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DEPARTMENT OF ENERGY

10 CFR Part 431

EERE–2017–BT–STD–0007

RIN 1904-AD82

Energy Conservation Program: Energy Conservation Standards for Certain Commercial and Industrial Equipment; Early Assessment Review; Commercial Refrigerators, Freezers, and Refrigerator-Freezers

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

ACTION: Request for information.

SUMMARY: The U.S. Department of Energy ("DOE" or "the Department") is undertaking an early assessment review for amended energy conservation standards for commercial refrigerators, freezers, and refrigerator-freezers ("CRE") to determine whether to amend applicable energy conservation standards for this equipment. Specifically, through this request for information ("RFI"), DOE seeks data and information to evaluate whether amended energy conservation standards would result in significant savings of energy; be technologically feasible; and be economically justified. DOE welcomes written comments from the public on any subject within the scope of this document (including those topics not specifically raised in this RFI), as well as the submission of data and other relevant information concerning this early assessment review.

DATES: Written comments and information are requested and will be accepted on or before **[INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**.

ADDRESSES: Interested persons are encouraged to submit comments using the Federal eRulemaking Portal at *https://www.regulations.gov*. Follow the instructions for submitting comments. Alternatively, interested persons may submit comments, identified by docket number [EERE-2017-BT-STD-0007], by any of the following methods:

1. *Federal eRulemaking Portal*: *https://www.regulations.gov*. Follow the instructions for submitting comments.
2. *E-mail*: to *CRE2017STD0007@ee.doe.gov*. Include docket number [EERE-2017-BT-STD-0007] in the subject line of the message.

No telefacsimilies (faxes) will be accepted. For detailed instructions on submitting comments and additional information on this process, see section III of this document.

Although DOE has routinely accepted public comment submissions through a variety of mechanisms, including postal mail and hand delivery/courier, the Department has found it necessary to make temporary modifications to the comment submission process in light of the ongoing Covid-19 pandemic. DOE is currently suspending receipt of public comments via postal mail and hand delivery/courier. If a commenter finds that this change poses an undue hardship, please contact Appliance Standards Program staff at (202) 586-1445 to discuss the need for alternative arrangements. Once the Covid-19 pandemic health emergency is resolved, DOE anticipates resuming all of its regular options for public comment submission, including postal mail and hand delivery/courier.

Docket: The docket for this activity, which includes *Federal Register* notices, comments, and other supporting documents/materials, is available for review at *https://www.regulations.gov*. All documents in the docket are listed in the *https://www.regulations.gov* index. However, some documents listed in the index, such as those containing information that is exempt from public disclosure, may not be publicly available.

The docket webpage can be found at: *https://www.regulations.gov/#!docketDetail;D=EERE-2017-BT-STD-0007*. The docket webpage contains instructions on how to access all documents, including public comments, in the docket. See section III for information on how to submit comments through *https://www.regulations.gov*.

FOR FURTHER INFORMATION CONTACT: Dr. Stephanie Johnson, U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, Building Technologies Office, EE-5B, 1000 Independence Avenue, SW., Washington, DC, 20585-0121. Telephone: (202) 287-1943. E-mail: *ApplianceStandardsQuestions@ee.doe.gov*.

Peter Cochran, U.S. Department of Energy, Office of the General Counsel, GC-33, 1000 Independence Avenue, SW., Washington, DC, 20585-0121. Telephone: (202) 586-9496. E-mail: *Peter.Cochran@Hq.Doe.Gov*.

For further information on how to submit a comment or review other public comments and the docket, contact the Appliance and Equipment Standards Program staff at (202) 287-1445 or by e-mail: *ApplianceStandardsQuestions@ee.doe.gov*.

SUPPLEMENTARY INFORMATION:

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I. Introduction

DOE has established an early assessment review process to conduct a more focused analysis to evaluate, based on statutory criteria, whether a new or amended energy conservation standard is warranted. Based on the information received in response to the RFI and DOE's own analysis, DOE will determine whether to proceed with a rulemaking for a new or amended energy conservation standard. If DOE makes an initial determination that a new or amended energy conservation standard would satisfy the applicable statutory criteria or DOE's analysis is inconclusive, DOE would undertake the preliminary stages of a rulemaking to issue a new or amended energy conservation standard. If DOE makes an initial determination based upon available evidence that a new or amended energy conservation standard would not meet the applicable statutory criteria, DOE would engage in notice and comment rulemaking before issuing a final determination that new or amended energy conservation standards are not warranted.

