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# ENERGY STAR® Products Enhanced Testing and Verification: HVAC Products

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# Agenda



- Overview of Enhanced Testing and Verification Requirements for ENERGY STAR
- Products Covered
- New proposed requirements for HVAC Products
  - Certification programs
  - Lab accreditations for Qualifying and Verifying Products
  - Frequency of testing
- Discussion of HVAC product considerations
  - Leveraging existing certification programs under AHRI and AHAM
  - Use of in-house laboratories
  - Challenge testing
  - Tolerances
  - Obtaining samples from the marketplace

# 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

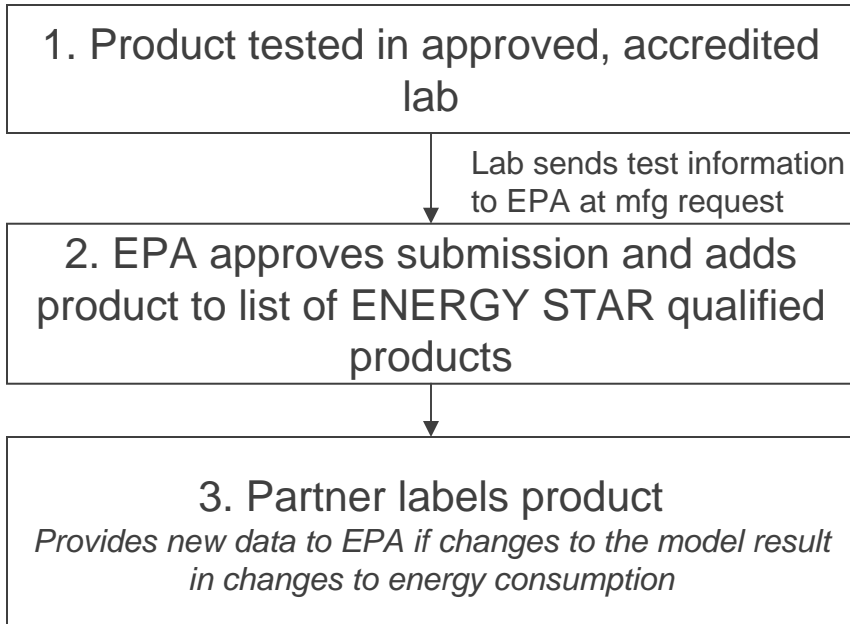


## Market-Based Testing

Scope: All ENERGY STAR Product Categories

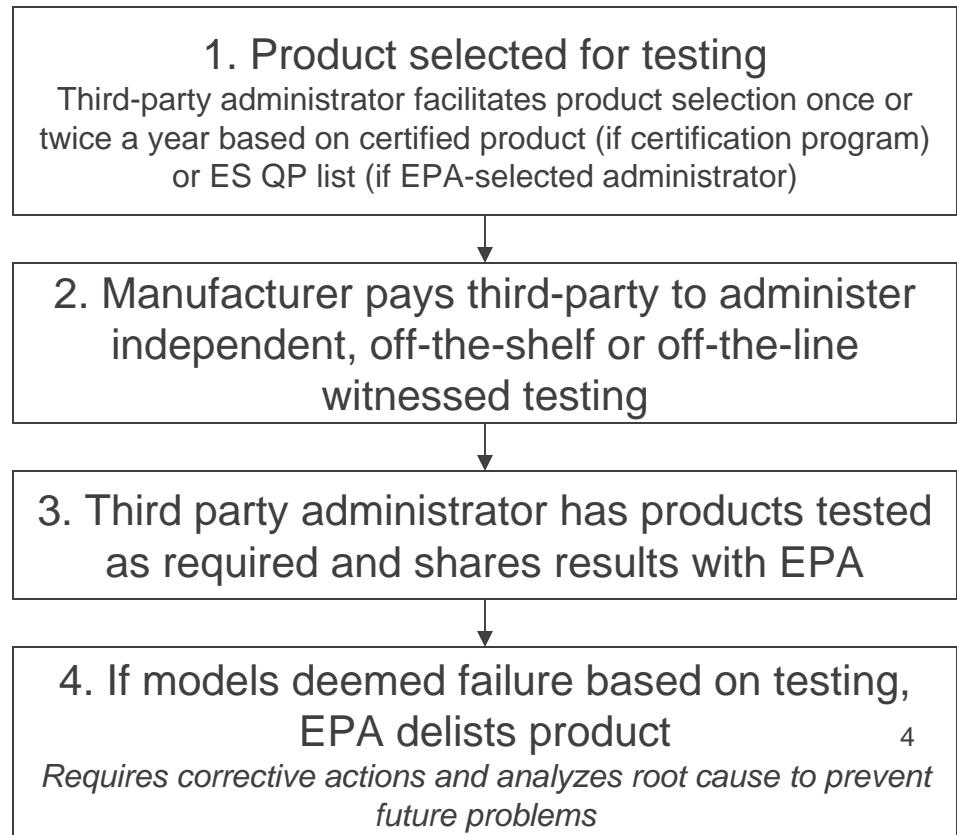
### Qualification Testing

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



# HVAC Products Covered



- Boilers
- Ceiling Fans
- Central ACs and Air-Source Heat Pumps
- Climate Controls
- Furnaces
- Geothermal Heat Pumps
- Light Commercial HVAC
- Room Air conditioners
- Ventilating Fans

# Third Party Certification and Verification Testing



- Laboratory requirements – preference to third-party labs with considerations for manufacturers in-house labs
- Formal market-based certification programs to administer testing
- Verification testing to be conducted on all products within certain timeframe
- Potential for multiple certification/verification programs to serve this function
  - Off-the-shelf testing where possible
  - Combination of random testing and selected products
- Challenge testing requirements

# Third Party Certification and Verification Testing

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

# Third Party Testing – Program Administration



- Third-party entity will administer certification and verification testing program (more than one third-party may offer such programs as long as they meet the qualification criteria)
- Qualifications
  - Proficiency in measurement testing or statistics
  - Demonstrated impartiality regarding the outcome of testing
  - Quality control measures (e.g., ISO/IEC Guide 65:1996)
  - May not require membership for product to be certified
  - Need to be approved by EPA
- Responsibilities
  - Identify and select qualified laboratories for testing
  - Work with manufacturers to test ENERGY STAR products for both initial qualification and verification purposes
  - Ensure testing remains on schedule
  - Provide detailed test reports and summaries of results to EPA/DOE



