[6450-01-P]

DEPARTMENT OF ENERGY

10 CFR Part 430

(Docket No. EERE-2011-BT-DET-0072)

RIN: 1904–AC51

Energy Conservation Program for Consumer Products: Proposed Determination of Miscellaneous Residential Refrigeration Products as Covered Products

AGENCY: Office of Energy Efficiency and Renewable Energy, Department of Energy.

ACTION: Supplemental proposed determination.

SUMMARY: The U.S. Department of Energy (DOE) has preliminarily determined that wine chillers and other residential refrigeration products that incorporate a compressor but do not meet the current regulatory definitions for electric refrigerator, refrigerator-freezer, and freezer, qualify for coverage under the Energy Policy and Conservation Act (EPCA) as amended. This proposal also covers residential ice makers. Today's notice supplements an earlier proposed determination in which DOE tentatively concluded that residential refrigeration products that do not incorporate a compressor should be covered by energy conservation standards. As part of its review of residential refrigeration products generally, DOE is soliciting public comment on the feasibility of covering compressor-based miscellaneous residential refrigeration products based

on the same criteria that had been evaluated earlier for non-compressor based residential refrigeration products.

DATES: DOE will accept written comments, data, and information on this notice, but no later than **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

ADDRESSES: The docket is available for review at regulations.gov, including Federal Register notices, framework documents, public meeting attendee lists and transcripts, comments, and other supporting documents/materials. All documents in the docket are listed in the regulations.gov index. Not all documents listed in the index may be publicly available, such as information that is exempt from public disclosure. The docket web page can be found at http://www.regulations.gov/#!docketDetail;D=EERE-2011-BT-DET-0072.

For further information on how to submit or review public comments or view hard copies of the docket, contact Ms. Brenda Edwards at (202) 586-2945 or email: Brenda.Edwards@ee.doe.gov

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I. Statutory Authority

Title III of the Energy Policy and Conservation Act (EPCA), as amended (42 U.S.C. 6291, et seq.), sets forth various provisions designed to improve energy efficiency. Part B of Title III of EPCA (42 U.S.C. 6291–6309) established the "Energy Conservation Program for

Consumer Products Other Than Automobiles," which covers consumer products and certain commercial products (i.e. "covered products").[1]

EPCA specifies a list of covered consumer products that includes refrigerators, refrigerator-freezers, and freezers. Although EPCA did not define any of these products, it specified that the extent of DOE's coverage would apply to those refrigerator, refrigerator-freezers, and freezers that can be operated by alternating current (AC) electricity, are not designed to be used without doors, and include a compressor and condenser as an integral part of the cabinet assembly. (42 U.S.C. 6292(a)(1)) EPCA did not preclude or otherwise foreclose the possibility that other consumer refrigeration products, such as those residential refrigeration products addressed in today's notice, could also be covered if they satisfy certain prerequisites.

Those prerequisites, when met, permit the Secretary of Energy to classify additional types of consumer products as covered products. For a given product to be classified as a covered product, the Secretary must determine that (1) covering that product is either necessary or appropriate to carry out the purposes of EPCA and (2) the average annual per-household energy use by products of such type is likely to exceed 100 kWh per year. (42 U.S.C. 6292(b)(1)).

With respect to the terms "electric refrigerator" and "electric refrigerator-freezer," DOE had defined these items in terms of their ability to safely store fresh food. In so doing, the agency has amended the definitions of "electric refrigerator" and "electric refrigerator-freezer" in 10 CFR 430.2 to separate them from other miscellaneous residential refrigeration products such as wine chillers. DOE established this separation using temperature as the means of

[1] Upon codification in the U.S. Code, Part B was re-designated Part A for editorial reasons.

distinguishing between these groups of products, with 39 ˚F being the dividing line between these groups. This temperature denotes the recommended maximum temperature for the safe storage of food. It also distinguishes these products from "all-refrigerators," which are a small and special subset of refrigerators.[2] Under the current regulatory approach, those products that can achieve this temperature and that otherwise meet the EPCA criteria for coverage as refrigerators, refrigerator-freezers, or freezers (i.e., designed to be used with doors and include a compressor and condenser as an integral part of the cabinet assembly) would be treated and regulated as electric refrigerators and electric refrigerator-freezers, while those that cannot meet the temperature requirements would fall outside of the scope of these definitions. See, e.g. 66 FR 57845 (Nov. 19, 2001) and 75 FR 78810 (Dec. 16, 2010). As a result, DOE generally views products such as wine chillers as a type of product not addressed by the original EPCA coverage of refrigerators and refrigerator-freezers. Today's proposed coverage determination addresses those miscellaneous residential refrigeration products that fall outside of this already-established regulatory scope.

When attempting to cover additional product types, DOE must first determine whether the criteria described above in 42 U.S.C. 6292(b)(1) are met. Once those criteria have been satisfied, the Secretary may begin to prescribe energy conservation standards for a covered product. See 42 U.S.C. 6295(o) and (p). In order to set standards for a given product that has been added as a newly covered product pursuant to 42 U.S.C. 6292(b)(1), the Secretary must determine that four additional criteria are met. First, the average per household energy use

[2] All-refrigerators, under DOE's definition, do not have a compartment for the freezing and long-term storage of food at temperatures below 32 ˚F but may contain a compartment of 0.50 cubic feet capacity or less for the freezing and storage of ice. These products use a standardized compartment temperature of 38 ˚F in the current Appendix A1 test procedure, and 39 ˚F.in the Appendix A test procedure that will be required beginning September 15, 2014.

within the United States by the products of such type (or class) exceeded 150 kilowatt-hours (kWh) (or its British thermal unit (Btu) equivalent) for any 12-month period ending before such determination. Second, the aggregate household energy use within the United States by products of such type (or class) exceeded 4,200,000,000 kilowatt-hours (or its Btu equivalent) for any such 12-month period. Third, a substantial improvement in the energy efficiency of products of such type (or class) is technologically feasible. And fourth, the application of a labeling rule under 42 U.S.C. 6294 to such type (or class) is not likely to be sufficient to induce manufacturers to produce, and consumers and other persons to purchase, covered products of such type (or class) that achieve the maximum energy efficiency that is technologically feasible and economically justified. (42 U.S.C. 6295(l)(1)).

