



# AHAM Verification Program Procedural Guide Part 1

For All Major Appliance Verification Programs

Revision 3.2



*Leadership > Knowledge > Innovation*

**Sponsor:**

Association of Home Appliance Manufacturers (AHAM)

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## FOREWORD

The Association of Home Appliance Manufacturers (AHAM) sponsors voluntary **Verification Programs (Program or Verification Program)** for specific ENERGY STAR® qualified products' energy, water efficiency and usage claims (claims). This Procedural Guide outlines the general policies and procedures which applies to all **Verification Programs** operated by AHAM. This Procedural Guide Part 1 should be used in conjunction with the product-specific AHAM Verification Program Procedural Guide Part 2's.

In order for products to be sold into the market in United States, they must be compliant with applicable energy, water efficiency and usage claims. The U.S. Department of Energy (DOE) has specified the number of tests required to obtain a certified value that is representative of a model's claims. The products claims data are requested at the time of certification. Other Programs, such as the voluntary ENERGY STAR Program, a joint Program of DOE and the U.S. Environmental Protection Agency (EPA), administered by EPA may require that **Manufacturers** obtain third-party qualification of their products prior to distributing them into the marketplace

Product certification is the responsibility of the product **Manufacturer**. The AHAM **Program** is not a certification **Program** – it does not test products prior to their entry into market and it does not submit certification compliance information to **Government Stakeholders** on behalf of the **Manufacturers**. The AHAM **Program** does not qualify products, in the same way that it does not certify products.

The ENERGY STAR Program, as of January 1, 2011, require that any product enrolled in the ENERGY STAR Program must be part of a third-party **Verification Program**. The selection process for AHAM is based on a sampling rate of 10% of each **Participant's Basic Models** with targeted selection requests by **Government Stakeholders** and the remaining selected randomly. AHAM is a Verification Administrator for ENERGY STAR for Clothes Dryer, Clothes Washer, Dehumidifier, Dishwasher, Refrigerator, Refrigerator/Freezer and Freezer and Room Air Conditioner **Verification Programs**.

Verification of a product's stated ENERGY STAR claims are typically conducted through random selection and testing of products already on the market. The AHAM **Programs** provide a uniform and commercially practical verification of listed model's claimed values. The intent of this industry **Program** is to verify that the claims for all models are consistent with the claims values certified to the ENERGY STAR by a **Manufacturer or Private Brand Owner**. The **Program** cannot and will not enforce a product's compliance with energy efficiency standards or other voluntary **Program** requirements.

Participation in the **Program** is voluntary. An independent EPA-recognized, ISO/IEC 17025(latest edition) accredited test laboratory under contract to AHAM provides verification and challenge testing based on the appropriate DOE **Test Procedure** and EPA ENERGY STAR Product Standard, with additional specificity provided by approved interpretations consistent with the DOE **Test Procedure**.

To participate in this **Program**, a **Participant** must list with AHAM all ENERGY STAR qualified models in production consistent with EPA ENERGY STAR **Qualified Product List (QPL)** and meet the requirements of 16 CFR 305.11(a)(1), unless the models are outside the scope of the **Verification Program Test Procedure**.

The AHAM **License Agreement (Agreement)** is a contract between the **Participant** and AHAM and is the governing document for participation in this **Program**. This Procedural Guide is an extension of, and is incorporated into, the Agreement and provides for the administration and uniform execution of the **Program**. General information and procedural details are included in this Procedural Guide. AHAM's **Major Appliance Verification Steering Committee (MAVSC)**, with oversight from the AHAM **Legal Operations Advisory Council (LOAC)** as needed, and at their sole discretion, may revise the Procedural Guide if such revision is deemed necessary, or as requested by DOE and EPA.

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## 1. DEFINITION OF TERMS

The texts of definitions from 10 C.F.R. 430.2 and Part 430, Subpart B, are included here for ease of reference only. Should the definitions printed in this Procedural Guide differ from the definitions provided in 10 C.F.R. 430.2 and Part 430, Subpart B, the text of 430.2 and Part 430, Subpart B, shall control in all cases. **AHAM should be notified of any inconsistencies found.**

### 1.1 APPROPRIATE STAKEHOLDERS

The **Appropriate Stakeholders** are Department of Energy (DOE) and Environmental Protection Agency (EPA).

### 1.2 BASIC MODEL

**Basic Model** means all **Units** of a given type of covered product (or class thereof) manufactured by one **Manufacturer**, having the same primary energy source, and which have essentially identical electrical, physical, and functional (or hydraulic) characteristics that affect energy consumption, energy efficiency, water consumption, or water efficiency.

### 1.3 BRAND NAME

The commercial name by which a product line is known to the consumer as determined and provided by the **Program Participant**.

### 1.4 CONNECTED MODEL

A model that is part of the **Basic Model Family** and meets the applicable requirements of connected criteria of the EPA ENERGY STAR program requirements product specification for an applicable product.

### 1.5 DOCUMENTED INTERVIEW

An interview between the **Program Laboratory** and **Participant** after a finding of potential non-compliance. See section 5.8 for interview requirements.

### 1.6 FIRST LINE OF DISTRIBUTION

The initial customer(s) to whom the **Participant** and/or its branch office is/are selling its products that are covered by the AHAM **Verification Program**. The initial customer may be, for example, another **Manufacturer** that is being supplied with the **Participant's** products, a private brander, a distributor that will be selling the products to a retailer, or a retailer to whom the **Participant** is selling directly.

### 1.7 GOVERNMENT STAKEHOLDERS

All government agencies to which **Manufacturers** and **Private Brand Owners** report model data, including but not limited to, the DOE and EPA.

### 1.8 LEGAL OPERATIONS ADVISORY COUNCIL (LOAC)

The **Legal Operations Advisory Council (LOAC)** is the legal authority governing the operations of AHAM activities. As such, **LOAC** provides final oversight for operation of the AHAM **Verification Programs**, including oversight to Procedural Guide development.



## 1.9 LETTERS OF INSTRUCTIONS (LOI)

**Letters of Instruction** are documents developed by AHAM staff that define or otherwise detail the operation of the **Program** and associated Procedural Guides. **Letters of Instruction** are published as an interim step before updating and balloting of the Procedural Guide is completed.

## 1.10 LETTER OF RELIANCE (LOR)

An agreement between AHAM and DOE that it will refrain from conducting ENERGY STAR verification testing of models that are part of the AHAM **Verification Program** for clothes washers, dishwashers, dehumidifiers and residential refrigerators, refrigerators-freezers and freezers.

*Informative Note: AHAM has requested that the LOR be updated for clothes dryers and room air conditioners.*

## 1.11 LICENSE AGREEMENT

A contract between AHAM and **Participants** that specifies the obligations of each party as part of the AHAM **Verification Program**. This Procedural Guide, and the appropriate AHAM Verification Program Procedural Guide Part 2, acts as a supplement to and part of the **License Agreement**.

## 1.12 LICENSOR

ASSOCIATION OF HOME APPLIANCE MANUFACTURERS (AHAM), a not-for-profit business association incorporated in the District of Columbia, having its principal office at 1111 19th Street, N.W., Suite 402, Washington, DC 20036, USA.

## 1.13 MAJOR APPLIANCE VERIFICATION STEERING COMMITTEE (MAVSC)

This committee is the immediate governing body of the six Major Appliance Division **Verification Programs** (Room Air Conditioner, Dehumidifier, Clothes Washer, Clothes Dryer, Dishwasher and Refrigerator, Refrigerator/Freezer and Freezer).

## 1.14 MANUFACTURER

An entity that manufactures products included in one, or more, AHAM **Verification Program(s)** or included in a **Challenge**.

## 1.15 MODEL SUBMISSION/CHANGE FORM (MSF)

A listing of models submitted annually to AHAM for each **Basic Model** in current production.

## 1.16 PARTICIPANT

A **Manufacturer** or **Brand Name** owner that executed a **License Agreement** as a **Participant** with AHAM and is authorized to participate in one, or more of, the AHAM **Verification Program(s)**.

## 1.17 PRIVATE BRAND OWNER

An entity that markets, but does not manufacture its own **Brand Name** models.

### 1.18 PRODUCTION SURVEY

A survey distributed by AHAM on July 1 of each year. The survey is used to determine the production volume of models within the **Program**, as well as the number of **Basic Models**, for each **Participant** between July 1 of the previous year and June 30 of the current year to calculate **Program Testing Fee** and **Program Participation Fee**.

### 1.19 PROGRAM

The AHAM **Verification Program** in its entirety, including **Participant Qualification**, verification testing, and challenge testing.

### 1.20 PROGRAM LABORATORY

An independent EPA-recognized, ISO/IEC 17025 accredited test laboratory under contract to AHAM to collect and review certified data, perform verification tests, and administer the **Program**.

### 1.21 PROGRAM MODELS SOLD IN THE UNITED STATES

All ENERGY STAR qualified models sold in the United States whose ratings are required to be certified and submitted to the **Program** under the terms of the **License Agreement**, the Procedural Guide and **Letters of Instruction** from AHAM.

### 1.22 PROGRAM MODELS SOLD IN COUNTRIES OUTSIDE THE UNITED STATES

**Basic Models** that the **Participant** chooses to include in an AHAM **Verification Program** must be qualified to the appropriate ENERGY STAR Program. Models included in an AHAM **Verification Program** must display all marks in accordance with ENERGY STAR requirements.

### 1.23 PROGRAM PARTICIPATION FEE

A fee calculated annually that **Participants** pay to AHAM for the administration of the **Program**. Participation Fees are based on the volume of product shipped during a twelve-month period between July 1 of the previous year and June 30 of the current year.

### 1.24 PROGRAM TESTING FEE

A fee calculated annually that **Participants** pays to AHAM for verification testing.

### 1.25 PROGRAM YEAR

The **Program Year** is the twelve-month period during which verification testing is performed. The specific twelve-month period for the **Program** in question is identified in the AHAM Verification Program Procedural Guide Part 2 for the specific **Program Year** in question.

### 1.26 QUALIFICATION

A statement by the **Participant** that the claims values claimed were determined in accordance with the appropriate Appendix of 10 C.F.R. Part 430, Subpart B, **Test Procedure** and meet the requirements of the appropriate ENERGY STAR Product Standard Qualification Criteria. Claims values shall be equivalent to those reported to ENERGY STAR and included in the **Qualified Products List (QPL)**. The **Verification Program** does not certify the claims values. These values will be referred to as ENERGY STAR claims throughout the AHAM Procedural Guides.

### 1.27 QUALIFICATION TESTING

Testing in accordance with the appropriate appendix to 10 C.F.R. Part 430, Subpart B, to certify that a model is qualified for the ENERGY STAR mark before a model is entered into the ENERGY STAR Program and added to the AHAM **Program**.

### 1.28 QUALIFIED PRODUCT LIST (QPL)

The ENERGY STAR Program list of all ENERGY STAR qualified products available for sale in the United States and Canada.

### 1.29 SAMPLE

One or more Units of a given **Basic** model

### 1.30 SIX MONTH RULE

Verification testing must be completed on Units that are no more than 6 months old and representative of current production. See Section 5.1 for exceptions to this rule.

### 1.31 SPECIFIED COUNTRIES

Countries in which products are sold or distributed that are different from those sold or distributed in the United States.

The United States is distinguished from **Specified Countries** because of more stringent Program requirements. The United States includes all of the states, the District of Columbia, the Territories and other geographical areas associated with, or subject to the jurisdiction of the United States.

### 1.32 STAKEHOLDER

Individuals, groups or entities that have a concern in the process and results of the **Program**. Entities may include, but not be limited to: **Program Participants**, the DOE and EPA.

### 1.33 TEST PROCEDURE

Verification and challenge testing will be based on the appropriate EPA Energy Star Program Requirements Product Specification and DOE **Test Procedure** (10 C.F.R. Part 430, Subpart B, any waivers issued by DOE, **Letters of Instruction** issued by the AHAM Verification Department, with additional specificity provided by approved interpretations originating with the DOE **Test Procedure** and EPA Energy Star Program Product specification) as defined in appropriate AHAM Verification Program Procedural Guide Part 2's .

