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# ENERGY STAR® Products

## Enhanced Testing and Verification: Consumer Electronics and IT Products

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# Agenda



- Overview of Enhanced Testing and Verification Requirements for ENERGY STAR
- Products Covered
- New proposed requirements for CE/IT products
  - Verification program administration
  - Lab accreditations for qualifying and verifying products
  - Frequency of testing
- Discussion of CE/IT considerations
  - Building off the *Computer Verification Testing Guidelines and Procedures Manual*
  - Testing products sold through VARs and expensive products
  - Testing products sold through non-retail channels (datacenter products, STBs, other)

# Key Elements of Enhanced Testing Requirements



- Testing and reporting prior to qualification
  - Ensure that EPA has testing information on all products prior to labeling
  - Require test data from accredited labs that is representative of the product in the marketplace
- Continued testing after qualification
  - Verify that products continue to meet the ENERGY STAR requirements regardless of changes in the production process
  - Provide consumers with confidence that ENERGY STAR products are delivering the savings they expect

# ENERGY STAR Enhanced Testing and Verification – Market-Based Testing Program

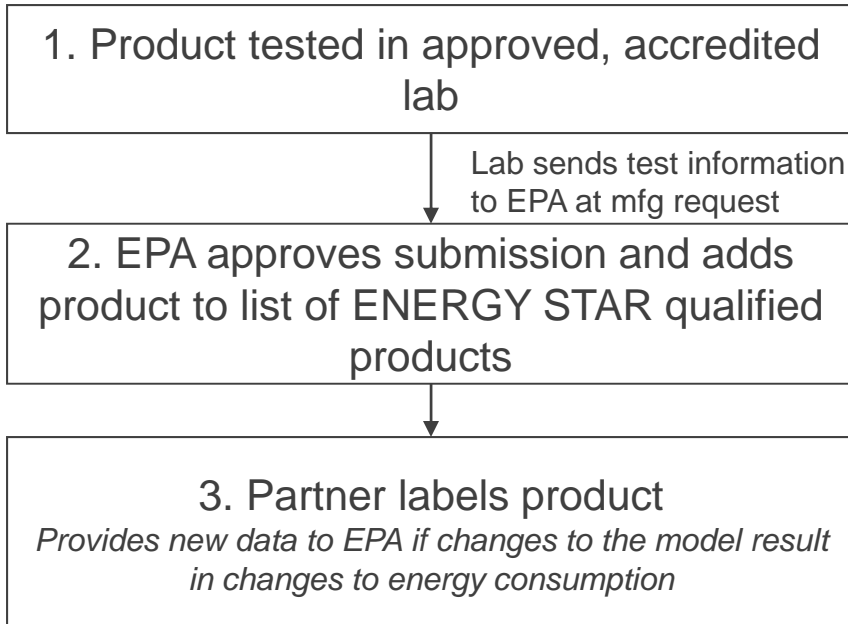


## Market-Based Testing

Scope: All ENERGY STAR Product Categories

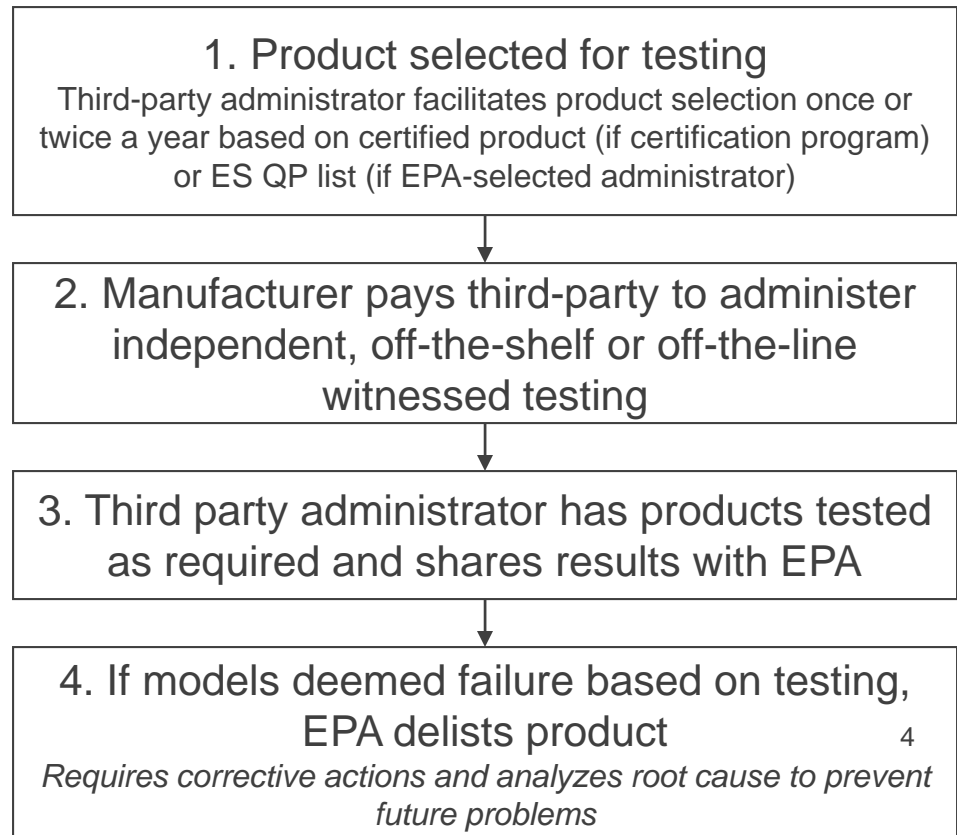
### Qualification Testing

Purpose: Ensure that testing is conducted as required by ENERGY STAR specification and that lab submits test results to EPA that are representative of products sold to customer