A. Authority

The Energy Policy and Conservation Act, as amended ("EPCA")[1], among other things, authorizes DOE to regulate the energy efficiency of a number of consumer products and certain industrial equipment. (42 U.S.C. 6291-6317) Title III, Part C[2] of EPCA, added by Public Law 95-619, Title IV, section 441(a) (42 U.S.C. 6311-6317, as codified), established the Energy Conservation Program for Certain Industrial Equipment, which sets forth a variety of provisions designed to improve energy efficiency. This equipment includes CRE, the subject of this document. (42 U.S.C. 6311(1)(E))

Under EPCA, DOE's energy conservation program consists essentially of four parts: (1) testing, (2) labeling, (3) Federal energy conservation standards, and (4) certification and enforcement procedures. Relevant provisions of EPCA include definitions (42 U.S.C. 6311), test procedures (42 U.S.C. 6314), labeling provisions (42 U.S.C. 6315), energy conservation standards (42 U.S.C. 6313), and the authority to require information and reports from manufacturers (42 U.S.C. 6316).

Federal energy efficiency requirements for covered equipment established under EPCA generally supersede State laws and regulations concerning energy conservation testing, labeling, and standards. (42 U.S.C. 6316(a) and (b); 42 U.S.C. 6297) DOE may, however, grant waivers of Federal preemption in limited instances for particular State

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[1] All references to EPCA in this document refer to the statute as amended through the Energy Act of 2020, Public Law 116-260 (Dec. 27, 2020).
[2] For editorial reasons, upon codification in the U.S. Code, Part C was redesignated Part A-1.

laws or regulations, in accordance with the procedures and other provisions set forth under 42 U.S.C. 6316(a) and (e) (applying the preemption waiver provisions of 42 U.S.C. 6297)).

EPCA prescribes energy conservation standards for CRE and directs DOE to conduct rulemakings to establish new and amended standards. (42 U.S.C. 6313(c)(2) – (6)) DOE must follow specific statutory criteria for prescribing new or amended standards for covered equipment. EPCA requires that any new or amended energy conservation standard prescribed by the Secretary of Energy ("Secretary") be designed to achieve the maximum improvement in energy or water efficiency that is technologically feasible and economically justified. (42 U.S.C. 6316(e)(1); 42 U.S.C. 6295(o)(2)(A)) The Secretary may not prescribe an amended or new standard that will not result in significant conservation of energy, or is not technologically feasible or economically justified. (42 U.S.C. 6316(a); 42 U.S.C. 6295(o)(3))

EPCA also requires that, not later than 6 years after the issuance of any final rule establishing or amending a standard, DOE evaluate the energy conservation standards for each type of covered equipment, including those at issue here, and publish either a notification of determination that the standards do not need to be amended, or a NOPR that includes new proposed energy conservation standards (proceeding to a final rule, as appropriate). (42 U.S.C. 6316(e)(1); 42 U.S.C. 6295(m)(1))

DOE is issuing this RFI to collect data and information to inform its decision of whether to propose amended energy conservation standards consistent with its obligations under EPCA. (42 U.S.C. 6313(c)(6)(B); 42 U.S.C. 6316(e)(1); 42 U.S.C. 6295(m))

B. Rulemaking History

Pursuant to EPCA, DOE published a final rule establishing amended standards for CRE on March 28, 2014 (the "March 2014 Final Rule"), for which compliance was required as of March 27, 2017. 79 FR 17725. The current energy conservation standards consist of maximum daily energy consumption ("MDEC") values as a function of either refrigerated volume or total display area ("TDA") and are located in title 10 of the Code of Federal Regulations ("CFR") part 431, subpart C.[3]

II. Request for Information

DOE is publishing this RFI to collect data and information during the early assessment review to inform its decision, consistent with its obligations under EPCA, as to whether the Department should proceed with an energy conservation standards rulemaking. DOE has identified certain topics for which information and data are requested to assist in the evaluation of the potential for amended energy conservation standards. DOE also welcomes comments on other issues relevant to its early assessment that may not specifically be identified in this document. Specifically, for any future rulemaking to consider amended energy conservation standards, DOE would likely follow an analysis approach consistent with that used in the March 2014 Final Rule.[4] DOE welcomes comment on the applicability of that analysis approach in addition to the specific issues discussed in the following sections.

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[3] The currently applicable DOE test procedures for CRE appear at 10 CFR part 431, subpart C, Appendix B.

[4] The analysis conducted in support of developing the March 2014 Final Rule is available in the Technical Support Document ("TSD") available at: *https://www.regulations.gov/document?D=EERE-2010-BT-STD-0003-0102*.