#### **Note 1 - Test Procedure to Validate Demand Response**

The Demand Response feature of a **Connected Model** shall be validated according to the applicable ENERGY STAR Test procedure to Validate Demand Response specified in the applicable ENERGY STAR Product Specification.

#### **Note 2 - Validation of Connected Functionality for Connected Allowance**

For **Connected Models**, compliance with Connected Functionality shall be validated according to the appropriate section(s) of the applicable ENERGY STAR Product Specification

### 1.34 TOLERANCE

**Tolerance** allows for a difference in reported claims versus values measured during verification testing. **Tolerance** allows for variations that inevitably occur in any given manufacturing or testing facility.

### 1.35 UNIT

Individual product that are tested for verification by the **Program Laboratory**.

### 1.36 VERIFICATION REQUIREMENTS

All **Units** tested as a requirement of an AHAM **Verification Program** will be evaluated to the current ENERGY STAR specification for that product. The specific requirements are detailed in the appropriate Part 2.

### 1.37 WITHDRAW FROM THE AHAM PROGRAM

All instances in which a **Participant** exercises the option to Withdraw a **Basic Model** from the AHAM **Verification Program**, shall result in immediate removal of all **Units** within the **Basic Model** under the **Participants** control as of the date of notification of withdrawal from the ENERGY STAR Program. The **Participant** shall have their CB remove the model from the ENERGY STAR **QPL**. AHAM shall be copied on the notice from the **Participant** to ENERGY STAR.

## 2. Program Scope

The **Programs** will verify that the **Participant's** claims of ENERGY STAR **Qualification** for models included in all **Programs** remain consistent as long as the model maintains ENERGY STAR **Qualification**, as reported by the **Participant**. The ENERGY STAR claims reported to the **Program** by **Participants** must be equivalent to the values reported to EPA. The **Program** will communicate with **Appropriate Stakeholders** and affected **Participants** the notification of potential non-compliances and applicable test data/reports.

AHAM issued **Letters of Instruction** will detail the implementation of any DOE or EPA guidance, clarifications or rulings issued until such time as this Procedural Guide is updated. As **Letters of Instruction** are published, they will be disseminated to **Program Participants**. All such letters will be controlled by a revision coding system and maintained under AHAM's document retention policy. **Letters of Instruction** are to be differentiated from AHAM Interpretations, as Interpretations refer only to AHAM Standards.

The specific claims parameters are defined in the appropriate AHAM Verification Program Procedural Guide Part 2's.

### 2.1 CREATION OF NEW VERIFICATION PROGRAM:

A new **Program** can only be established if at least three AHAM member companies vote for it and with a majority approval vote of the **MAVSC**. The **Program** execution guidelines must be outlined in an appropriate AHAM Verification Program Procedural Guide Part 2.

### 2.2 APPLICABLE TEST PROCEDURE

All testing will be conducted in accordance with the applicable EPA ENERGY STAR Program Requirements Product Specification and current DOE **Test Procedure**. All **Test Procedure** interpretation questions arising during the course of verification and challenge testing will be referred to DOE for an official response.

In addition to the **Test Procedure**, the **Program Laboratory** will test to waivers that have been granted by DOE and which include an alternative **Test Procedure**. **Participants** shall inform the **Program Laboratory** of any granted waiver from the DOE **Test Procedure**. Use of a specific waiver shall be documented in the final test report developed by the **Program Laboratory**. If other waivers exist for similar products or technologies, but the model does not have such a waiver, the product will be tested according to the applicable **Test Procedure**, without modification. The **Program Laboratory** must request a meeting with the **Participant** in order to determine if there is a waiver and the requirements of a **Documented Interview** (Section 5.10) will be in effect. If no waivers are noted by the **Participant** and the model cannot be tested under the conditions defined in the applicable **Test Procedure**, the model is to be considered potentially non-compliant and appropriate reports will be issued to **Appropriate Stakeholders**.

AHAM issued **Letters of Instruction** will detail the implementation of any DOE guidance, clarifications or rulings issued until such time as this Procedural Guide is updated.

### 2.3 FACTORS VERIFIED

Under this **Program**, **Participant** models will be tested to ensure the appropriate ENERGY STAR verification compliance requirements are met.

## 2.4 PRODUCTS COVERED

The AHAM **Verification Program** will verify ENERGY STAR **Qualification** for models included in the **Program**, as specified in **Test Procedure**.

## 2.5 ELIGIBLE MODELS

Each **Program Participant** shall report the ENERGY STAR claims on all models it manufactures for its **Brand Name(s)** or for other **Participant's Brand Name(s)** for sale within the United States. Each **Manufacturer**, who is a **Participant**, shall also report the ENERGY STAR claims on all private-brand models which the **Participant** itself is to distribute within the United States. The **Participant** may report ENERGY STAR claims for any models sold into Canada, but not sold into the United States, at their discretion. ENERGY STAR claims values reported to the AHAM **Program** shall be consistent with those submitted to the ENERGY STAR Program, for **Qualification** purposes.

### 2.5.1 Mandatory Program Models

Each **Participant** shall report the ENERGY STAR claims on all models consistent with the EPA ENERGY STAR Qualified Product List (**QPL**) and the requirements of 16 CFR 305.11(a)(1). Reported values must be identical to qualified values submitted to EPA.

These requirements apply to all models to be sold, whether or not they are sold for test market purposes, in a limited quantity, or in a specified market area.

### 2.5.2 Optional Models

The **Participant** may, at its option, selectively certify and supply data on **Basic Models** for sale within **Specified Countries** other than the United States with ENERGY STAR **Qualification**. If such models are to be included in the AHAM **Program**, they must be reported to AHAM and the **Program Laboratory** for verification and inclusion in any appropriate **Production Surveys**.

These certification requirements apply to all models to be sold, whether or not they are sold for test market purposes, in a limited quantity, or in a specified market area.

### 2.5.3 Private Brand Models

The **Participant** must report the ENERGY STAR claims data on private-brand models that it sells within the United States that are manufactured by an entity separate from and unrelated to it. In order to have such private brands included in the **Verification Program**, the **Manufacturer** shall report the ENERGY STAR claims on all models that it manufactures for the same private brand(s) that it provides for sale within the United States.

In order for private brands to participate in the **Program**, **Private Brand Owners** who sell ENERGY STAR qualified models from multiple **Manufacturers** must ensure that all **Manufacturers** for their ENERGY STAR models are **Participants**. If not all **Manufacturers** are **Participants**, the **Private Brand Owner** must become a **Participant** and certify those models not certified by the **Manufacturer**.

## 2.6 DETERMINATION OF MODELS TO BE SELECTED

The **Program Laboratory** will select models for verification testing from 10% of each **Participant's Basic Models** provided in **Model Submission/Change Form**, with at least two (2) models selected from each **Participant**, per year.

**2.6.a** If a **Participant** has less than 11 basic models, only one basic model needs to be tested per year and the minimum of two models does not apply.

**2.6.b** If a **Participant** claims the ENERGY STAR allowance for smart/connected feature for any model, it should be identified in the model submission form

Once the **Model Submission Forms** have been received by AHAM for a given **Program Year**, AHAM will acquire nominations from DOE and EPA for test selections. All remaining selections shall be conducted randomly. The AHAM **Program** will strive to ensure that 50% of all selections will be randomly chosen. The total number of models to be selected will be rounded up from the 10% value. Model selection includes three parts:

### 2.6.1 Part 1: ENERGY STAR Selection

The **Program** is to select models from 10% of each **Participant's** ENERGY STAR qualified **Basic Models** for verification testing, for each **Participant**.

### 2.6.2 Part 2: Targeted Selection

DOE and EPA may provide suggestions to AHAM regarding specific models, product classes, or energy platforms they would like to be tested. AHAM will provide, prior to the start of each **Program Year** to DOE and EPA:

- A confidential list of **Basic Models** that are subject to verification testing.

The list will include the Name of the **Participant**, Original Equipment Manufacturer (OEM), **Basic Model**, Brand, and model number the consumer will see. AHAM will request that DOE and EPA indicate which targeted selections are priorities and will make a good faith attempt to make these selections, while still adhering to ENERGY STAR and AHAM **Verification Program** requirements. AHAM will also provide DOE and EPA with a list of the final testing selections. Also, AHAM shall provide DOE and EPA with a semi-annual report of models tested, including a summary of the results as per the **LOR**. Any targeted models not selected will be included in this report. Reasons for models not being selected could include, but are not limited to, over-sampling by the DOE and EPA nominations, initially targeted models not being available, or other models from the same **Basic Model** being selected. Annually, AHAM will provide DOE with copies of all Test Reports received from the **Program Laboratory**, with appropriate confidentiality requested for information included in these reports.

### 2.6.3 Part 3: Random Selection

Any remaining **Basic Models** which have not been directed for, or excluded from, selection will be randomly selected by the **Program Laboratory** from all product classes.

### 2.6.4 Selection Example

Assume a **Participant** has forty (40) **Basic Models** included in the AHAM **Program**.

- 10% of forty (40) total **Basic Models** is four (4) **Basic Models**, so the **Participant** will have a total of four (4) **Basic Models** selected for verification testing.
- Through the nominations process, DOE provides AHAM with nominations for one (1) model for verification.

- Through the nominations process, EPA provides AHAM nominations for one (1) different models for verification
- The remaining two (2) models will be randomly selected by the **Program Laboratory**, except as noted in section 2.6.2, from the remaining thirty-eight (38) **Basic Models**.
- The **Program Laboratory** resolves the nominations, following the AHAM **Program** requirements for random selections.
- Models not selected for testing are listed on the semi-annual Verification Testing report provided to EPA.

## 2.7 ENERGY STAR SAMPLE REQUIREMENTS

The requirements of this section are consistent with EPA Directive 2011-04, current version (see Appendix A), and if there are any inconsistencies, the EPA Directive 2011-04, current version (see Appendix A) shall control.

The **Program Laboratory** will initially test one **Unit**. If that **Unit** is shown to be compliant with the ENERGY STAR requirements, within the **tolerance** allowed by section 5.7, then that model will be considered compliant. If the **Unit** is found to be potentially non-compliant with the ENERGY STAR requirements, the other three **Units** that have been selected will be tested.

## 2.8 VOLUNTARY MODEL WITHDRAWALS

Models voluntarily withdrawn prior to selection are not subject to specific reports to **Government Stakeholders** but will be included on the semi-annual reports referenced in Section 2.6.2.

## 2.9 DOCUMENTATION DISCREPANCIES

Documentation discrepancies found prior to the start of testing shall be clarified with the **Participant** prior to the start of testing and AHAM shall be included in all discussions. Documentation discrepancies found during testing shall be noted in the test report and clarified upon the completion of testing for the **Basic Model**.

## 2.10 CHANGES TO MODEL SUBMISSION/CHANGE FORMS

Any corrections or changes to the models could be made using the Model Submissions/Change forms throughout the year.



### 3. PROGRAM REQUIREMENTS

#### 3.1 GOVERNANCE

All actions of the Procedural Guide, as well as other **Program** developments and approvals will be the responsibility of the **MAVSC**, with oversight by **LOAC**. Given the contractual nature of the parties' obligations and responsibilities under the Procedural Guide and the legal and regulatory impact of **Program** determinations, notice of proposals to make substantive changes to the procedural guides shall be given to **LOAC** for review prior to implementation. **LOAC** shall form a panel with a minimum of three companies and maximum of five companies to review and approve Procedural Guide changes. The **MAVSC** Chair and AHAM VP of Technical Operations & Standards Services will contact **LOAC** when required.

AHAM staff shall propose any small editorial, non-substantive changes to the Procedural Guide (s) to **MAVSC** for approval. When changes are made, the **Program Participants**, **Program Laboratory** and **Appropriate Stakeholders** will be notified.

The **MAVSC** reports to the Major Appliance Engineering Council (MAEC) with a dotted line to **LOAC** for approval of Procedural Guide changes. The committee is made up of **Participants** of each of the **Programs** that are also AHAM members. Each **Participant** includes one representative to the committee. For members who are **Participants** in multiple **Programs**, only one vote is recorded per company. That representative is responsible for sharing the information within their organizations to ensure all responsible parties are informed of the proposed modifications to their specific **Program** and casting the members' ballot. There are two Task Forces under **MAVSC**, Major Appliance Verification Home Comfort Task Force (Room Air Conditioners and Dehumidifiers) and Major Appliance Verification Kitchen & Laundry Task Force (Refrigerator, Refrigerator-Freezer, and Freezer, Dishwasher, Clothes Washer and Clothes Dryer), which oversees the revisions of AHAM Verification Program Procedural Guide Part 2(s), Technical revisions to the **Verification Programs** due to a change in **Test Procedure**, and provide guidance on the operation of programs they are responsible for. Note that there may be some issues, related to government relations, on which the Major Appliance Division Government Relations Council will be briefed and/or provide input.