In addition to the above, if DOE issues a final determination that miscellaneous residential refrigeration products are covered products, DOE will consider test procedures for these products and will determine if these products satisfy the required criteria of 42 U.S.C. 6295(l)(1) prior to setting any energy conservation standards for them.

II. Current Rulemaking Process

On November 8, 2011, DOE published a proposed coverage determination for non-compression equipped residential refrigeration products in anticipation of a rulemaking to address these products and related residential refrigeration products. 76 FR 69147. On February 23, 2012, DOE began a scoping process to set potential energy conservation standards and test procedures for wine chillers, non-compressor equipped residential refrigeration products, and residential icemakers, by publishing a notice of public meeting, and providing a framework

document that addressed potential standards and test procedure rulemakings. 77 FR 7547. Since that time, DOE has determined that coverage for these products should treat vapor compression wine chillers, non-vapor compression refrigeration products, hybrid refrigeration products, and residential ice makers as a combined product type distinct from the types of refrigerators, refrigerator-freezers, and freezers currently covered by EPCA. DOE reached this determination after evaluating the various information it had been able to collect and the comments submitted by interested parties in response to the earlier notices. If, after further public comment submitted in response to today's notice, DOE determines that coverage of these products is warranted, DOE will consider setting both test procedures and energy conservation standards for these products, which would proceed in the same manner described in the proposed determination published on November 8, 2011. See 76 FR at 69149.

III. Scope of Coverage

DOE is proposing to adopt a determination that would extend coverage to all residential refrigeration products that are not currently addressed by those provisions regulating the energy efficiency of residential refrigeration products (42 U.S.C. 6292(a)(1)). DOE is considering this course of action to examine the feasibility of ensuring that these products achieve a minimum level of efficiency, while meeting the prescribed statutory prerequisites. As a result, those products that (1) are not capable of reaching the requisite temperature for safe food storage (i.e. 39 ˚F), (2) do not include a condenser and compressor as an integral part of the product's cabinet assembly, or (3) are designed solely for the production and storage of ice, would, if adopted by DOE, be treated as covered products.

DOE seeks feedback from interested parties on this proposed scope of coverage.

IV. Evaluation of the Annual Energy Use of Thermoelectric and Absorption Refrigeration Products

The following sections describe DOE's tentative evaluation of whether miscellaneous residential refrigeration products fulfill the EPCA criteria for being added as covered products. As stated previously, DOE may classify a consumer product as a covered product if (1) classifying products of such type as covered products is necessary and appropriate to carry out the purposes of EPCA; and (2) the average annual per-household energy use by products of such type is likely to exceed 100 kilowatt-hours (or its Btu equivalent) per year. 42 U.S.C. 6292(b)(1).

A. Coverage Necessary or Appropriate to Carry Out Purposes of EPCA

In DOE's tentative view, the coverage of miscellaneous residential refrigeration products is both necessary and appropriate to carry out the purposes of EPCA. These products consume energy generated from limited energy supplies and their regulation would be likely to result in the improvement of their energy efficiency. Accordingly, establishing standards for these products fall squarely within the overall statutory goals set out in EPCA to: (1) conserve energy supplies through energy conservation programs; and (2) provide for improved energy efficiency of major appliances and certain other consumer products. (42 U.S.C. 6201)

As discussed in the November 2011 proposed determination, DOE is currently considering initiating an energy conservation standard rulemaking addressing wine chillers. As a prerequisite to the setting of standards for these products, DOE seeks to establish that wine

chillers are a distinct type of covered product under EPCA. DOE is also interested in ensuring that both compressor-based and non-compressor-based products would be covered as part of this approach in order to prevent a mass shift in the market from compressor-based to alternative refrigeration technologies such as thermoelectric- and absorption-based systems that currently fall outside of EPCA's scope of coverage for refrigeration products. Thus, DOE proposed in the previous notice to extend coverage to non-compressor based refrigeration products. To ensure that DOE is able to consider energy conservation standards for the other products that currently fall outside the regulatory coverage established by EPCA, the proposal in this notice addresses all other products that are not presently covered in addition to those products already addressed by the November 2011 notice, including wine chiller products that incorporate a compressor, and residential ice makers.

DOE also notes that, with respect to the potential for labeling requirements to serve as an adequate inducement for manufacturers to produce – and consumers to purchase – energy efficient residential refrigeration products, DOE does not currently have sufficient information to determine whether such an approach would be likely to satisfy this condition. See 42 U.S.C. 6295(l)(1)(D). While DOE plans to investigate this issue with respect to any proposed rule that it may issue, the agency seeks information on this matter to help it ascertain the effectiveness of such an approach with respect to the residential refrigeration products addressed by today's notice.

B. Average Household Energy Use

DOE estimated that the average household energy use for vapor compression wine chillers, the primary types of residential refrigeration products that do not incorporate a compressor (thermoelectric and absorption wine chillers and refrigerators), residential ice makers, and hybrid refrigeration products (consisting of both a wine chiller and a refrigerator, refrigerator-freezer or freezer). DOE found no evidence that non-vapor compression freezers are used in U.S. households, so energy use estimates for these products are not provided.

