to non-sampled customers, customer surveys and on-site inspections.

3.5 Performance Evaluation Methods – Describe which if any of the methods enumerated in REQ 13.4.2 are implemented or if other methods are employed.

3.5.1 Maximum Base Load Evaluation – It this method is implemented describe the following:

3.5.1.1 Describe how real-time Telemetry information will be collected and used to determine performance

3.5.1.2 Describe how After-The-Fact Metering will be collected and used to determine performance

3.5.1.3 If applicable describe how the Sustained Performance Period is calculated.

3.5.1.3 If applicable describe how the Average Demand and Peak Demand are calculated.

3.5.1.4 Describe how any other performance characteristics are calculated

3.5.2. Meter Before / Meter After Evaluation – It this method is implemented describe the following:

3.5.2.1 Describe how the Baseline Window is determined

3.5.2.2 If a Baseline Adjustment is applicable describe the implementation

3.5.2.3 If applicable describe how the Average Demand, Instantaneous Demand, and Maximum Demand are calculated.

3.5.2.4 If applicable, describe how real-time Telemetry information will be collected and used to determine performance

3.5.2.5 If applicable, describe how After-The-Fact Metering will be collected and used to determine performance

3.5.2.6 If applicable, describe how the Sustained Performance Window is calculated.

3.5.2.7 If additional performance evaluation requirements apply to on-site generation describe how that evaluation is performed.

3.5.3. Baseline Evaluation - If this method is implemented describe the following:

3.5.3.1 Describe how the Baseline Window is determined

3.5.3.2 Describe how the Baseline values are determine including if applicable, the average kW over a specified interval, the maximum kW over a specified interval, or a regression method.

3.5.3.3 Enumerate all exclusion rules that are applicable such as those suggested in REQ 13.3.4.3.4.

3.5.3.4 Describe how Baseline adjustments are implemented including those suggested in REQ 13.3.4.3.5

3.5.3.5 If applicable, describe how real-time Telemetry information will be collected and used to determine performance

3.5.3.6 If applicable, describe how After-The-Fact Metering will be collected and used to determine performance

3.5.3.7 If applicable, describe how the Sustained Performance Window is calculated.

3.5.3.8 If additional requirements apply to Highly Variable Loads describe how such loads are defined.

3.5.3.9 If performance evaluated differently for Highly Variable Loads, describe how those calculations are performed.

3.5.3.10 If additional performance evaluation requirements apply to on-site generation describe how that evaluation is performed.

3.5.3.11 If an Operability Factor will be applied describe how the testing protocol is implemented and how the Operability Factor is calculated and used.

3.5.4 Metering Generation Output Evaluation - It this method is implemented describe the following

3.5.4.1 Describe how the Baseline calculation is performed for the Metering Generator Output

3.5.4.2 If applicable, describe how real-time Telemetry information will be collected and used to determine performance

3.5.4.3 If applicable, describe how After-The-Fact Metering will be collected and used to determine performance

3.5.4.4 If applicable, describe how the Performance Window is calculated

3.5.4.5 Describe how the total measured generation output is determined

3.5.4.6 Describe `any applicable special processing rules

3.5.5 Other methods – If a method other is employed describe all of the measures to be determined.