#### 3.2 PROGRAM PARTICIPANT OBLIGATIONS

Requirements of the **Program Participant** are listed below:

1. Abide by the **License Agreement**, a contract between AHAM and the **Participant**. **Participant** enters the **Program** by having an authorized company representative sign a **License Agreement** with AHAM and remitting initial estimated **Program Testing Fees** for a year and that quarter's **Program Participation Fee**. Contact AHAM for application information and the **Program Laboratory** for testing information. Failure to abide by the **Program** requirements may be grounds for termination from the **Program**.
2. Upon joining the **Program**, and annually in July thereafter, **Participants** are required to complete a **Production Survey** (an example Survey can be found in the appropriate AHAM Verification Program Procedural Guide Part 2) advising AHAM of the number of ENERGY STAR qualified models listed in the **Program** and which have been sold for the twelve-month period from July 1 of the previous year through June 30 of the current year. The certified sales volume shall include all models sold in the United States and any optional models as per Section 2.5.2 that bear ENERGY STAR marks. The **Participants** are required to complete the **Production Surveys** within thirty (30)

business days from the date it was sent to the **Participant** or as agreed to with the **Participant**. The **Production Surveys** are held confidential within AHAM, maintained for seven (7) years, and then destroyed. Failure to return the yearly **Production Survey** by the due date may result in termination from the **Program**.

3. Pay AHAM **Program Participation** and **Program Testing Fees** within 90 days after an invoice is received from AHAM or payment terms agreed upon between AHAM and the **Participant**. The fee structure is determined by the **MAVSC** and ultimately approved by the Major Appliance Division Board of Directors. Initial estimated **Program Testing Fees** are billed once a year at the beginning of the year to ensure funds are available for testing. If required, additional testing fees will be billed upon completion of all testing for a given **Participant** for the **Program Year**. **Program Participation Fees** are billed in four installments, during each calendar quarter of the current year. Section 4 provides additional information on **Program** funding.
4. Report the ENERGY STAR claims consistent with the ENERGY STAR compliance requirements for all models sold in the United States (see Section 2.5). All models must have claims qualified by the **Participant**. The values reported to AHAM shall be consistent with the values reported to EPA.
5. Submit model data, contact information and **Sample** acquisition information to the **Program Laboratory** under contract to AHAM for verification test selection using the **Model Submission/Change Form**.
6. Furnish Test **Units** at no cost to the **Program Laboratory** and pay all shipping costs.
7. Participate in Challenges brought against **Participant's Basic Models** and challenge, if warranted, ratings of other **Participants** and provide a detailed report documenting the challenge (Section 6) to the **Program Laboratory** and AHAM.
8. Submit promotional material to AHAM upon request.
9. Submit list of ENERGY STAR qualified models that participates in **Program** at the annual submittal per Section 2.5.
10. Abide by the termination obligations set forth in the **License Agreement**. If a **Participant** is notified of termination from the **Program**, AHAM will immediately notify **Government Stakeholders**.
11. Upon **Units** being selected for verification testing, ship one tagged **Unit** within 5 business days of tagging, and quarantine the additional three **Units** until requested by the **Program Laboratory**. When requested, the additional three **Units**, which have been tagged with tamper-proof packaging, must be shipped so that they are at the **Program Laboratory** within five business days. At the discretion of the **Participant** and **Program Laboratory**, they can agree to ship all four **Units**. The **Participant** should provide reasonable access to warehouses so that units for testing can be tagged. Note: see open market purchase requirements in Section 5.1. The open market units will be invoiced separately to the **Participant**.
12. **Participants** shall notify AHAM and the **Program Laboratory** of any special case constructions requiring specific information regarding verification testing (For example, waivers, variable anti-sweat heaters in refrigerators, sleeves for Room Air conditioners, connected **Units**, coin box for laundry etc.).
13. When requested, members shall be available and willing to attend audits as defined in Section 3.3 (8).

14. When requested, members shall serve as panel members for interpretations under Section 5.10.1.

### 3.3 AHAM OBLIGATIONS

AHAM licenses **Manufacturers** and **Private-Brand Owners** to participate in the **Program** through reporting of claims for ENERGY STAR qualified models sold in the United States. In addition, AHAM provides administrative staff for the **Program**. AHAM:

1. Upon notification from the **Program Laboratory**, alerts **Participant** to the presence of models found on the AHAM **Model Submission Forms**, but not the **QPL**.
2. Collects fees from **Participants** for purposes of funding the **Program**.
3. Monitors **Program** participation, verification testing results, non-compliance status, product withdrawals from the ENERGY STAR Program due to **Program** non-compliance and challenges.
4. Seek targeted selections from DOE and EPA.
5. Resolve the EPA and DOE nominations to allow for approximately 50% of each **Participant's** testing requirements to be randomly chosen.
6. Communicates confirmed non-compliance to DOE and EPA, including test reports (See section 5.6 & 5.7).
7. Contracts with an independent **Program Laboratory** to administer the **Program**.
8. Annually audits the **Program Laboratory** to ensure that testing and procedures are in accordance with this Procedural Guide, applicable **Test Procedures**, standards, ISO/IEC 17025 and good lab practices. Effectivity dates for ISO 17025 will be based on International Lab Accreditation Cooperation (ILAC) recommendations.
9. Refer all **Test Procedure** interpretation questions from the **Program Laboratory** to DOE for an official response. In some cases, there may be a test interpretation question as per Section 5.2 prior to sending the interpretation request.
10. Notifies **Appropriate Stakeholders** of potential non-compliance with ENERGY STAR **Program** requirements and provides copies of the test reports to DOE, EPA and the **Participant**.
11. Notify DOE if, during verification, any single ENERGY STAR **Unit** is found to be potentially non-compliant with federal energy conservation standards. Notification is made when testing of all units is complete. *Note: In such cases, AHAM will notify DOE 2 business days prior to notifying EPA and the **Participant** in accordance with section 5.7.*
12. Provide EPA with a bi-annual report of models tested, including a summary of the results. Selected models that are not tested shall be identified in this report.
13. Provide DOE by March 1<sup>st</sup> of the year following the end of each **Program Year** with test reports (CBI and Redacted) for all ENERGY STAR models tested during the **Program Year**.
14. Schedule, moderate and provide summary of all **Documented Interviews**. This includes inviting DOE to participate in all **Documented Interviews**.
15. Develop and manage the Lab Accountability plan.

16. Maintain a Score Card or **Program Laboratory** Matrix to monitor the performance of all **Program Laboratories**.
17. Develop and manage a Continuous Improvement forum to review issues arising from **Program** operations.

### 3.4 PROGRAM LABORATORY OBLIGATIONS

The **Program Laboratory** serves as an independent, test laboratory performing testing for verification purposes and for challenges in accordance with the **Test Procedure**. The **Program Laboratory** shall be an EPA recognized, ISO 17025 certified and accredited by a recognized accreditation body such as the American National Standards Institute (ANSI), and/or the Standards Council of Canada (SCC) to conduct energy and performance testing of **Program** models and will ultimately be selected by the **MAVSC** based on technical criteria. Contracts with the **Program Laboratory** are reviewed every year. AHAM conducts an audit of the **Program Laboratory** annually. Annual verification and challenge testing can only be performed by the **Program Laboratory**. Any change in the **Program Laboratory** will be the responsibility of the **MAVSC**. The **Program Laboratory**:

1. Collects and compiles certified model data from **Program Participants** utilizing the **Model Submission/Change Form**.
2. Reviews **Participant** reported certified data for accuracy and consistency.
3. Compares models listed in the AHAM **Model Submission forms** with the current ENERGY STAR **QPL** for accuracy with any differences noted.
4. Reports the finding of any models shown on the AHAM **Model Submission forms**, but not in the **QPL**.
5. Execute the EPA and DOE nominations to allow for approximately 50% of each **Participant's** testing requirements to be randomly chosen.
6. Randomly selects **Basic Models** for verification testing that are not targeted (section 2.5) and acquires randomly selected **Units** as specified (section 5.1).
7. Completes verification testing in accordance with the **Test Procedure**. Informs AHAM of all **Test Procedure** interpretation questions prior to referring to DOE. **Test Procedure** interpretations resulting from lab challenges will be referred to DOE by AHAM per section 5.9. A **Test Procedure** interpretation outside of a lab challenge is per section 5.9.1.
8. Completes verification testing in accordance with the agreed on testing plan as provided under this **Program**.
9. Participates in challenges between **Participants**, and between **Participant** and **Program Laboratory**, as set forth in this **Program**, including completion of all necessary additional testing under the challenge procedure.
10. Monitors submission of model discontinuation documentation associated with any **Basic Models** that are withdrawn from the ENERGY STAR due to this **Program**.
11. Issues Verification Test Reports to AHAM, and the **Participant**. In addition, issue a Redacted version of test report and Confidential Business Information (CBI) test report to AHAM along with the original test report.

12. Issues notifications of potential **Program** non-compliance to AHAM. (Note AHAM will communicate potential non-compliances to **Appropriate Stakeholders** and the **Participant**. Ensures the specified process for potential ENERGY STAR non-compliance is successfully completed according to the requirements in this Procedural Guide (section 5.7 through 5.10).
13. Follows established protocol on communication between **Participant**, AHAM and **Appropriate Stakeholders**.
14. Disposes of all test **Samples** at the **Participant's** direction. If a **Participant** chooses, the test samples may be returned to the **Participant** and the **Participant** is responsible for the return shipping costs (reference section 5.11).
15. Notifies AHAM immediately upon completion of an initial spot check that indicates a potential non-compliance.
16. Upon notification from AHAM, verifies the three additional **Units** that were initially tagged (or in some instances when all four **Units** were shipped at one time) are received at the **Program Laboratory** within five business days after confirmation of receipt of request and have no evidence of having been tampered with.
17. Quarantines **Units** resulting in a finding of potential non-compliance with ENERGY STAR requirements until notified by AHAM to release **Units**.
18. Notifies AHAM of suspected Models that are not representative of production models to ensure ENERGY STAR requirements are met during verification.
19. For potential ENERGY STAR non-compliances (after all four **Units** have been tested), the Laboratory notifies AHAM immediately.
20. Responds to annual AHAM audit findings in a timely manner.
21. Prepare a bi-annual report of all models tested, including a summary of the results. Selected models that are not tested shall be identified in this report.
22. Sends a communication to the participant with a copy to AHAM staff when testing has started on their selected test units (both the initial spot check unit and the first unit of the additional three units if they are required).

## 4. PROGRAM FUNDING

### 4.1 FEES

Upon joining the **Program**, and annually in July thereafter, **Participants** are required to complete a **Production Survey**. The Sales Volume will be used to determine **Program Participation Fees**. The number of **Basic Models** will be used to determine the estimated **Program Testing Fees**. The reported number of ENERGY STAR **Basic Models** will be used to estimate the number of models for Verification Testing during the following year.

#### 4.1.1 Program Participation Fees

The amount payable by the **Participant** during the **Program Year** will be determined by multiplying the current AHAM member or non-member Participation Fee, established periodically by the **MAVSC**, by the reported shipments. See the specific product AHAM Verification Program Procedural Guide Part 2 for the fee structure for that category. If this amount is less than the minimum Participation Fee specified in the AHAM **Production Survey**, the **Participant** pays the minimum fee. One-quarter of the fee is billed by AHAM at the beginning of each quarter and is payable quarterly by **Participant** during the calendar year.

#### 4.1.2 Program Testing Fees

The initial estimated **Program testing fees** will be determined from the **Production Survey** submitted in July of each Year, based on the number of **Basic Models** a **Participant** list on the **Production Survey**. Estimated **Program testing fees** will be paid in full to AHAM at the beginning of the **Program Year** to ensure funds for **Program** testing. If the actual testing fees incurred by the **Participant** differ from the amount invoiced at the beginning of the calendar year, the difference will either be refunded to the **Participant** or an additional invoice will be sent to cover the additional testing fees.