1. Vapor Compression Wine Chillers

DOE conducted testing on eight vapor compression wine chillers with rated capacities of 17, 48, 50, 57, 132, and 147 bottles. These products were tested using the test procedures prescribed by the California Energy Commission (CEC) (2012 Appliance Efficiency Regulations, CEC-400-2012-019-CMF, Table A-1, p. 70). The measured energy consumption of these products ranged from 161 kWh to 480 kWh.

DOE compared the energy consumption of two vapor compression wine chillers measured in the field with the maximum allowable energy use for products of their size, as required under the California Energy Commission (CEC) standard for automatic defrost wine chillers, and found that the field energy use was lower by approximately one-half. DOE also conducted closed-door testing of eight vapor compression wine chillers in typical room-temperature conditions of 72 ˚F and found that the energy use for this condition was also on average about half (46 percent) the energy use measured in 90 ˚F ambient conditions. This observation suggests that if the usage factor for vapor compression wine chillers (the factor applied to the actual energy use measured in a 90 ˚F closed-door test to obtain a result

representative of typical room conditions) did not consider the impact of door openings, it should be 0.46 rather than the 0.85 factor used in the CEC test procedure. If consideration is given for some limited number of door openings, a usage factor equal to 0.55 may be appropriate—this factor is consistent with an assumption that the energy use associated with door openings is equal to roughly one-fifth of the closed-door energy use.[3]

Based on limited field data and laboratory testing at different ambient temperature conditions, DOE believes the energy use estimates based on the current CEC test procedure for these products are high. As discussed above, use of the 0.55 usage factor appears to be more appropriate than the 0.85 usage factor prescribed by the current CEC test. Hence, in order to estimate field energy use for wine chillers, DOE adjusted the reported energy use of wine chillers (which is based on the CEC test procedure) by dividing the reported energy use by 0.85 and multiplying by 0.55.

DOE acquired data on the distribution of vapor compression wine chiller internal volumes (or capacities) found in U.S. households from a study that used online surveys.[4] However, DOE did not have energy use rating information for these products and instead assumed that these products all consume the maximum allowable energy as allowed by the CEC energy standard. Using the average capacity of vapor compression wine chillers from these data (3.6 cubic feet), and the CEC energy standard (adjusted for the differences between field and test procedure energy use as described above) to represent average energy use, DOE estimated that the average annual energy consumption of vapor compression wine chillers is 268 kWh.

[3] Dividing 0.55 by 0.46 and subtracting 1.0 from the quotient results in a value roughly equal to one-fifth.

[4] Greenblatt, J. B., et al. (2013). "U.S. Residential Miscellaneous Refrigeration Products: Results from Amazon Mechanical Turk Surveys," Lawrence Berkeley National Laboratory, Report number 6194E, April.

The online surveys in the study also provided information on the saturation of vapor compression wine chillers found in U.S. households. Using these data, DOE found a market saturation rate of 1.60% for vapor compression wine chillers, yielding a national stock estimate of 1,860,000. Together with the above information on the average annual energy consumption of vapor compression wine chillers, DOE estimates the national energy consumption of vapor compression wine chillers to be 0.50 terawatt-hours (TWh) per year.

Finally, the online surveys provided data on the distribution of ages of wine chillers (both vapor compression and thermoelectric). From these data, DOE derived an estimate of the lifetime of wine chillers of approximately 4.5 years. Together with the above estimate of the national stock of vapor compression wine chillers, DOE estimates annual sales of vapor compression wine chillers at 410,000 units.

2. Thermoelectric Wine Chillers

This section provides an update to the estimates of energy use by residential thermoelectric refrigeration products that DOE provided in the notice of proposed determination published on November 2011. See 76 FR at 69150. Since that notice's publication, DOE conducted laboratory testing of three thermoelectric wine chillers (DOE TE WC Data, No. 6). These products had rated capacities of 6, 12, and 28 bottles. They were tested using the CEC test procedure (2012 Appliance Efficiency Regulations, CEC-400-2012-019-CMF, Table A-1, p. 70). The testing yielded measured energy usage for these products ranging from 413 kWh to 550 kWh. However, two of these three products were not able to maintain the 55 ˚F compartment

temperature target for wine chillers in the required 90 ˚F test room temperature. When tested in a 72 ˚F room temperature and applying a 1.2 usage factor[5] to account for door openings, the measured energy use of the products ranged from 142 kWh to 664 kWh. For these tests, all three products were able to maintain the 55 ˚F compartment temperature target; however, the 28-bottle product just barely maintained this temperature in its coldest setting. The metered data and laboratory test results together indicate that thermoelectric wine chiller annual energy use exceeds the 100 kWh per year threshold set by EPCA as a prerequisite for establishing coverage.

DOE also acquired energy consumption data from six thermoelectric wine chillers measured under field conditions (two in residential homes and four in an office with an average ambient temperature of approximately 70 °F), and gathered energy use data for 35 thermoelectric wine chillers from manufacturer and/or retailer websites. (TE CC, No. 9) Taken together, these products had rated capacities from 0.6 to 4.9 cubic feet, with average annual energy use ranging from 183 to 803 kWh.

Including the previously discussed laboratory test data for three units, the thermoelectric wine chiller data represented 44 individual measurements, shown in Table 1. DOE developed a linear regression using all data weighted equally:

$$UEC = 82.67*C + 222.6$$

where

UEC = unit energy consumption in kWh/yr

[5] Similar to the analysis for vapor compression wine chillers discussed in section III.IV.B.IV.B.1, this usage factor assumes that the energy use associated with door openings is one-fifth of the closed-door energy use.

