BUILDING TECHNOLOGIES PROGRAM

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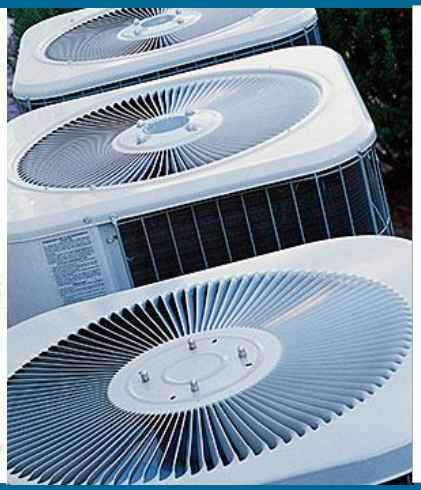
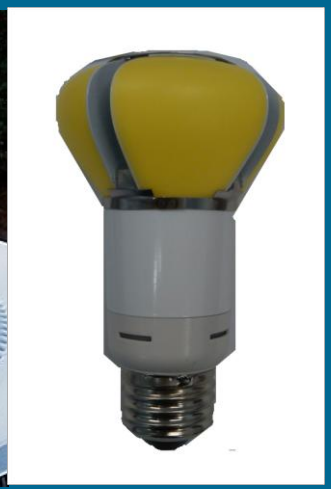

Energy Conservation Program for Consumer Products and Commercial and Industrial Equipment

WICF Testing, Certification, Compliance, and Enforcement Overview

August 30, 2011

Agenda

1. Manufacturer
2. Basic Model
3. Testing
4. Certified Ratings
5. Enforcement
6. How to Submit Questions

Manufacturer Explanation

A Manufacturer of a WICF	• Is a domestic manufacturer or an importer.
	• Produces a component of a walk-in cooler or walk-in freezer that affects energy consumption, including, but not limited to, refrigeration, doors, lights, windows, or walls.
	• Produces or assembles the complete walk-in cooler or walk-in freezer.
	• May elect to use a third-party (e.g., certified laboratory) for testing and certification purposes.
	• Must determine certified ratings through testing and applying the sampling plans for performance based standards and the EISA 2007 R-value standard.
	• Only the WICF component manufacturer is responsible for certification.
	• May group individual models into basic models at the manufacturer's discretion, consistent with the definition.

Basic Model Explanation

A Basic Model	• *May* contain multiple models/model numbers/SKUs.
	• Is manufactured by a single manufacturer, although it may be distributed under different brand names.
	• Is made up of models that contain the same primary energy source (i.e., electric, gas).
	• Is made up of models that have essentially identical electrical, physical and functional characteristics that affect energy consumption and/or efficiency.
	• With respect to WICF panels, does not have any differing features or characteristics that affect R-value.
	• May not contain models from multiple product classes.
	• Can be made up of only one model. There is no requirement for multiple models within a basic model.
	• Must have the same certified rating.

Basic Model Explanation

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Current Requirements for Compliance: Can I group panels with the same R-value regardless of size as the same basic model for purposes of testing, representations, and certification?	• Yes. Manufacturers may group panels together at their discretion to reduce testing and certification burden. • In order to do this, manufacturers must retain the testing data underlying the certified ratings for the entire group and clearly indicate all of the individual models to which that test data applies. • The panels must have the same *R-value*.
Current Requirements for Representations and Future Requirements for Compliance: Can I group panels with the same U-factor regardless of size as the same basic model for purposes of testing, representations, and certification?	• Yes. Manufacturers may group panels together at their discretion to reduce testing and certification burden. • In order to do this, manufacturers must retain the testing data underlying the certified ratings for the entire group and clearly indicate all of the individual models to which that test data applies. • The panels must have the same *U-factor*.

Current Testing Requirements

- Section 431.304 – Testing Must Currently be Completed on All Panels
  - The R value shall be the 1/K factor multiplied by the thickness of the panel.
  - The K factor shall be based on ASTM C518 (incorporated by reference; see §431.303).
  - For calculating the R value for freezers, the K factor of the foam at 20 degrees Fahrenheit (average foam temperature) shall be used.
  - For calculating the R value for coolers, the K factor of the foam at 55 degrees Fahrenheit (average foam temperature) shall be used.
- Clarification: Foam shall be tested after it is produced in its final chemical form. For example, foam produced inside of a panel ("foam-in-place") must be tested as part of the final panel. Foam produced as board stock may be tested prior to its incorporation into a final panel.
- Sampling:
  - Requires a minimum sample of two units per basic model.

Future Testing Requirements

- Section 431.304 – Proposed Compliance Date for the Future Test Procedure Requirements is Concurrent with Amended Energy Conservation Standards for Performance-Based Standards

- Requirements for Panels:
  - Test U-factor of panel edge and core regions using ASTM C1363.
  - Test long-term thermal resistance of insulating foam using Annex C of DIN EN 13164 or DIN EN 13165 for extruded polystyrene or polyurethane, respectively.

- Requirements for Doors (Display and Non-Display):
  - Test U-factor of door using NFRC 100.

- Requirements for Refrigeration Systems:
  - Test refrigeration system using AHRI 1250.