Any additional testing fees will not be billed until after all testing of ENERGY STAR models for the **Participant** has been completed for the **Program Year**. Reconciliation of test fees will occur after all testing for a given **Participant** is completed by the **Program Laboratory**. **Participant** companies are directly responsible for all testing fees incurred for the testing of their models

#### 4.1.3 Manufacturers Entering Market

**Manufacturers** entering the market who become **Participants** and who do not have any production of ENERGY STAR models during the specified period noted above (July 1 of previous year to June 30 of current year) shall pay the minimum Participation Fee and **Program Testing Fees** based on the number of **Basic Models** that are to be incorporated into the **Program**.

#### 4.1.4 Fee Administration

AHAM pays all **Program** administration and testing costs except those costs involved in the challenge procedure, additional **Sample** acquisition, shipping costs and costs associated with the Laboratory having to purchase **Units** on the open retail market. The **Program** will invoice **Participants** for these expenses.

### 4.2 YEARLY PRODUCTION SURVEY

AHAM issues a yearly **Production Survey** to each **Participant** in order to calculate fees for the **Program**. The **Participant** is responsible for returning and certifying that the information is accurate and correct.

The following guidelines are to be used to determine which entity involved in a sourcing agreement is responsible for the model:

- All models in production consistent with EPA ENERGY STAR **QPL**, by a **Participant** of an AHAM **Verification Program** are to be included in the **Program**, regardless of the Original Equipment **Manufacturer**.
- If **Participant A** buys product manufactured by **Participant B**, the **Participant B** is responsible for the resulting **Program** fees and must include the sourced models for **Participant A** in its own production figures.
- If a **Participant** buys product from a non-**Participant**, the **Participant** is responsible for the resulting **Program** fees and must therefore include the sourced models in its product figures (i.e., count sourced models as their own production).
- A retailer who is a **Private Brand Owner** and purchases models from both **Participant** and non-**Participant Manufacturers** may be a **Program Participant**. Such a **Participant** must claim the models manufactured by a non-**Participant** as its production and will be responsible for all fees associated with these models.
- In the case of an alternative arrangement (i.e., purchasing **Participant** agrees to pay the **Program** fees), the purchasing **Participant** has the ultimate responsibility of ensuring the sourced product production data is properly reported and **Program** fees are paid.
- ENERGY STAR qualified models sourced from OEM's that are not **Participants** of the AHAM **Program** must be included in the **Participants Model Submission Form**.

#### 4.3 BILLING/INVOICES

**Participants** are invoiced quarterly. If invoices are not paid within 90 days after the invoice date, the **Participant** will be given written notice that they have an additional 45 days to become current or may be subject to termination from the **Program**. If a terminated company wishes to rejoin the **Program**, it will be required to pay all outstanding invoices, and a full year **Program** fees in advance.

#### 4.4 TERMINATION

A **Participant** who is terminated from this **Program**, upon receipt of notice from AHAM of its termination, shall make no further reference to AHAM's **Verification Program**. This includes all sales literature, websites, and advertising. Money paid to AHAM quarterly as Verification Fees will not be refunded.



## 5. VERIFICATION PROCEDURE

### 5.1 UNIT SELECTION

The **Program Laboratory** determines which models of a specific **Basic Model** will be tested in a given **Program Year** consistent with Section 2.5. Any model within a **Basic Model** may be tested. Although specific product classes and energy platforms may be targeted, models not targeted as noted in Section 2.6 will be randomly selected by the **Program Laboratory**.

The Environmental Protection Agency's, Standard Operating Procedure For Certification And Verification Of Products To Energy Star® Specifications Version 3.0, provides instructions on the procurement of appliances chosen for verification testing. The instructions use the Verification Test Model Procurement Decision Tree. The Selection by Serial Number is allowed for procurement in the program when access is limited to warehouses or when warehouse procurement is more expensive.

Once specific models are selected, the **Program Laboratory** will physically or virtually send a selector to obtain **Units** for verification testing. The selector must be able to choose random **Unit(s)** from a serial number list or physical stock at a **Manufacturer/** distributor warehouse or open market purchase. The **Participant** must be contacted to determine the least burdensome method of obtaining **Units**. The **Participant** will not be informed of which models will be selected prior to the request of the serial number list, the selector's arrival at the selection site, or the purchase on the open market.

If selecting from a **Manufacturer** warehouse, four (4) **Unit Sample** selections must be made from fifteen (15) or more of the same **Basic Model** group. Models that are built to order, or are of extremely low production quantities (less than 100 per year), or production runs (2 days or less) will be required to provide quantities of eight (8) (for 4 **Unit** selections), as opposed to the figures noted above. If selecting from a distributor **Four-Unit Sample** group selections shall be made from a group of six (6) or more of the same **Basic Model** group.

When multiple **Units** of the same model are selected for verification for ENERGY STAR models, all of the **Units** are to be selected randomly at the same time, from the same location. The selector will tag the **Units** selected and record their serial numbers or other unique identifier, and the **Program Laboratory** will preserve this record for verification and inclusion in the test report, should the **Units** be subsequently tested. The selector will seal the **Units** using a tamper proof tape that covers the top and continues to the bottom of the unit.

Should the results of the first **Unit** test (spot check or spot checked **Unit**) be found to be potentially non-compliant with ENERGY STAR requirements, the **Program Laboratory** shall immediately notify AHAM. After discussions with AHAM that all proper testing steps have been taken, The **Program Laboratory** shall notify the **Participant** that the additional three **Units**, which the **Participant** has quarantined since initial tagging, are to be shipped to the **Program Laboratory**. All three of these **Units** shall be shipped from the **Participant's** facility so that they are available at the **Program Laboratory** within five (5) business days of notification to ship. At the discretion of the **Participant** and **Program Laboratory**, they can agree to ship all four **Units** selected during the initial selection visit. Should these **Units** arrive late (unless the reason for late delivery is no fault of the **Participant**), be unavailable for shipping to the **Program Laboratory**, or, upon arrival at the **Program Laboratory**, are suspected of having been tampered with, the model shall be considered a final non-compliance with ENERGY STAR requirements. The **Participant** shall be responsible for all fees associated with testing and tagging of the **Units**.



If products are not available in a **Manufacturer's** warehouse, **Participants** will provide a list of products available at specific distribution centers to the **Program Laboratory**. The **Program Laboratory** will randomly select **Units** from single or multiple distribution centers.

All **Units** selected and sealed by the **Program Laboratory** selector are provided by the **Participant** on a consignment basis and shipped to the Laboratory by a prepaid freight basis. All **Units** selected for testing by the **Program Laboratory** shall be shipped from the **Participant's** warehouse within five business days of tagging. Note: This shipment within 5 business days applies to the first shipment of the spot check unit and also applies separately to the subsequent shipment of the additional units.

**Units** may be purchased by the Laboratory on the open market when stock is not available from the **Manufacturer's** warehouse or distribution center or if the manufacturer prefers the open market purchase. The **Participant's** official representative is to be contacted to determine the least burdensome method of obtaining units from the open market. If the official representative fails to respond after 10 business days, the **Program Laboratory** will purchase from the open market and the **6 month rule** will not apply. The **Participant** can also request that the **Program Laboratory** waive the **6 month rule** and make the open market purchase immediately upon contact. All four units (if required) will be procured from the open market. All costs associated with open market purchase must be paid for by the **Participant**.

**Participants** shall assure that all **Basic Models** are available for testing within each **Program Year** for as long as those models are listed on ENERGY STAR AHAM **Model Submission Form**. If the **Manufacturer** does not supply **Units** for selection or give the location of a retail outlet to purchase the product, the model will be removed from the **Program** until such a time that a **Sample** is provided and tested. This is considered a model deletion and shall be reported to the **Appropriate Stakeholders**.

A model may be excused from testing if a **Participant** is able to demonstrate that an identical model or model from the same **Basic Model** was tested for verification testing in the preceding 12 months or has already been tested by an EPA-approved Certification Body (CB). The **Program Laboratory** may decide to select alternative models for testing based on the production schedule.

If a specific **Sample** is unable to be selected by the **Program Laboratory**, another random **Sample** must be selected in its place. At the time of selection, all models in the AHAM **Program** and models added during the Program Year about which DOE, EPA and the **Program Laboratory** have been notified are eligible to be selected.

Verification testing must be completed on **Units** that are no more than 6 months old and representative of current production. The **6 month rule** requirement may be waived under any of the following circumstances:

1. Agreed to by the **Participant**
2. The model is from an open market purchase which automatically waives the **six month rule** requirement
3. The product specific Procedural Guide Part 2 waives the **6 month rule** requirement.

The **Program Laboratory** will work with the **Participant** to determine the age of the selected product when obtained in a **Participant's** warehouse, in distribution, or at retail.

If a subsequent **Unit** must be tested (due to a determination the **Unit** is not representative of production, as defined in Section 5.1.1), the **Participant** will assume all costs incident to the

selection, testing and handling of such **Units**. The Laboratory will invoice the **Participant** directly in accordance with the current fee schedule in the Service Contract between the **Program Laboratory** and AHAM.

#### 5.1.1 Determination that Unit is Representative of Production

A **Unit** will not be considered representative of production if some aspect of the **Unit** is noticeably damaged in a functional or visual manner to the consumer. Examples of damage that a consumer could detect include such things as visible physical damage to the interior/exterior, a part that will not turn or a **Unit** that does not operate. Minor cosmetic damage (scratches, etc.) not affecting the performance of the **Unit** is not to be considered as unrepresentative of production.

The **Program Laboratory** may request a meeting with the **Participant** in order to determine if a selected **Unit** is representative of production. EPA and DOE will be invited to this meeting and the requirements of a **Documented Interview** (Section 5.10) will be in effect. Audio and video recordings may be used to assist the **Participant** in the determination of sounds, actions and other questionable events occurring to the **Unit** under test. If the group finds that a **Unit** is not representative of production, the **Program Laboratory** will randomly select a second **Unit** of the same model. The **Participant** is responsible for any additional selection and shipping costs.

#### 5.2 RUN-IN PERIOD

No run-in shall be performed other than the pre-conditioning specified in the DOE **Test Procedure**.

#### 5.3 VERIFICATION TEST REPORT

The **Program Laboratory** will provide AHAM with verification test reports which, at the end of each **Program Year**, AHAM will submit to DOE on a confidential basis by March 1<sup>st</sup> of the following year. Once a model has been added to the **Program**, it must continue to be eligible for selection throughout the life of the model (i.e., for as long as it is listed on the **Model Submission Form**.) The **Program Laboratory** will hold the results of all testing in strict confidence, except for:

1. Communication with the **Participant** with regard to test results and findings on **Participant's own Unit(s)**; or
2. Communication with Challenger (reference 6.2) with regard to test results on a challenged **Unit(s)**; or
3. Communication with AHAM in regard to test results and findings that indicate potential non-compliance with the ENERGY STAR **Program**, potential non-compliance with DOE conservation standards, potential deviation from the certified values, or other information which AHAM deems necessary for the proper operation of the **Program**.

#### 5.4 VERIFICATION AND EVALUATION METHOD

See appropriate AHAM Verification Program Procedural Guide Part 2 for ENERGY STAR method of verification and product requirements.

## 5.5 FINDING OF COMPLIANCE WITH ENERGY STAR REQUIREMENTS

The determination of compliance with ENERGY STAR requirements shall be made according to the requirements of Appendix A (EPA Directive No. 2011-04 most recent date).

Communication between the **Participant** and the **Program Laboratory** is not permitted when determining compliance with ENERGY STAR requirements.

## 5.6 NOTIFICATION OF DEVIATION FROM CERTIFIED VALUES

See appropriate AHAM Verification Program Procedural Guide Part 2 for claims requirements that may be in addition to the ENERGY STAR requirements.

The test report defined in clause 5.3 will identify the percentage difference from the certified value.

## 5.7 FINDING OF POTENTIAL NON-COMPLIANCE WITH ENERGY STAR REQUIREMENTS

If the results of the spot check test fall outside the **tolerance** of ENERGY STAR verification as noted in the specific product Part 2, section 5.5, the **Program Laboratory** shall immediately notify AHAM. The **Program Laboratory** shall notify the **Participant** they are to ship the additional three **Units**, which the **Participant** has stored since initial tagging.