C = wine chiller capacity in cubic feet (analysis of wine chiller data from manufacturer websites indicates a relationship between number of wine bottles and capacity of 8.22 wine bottles per cubic foot. This factor was used to convert rated capacities in bottles into rated capacities in cubic feet.)

Table 1. Energy consumption data for thermoelectric wine chillers

Source	Volume (Cu. Ft.)	Annual energy comsumption (kWh)
Manufacturer website	0.56	310
	0.56	183
	0.64	365
	0.73	183
	0.81	183
	0.81	201
	0.81	201
	0.88	292
	0.88	292
	0.97	183
	0.99	183
	1.17	292
	1.17	219
	1.17	292
	1.20	548
	1.24	365
	1.41	548
	1.46	365
	1.46	219
	1.62	365
	1.62	237
	1.69	365
	1.69	365
	1.69	365
	1.77	365
	1.87	475
	2.05	365
	2.30	548
	2.30	402
	2.30	438
	2.40	548
	2.47	438

	2.75	475
	4.94	803
	4.94	657
Laboratory test	0.64	142
	1.08	439
	2.26	664
Field measurement	0.73	427
	0.97	266
	1.46	216
	1.82	248
	3.41	608
	6.81	482

The online surveys in the study described in section IV.B.1 provided information on the distribution of thermoelectric wine chiller capacities. Using the average capacity of thermoelectric wine chillers from these data (1.51 cubic feet), and the above linear regression of unit energy consumption versus capacity, DOE estimated the average annual energy consumption of thermoelectric wine chillers to be 348 kWh. Note that this represents 30 percent greater energy use than the vapor compression wine chiller average, whereas the average product volume is 58 percent less than the average for vapor compression wine chillers.

The online surveys also provided saturation data for thermoelectric wine chillers found in U.S. households. Using these data, DOE found a saturation rate of 9.0% for thermoelectric wine chillers, yielding a national stock estimate of 10,500,000. Together with the above information on the average annual energy consumption of thermoelectric wine chillers, DOE estimates national energy consumption of thermoelectric wine chillers to be 3.64 TWh per year.

Using the estimate of the lifetime of wine chillers described above (4.5 years) along with the above estimate of the national stock of thermoelectric wine chillers, DOE estimates annual sales of these products at 2,300,000 units.

3. Thermoelectric Refrigerators

Very little energy consumption information was available for non-vapor compression refrigerators. DOE tested two thermoelectric refrigerators at ambient temperatures of both 72° F and 90 ˚F. Neither product was able to maintain a 39 ˚F compartment temperature in the 90 ˚F condition, and only one of the two was able to maintain this compartment temperature in the 72 ˚F condition. Estimating the expected energy use of such products, if used in the field, is complicated by the inability of the products to maintain the compartment temperature. However, DOE estimated that the average annual energy consumption in field use would be 566 kWh.

The online surveys conducted as part of the study described in the previous sections provided saturation data for thermoelectric refrigerators found in U.S. households. Using these data, DOE found a market saturation rate of 2.5% for thermoelectric refrigerators, yielding a national stock estimate of 2,900,000. Together with the above information on the average annual energy consumption of thermoelectric refrigerators, DOE estimates national annual energy consumption of thermoelectric wine chillers to be 1.64 TWh.

However, the estimated saturation rate of thermoelectric refrigerators is uncertain, ranging from 1.1% to 3.8%. This uncertainty results in national stock estimates that range

between 1,200,000 and 4,400,000, and national annual energy consumption estimates that range from 0.68 to 2.49 TWh.

DOE was unable to obtain data providing an estimate of the lifetime of thermoelectric refrigerators. Therefore, using the estimate of the lifetime of wine chillers described above (4.5 years) as a proxy, along with the central estimate of the national stock of thermoelectric refrigerators, DOE estimates annual sales of these products at 600,000 units.

4. Absorption Refrigeration Products

This section provides an update to the estimates of energy use by residential thermoelectric refrigeration products that DOE provided in the November 2011 notice of proposed determination. See 76 FR at 69151.

The online survey data that DOE acquired from the study discussed in the previous sections provided no evidence indicating absorption-based wine chillers or other refrigeration products are used in homes. However, this technology is commonly used by the hotel industry. DOE estimated that the total stock of absorption refrigeration products in hotels, based on data from Dometic Corporation (a provider of specially-designed refrigerators for, among other things, the storage of wine), is approximately 400,000 units. (Dometic Group Company Presentation 2011-03-15, No. 7 at pp. 40, 42)

Information provided on manufacturer websites regarding absorption product energy use cited values between 207 and 730 kWh per year, but did not clarify which test procedures were used to determine these values and did not indicate the operating temperature ranges of the

advertised products. (Dometic Screenshots, No. 8) However, DOE measured the energy use of a 1.4 cubic foot absorption refrigerator using closed-door tests in both 72 ˚F and 90 ˚F ambient temperature conditions. The unit was not able to maintain a 39 ˚F compartment temperature in the 90 ˚F condition. For the 72 ˚F condition, the unit was able to maintain a compartment temperature below 39 ˚F. Not including any usage factor adjustment, the measured energy use was 461 kWh. Applying a usage adjustment factor for door openings of 1.2, the projected field energy use of such a product would be 553 kWh. As discussed previously, this usage adjustment factor may be appropriate for wine chillers, but it is unclear whether it adequately accounts for door openings in refrigerators.