# Third Party Qualification Testing



- Third-party independent lab will be required by default; in-house labs may be allowed on a product-specific basis
- Products may not be certified based on the rating of another product unless differences do not impact the energy performance of the product
- To certify product, manufacturer must provide information on the distribution of product (for purposes of conducting verification testing)

**Comments: How will in-house testing be an improvement? Will there be additional requirements for in-house labs? Will these lab requirements be adequate for verification testing?**

# Existing Lab Accreditation Requirements



- Ventilating Fans
  - Independent, Third-party lab by a signatory to one of the ILAC, APLAC, or NACLA MRAs required for both qualification and verification testing
- Commercial Refrigeration
  - CEC approved lab or data verified by a certification body accredited to Standards Council of Canada required for qualification

# Third-Party Verification Testing: Laboratory Requirements

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

# Third-Party Verification Testing: Selecting Products

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- Selected by third-party program, allowing for input from EPA/DOE and other stakeholders
- Must test all certified products at least every three years
- Need to ensure that products still available on market and that the current specification applies

# Third-Party Verification Testing: Obtaining Products

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- Preferred option is to obtain products from the marketplace
- 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

# Third-Party Verification Testing: Sample Size

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- The number of units to be tested should be at least the same as required for qualification

# Third Party Testing: Partner Responsibilities

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- Partner is required to pay for third-party certification of product
  - Verification testing will be included in the fee
  - Testing will occur at least annually

# HVAC Product Considerations



- Leveraging existing certification programs under AHRI and AHAM
- Model after vent fan certification and verification testing requirements
  - [http://www.energystar.gov/ia/partners/product\\_specs/program\\_reqs/vent\\_fans\\_prog\\_req.pdf](http://www.energystar.gov/ia/partners/product_specs/program_reqs/vent_fans_prog_req.pdf)



# 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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