If the values measured during a verification test of the four **Units** fail to meet the ENERGY STAR specification and verification testing requirements (see Appendix A- Approach 2), the **Program Laboratory** shall immediately notify AHAM and provide copies of all test reports related to this **Sample** group.

Any report of non-compliance from the **Program Laboratory** should be accompanied by the MSF form for the product, as well as, line item from the DOE CCMS database. The test report will be verified by AHAM staff against the numbers claimed in the MSF prior to reporting any non-compliance to DOE/EPA.

In all cases of accepted non-compliance, AHAM will notify **Appropriate Stakeholders**.

Within 2 days of the determination of potential non-compliance, AHAM shall report the testing failure to EPA and DOE and the **Participant**, including copies of the test reports provided by the **Program Laboratory**. The **Participant** must acknowledge the receipt of potential non-compliance within 24 hours. EPA will then notify the **Participant** and proceed as outlined in EPA Directive 2011-04, current version (see Appendix A). AHAM program **Participants** can request EPA extend their company's response date in the EPA process to allow the AHAM process to be completed. The **Participant** needs to make this request to EPA.

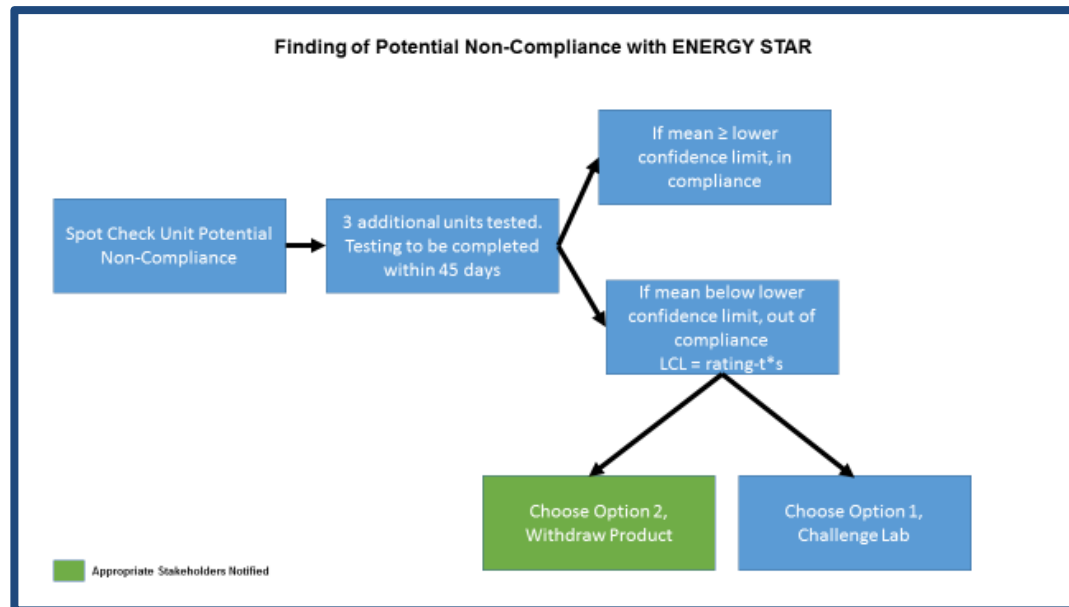
*Note: If, for ENERGY STAR qualified models only, any single test result (i.e. spot check **Unit**, or subsequent three **Units**), does not appear to meet the applicable federal energy conservation standard, with 0% tolerance, AHAM must notify DOE. AHAM will do so when testing of all units is complete. In such cases, AHAM will not notify the EPA or the **Participant** until two business days after notice has been sent to DOE.*

After a finding of ENERGY STAR **Program** potential non-compliance, oral communication between the **Participant** and the **Program Laboratory**, e.g., pertaining to the AHAM **Program**

compliance of an ENERGY STAR model, is not permitted without the participation of AHAM. No less than 48 hours prior to any such communication, AHAM shall notify DOE, and DOE shall be allowed the opportunity to be a party to the communication, including the opportunity to be present for any in-person meetings, including site visits. AHAM and DOE shall be copied on all written communications concerning the determination of compliance of an ENERGY STAR model with ENERGY STAR requirements. The finding of potential non-compliance can be resolved by either selecting Option 1: Lab Challenge or Option 2: Withdraw Product as per Figure 1. An option must be selected within 30 business days from the date of original notification to resolve the potential non-compliance.

*Note: It is foreseeable that due to holidays and vacations that an extension may be required to this deadline. AHAM will only grant an extension if there are no objections from the stakeholders. Extensions will be as short as possible to accommodate the circumstance.*

The **Participant** may not withdraw or re-rate the model from the ENERGY STAR Program after a finding of potential non-compliance as a means of avoiding further testing and a finding of non-compliance.



**Figure 1: Finding of Potential Non-Compliance with ENERGY STAR**

## 5.8 DOCUMENTED INTERVIEW

In all instances of a finding of potential ENERGY STAR non-compliance, the **Participant** may elect to request a **Documented Interview** with the **Program Laboratory**. DOE will be invited to attend all **Documented Interviews**. This request must be made within the first five business days after confirmation of receipt of the potential non-compliance, to a maximum of ten (10) days after the original notification was sent. The **Participant** shall notify AHAM of the request, and AHAM will schedule, moderate and provide a summary of the **Documented Interview**.

The **Documented Interview** must be held within fifteen (15) business days of the date on which the initial notification was sent to the **Participant**.

The Interview is the opportunity for a **Participant** to gather information regarding the handling, set up, testing and review of test data resulting in a finding of potential AHAM **Program** non-compliance. **Participants** may use this opportunity to gather information to

assist in making their selection of option to resolve the finding of potential non-compliance. If conducted via telephone call or in person, the results are documented by AHAM and issued to the **Participant**, the **Program Laboratory**, EPA and DOE. If conducted via email, AHAM shall also be copied on the mailing. No **Test Procedure** interpretations are to be made during the **Documented Interview**. AHAM may request documentation, schematics, reports, and any other clarifying information from both the **Participant** and laboratory related to the **Documented Interview**.

During the **Documented Interview**, all test **Units** associated with this verification test are to be quarantined. There is to be no physical interaction by the **Participant**, the **Program Laboratory**, or any other party during the **Documented Interview** with a tested **Unit**, nor any of the **Samples** quarantined at the **Participants** facility. Photographs of the **Units** may be provided by the **Program Laboratory**. Any interaction with the units to get the photos needs to be approved by the **Program Laboratory**, AHAM, and DOE. Evidence of any tampering of these **Units** by the **Participant** will result in a reporting of non-compliance with the **Sample** to ENERGY STAR.

AHAM is to record a summary of the Interview and provide to the **Participant** and **Program Laboratory** for proposed edits. All edits are due back to AHAM within five (5) business days of the issuance of the draft summary.

## 5.9 OPTION 1: LAB CHALLENGE

The Participant may request to challenge the Lab. Figure 2 outlines the steps if a Lab Challenge is chosen.

The Participant may challenge the Program Laboratory's determination of potential non-compliance by providing to AHAM: 1) a detailed written report on why it believes the test value determined by the Program Laboratory is incorrect; and 2) the calculation spreadsheet/protocol used by the Participant to determine the rating in question. AHAM then communicates the challenge to the Program Laboratory and the Appropriate Stakeholders. Within five (5) business days of receipt, the Program Laboratory will notify AHAM that it proposes to either accept the Participant's method and withdraw the Program non-compliance or reject the **Participant's** Lab challenge.

- If the **Program Laboratory's** initial response results in a withdrawal of its initial determination of **Program** non-compliance, the **Program Laboratory** will retest starting with the initial spot check unit and then proceed to test the additional units if warranted and issue a new finding of compliance or non-compliance.
- If the **Program Laboratory's** initial response is a rejection of the challenge then the next decision is to determine if there is an issue regarding the **Program Laboratory's** interpretation of the Test Procedure .
  - if the Lab Challenge raises an issue regarding the **Program Laboratory's** interpretation of the **Test Procedure**, AHAM will refer that issue to DOE for an official response, but the Participant has the opportunity to first request an industry position on the test interpretation issue, per Section 5.9.1.

AHAM will notify DOE and EPA after receipt of the **Program Laboratory** proposed response or if the **Participant** requests an industry position on test interpretation, after the completion of the steps outlined in Section 5.9.1. The notification will identify the relevant **Test Procedure** interpretation question being referred to DOE for an official response, and provide both

agencies a copy of the original test report (CBI and redacted versions), the Lab Challenge and the information supporting the challenge received from the **Participant**, the **Program Laboratory**'s proposed response, and the industry's **Test Procedure** interpretation (if applicable).

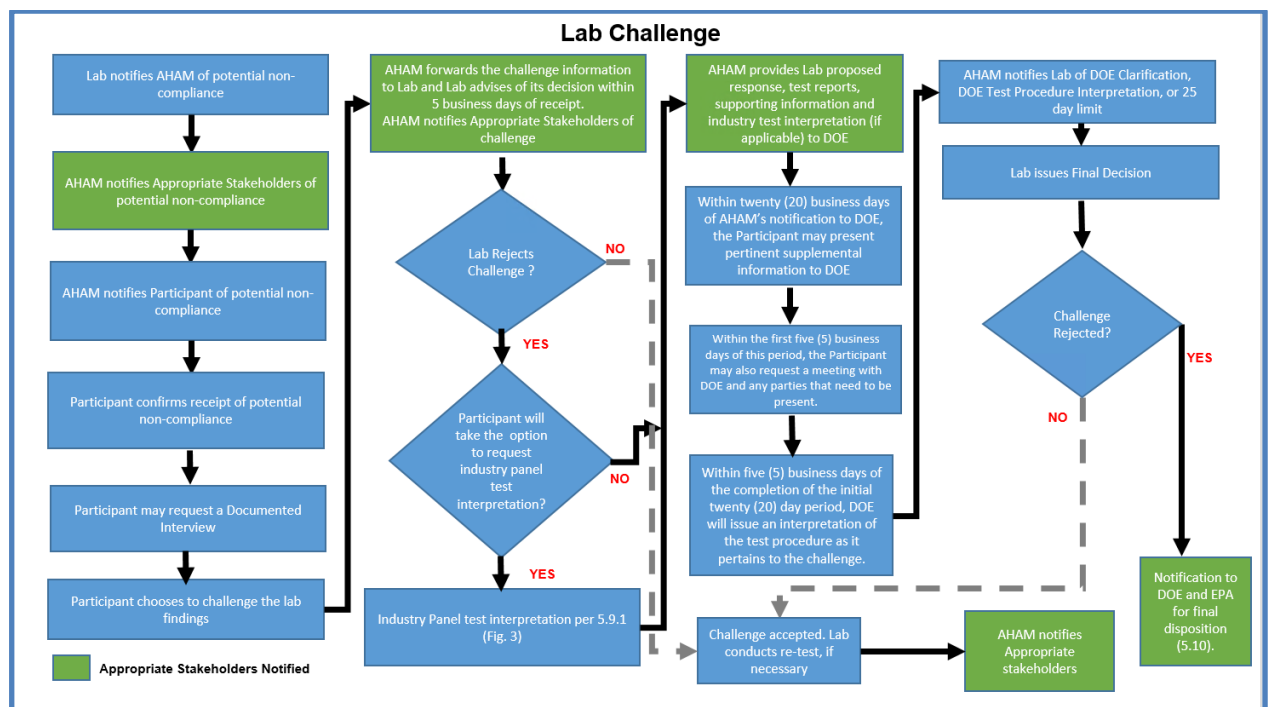
Within twenty (20) business days of AHAM's notification to DOE, the **Participant** may present pertinent supplemental information to DOE. Within the first five (5) business days of this period, the **Participant** may also request a meeting with DOE and any parties that need to be present.

Within twenty five (25) business days of AHAM's notification to DOE, DOE will issue to AHAM an interpretation of the **Test Procedure** as it pertains to the challenge. AHAM may approve an extension beyond 25 business days if requested by DOE. AHAM will discuss the DOE interpretation with the **Program Laboratory** and the **Program Laboratory** will then issue a final response to the **Participant**'s challenge in accordance with DOE's interpretation..

