

US DOE Misc. Refrigeration Products Coverage

Presented by

Robert Van Buskirk, Ph.D.

Source Material

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http://www1.eere.energy.gov/buildings/appliance_standards/rulemaking.aspx/ruleid/71

Regulatory History

Refrigerator Scope of Coverage

- Establishing coverage over new consumer products requires:
 - Minimum annual per household energy use of 100 kWh (42 U.S.C. 6292(b)(1)(B))
- To set an energy efficiency standard for a newly covered product, two key criteria must be met:
 - Minimum average annual per household energy use associated with the product of 150 kWh, and
 - National annual energy use of 4.2 billion kWh. (42 U.S.C. 6295(l)(1)(A, B))
- If national energy use does not exceed 4.2 billion kWh, DOE would be authorized to establish coverage but not efficiency standards.
 - Coverage alone without setting a national standard would preempt State standards that are already in place
- DOE recently proposed covering AC-powered thermoelectric and absorption refrigeration products. *See 76 FR 69147 (Nov. 8, 2011).*

Regulatory History

Existing State and Foreign Standards

- California has had its current wine chiller standards in effect for at least a decade; Canada harmonized with the CA standards in 2008.¹
- The regulations set standards for two product classes: automatic-defrost wine chillers and manual-defrost wine chillers.
- The California wine chiller standards do not make a distinction regarding the cooling technology used in the product.
- DOE has not been able to identify any thermoelectric units in the CEC refrigerator database, implying either that these units do not meet the standards or that manufacturers are not aware that they are covered.

Coverage Options

- The coverage options DOE considered include:
 1. Establish coverage and standards for vapor compression wine chillers by modifying the refrigerator and refrigerator-freezer definitions to include these products, and either:
 - a) Establish coverage for thermoelectric and absorption products;
or
 - b) Do not pursue coverage for thermoelectric and absorption units.
 2. Establish a new category of covered products for wine chillers and related products irrespective of the cooling technologies they use. This approach may preclude pursuit of energy standards for these products because of the 4.2 billion kWh statutory threshold.
- DOE is tentatively considering Option 1(a).

Wine Chiller Definition

- DOE is considering adopting the following definition for *electric wine chiller*:
 - [A] cabinet designed for the refrigerated storage of beverages, non-perishable food products, and/or any other items, is not designed to be capable of achieving storage temperatures below 39 °F (3.9 °C), and having a source of refrigeration requiring single phase, alternating current electric energy input.
- The definition for *refrigerator* would be modified to include both *electric refrigerator* and *electric wine chiller*.
- Because some warmer-storage products are not designed uniquely for wine, DOE is considering the possibility of applying a term other than *electric wine chiller* to all products with storage temperatures warmer than 39 °F.

Modification of Compact Products Definition

- The majority of residential wine chiller sales are of products that fit the size criteria for compact refrigerators/refrigerator-freezers/freezers.
- If DOE modifies the definition for *refrigerator to include wine chillers*, DOE may modify the definition of compact refrigerator/refrigerator-freezer/freezer as follows to avoid establishing a separate compact category of wine chiller:
 - Compact refrigerator/refrigerator-freezer/freezer means any refrigerator, refrigerator-freezer or freezer with total volume less than 7.75 cubic feet (220 liters) and 36 inches (0.91 meters) or less in height that is not an electric wine chiller.

Hybrid Products

- During the refrigerator rulemakings, DOE became aware of products that combine wine storage compartments with refrigerator compartments and/or freezer compartments. 75 FR 78810, 78816-78817 (December 16, 2010).
- DOE addressed these products in February 2011.
 - For refrigerators and refrigerator-freezers, the addition of a “wine storage” compartment does not change its status and does not affect its coverage.
 - The addition of a wine storage compartment to a freezer changes that product’s status and removes it from current coverage under DOE’s regulations.
 - DOE indicated that it was considering a rulemaking that would resolve some of these issues.

Potential Hybrid Products Framework

1. Set a threshold size for a wine storage compartment at which a refrigerator, refrigerator-freezer, or freezer is no longer one of these products and is instead classified as a “hybrid” product.
2. Establish definitions for hybrid products.
3. Develop test procedures for products for which the wine storage compartments are smaller than the thresholds.
4. Apply the existing energy standards to these products that will still be refrigerators, refrigerator-freezers, or freezers under the modified definitions.
5. Develop test procedures and energy standards for hybrid products falling out of the modified definitions for refrigerator, refrigerator-freezer, and/or freezer.

Coverage of Other Residential Refrigeration Products & Commercial Products

- DOE is considering, consistent with EPCA, extending coverage and establishing energy conservation standards for all other residential refrigeration products that are currently unregulated.
- DOE is aware of several attributes that could distinguish commercial types of wine chillers from residential types, but does not have sufficient information to definitively conclude that wine chillers with uniquely commercial features exist.

AC and DC Products

- DOE is aware of products that can operate on either AC or DC power.
- Many of these products are marketed for mobile applications, and for that reason would not be subject to EPCA coverage under 42 U.S.C . 6292.
- However, significant numbers of such products may be used in stationary applications.