ENERGY STAR® Products
Enhanced Testing and Verification: Lighting Products

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Agenda

• Overview of enhanced testing and verification requirements for ENERGY STAR
• Products covered
• Current approaches to lighting testing
  – QA-4 for RLF
  – Third party testing and verification program for CFL, SSL and Integral LED Lamps
• Proposed requirements for luminaires and lamps
  – Testing for qualification
  – Testing for verification
  – Verification program administration
• Discussion of lighting product considerations
  – Lab accreditations
  – Third-party certification of initial testing
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

1. Product tested in approved, accredited lab
2. EPA approves submission and adds product to list of ENERGY STAR qualified products
3. Partner labels product
   - Provides new data to EPA if changes to the model result in changes to energy consumption

#### Verification Testing

*Purpose:* Ensure that products continue to meet ENERGY STAR requirements

1. Product selected for testing
   - Third-party administrator facilitates product selection once or twice a year based on certified product (if certification program) or ES QP list (if EPA-selected administrator)
2. Manufacturer pays third-party to administer independent, off-the-shelf or off-the-line witnessed testing
3. Third party administrator has products tested as required and shares results with EPA
4. If models deemed failure based on testing, EPA delists product
   - Requires corrective actions and analyzes root cause to prevent future problems
Lighting Products Covered

- Compact Fluorescent Lamps
- Integral LED Lamps
- Residential Light Fixtures
- Solid-State Lighting
Current Approach to Testing: RLF

- Testing for qualification requires accreditation by NVLAP or a signatory to the ILAC, APLAC, or NACLA MRAs
- Verification testing includes testing in third-party lab accredited by NVLAP
  - Manufacturer can select the laboratory
  - Limited verification testing
  - Off-the-shelf testing approach
  - Testing conducted twice a year
- Verification testing program described outside actual product specification
Current Approach to Testing: CFLs, SSL, Integral LEDs

- Testing for qualification requires a third-party lab; accreditations vary
- Verification testing includes testing in third-party lab accredited by NVLAP
  - Third-party testing program administrator runs process
  - Testing currently run through Intertek (for CFLs)
  - Verification testing for 20% of products per year
- Off-the-shelf testing approach
- Testing conducted twice a year
- Verification testing program described within actual product specification
Proposed Testing Approach for All Lighting Products

• Testing for qualification
  – Consistent approach regarding lab accreditation requirements and use of third-party labs
  – Requirement for product to be certified by third-party according to ISO Guide 65
  – Products will need to be retested if changes in components are made after qualification that impact test results
  – Models cannot be relisted without a change in the model number

• Testing for verification
  – Consistent approach regarding lab accreditation
  – Third-party administrator will facilitate all testing, including lab selection (manufacturer will pay third-party administrator)
  – Program will target 20% of the total number of qualified products each calendar year; manufacturer-funded testing

• General requirements
  – Testing requirements will be separate documents referenced in product specifications
  – General operating procedures including enforcement activities will be standardized across all ENERGY STAR products
Proposed Approach: Verification Program Administration

• A third-party entity will be selected by EPA/DOE to administer the testing program
  – 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
Discussion of Lighting Product Considerations: Lab Requirements

• Third-party independent lab will be required by default
  – Need to determine if use of in-house labs may be allowed for qualification and/or verification
Discussion of Lighting Product Considerations: Certification

- Requirement to have certified testing results for qualification (ISO Guide 65)
Next Steps

• Comments due April 30, 2010
  – ENERGYSTARVerificationProgram@energystar.gov
• Complete draft including product-specific requirements – May 2010
• Finalize Requirements – July/August 2010
• Phase-in verification testing requirements with new lighting specifications
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