If DOE does not issue an interpretation within twenty-five (25) business days, the **Program Laboratory**'s proposed response will serve as the final response to the Participant's challenge

If the **Program Laboratory**'s final response results in a withdrawal of its initial determination of **Program** non-compliance, the **Program Laboratory** will retest all **Units** previously tested (e.g., four **Units**) and issue a new finding of **Program** compliance or non-compliance. If the **Program Laboratory**'s final response is a rejection of the challenge, the **Participant** must proceed under Option 2: Withdraw Product from ENERGY STAR (section 5.10).

After the **Program Laboratory** issues its final response, AHAM notifies **Appropriate Stakeholders** of the results and that its process is complete.



**Figure 2: Lab Challenge**

### 5.9.1 AHAM Test Procedure Interpretation Panel Review

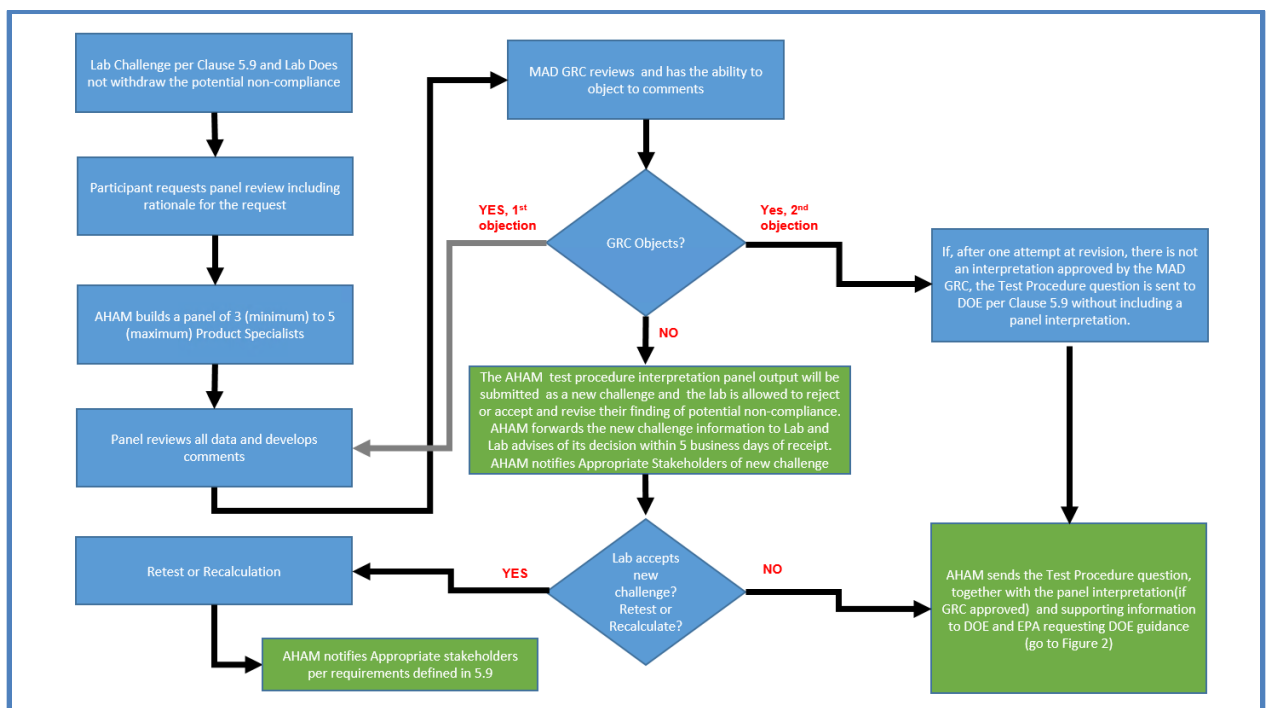
In the case where the **Program Laboratory** does not withdraw the potential non-compliance, the **Participant** will have an option to request an industry position on test interpretation as per this section within 48 hours (2 business days) after the receipt of **Program Laboratory's** decision. All final interpretations are from DOE. If this option is selected, AHAM will notify DOE/EPA for awareness that this process option has been chosen. AHAM will notify DOE/EPA once the final industry test interpretation has been received per the steps below (see Figure 3).

*Note: There are also times where a Test Procedure interpretation is required by the **Program Laboratory** outside of a lab challenge (for example, during the initial testing). In such cases, the **Program Laboratory** will inform AHAM of its request for guidance, will contact DOE directly for a test procedure interpretation and, subsequently, will inform AHAM of DOE's answer. This information can later be provided to the **Participant** during a **Documented Interview** but cannot be provided prior to testing being completed.*

1. **Participant** contacts AHAM requesting a panel review. Their initial rationale for the request is submitted and any test data they would like to provide as support. The process does not start until the request is submitted.
2. AHAM builds a panel of a minimum of 3 (three) and maximum of 5 Product Specialists or company representatives from the **Program**. AHAM puts all **Participants** of that **Program** (except the challenging **Participant**) into a randomizer for 2 random selections. Then, all others (except the challenging **Participant**) into the randomizer for 1 to 2 more. This process ensures there is some expertise in the area on the panel. Each **Participant** company that was selected provides the representative of their choosing. In the event that the panel size would not be at least three, the challenging **Participant** is allowed to be part of the panel but is not the panel lead. The timing for this step is no more than two weeks to assemble the panel and schedule the first review.
3. Panel reviews all data, develops comments (after AHAM de-identifies,) and issues a proposed interpretation within fifteen (15) business days.
4. AHAM sends the panel's proposed interpretation to the Major Appliance Division Government Relations Council (MAD GRC) for review for five (5) business days giving the MAD GRC the option to object to the proposed interpretation before it is sent to DOE for potential guidance. If there is an objection, the MAD GRC will vote according to the AHAM bylaws. If the bylaw requirements are not met, the panel decision is returned to step 3 for revision. If, after one attempt at revision, there is not an interpretation approved by the MAD GRC, AHAM will not send the panel interpretation on the **Test Procedure**. Instead, documentation of the Lab Challenge, including any **Test Procedure** questions, will be sent to DOE per clause 5.9.
5. If there are no objections in step 4 and/or there is an approved interpretation by the MAD GRC, the final AHAM panel information is sent to the **Program Laboratory** as a new challenge and they have the option to change their **Program Laboratory** decision. The **Program Laboratory** has five (5) days to review and determine if they will withdraw the potential non-compliance.



- If the **Program Laboratory** decides to retest or recalculate, the **Program Laboratory** will issue a new finding of **Program** compliance or non-compliance. AHAM sends a withdrawal notice of the potential non-compliance to the **Appropriate Stakeholders per Clause 5.9**.
  - If the **Program Laboratory** rejects the new challenge, the process reverts back Clause 5.9 for completion of the challenge process.
6. Regardless of the decision of the **Program Laboratory** in step 5, AHAM sends the **Test Procedure** question, together with the approved panel interpretation from step 4 and supporting information to DOE and EPA requesting potential DOE guidance per clause 5.9.



**Figure 3: Panel Interpretation**

## 5.10 OPTION 2: WITHDRAW PRODUCT FROM ENERGY STAR

To allow AHAM to close an open potential non-compliance, once a decision is made by DOE or EPA, to withdraw or retain the model, the **Participant** will inform AHAM.

If the **Participant** elects to withdraw the product (per clause 5.7 or 5.9) from the ENERGY STAR Program, it must immediately notify EPA of the date of notification of withdrawal. EPA will then proceed as outlined in the EPA Disqualification Process, current version (see Appendix B).

The **Participant** must send written notice to AHAM and EPA within thirty (30) business days of receiving the notice of **Program** non-compliance, stating the date of removal of the model from the ENERGY STAR Program.



The **Program** requires that, if one model is withdrawn, the **Participant** shall withdraw all models within the **Basic Model**, as listed on AHAM **Model Submission Form** as of the date that the **Participant** was first notified of the model's selection (Clause 5.1). This includes all brands within the **Basic Model** whether labeled by the **Participant**, licensed by the **Participant** or licensed to a private brand reseller. In addition, the **Participant** shall promptly report to ENERGY STAR that all models within the **Basic Model** have been discontinued.

AHAM will notify **Appropriate Stakeholders** of the **Participant's** decision to withdraw the product from the ENERGY STAR Program.

#### 5.11 RETURN OF UNITS

Upon completion of testing selected **Units**, the **Program Laboratory** shall contact the **Participant** for disposition of tested **Units**, unless the test **Unit** is determined to potentially be out of compliance with **Program** requirements. All costs associated with the disposition of tested **Units** shall be the responsibility of the **Participant**.

If the **Participant** has test units that have been determined to be a potential non-compliance and the **Participant** is still disputing the test results with the EPA, the **Program Laboratory** may not release the test units until notified by AHAM that the EPA has approved their release or the matter is closed, whichever comes first. Additionally, DOE's approval for release of test units is required if the testing requires AHAM to report to DOE per clause 5.7.

#### 5.12 TERMINATION FROM THE PROGRAM

A **Participant** who is terminated from this **Program** shall immediately notify ENERGY STAR of the termination, with copy to AHAM. If a **Participant** exercises their option to Withdraw **Basic Models** from the AHAM **Verification Program** to move it to another **Verification Program**, the **Participant** needs to provide that request in writing so that AHAM can inform **Appropriate Stakeholders** that this **Basic Model** is no longer under the AHAM **Verification Program**.

#### 5.13 MARKET SURVEILLANCE

**Participants** observing or receiving reports of models displaying or advertising ratings at other than the rated value in the DOE CCMS and/or ENERGY STAR **QPL** are urged to report the fact, with identifying details, to AHAM, or may elect to challenge that **Participant** (Section 6). AHAM will bring the facts to the attention of the **Participant** for the brand involved without identifying the source of the complaint.

## 6. CHALLENGE PROCEDURE

### 6.1 CHALLENGE RULES

AHAM may not challenge a **Program Participant**.

A **Participant** within the **Program** may challenge another **Program Participant**, using the Challenge Request Form found in the appropriate AHAM Verification Program Procedural Guide Part 2. Challenges shall be in good faith, with supporting documentation provided to the **Program Laboratory** at the time of the challenge. **Program Participants** may not challenge non-**Participants**; this is outside the scope of this **Program**.

However, if AHAM receives multiple indications from **Program Participants** that a non-**Participant** may have questionable claims values, AHAM may initiate a challenge of the specified non-**Participant** working through the **MAVSC**. There must be unanimous agreement of the **MAVSC** to challenge the non-**Participant**, as **Program** funds will be used for the challenge. In the case where a program participant(s) would pay for the challenge of a non-Participant and therefore not using program funds, see section 6.4 for process steps.

### 6.2 INITIATING A CHALLENGE

A **Participant** may challenge the reported claims, or an algorithm of another **Participant's** model. For all challenges, the challenging **Participant** (Challenger) must complete and submit the Challenge Request Form found in the appropriate AHAM Verification Program Procedural Guide Part 2 to AHAM. For the challenge to take place, the Challenger must include an explanation of why the challenge should be granted. For claims or algorithm challenges, the Challenger must authorize the **Program Laboratory** to proceed at the Challenger's expense for the initial **Program Laboratory** test.

Once the Challenge Request form has been submitted to AHAM, AHAM will notify the challenged **Participant** (Challenged **Manufacturer**) in writing, with a copy to the **Program Laboratory**, of the challenge. The **Program Laboratory** will then acquire a Unit of the challenged model and perform verification testing. AHAM and the **Program Laboratory** shall keep the identity of the Challenger and Challenged **Manufacturer** under this challenge procedure in confidence throughout the challenge proceedings.

If the **Program Laboratory** results do not verify the Challenged **Manufacturer's** reported certified ratings, this will be considered a Verified Challenge. AHAM staff shall inform the Challenger and Challenged **Manufacturer** of the Verified Challenge, and the Challenged **Manufacturer** must pay all **Program Laboratory** testing costs incidental to the Verified Challenge. The Challenged **Manufacturer** may also select to have more **Units** tested, as provided in section 5.6. All responses and processes in Section 5.10 shall apply to verified challenge as they do to an initially non-compliant Verification Test.