### Verification Testing

Purpose: Ensure that products continue to meet ENERGY STAR requirements



# CE/IT Products Covered



- Audio/Video Equipment
- Computers
- Data Center Storage
- Decorative Light Strings
- Digital to Analog Converter Boxes
- Displays
- Imaging Equipment
- Servers
- Set-Top Boxes
- Small Network Equipment
- Telephony
- Televisions
- Uninterruptible Power Supplies

# Qualification and Quality Assurance Testing



- Laboratory requirements – preference for third-party labs with considerations for manufacturers' in-house labs
- No formal certification program
- Limited verification testing with a third-party administrator to oversee each product category
  - Off-the-shelf testing where possible
  - Combination of random testing and selected products

# Qualification and Quality Assurance Testing (*cont.*)



- Qualification testing
  - Laboratory requirements
- Verification testing program administration
- Verification testing
  - Laboratory requirements
  - Process for identifying and selecting products
  - Process for obtaining products
  - Number of units to be tested
- Partner responsibilities

# Quality Assurance Testing: Program Administration



- A third-party entity will be selected by EPA/DOE to administer the testing program for a product category (the same third party may be selected to administer testing for more than one product category)
  - Selection criteria will include cost of testing as well as ability to satisfy qualification criteria
- Qualifications
  - Proficiency in measurement testing or statistics
  - Demonstrated impartiality regarding the outcome of testing
- Responsibilities
  - Identify and select qualified laboratories for testing
  - Work with manufacturers to obtain funds and information for required testing
  - Ensure testing remains on schedule
  - Provide detailed test reports and summaries of results to DOE/EPA



# Qualification Testing: Laboratory Requirements



- Third-party independent lab will be required by default
  - In-house labs may be allowed on a product-specific basis

**Comments: Concern about costs, capacity, and time-to-market associated with third-party labs; Recommendation to consider testing programs that allow for testing at manufacturers' labs with oversight.**

# Quality Assurance Verification Testing: Laboratory Requirements



- Third-party independent accredited lab will be required by default
- Witness testing may be allowed on a product-specific basis

**Comments: Requests to use in-house labs with appropriate accreditation; Support for independent testing in third-party labs**

# Quality Assurance Verification Testing: Selecting Products



- Need to ensure products are available on market and determine applicability of current requirement based on date of manufacturer.
- Confirm product selection with manufacturer and request list of at least three places to obtain the product.
- Limitations for how many products selected per manufacturer, allowing flexibility to test more products if necessary (e.g., manufacturer product failures).

# Quality Assurance Verification

## Testing: Selecting Products



- Selected by panel with final approval by EPA/DOE
  - Panel should be comprised of members from industry, EEPS, and DOE/EPA
- For 50% of models selected, basic models will be randomly selected from the list of ENERGY STAR products
- For 50% of models selected, additional basic models will be selected using the following factors:
  - Basic models and product classes from manufacturers for which previous basic models were not compliant
  - Third party referrals regarding the accuracy of ratings from third parties such as competitors, consumers, consumer groups or regulatory agencies will be considered
  - Models new to the market, particularly from brands or manufacturers which are new market entrants
  - Models with high sales volumes

# Quality Assurance Verification

## Testing: Obtaining Products



- Preferred option is to obtain products from the marketplace
  - If more than one sample is required for testing, must obtain products from different locations and at least two of the samples may not be from the same geographic area
- Other option for prohibitively expensive items or for items not available “off-the-shelf”
  - Random selection of product off production line
  - Testing at manufacturer laboratory under supervision

**Comments: General support for off-the-shelf testing**

# Quality Assurance Verification

## Testing: Sample Size



- The number of units to be tested should be the same as required for qualification – dependent on individual product specification
- Additional testing triggers will also be applicable per product specification requirements
  - e.g., imaging equipment
    - if tested unit is within 10% of the TEC criteria, one additional unit should be tested
    - if tested unit is within 15% of the OM criteria, two additional units should be tested

# Quality Assurance Verification Testing: Partner Responsibilities

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- Partner is required to pay the third-party administrator for testing of selected products
  - Testing will occur once or twice a year depending on the product

# Considerations for CE/IT Products



- Building off the Computer Verification Testing Guidelines and Procedures Manual
  - [http://www.energystar.gov/ia/partners/downloads/Computer\\_Verification\\_Testing\\_Guide\\_V1.0.pdf](http://www.energystar.gov/ia/partners/downloads/Computer_Verification_Testing_Guide_V1.0.pdf)
- Testing products sold through VARs and expensive products
- Testing products sold through non-retail channels (datacenter products, STBs, other)



# Next Steps



- Comments due April 30, 2010
  - [ENERGYSTARVerificationProgram@energystar.gov](mailto:ENERGYSTARVerificationProgram@energystar.gov)
- Complete draft including product-specific requirements – May 2010
- Finalize Requirements – July/August 2010
- Phase-in verification testing requirements allowing adequate time for certification programs to be developed and lab accreditation to occur

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