How To Get Certified Ratings

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Test the Minimum Number of Units of a Basic Model Specified in Sections 429.11 and 429.53 Using the Applicable DOE Test Procedure

(Maximum Number of Units is at the Discretion of the Manufacturer)

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Determine which Federal Conservation Standards Apply to the Product

WICFs: 431.306

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Calculate the Product Specific Certification Statistics

Sample Mean (x)

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Determine Minimum and Maximum Rating Values

Compare Mean to R-value Standard Per Regulations

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Generate Certified Rating Between Minimum and Maximum Values

General Explanation of Certification Requirements

- Effective date for compliance with certification provisions is October 1, 2011, for any model not previously certified with DOE.
  - This includes those models entered into commerce on or after October 1st and those currently offered on the market that were not previously certified.
- Only electronic submission accepted. Submit online at https://www.regulations.doe.gov/ccms using product-specific, Excel templates provided by DOE.
- Submit certification report before distribution in commerce for all new models.
- Annual submittal of carry-over basic models on or before the 1st of August of each year as specified in the annual certification table (429.12(d)).
- No additional certification testing required for annual submission.
- During the year, recertify if the redesign of an existing model increases energy consumption or decreases energy efficiency resulting in re-rating.

Current Standards and Certification Requirements

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Component	EISA Standards: 10 CFR Part 431.306 (Subpart R)	Certification Requirement(s)
Solid Doors	(a)(1) Must have automatic door closer (a)(3) Door insulation of at least R-25 for coolers and R-32 for freezers (does not apply to structural members)	Door type R-value of door insulation
Envelope Panels	(a)(3) Insulation of at least R-25 for coolers and R-32 for freezers (does not apply to structural members)	R-value of the wall and ceiling insulation
	(a)(4) Floor contains insulation of at least R-28 (Freezers Only)	R-value of the floor insulation
Infiltration Reduction Devices (IRD)	(a)(2) Strip doors, spring hinged doors, or other method of minimizing infiltration	None
Refrigeration System	(a)(5) Evaporator fan motors (<1hp and <460 V) must use ECM or 3-Phase motors	Evaporator fan motor type
Lighting/ Electrical	(a)(7) Interior lighting minimum efficacy of 40 lumens/watt (including ballast losses) or device that turns off lights at most 15 minutes after vacated	Efficacy of lighting including ballast losses
Glass Reach-in Doors	(a)(1) Automatic door closer (b)(1) Freezers: 3-pane glass with treated glass and/or gas fill (b)(2) Coolers: 2-pane glass with treated glass and gas fill or 3-pane glass with treated glass and/or gas fill (b)(3)Anti-sweat heater wire: total power draw less than 7.1 W/ft^2 of door openings for freezers and 3.0 W/ft^2 of door openings for coolers or (b)(4) Anti-sweat controls that reduce energy use	Glass type of doors and windows (e.g. triple-pane glass with gas fill and/or low-e coating) Power draw of anti-sweat heater in watts

Future Sampling, Standards, and Certification Requirements

- Current energy conservation standards rulemaking for performance-based standards ongoing.

- The next certification, compliance, and enforcement rulemaking will establish any sampling and certification requirements needed to support the performance-based standards.

Enforcement Overview

DOE Office of the General Counsel, Office of Enforcement	Enforces the energy conservation, water conservation, and design standards.
Certification	• Seeking civil penalties for failure to certify and improper certification. • Certification must be based on testing in accordance with the applicable test procedure and sampling plan.
Standards	• Seeking civil penalties for distribution of products that do not meet Federal standards. • Testing products suspected of failing to meet Federal standards.

Enforcement Tools

Civil Penalty	• Failure to meet applicable efficiency standards and certification violations. • Penalties for violations of standards calculated per unit offered for distribution in commerce. • Penalties for certification violations calculated per day for each basic model improperly certified or not certified. • DOE has issued guidance on the imposition of civil penalties.
Subpoena	DOE issues a subpoena in order to obtain test data and to obtain information regarding distribution of regulated products.
Noncompliance Determination	DOE makes a determination of noncompliance based on certification information, on test data provided by a manufacturer, or on test data obtained through DOE testing.
Injunction	DOE may seek a court order to ensure compliance with any regulatory requirement.

Questions / Information

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Submit a Question:	• DOE Test Procedure Website: http://www.eere.energy.gov/guidance/default.aspx?pid=2&spid=1 • Ashley Armstrong: Ashley.Armstrong@EE.Doe.Gov
Request a Test Procedure Waiver:	• DOE's regulations allow manufacturers to apply for a waiver when a manufacturer determines that a given basic model contains one or more design features that prevent testing in accordance with DOE's test procedure. • Email: AS_Waiver_Requests@ee.doe.gov
File a Complaint:	Email: energyefficiencyenforcement@hq.doe.gov. The Office of Enforcement will protect the identity of complainants to the maximum extent permitted by law.
DOE's Certification, Compliance, and Enforcement Website:	http://www.eere.energy.gov/buildings/appliance_standards/certification_enforcement.html
DOE's Online Certification System:	https://www.regulations.doe.gov/ccms/
Enforcement Information:	http://gc.doe.gov/energy_efficiency_enforcement.htm