If the challenges test results confirm the Challenged **Manufacturers** ratings claim (a Non-Verified Challenge), the Challenger must pay the **Program Laboratory** for all costs incidental to the test(s), including all costs associated with procurement of the test **Unit**. Upon completion of testing, the test **Unit** will be shipped, COD, to the challenger.

Regardless of the outcome of the challenge, both the Challenger and Challenged **Manufacturer** will receive copies of reports and findings of the Challenge testing.

Within thirty (30) business days of receipt of a Verified Challenge, the Challenged **Manufacturer** shall submit a written statement to the **Program Laboratory**, with copy to AHAM, either 1) disputing the Verified Challenge or 2) agreeing to withdraw its product from the market.

If the Challenged **Manufacturer** does not dispute the Verified Challenge, it must withdraw its product from the market within thirty (30) business days of the receipt of the Verified Challenge. The Challenged **Manufacturer** must pay all **Program Laboratory** testing costs incidental to the Verified Challenge.

If the Challenged **Manufacturer** disputes the Verified Challenge it must, within thirty (30) calendar days of receipt of the Verified Challenge, provide a detailed written summary of its method for determining claims and support for why this is the correct method to AHAM staff. AHAM staff will send to the Program Laboratory. Within fifteen (15) calendar days of receipt, the **Program Laboratory** will either accept the Challenged **Manufacturer's** method and withdraw its Verified Challenge or reject the Challenged **Manufacturer's** method and reinstate the Verified Challenge. Upon reinstatement of the Verified Challenge, the Challenged **Manufacturer** must, within thirty (30) business days, withdraw its product from the market or may choose to seek DOE interpretation of the methods by which AHAM, the **Program Laboratory**, and the Challenged **Manufacturer** have determined the claims of the challenged product.

### 6.3 MULTIPLE CHALLENGES

If the **Program Laboratory** is working on a challenge and receives a separate challenge relating to the ongoing challenge, the **Program Laboratory** will notify AHAM, and then notify the second Challenger that a challenge is already underway. The second Challenger has the option to be involved in the challenge. Confidentiality between both challengers and the Challenged **Manufacturer** will be maintained. Ultimately, if the challenge is not upheld, the Challengers will split the challenge cost. The **Program Laboratory** may receive multiple challenges on a similar issue. The **Program Laboratory** is responsible for reviewing the technical viability of each challenge.

### 6.4 CHALLENGE OF NON-PARTICIPANT

A **Participant** may challenge the reported claims, or an algorithm of a Non-**Participant's** model. For all challenges, the challenging **Participant** (Challenger) must agree to pay costs of the challenge (cost = test cost plus admin cost, plus any potential penalty and/or lab challenge costs), and also complete and submit Challenge Request Form found in the appropriate AHAM Verification Program Procedural Guide Part 2 to AHAM Staff. For the challenge to take place, the Challenger must include an explanation of why the challenge should be granted. For claims or algorithm challenges, the Challenger must authorize the **Program Laboratory** to proceed at the Challenger's expense for the initial **Program Laboratory** test.

Once the Challenge Request form has been submitted to AHAM and if adequate information is submitted by the Challenger that meets the acceptance criteria to proceed, the process will move on to testing by the Program Laboratory. If inadequate data is submitted to proceed or is unduly burdensome and the AHAM program participant (Challenger) still wants to proceed, they can appeal to the AHAM Major Appliance Verification Steering Committee (MAVSC). If the MAVSC rules against the appeal, the challenge ends. If the MAVSC agrees with the appeal, the process will move on to testing by the Program Laboratory.

AHAM will notify the challenged Non-**Participant** (Challenged Non-**Participant Manufacturer**) in writing, with a copy to the **Program Laboratory**, of the challenge. The **Program Laboratory** will then acquire a unit of the challenged model from the marketplace and perform verification testing. AHAM and the **Program Laboratory** shall keep the identity of the Challenger and Challenged Non-**Participant Manufacturer** under this challenge procedure in confidence throughout the challenge proceedings.

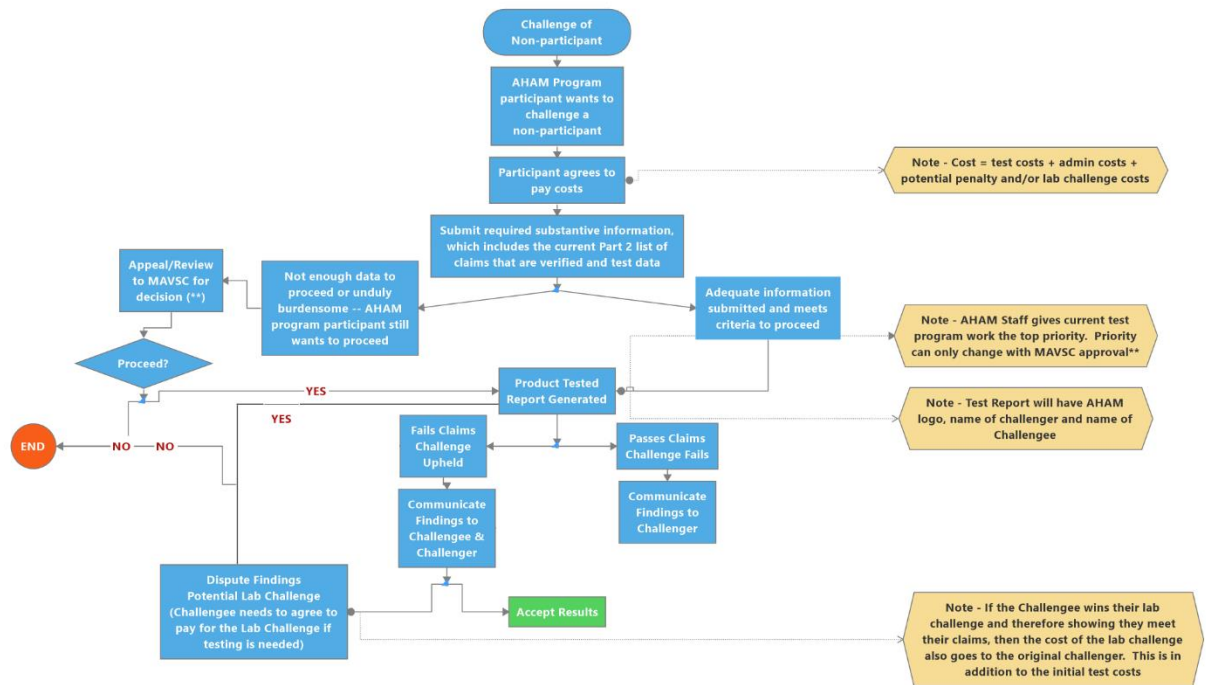
If the **Program Laboratory** test results do not verify the Challenged Non-**Participant Manufacturer's** reported certified ratings, this will be considered a Successful Challenge (Challenge Upheld). AHAM staff will inform the Challenger and Challenged Non-**Participant Manufacturer** of the Successful Challenge. The Challenger and Challenged Non-**Participant Manufacturer** will receive copies of reports and findings of the Challenge testing.

**The Challenged Non-Participant Manufacturer** can either accept the results or dispute the findings.

- The challenged non-**Participant Manufacturer** may dispute the Successful Challenge with a Lab Challenge. Within thirty (30) business days of receipt of the Successful Challenge notification, the Challenged Non-**Participant Manufacturer** is to provide AHAM staff with a detailed written summary of its method for determining claims and support for why this is the correct method. The Challenged Non-**Participant Manufacturer** may need to agree to pay for any additional testing they request. AHAM will send this to the Program Laboratory. Within fifteen (15) business days of receipt, the **Program Laboratory** will either accept the challenged manufacturer's method and withdraw its Successful Challenge or reject the challenged manufacturer's method and reinstate the Successful Challenge
- The challenged non-**Participant Manufacturer** may accept the Successful Challenge by sending acknowledgment to AHAM. This information will be provided to the Challenger.

If the **Program Laboratory** test results confirm the Challenged Non-**Participant Manufacturer's** reported certified ratings, this will be considered a Failed Challenge (Challenge Fails). AHAM staff will inform the Challenger of the Failed Challenge. The Challenger will receive copies of the reports and findings of the Challenge testing. The Challenged non-Participant will be notified that the Challenge is closed.

Upon completion of testing, the test **Unit** will be shipped, COD, to the challenger. The costs of the challenge will be billed to the Challenger.



## 7. PROPER USE OF THE VERIFICATION CLAIMS

AHAM has no interest in or authority to limit any claims that do not directly impinge on the validity or credibility of the AHAM **Verification Program** scope. Validation of claims made outside the **Program** parameters requires separate and independent substantiation.

**Participants** are encouraged to properly use and promote the **Verification Program** in product specifications, literature and advertising.

### 7.1 RULES FOR ADVERTISING

**Participants** may not use the terms certified or AHAM verified in connection with advertising to the public in referring to products that are not or are covered within the AHAM **Verification Program** or from which participation in the **Program** has been withdrawn. However, **Participants** are encouraged to properly use and promote the **Verification Program** in specifications, literature and advertising.

### 7.2 DEFINING WHAT IS BEING CERTIFIED AND VERIFIED

See appropriate AHAM Verification Program Procedural Guide Part 2 for details

### 7.3 REFERENCE TO THE PROGRAM LABORATORY

Any reference to the **Program Laboratory** under contract to AHAM must clearly indicate that its function in the **Program** is limited to testing and technical administration.

For instance, statements regarding claims being *“verified by AHAM based on tests by a Laboratory under contract to AHAM”* are acceptable. But statements indicating claims are *“verified by AHAM and a laboratory”* are not acceptable, for it implies incorrectly that the **Program Laboratory** has a separate verifying function.

#### 7.4 SUBMISSION OF SPECIFICATION SHEETS AND PROMOTIONAL MATERIAL

Upon request, **Program Participants** must forward specification sheets, advertising and promotional materials (i.e., web site copy) for models subject to the **Program** which refer to, illustrate, or describe certified models. AHAM shall review these to assure that references **Program** provisions are in accordance with these recommendations.

#### 7.5 EXAMPLES OF IMPROPER USE OR STATEMENTS WHICH MIGHT CAUSE CONFUSION AS TO THE SCOPE OF AHAM VERIFICATION

Following are examples of practices which must be avoided.

##### 1. Statements that might cause confusion as to the scope of AHAM verification.

For example:

Accurate statement as to scope, except that the statement is immediately followed by: *“You know that you are getting all the energy savings you are paying for.”* (AHAM makes no verification as to the sales value or the energy savings of any particular model.)

*“Every claimed rating is AHAM verified.”* (Every rating is not verified).

*“AHAM certified claims values.”* (Claims values are certified by the **Participant**)

#### 7.6 ACCURATE REPRESENTATION

The above examples are typical of kinds of statements or usages which can cause confusion or suggest more than is covered by the scope of the **Program**. These rules and suggestions were established to properly promote the AHAM **Verification Program** and are not intended to otherwise limit or restrict **Participants'** advertising. Every circumstance where the principle of accurate representation applies cannot be anticipated and dealt with here. It is the responsibility of the **Participant** not to misrepresent their status in the **Program** under any circumstances. If there are questions, **Participants** should submit draft advertisements and/or any other certification claims to AHAM for advanced review.

#### 7.7 DISCONTINUING REFERENCES TO AHAM VERIFICATION PROGRAM

Upon withdrawal or termination from the **Program**, a **Participant** must immediately discontinue publication of documents (including advertisements, websites, etc.,) containing any reference to the **Participant's** participation in the **Verification Program**.


The **Participant** must also notify all channels in their **First Line of Distribution** of the withdrawal or termination. This notification is required to ensure that the initial customers to whom the **Participant** is selling are made aware of the removal of products from the AHAM **Verification Program**.