Together with the above energy use estimate, and assuming that the Dometic estimate represents the national stock of these units, DOE estimated national annual energy use of absorption refrigeration products to be 0.22 TWh.

DOE was unable to obtain data providing an estimate of the lifetime of absorption refrigeration products. Using the estimate of the lifetime of wine chillers described above (4.5 years) as a proxy, along with the above estimate of the national stock of absorption refrigeration products, DOE estimates annual sales of these products at 90,000 units.

5. Hybrid Refrigeration Products

For the purposes of this discussion, the term “hybrid” refers to any product that includes compartments designed for storage at warmer temperatures than fresh food compartments and that otherwise serves the functions of a refrigerator, refrigerator-freezer, or freezer. DOE

conducted an online manufacturer model search for hybrid refrigeration products, and found a total of potentially up to 23 unique models, including 21 hybrid refrigerator-wine chillers (one manual defrost unit and 20 automatic defrost units) and two hybrid freezer-wine chillers. From these data, DOE determined that the average capacity of hybrid refrigerator-wine chillers was 7.4 cubic feet, and the average annual energy consumption of hybrid refrigerator-wine chillers was 415 kWh—these averages are based on the information provided for two units by manufacturer websites (Hybrid U-Line, No. 11 and Hybrid Vinotemp, No. 12, p. 2) and a third from the petition for waiver from the DOE test procedure of Sanyo E&E Corporation for a hybrid wine chiller/beverage center (77 FR 19654 (April 2, 2012)). For the two hybrid freezer-wine chiller models, the average unit capacity was 12.6 cubic feet, and the upper limit to the annual energy consumption was 413 kWh based on information provided for one unit by a manufacturer website.[6] (Hybrid Liebherr, No. 10, p. 1)

The online surveys from the study discussed in the previous sections provided market saturation data for hybrid refrigeration products found in U.S. households. Using these data, DOE found a saturation rate of 3.1% for hybrid refrigerator-wine chillers and 0.8% for hybrid freezer-wine chillers, yielding national stock estimates of 3,600,000 hybrid refrigerator-wine chillers and 900,000 hybrid freezer-wine chillers.

[6] The manufacturer (Liebherr) did not provide an annual energy use estimate for the freezer-cooled cabinet model (WF 1061: 4.5 cu. ft. cooled cabinet, 4.5 cu ft. freezer). However, information on a unit of comparable volume (BF 1061: 5.5 cu. ft. fresh food and 4.5 cu. ft. freezer) was available with an annual energy use estimate of 413 kWh/yr. This value was used as an upper limit to the energy consumption of the freezer-cooled cabinet model.

Together with the above information on the average annual energy consumption of hybrid refrigeration products, DOE estimates the national annual energy consumption of hybrid refrigerator-wine chillers to be 1.49 TWh, and of hybrid freezer-wine chillers to be 0.37 TWh.

DOE was unable to obtain data providing an estimate of the lifetime of hybrid refrigeration products. Using the estimated lifetimes of refrigerators (17 years) and freezers (22 years) from the 2011 Final Rule for Residential Refrigerators, Refrigerator-Freezers, and Freezers (76 FR 57516-57612) as proxies, along with the above estimate of the national stocks of hybrid refrigeration products, DOE estimates annual sales to be 200,000 hybrid refrigerator-wine chillers and 40,000 hybrid freezer-wine chillers.

6. Residential Ice Makers

DOE measured the energy use of a portable and a non-portable ice maker in typical room temperature conditions. The energy use of the portable ice maker was 139 kWh. This includes applying a 50% usage factor to account for the expectation that the unit would not be plugged in for the entire year. The energy use of the non-portable ice maker was 842 kWh. Both of these measurements incorporate energy use associated both with ice production and ice storage. In addition, the energy use associated with ice production is based on an estimated production amount of 4 pounds of ice per day. (For the portable ice maker, this estimate applies only during times when the unit is plugged in.)

DOE also acquired data on the numbers and types of residential ice makers found in U.S. households from the online surveys conducted as part of the study discussed in the previous

sections. The data indicate that 69% of residential ice makers are portable units, with the remainder being non-portable built-in or freestanding units. Because data were unavailable on the fraction of the year when such portable units are plugged in and making ice, DOE estimated that the average annual usage factor was 50%. Using the data described above, DOE estimated that the average annual energy use of residential ice makers was 357 kWh.

The online surveys in the study provided information on the saturation of residential ice makers found in U.S. households. Using these data, DOE found a saturation rate of 4.6% for residential ice makers, yielding a national stock estimate of 5,500,000. Together with the above information on the average annual energy consumption of residential ice makers, DOE estimates the national energy consumption of residential ice makers to be 2.0 TWh per year.

However, both the estimated numbers and annual energy use of residential ice makers is uncertain. The estimated saturation rate ranges from 1.7% to 7.5%, resulting in a national stock estimate between 2,000,000 and 8,700,000. The uncertainty in annual energy use was estimated to be ±30%. Taken together, the range in estimated national annual energy consumption varies between 0.5 and 4.0 TWh.