A. Scope of Coverage and Equipment Classes

1. Equipment Classes

When evaluating and establishing energy conservation standards, DOE may divide equipment into equipment classes by the type of energy used, or by capacity or other performance-related features that justify a different standard. (42 U.S.C. 6316(e)(1); 42 U.S.C. 6295(q)) In making a determination whether capacity or another performance-related feature justifies a different standard, DOE must consider such factors as the utility to the consumer of such a feature and other factors DOE deems appropriate. *Id.*

For CRE, the current energy conservation standards in 10 CFR 431.66 are based on 49 equipment classes, which are determined according to the following performance-related features that provide utility to the consumer: operating temperature (refrigerator, freezer, or ice cream freezer), presence of doors (open or closed), door type (solid or transparent), condensing unit type (remote or self-contained), configuration (horizontal, vertical, semi-vertical, or service over counter), and temperature pull-down capability.

Issue 1: DOE requests feedback on the current CRE equipment classes and whether changes to these individual equipment classes and their descriptions should be made or whether certain classes should be merged or separated. DOE also requests comment on whether any other new equipment classes are appropriate.

DOE has also identified certain specific topics regarding equipment classes and definitions on which it requests comment, as discussed in the following sections.

a. Door Angle

DOE differentiates equipment classes, in part, based on whether the door angle is horizontal or vertical. 10 CFR 431.66(e)(1). Door angle refers to: (1) for equipment with flat doors, the angle between a vertical line and the line formed by the plane of the door, when the equipment is viewed in cross-section; and (2) for equipment with curved doors, the angle formed between a vertical line and the straight line drawn by connecting the top and bottom points where the display area glass joins the cabinet, when the equipment is viewed in cross-section. 10 CFR 431.62. DOE defines "horizontal closed" as equipment with hinged or sliding doors and a door angle greater than or equal to 45 degrees. *Id*. "Vertical closed" refers to equipment with hinged or sliding doors and a door angle less than 45 degrees. *Id.*

DOE has identified CRE models with solid doors that do not create a flat plane. For example, a refrigerated case may have one door on the front vertical surface and another on the top horizontal surface, with the doors connecting at the top front corner of the case (*i.e.*, when both doors are open, the front and top of the case have a continuous opening similar to semi-vertical open equipment). In this example, the doors do not create a flat plane, as referenced in part 1 of the door angle definition, and the doors are not curved and do not include display glass as referenced in part 2 of the door angle definition.

Issue 2: DOE requests comment on whether it should amend the door angle definition to address CRE models with doors on multiple faces of the equipment or CRE with curved solid doors. DOE also requests comment on the appropriate equipment class for such equipment, including how manufacturers are currently treating such equipment.

b. Open Equipment with Doors

Equipment classes are also differentiated based on whether the equipment is "open" (*i.e.,* does not have doors) and the orientation of the air curtain (horizontal open, semi-vertical open, and vertical open). 10 CFR 431.66(e)(1). DOE has identified CRE models that meet the open equipment class definitions, except that they also have doors that provide an alternate method of access to the refrigerated space. Based on a review of this equipment, the open portion of the equipment is intended for customer access to the refrigerated space. The doors are typically located at the back of the equipment and provide an alternate or secondary method of access for loading product into the case. The doors are not accessible to customers during normal operation and may have a means for locking.

Issue 3: DOE requests comment on whether the open equipment definitions in 10 CFR 431.62 should be revised to clarify treatment of open equipment with doors providing an alternate or secondary method of access to the refrigerated space. DOE also seeks information on how manufacturers are currently treating such equipment.

c. Equipment with Pass-Through Doors

CRE with pass-through doors are typically closed cases with doors on both the front and rear sides of the refrigerated case. The current DOE CRE test procedure incorporates by reference the American Society of Heating, Refrigerating, and Air-Conditioning Engineers ("ASHRAE") Standard 72-2005 ("ASHRAE 72-2005"), "Method of Testing Commercial Refrigerators and Freezers". Section 7.2 of ASHRAE 72-2005 specifies that for "units with pass-through doors, only the doors on one side of the unit shall be opened during the test". Although equipment with pass-through doors are subject to the door opening requirements of ASHRAE 72-2005 and would therefore have the same door opening sequences as non-pass-through CRE (*i.e.*, only the door(s) on

one side of the equipment would be opened), CRE with pass-through doors may have a different tested energy performance than comparable CRE without pass-through doors. The presence of multiple doors introduces additional potential heat leak pathways to the refrigerated cabinet, which could increase energy use. For example, pass-through doors require additional door gaskets, glass panels (for transparent equipment classes), and, in some cases, anti-sweat heaters.

Issue 4: DOE requests comment and supporting data on whether pass-through doors are a performance-related feature that justifies a different energy conservation standard than other similar CRE without pass-through doors. DOE seeks data and performance information regarding the performance impacts of pass-through door models compared to similar non-pass-through CRE.