## 8. FORCE MAJEURE

If and to the extent that a participant's performance to any of its obligations pursuant to the requirements noted in this procedural guide is prevented, hindered or delayed directly or indirectly by fire, flood, earthquake, elements of nature or acts of god, acts or threats of war, terrorism, riots, civil disorders, rebellions or revolutions, or any other similar cause beyond the reasonable control of the participant (each a "force majeure event"), and such non-performance, hindrance or delay could not have been prevented by reasonable precautions, then the non-performing, hindered or delayed participant shall be excused for such non-performance, hindrance or delay, as applicable, of those obligations affected by the force majeure event for as long as the force majeure event continues and, except as otherwise provided in this section, such the participant continues to use its commercially reasonable efforts to recommence performance whenever and to whatever extent possible without delay, including through the use of alternate sources, workaround plans or other means. The participant whose performance is prevented, hindered or delayed by a force majeure event shall promptly notify AHAM in writing of the occurrence of the force majeure event and describe in reasonable detail the nature of the force majeure event.



## APPENDIX A: ENERGY STAR VERIFICATION TESTING

		THIRD PARTY CERTIFICATION IMPLEMENTATION	
		ENERGY STAR® PRODUCTS	
<b>SUBJECT:</b> ENERGY STAR Verification Testing for Certification Bodies - Test Sample Sizes and Determining Testing Failures (Non-Lighting Products)		DIRECTIVE NO. 2011-04	
		Date: 5/09/2011	

**Introduction**

The third-party certification requirements put in place by the U.S. Environmental Protection Agency (EPA) for ENERGY STAR products include provisions for verifying the performance of qualified products through verification and challenge testing. In conjunction with the verification program being run by certification bodies (CBs), The U.S. Department of Energy (DOE) intends to continue to operate a parallel, targeted verification testing program for ENERGY STAR products that also evaluates how models comply with Federal energy conservation standards. More information on DOE's program is available at [http://www1.eere.energy.gov/buildings/appliance\\_standards/](http://www1.eere.energy.gov/buildings/appliance_standards/).

Consumers who rely on the ENERGY STAR label in making a purchase decision expect that the unit they purchase will meet ENERGY STAR requirements. EPA has traditionally established program testing requirements with the intention of fulfilling that consumer expectation and ensuring that all units of a qualified model, irrespective of manufacturing and testing variability, meet the ENERGY STAR performance requirements. For certain product categories currently subject to Federal energy conservation standards, the ENERGY STAR specification has allowed for testing consistent with DOE standards, which require testing a sample comprised of no less than two units, and using statistical methods to determine the certified rating of each basic model. Recognizing this variation in sample size approach for qualification, EPA and DOE are proposing that products will be tested for purposes of verification consistent with how they were tested for purposes of qualification using one of the following approaches:

1. If a product was qualified based on a single test, which ENERGY STAR specifications require for products not subject to Federal energy conservation standards, then verification testing will involve a single test.<sup>1</sup>
2. If a product was qualified based on multiple test samples, (e.g., per DOE certification sampling plan associated with Federal energy conservation standards<sup>2</sup>), then four units will be procured at once for verification testing. A spot check will be performed on the first unit. If the test result of the spot check fails by 5% or more, the additional 3 units will be tested and statistical methods applied to the results for purposes of determining a failure.

Testing failures will be referred to EPA for further consideration and a final determination regarding ENERGY STAR compliance. Testing failures that indicate a potential issue with respect to Federal energy conservation standards will be referred to DOE for further testing consistent with DOE's sampling plans for enforcement testing of products as outlined in 10 CFR Part 429.

<sup>1</sup>Approach 1 will apply if multiple tests are required to determine qualification, but all units must individually meet the ENERGY STAR requirements (e.g., displays, imaging equipment).

<sup>2</sup> Approach 2 may also apply to products not subject to Federal energy conservation standards if the ENERGY STAR specification allows for and the manufacturer chooses to qualify a product based on a statistical combination of tests on multiple units.

1



**Determination of Testing Failure for the ENERGY STAR Verification Program**

The following approaches will be applied by DOE and CBs when conducting verification testing of ENERGY STAR products, depending on how the product was originally qualified.

**Approach 1: Manufacturer qualifies product for ENERGY STAR based on one representative model**

One unit will be selected, obtained, and tested. Consistent with requirements for ENERGY STAR qualification, the measured performance must be equal to or better than the ENERGY STAR specification requirements.

$$Consumption_{Test} \leq ESTAR \text{ consumption specification}$$

$$Efficiency_{Test} \geq ESTAR \text{ efficiency specification}$$

**Approach 2: Manufacturer qualifies product for ENERGY STAR based on multiple test samples**

Four units will be selected and obtained at once. One unit will initially be tested for a spot check. If the tested unit fails to meet the requirement by less than 5% of the applicable ENERGY STAR specification, no further tests will be conducted and the model will be considered to meet ENERGY STAR requirements. If the measured performance is not within this range, the three additional units will be tested immediately. In this case, manufacturers shall not be notified of the spot check test results until all four units are tested, at which time a testing failure can be determined.

Test results from the four units will be used to determine if the model meets the ENERGY STAR specification. DOE may also use these results for evaluation of compliance with Federal energy conservation standards.

The following will be calculated on the sample of four units:

		$n = 4$ (number of units tested)
Mean ( $\bar{x}$ )	$\bar{x} = \frac{1}{n} \left( \sum_{i=1}^n x_i \right)$	$X_i$ = measured energy efficiency or consumption from test $i$
Standard Deviation ( $s$ )	$s = \sqrt{\frac{\sum_{i=1}^n (x_i - \bar{x})^2}{n - 1}}$	
Standard Error ( $s_x$ )	$s_x = \frac{s}{\sqrt{n}}$	
Lower Confidence Limit (LCL)	$LCL = EES - ts_x$	$EES$ = energy efficiency specification or standard $t = 3.182$ (97.5% one-sided student's $t$ statistic for a sample size of 4)
Upper Confidence Limit (UCL)	$UCL = ECS + ts_x$	$ECS$ = energy consumption specification or standard
5% tolerance on LCL	$LCL(0.05) = 0.95 * EES$	
5% tolerance on UCL	$UCL(0.05) = 1.05 * ECS$	

For an energy efficiency specification, the  $LCL$  and  $LCL(0.05)$  are compared, and the greater value is compared to the mean ( $\bar{x}$ ). The model meets the ENERGY STAR specification if the sample mean is equal to or greater than the lower control limit.

$$\text{Mean } (\bar{x}) \geq LCL \text{ or } LCL(0.05), \text{ whichever is greater}$$

For an energy consumption specification, the  $UCL$  and  $UCL(0.05)$  are compared, and the smaller value is compared to the mean ( $\bar{x}$ ). The model meets the ENERGY STAR specification if the sample mean is equal to or less than the upper control limit.

$$\text{Mean } (\bar{x}) \leq UCL \text{ or } UCL(0.05), \text{ whichever is smaller}$$

#### **Consequences of Testing Failures**

CBs are required to report testing failures to EPA within 2 days of determining a testing failure. EPA will then notify the manufacturer and provide 20 days for a written response. This may include the submission of additional relevant information to EPA. EPA will review submitted information from the manufacturer and determine if any additional evaluation is necessary. Where applicable, EPA will consult DOE regarding the appropriate application of test methods.

EPA will provide additional time to resolve questions of potential non-compliance as appropriate. If a decision is made to disqualify the product, the manufacturer will be required to discontinue labeling of the product and institute other corrective actions as directed by EPA.

#### **Relationship to Enforcement of Federal energy conservation standards**

If verification testing performed in support of the ENERGY STAR program suggests that a model is not compliant with Federal energy conservation standards, DOE will proceed in accordance with 10 CFR Part 429, as appropriate.

#### **Relationship to Enforcement of DOE Certified Ratings**

If verification testing performed in support of the ENERGY STAR program suggests that the test data do not support the DOE certified rating, DOE will proceed in accordance with 10 CFR Part 429, as appropriate.

**Disqualification Procedures  
ENERGY STAR® Products**

Last updated: February 28, 2018

Basis for Product Disqualifications:

1. Testing Failures – Product disqualifications are the result of performance testing failures under ENERGY STAR Verification Testing or U.S. Department of Energy (DOE) Appliance Testing.
2. Product Non-Conformity – In a small number of cases, testing is unnecessary as a basis for product disqualification. Examples include a discrepancy with product categorization, and when a product's marketed use is inconsistent with the intended qualifying use.

Determining Disqualifications:

1. U.S. Environmental Protection Agency (EPA) notification by Certification Body (CB) - CBs are required to report testing failures to EPA within 2 days of determining a testing failure. Upon EPA's review of the information, EPA may determine that a product with a testing failure does not warrant disqualification for reasons such as, CB administrative error, lab administrative error, partner administrative error, or a de minimis performance deviation. In such cases, EPA may decide that no further action will be taken.
2. Brand Owner Partner Notice and Opportunity for Dispute - When EPA believes a product may warrant disqualification, the EPA will notify the brand owner at the email address provided by the brand owner and provide 20 days for a written response. That response may include the submission of additional relevant information to EPA, and should be submitted as a "dispute" if challenging the product's pending disqualification. Where applicable, EPA will consult with DOE regarding the appropriate application of test methods. EPA will review submitted information from the brand owner and determine if any additional product testing and/or analysis is necessary. EPA will provide time necessary to resolve questions of potential non-compliance when a brand owner acts in good faith and as deemed necessary by EPA.
3. EPA will make a final determination of product status and inform the brand owner of its decision.
4. Additional Appeal Opportunity for Brand Owner – When EPA notifies a brand owner at the conclusion of a dispute review that a product will be disqualified, the brand owner may immediately notify EPA of a decision to appeal that determination. EPA will consider new information at that time, or conduct a more detailed examination of testing, where warranted.

Case Management:

1. All matters for which EPA notifies a brand owner of a testing failure are assigned a case number.
2. Brand owner partners, component suppliers and other involved parties are asked to reference the case number in communications with EPA.
3. A case tracking sheet is developed and maintained to document each case.

#### Brand Owner Product Control Measures:

Brand owners are provided a standard format for submitting product control measures for disqualified products and provided 20 days from time of notification to submit them. In all instances, where a product has been disqualified, the brand owner is required, at a minimum, to:

- Immediately cease shipment of units displaying the ENERGY STAR label;
- Immediately cease labeling associated units as ENERGY STAR;
- Remove ENERGY STAR references from related marketing materials, spec sheets and websites; and
- Cover or remove labels on units within the brand owner's control.

Additional measures may be required for certain cases. The following factors are considered in developing such requirements:

- Consumer investment;
- Last date of product manufacture;
- Last date of shipment;
- Quantity of units produced;
- Estimated sell-through period of product type;
- Scope and depth of product distribution; and
- Preventative measures adopted.

Product control measures are based on and apply to the model number of the disqualified product. Where a product has been modified after initial certification but not recertified with a new model number, control measures apply to all units with that model number, irrespective of product modifications that may have occurred during the period in which it was a certified product.

In no circumstances may a new ENERGY STAR product be recertified using the model number of a previously disqualified product.

A failure to submit thorough and timely product control measures may affect partnership benefits.

#### Stakeholder Notification:

1. Qualified Product List update - When a determination to disqualify is made, EPA directs the associated CB to withdraw ENERGY STAR certification for the model(s).
2. ENERGY STAR Integrity Webpage update – Once the product has been removed from the ENERGY STAR Qualified Products List, EPA posts the model on its list of disqualified products on the ENERGY STAR Program Integrity webpage. This webpage provides consumers and utilities with information regarding models that no longer meet product standards.
3. Utilities Notification – On a biweekly basis, those utilities that have opted for

regular product disqualification updates receive notice of product categories affected by disqualifications during that period.

Compliance Monitoring:

As part of its broader effort to ensure proper use of the ENERGY STAR logo, EPA supports a number of initiatives that help ensure the label is effectively removed from disqualified products.

1. Retail Store-Level Assessment (RSL) – The RSL project involves a broad market review of retail-shelf products on a regular basis in major retailers throughout the U.S. to identify products improperly labeled as ENERGY STAR, including any disqualified models that continue to be advertised or labeled as ENERGY STAR products.
2. Disqualified Products Online Assessment – The online assessment identifies products disqualified from ENERGY STAR that remained labeled as ENERGY STAR on brand owner and retailer websites in an effort to monitor compliance with product control measures that brand owner partners submit when products are disqualified.
3. Customs Port Inspections – ENERGY STAR works closely with U.S. Customs to support the examination and seizure of disqualified products labeled as ENERGY STAR arriving in U.S. ports.

As a federal trademark owner, EPA reserves the right to adjust or modify these procedures as appropriate.