Finally, the online surveys discussed in previous sections provided data on the age distribution of residential ice makers. From these data, DOE derived an estimate of the lifetime of residential ice makers of approximately 1.7 years. The online surveys discussed in previous sections provided information on the age distribution of wine chillers. From these data, DOE derived an estimate of the lifetime of wine chillers of approximately 4.5 years, which is

comparable to the estimated lifetime of compact refrigerators of 5.6 years used in the 2011 Final Rule for Residential Refrigerators, Refrigerator-Freezers, and Freezers (76 FR 57516-57612). DOE believes that the derived lifetime of residential ice makers may be unrealistically low when compared to the estimated lifetimes of wine chillers and compact refrigerators, so it has adopted a range in its estimate of annual sales of these products by using the lifetime assumptions of both residential ice makers and wine chillers. Therefore, using the central value for the national stock of residential icemakers of 5,500,000 units and the aforementioned high and low values of product lifetime (1.7 years and 4.5 years, respectively), DOE estimates that annual sales of these products may range from 1,200,000 to 3,200,000 units.

7. Conclusions

Based upon its evaluations of vapor compression wine chillers, the three primary types of residential refrigeration products that do not incorporate a compressor (i.e. thermoelectric-based wine chillers, thermoelectric-based refrigerators and absorption-based refrigeration products), the hybrid refrigeration products described in this notice, and residential ice makers, DOE has been able to develop estimates of their annual energy use that indicate that these products on average consume significantly more than 100 kWh annually. Therefore, DOE has tentatively determined that the average annual per household energy use for miscellaneous residential refrigeration products is likely to exceed the 100 kWh threshold set by EPCA. Moreover, DOE has determined that the aggregate annual national energy use of these products is 9.9 TWh, which exceeds the 4.2 TWh minimum threshold set by EPCA in order to establish energy conservation standards for a product that the Secretary chooses to add for regulatory coverage.

V. Procedural Issues and Regulatory Review

DOE has reviewed its proposed determination of wine chillers and residential non-compressor refrigeration products under the following Executive Orders and acts.

A. Review Under Executive Order 12866

The Office of Management and Budget has determined that coverage determinations do not constitute "significant regulatory actions" under section 3(f) of Executive Order 12866, Regulatory Planning and Review, 58 FR 51735 (Oct. 4, 1993). Accordingly, this proposed action was not subject to review under the Executive Order by the Office of Information and Regulatory Affairs (OIRA) in the Office of Management and Budget (OMB).

B. Review Under the Regulatory Flexibility Act

The Regulatory Flexibility Act (5 U.S.C. 601 et seq., as amended by the Small Business Regulatory Enforcement Fairness Act of 1996) requires preparation of an initial regulatory flexibility analysis for any rule that, by law, must be proposed for public comment, unless the agency certifies that the proposed rule, if promulgated, will not have a significant economic impact on a substantial number of small entities. A regulatory flexibility analysis examines the impact of the rule on small entities and considers alternative ways of reducing negative effects. Also, as required by E.O. 13272, "Proper Consideration of Small Entities in Agency Rulemaking" 67 FR 53461 (August 16, 2002), DOE published procedures and policies on February 19, 2003 to ensure that the potential impact of its rules on small entities are properly considered during the DOE rulemaking process. 68 FR 7990 (February 19, 2003). DOE makes

its procedures and policies available on the Office of the General Counsel's website at http://energy.gov/gc/office-general-counsel.

DOE reviewed today's proposed determination under the provisions of the Regulatory Flexibility Act and the policies and procedures published on February 19, 2003. If adopted, today's proposed determination would set no standards; they would only positively determine that future standards may be warranted and should be explored in an energy conservation standards and test procedure rulemaking. Economic impacts on small entities would be considered in the context of such rulemakings. On the basis of the foregoing, DOE certifies that the proposed determination, if adopted, would have no significant economic impact on a substantial number of small entities. Accordingly, DOE has not prepared a regulatory flexibility analysis for this proposed determination. DOE will transmit this certification and supporting statement of factual basis to the Chief Counsel for Advocacy of the Small Business Administration for review under 5 U.S.C. 605(b).

C. Review Under the Paperwork Reduction Act of 1995

This proposed determination that miscellaneous residential refrigeration products meet the criteria for covered products for which the Secretary may prescribe energy conservation standards pursuant to 42 U.S.C. 6295(o) and (p) will impose no new information or record-keeping requirements. Accordingly, Office of Management and Budget (OMB) clearance is not required under the Paperwork Reduction Act. (44 U.S.C. 3501, et seq.)

D. Review Under the National Environmental Policy Act of 1969

In this notice, DOE proposes to positively determine that future standards may be warranted and that environmental impacts should be explored in an energy conservation standards rulemaking. DOE has determined that review under the National Environmental Policy Act of 1969 (NEPA), Pub. L. 91-190, codified at 42 U.S.C. 4321, et seq. is not required at this time. NEPA review can only be initiated "as soon as environmental impacts can be meaningfully evaluated" (10 CFR 1021.213(b)). This proposed determination would only determine that future standards may be warranted, but would not itself propose to set any specific standard. DOE has, therefore, determined that there are no environmental impacts to be evaluated at this time. Accordingly, neither an environmental assessment nor an environmental impact statement is required.

E. Review Under Executive Order 13132

Executive Order (E.O.) 13132, "Federalism" 64 FR 43255 (August 10, 1999), imposes certain requirements on agencies formulating and implementing policies or regulations that preempt State law or that have Federalism implications. The Executive Order requires agencies to examine the constitutional and statutory authority supporting any action that would limit the policymaking discretion of the States and to assess carefully the necessity for such actions. The Executive Order also requires agencies to have an accountable process to ensure meaningful and timely input by State and local officials in developing regulatory policies that have Federalism implications. On March 14, 2000, DOE published a statement of policy describing the intergovernmental consultation process that it will follow in developing such regulations. 65 FR 13735 (March 14, 2000). DOE has examined today's proposed determination and concludes that it would not preempt State law or have substantial direct effects on the States, on the relationship

between the Federal government and the States, or on the distribution of power and responsibilities among the various levels of government. DOE notes, however, that if the agency determines that the products at issue in today's notice are covered and energy conservation standards are subsequently promulgated for these products, any existing State standards would be preempted by EPCA. EPCA governs and prescribes Federal preemption of State regulations as to energy conservation for the product that is the subject of today's proposed determination. States can petition DOE for exemption from such preemption to the extent permitted, and based on criteria, set forth in EPCA. (42 U.S.C. 6297) No further action is required by E.O. 13132.

F. Review Under Executive Order 12988

With respect to the review of existing regulations and the promulgation of new regulations, section 3(a) of E.O. 12988, "Civil Justice Reform," 61 FR 4729 (February 7, 1996), imposes on Federal agencies the duty to: (1) eliminate drafting errors and ambiguity; (2) write regulations to minimize litigation; (3) provide a clear legal standard for affected conduct rather than a general standard; and (4) promote simplification and burden reduction. Section 3(b) of E.O. 12988 specifically requires that Executive agencies make every reasonable effort to ensure that the regulation specifies the following: (1) the preemptive effect, if any; (2) any effect on existing Federal law or regulation; (3) a clear legal standard for affected conduct while promoting simplification and burden reduction; (4) the retroactive effect, if any; (5) definitions of key terms; and (6) other important issues affecting clarity and general draftsmanship under any guidelines issued by the Attorney General. Section 3(c) of E.O. 12988 requires Executive agencies to review regulations in light of applicable standards in sections 3(a) and 3(b) to determine whether these standards are met, or whether it is unreasonable to meet one or more of

them. DOE completed the required review and determined that, to the extent permitted by law, this proposed determination meets the relevant standards of E.O. 12988.

G. Review Under the Unfunded Mandates Reform Act of 1995

Title II of the Unfunded Mandates Reform Act of 1995 (UMRA) (Pub. L. 104-4, codified at 2 U.S.C. 1501 et seq.) requires each Federal agency to assess the effects of Federal regulatory actions on State, local, and tribal governments and the private sector. For regulatory actions likely to result in a rule that may cause expenditures by State, local, and Tribal governments, in the aggregate, or by the private sector of $100 million or more in any one year (adjusted annually for inflation), section 202 of UMRA requires a Federal agency to publish a written statement that estimates the resulting costs, benefits, and other effects on the national economy. (2 U.S.C. 1532(a) and (b)) UMRA requires a Federal agency to develop an effective process to permit timely input by elected officers of State, local, and tribal governments on a proposed "significant intergovernmental mandate." UMRA also requires an agency plan for giving notice and opportunity for timely input to small governments that may be potentially affected before establishing any requirement that might significantly or uniquely affect them. On March 18, 1997, DOE published a statement of policy on its process for intergovernmental consultation under UMRA. 62 FR 12820 (March 18, 1997). (This policy also is available at http://energy.gov/gc/office-general-counsel.) DOE reviewed today's proposed determination pursuant to these existing authorities and its policy statement and determined that the proposed determination contains neither an intergovernmental mandate nor a mandate that may result in the expenditure of $100 million or more in any year, so the UMRA requirements do not apply.

H. Review Under the Treasury and General Government Appropriations Act of 1999

Section 654 of the Treasury and General Government Appropriations Act of 1999 (Pub. L. 105-277) requires Federal agencies to issue a Family Policymaking Assessment for any rule that may affect family well-being. This proposed determination would not have any impact on the autonomy or integrity of the family as an institution. Accordingly, DOE has concluded that it is not necessary to prepare a Family Policymaking Assessment.

I. Review Under Executive Order 12630

Pursuant to E.O. 12630, "Governmental Actions and Interference with Constitutionally Protected Property Rights" 53 FR 8859 (March 15, 1988), DOE determined that this proposed determination would not result in any takings that might require compensation under the Fifth Amendment to the U.S. Constitution.

J. Review Under the Treasury and General Government Appropriations Act of 2001

The Treasury and General Government Appropriation Act of 2001 (44 U.S.C. 3516, note) requires agencies to review most disseminations of information they make to the public under guidelines established by each agency pursuant to general guidelines issued by the Office of Management and Budget (OMB). The OMB's guidelines were published at 67 FR 8452 (February 22, 2002), and DOE's guidelines were published at 67 FR 62446 (October 7, 2002). DOE has reviewed today's proposed determination under the OMB and DOE guidelines and has concluded that it is consistent with the applicable policies in those guidelines.

K. Review Under Executive Order 13211

E.O. 13211, "Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use," 66 FR 28355 (May 22, 2001), requires Federal agencies to prepare and submit to OMB a Statement of Energy Effects for any proposed significant energy action. A "significant energy action" is defined as any action by an agency that promulgates a final rule or is expected to lead to promulgation of a final rule, and that: (1) is a significant regulatory action under E.O. 12866, or any successor order; and (2) is likely to have a significant adverse effect on the supply, distribution, or use of energy; or (3) is designated by the Administrator of the Office of Information and Regulatory Affairs (OIRA) as a significant energy action. For any proposed significant energy action, the agency must give a detailed statement of any adverse effects on energy supply, distribution, or use if the proposal is implemented, and of reasonable alternatives to the proposed action and their expected benefits on energy supply, distribution, and use.

DOE has concluded that today's regulatory action proposing to determine that miscellaneous residential refrigeration products meet the criteria for covered products for which the Secretary may prescribe energy conservation standards pursuant to 42 U.S.C. 6295(o) and (p) would not have a significant adverse effect on the supply, distribution, or use of energy. This action is also not a significant regulatory action for purposes of E.O. 12866, and the OIRA Administrator has not designated this proposed determination as a significant energy action. Therefore, this proposed determination is not a significant energy action. Accordingly, DOE has not prepared a Statement of Energy Effects for this proposed determination.

L. Review Under the Information Quality Bulletin for Peer Review

On December 16, 2004, OMB, in consultation with the Office of Science and Technology Policy (OSTP), issued its Final Information Quality Bulletin for Peer Review (the Bulletin). 70 FR 2664 (January 14, 2005). The Bulletin establishes that certain scientific information shall be peer reviewed by qualified specialists before it is disseminated by the Federal government, including influential scientific information related to agency regulatory actions. The purpose of the Bulletin is to enhance the quality and credibility of the Government's scientific information. DOE has determined that the analyses conducted for this rulemaking do not constitute "influential scientific information," which the Bulletin defines as "scientific information the agency reasonably can determine will have or does have a clear and substantial impact on important public policies or private sector decisions." 70 FR 2667 (January 14, 2005). The analyses were subject to pre-dissemination review prior to issuance of this notice.

DOE will determine the appropriate level of review that would be applicable to any future rulemaking to establish energy conservation standards for miscellaneous residential refrigeration products.

VI. Public Participation

A. Submission of Comments

DOE will accept comments, data, and information regarding this notice of proposed determination no later than the date provided at the beginning of this notice. After the close of the comment period, DOE will review the comments received and determine whether miscellaneous residential refrigeration products are covered products under EPCA.

Comments, data, and information submitted to DOE's e-mail address for this proposed determination should be provided in WordPerfect, Microsoft Word, PDF, or text (ASCII) file format. Submissions should avoid the use of special characters or any form of encryption, and wherever possible comments should include the electronic signature of the author. No telefacsimiles (faxes) will be accepted.

According to 10 CFR Part 1004.11, any person submitting information that he or she believes to be confidential and exempt by law from public disclosure should submit two copies: one copy of the document should have all the information believed to be confidential deleted. DOE will make its own determination as to the confidential status of the information and treat it according to its determination.

Factors of interest to DOE when evaluating requests to treat submitted information as confidential include (1) a description of the items; (2) whether and why such items are customarily treated as confidential within the industry; (3) whether the information is generally known or available from public sources; (4) whether the information has previously been made available to others without obligations concerning its confidentiality; (5) an explanation of the competitive injury to the submitting persons which would result from public disclosure; (6) a date after which such information might no longer be considered confidential; and (7) why disclosure of the information would be contrary to the public interest.

B. Issues on Which DOE Seeks Comments

DOE welcomes comments on all aspects of this proposed determination. DOE is particularly interested in receiving comments from interested parties on the following issues related to the proposed determination for miscellaneous residential refrigeration products:

(1) Is the proposed scope of coverage for miscellaneous residential refrigeration products sufficient or are there aspects to this proposed scope that require modification?

(2) DOE seeks information on the types of vapor compression and non-compressor residential refrigeration products currently being marketed that would be addressed by the coverage proposed in this notice, particularly whether such products are distributed to any significant extent for uses other than as wine or beverage chillers.

(3) DOE seeks stock and shipment data for residential wine chillers cooled by vapor compression and for residential refrigeration products that do not incorporate a compressor, segregated by different product types, including any details regarding trends in shipments for each respective type of product.

(4) DOE seeks information regarding energy test procedures suited for residential wine chillers cooled by vapor compression and for residential refrigeration products that do not incorporate a compressor.

(5) DOE seeks information regarding the energy use of all of the different products that would be affected by today's proposed coverage determination.

(6) DOE seeks calculations and accompanying values for household and national energy consumption of the products that would be affected by today's notice of proposed coverage determination.

(7) DOE seeks information as to what technologies, if any, would be available to improve the energy efficiency of residential vapor compression wine chillers, residential refrigeration products that do not incorporate a compressor, and residential ice makers. To the extent that no technologies are readily available to improve the efficiency of these products, DOE seeks information on the factors that may be limiting the development of those technologies.

(8) DOE seeks information regarding the factors that would cause a manufacturer to select a cooling technology other than vapor compression for a residential refrigeration product, including design and production costs, energy use, product performance, consumer acceptance, and any other relevant factors.

(9) DOE seeks information, including supporting data, regarding whether labeling-related efforts applied to the residential refrigeration products addressed in today's notice would be sufficient to induce manufacturers to produce and consumers and other persons to purchase, residential refrigeration products that achieve the minimum energy efficiency that is technologically feasible and economically justified.

The Department is interested in receiving views concerning other relevant issues that participants believe would affect DOE's ability to establish test procedures and energy

conservation standards for miscellaneous residential refrigeration products. The Department invites all interested parties to submit in writing by **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER],** comments and information on matters addressed in this notice and on other matters relevant to consideration of a determination for miscellaneous residential refrigeration products.

After the expiration of the period for submitting written statements, the Department will consider all comments and additional information that is obtained from interested parties or through further analyses, and it will prepare a final determination. If DOE determines that miscellaneous residential refrigeration products qualify as covered products, DOE will consider initiating rulemakings to develop test procedures and energy conservation standards for miscellaneous residential refrigeration products. Members of the public will be given an opportunity to submit written and oral comments on any proposed test procedure and standards.

List of Subjects in 10 CFR part 430

Administrative practice and procedure, Confidential business information, Energy conservation, Reporting and recordkeeping requirements.

Issued in Washington, D.C., on September 30, 2013.

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Kathleen B. Hogan
Deputy Assistant Secretary for
Energy Efficiency and Renewable Energy

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