2. Potential New Equipment Categories

DOE is aware of certain equipment that meets the CRE definition at 10 CFR 431.62, but for which there are no current DOE test procedures or energy conservation standards (in the case of refrigerated salad bars, buffet tables, and preparation tables; additional pull-down temperature applications; and chef bases or griddle stands) or for which new test procedures and equipment classes may be appropriate (in the case of high-temperature CRE and models with dedicated remote condensing units). In a separate RFI to consider amended test procedures for CRE, DOE requested feedback on appropriate definitions and test procedures for these potential new equipment categories. 86 FR 31182 ("June 2021 Test Procedure RFI"). If DOE were to establish test procedures for these equipment categories, DOE requests information to determine how to organize this equipment into additional equipment classes, if necessary, when considering potential energy conservation standards.

Issue 5: DOE requests comment on whether equipment capacity or any other performance-related features for these potential new equipment categories would justify a different energy conservation standard compared to other CRE currently subject to energy conservation standards or to other equipment within that same category. For example, refrigerated salad bars, buffet tables, and preparation tables may require separate equipment classes for equipment with and without refrigerated storage compartments. DOE also requests comment on whether the equipment characteristics delineating the existing CRE equipment classes would similarly apply to these potential new equipment categories.

B. Significant Savings of Energy

On March 28, 2014, DOE established an energy conservation standard for CRE that is expected to result in 2.89 quadrillion British thermal units ("quads") of site energy savings over a 30-year period. Additionally, in the March 2014 Final Rule, DOE estimated that an energy conservation standard established at an energy use level equivalent to that achieved using the maximum available technology ("max-tech") would have resulted in 4.21 additional quads of savings. 79 FR 17726, 17806.

While DOE's request for information is not limited to the following issues, DOE is particularly interested in comment, information, and data on the following topics to inform whether potential amended energy conservation standards would result in a significant savings of energy.

1. Shipments

For the March 2014 Final Rule, DOE did not obtain shipments data from a single source, but used data from multiple sources to estimate shipments and cross-verify the data from one source to another. Those sources were 2005 shipments data provided by the Air-Conditioning, Heating, and Refrigeration Institute ("AHRI") as part of its comments on the 2006 rulemaking Framework document;[5] a CRE market report by Freedonia Group, Inc.;[6] a 2008 and a 2012 market report by the North American Association of Food Equipment Manufacturers;[7, 8] a 2009 DOE report prepared by Navigant Consulting on CRE;[9] CRE shipments from ENERGY STAR;[10] and CRE saturation estimates calculated from the Energy Information Administration ("EIA") Commercial Buildings Energy Consumption Survey ("CBECS") for 1999[11] and 2003.[12] Based on these data sources, DOE developed an allocation of shipments for the 25 equipment classes ("primary equipment classes") that were analyzed from a total of 49 overall in the March 2014 Final Rule. In addition, considering commercial floorspace projections and CRE market saturations, DOE developed an estimate of CRE shipments projections. Table II.1 shows the allocation of CRE for the 25 primary equipment classes, expressed in linear feet of shipped units[13] and Table II.2 shows total CRE shipments between 2014 and 2020, as projected in the March 2014 Final Rule. See

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[5] Docket No. EERE-2006-STD-0126, ARI, No. 7, Exhibit B at p. 1.
[6] Freedonia Group, Inc. *Commercial Refrigeration Equipment to 2014*. 2010. Cleveland, OH. Study 2261. *https://www.freedoniagroup.com/Commercial-Refrigeration-Equipment.html*
[7] North American Association of Food Equipment Manufacturers. *2008 Size and Shape of Industry*. 2008. Chicago, IL.
[8] North American Association of Food Equipment Manufacturers. *2012 Size and Shape of Industry*. 2012. Chicago, IL.
[9] Navigant Consulting, Inc. *Energy Savings Potential and R&D Opportunities for Commercial Refrigeration*. 2009. Prepared by Navigant Consulting, Inc. for the U.S. Department of Energy, Washington, DC.
[10] Energy Star. Unit Shipment and Sales Data Archives. Available at: *https://www.energystar.gov/index.cfm?c=partners.unit_shipment_data_archives.*
[11] Available at *https://www.eia.gov/consumption/commercial/data/1999/.*
[12] Available at *https://www.eia.gov/consumption/commercial/data/2003/.*
[13] Historical linear feet of shipped units is the figure used by industry to depict the annual amount of CRE capacity shipped, and is an alternative way to express shipments data.

chapter 9 of the March 2014 Final Rule TSD for details on the development of shipments estimates.

Table II.1: Percent of Shipped Linear Feet for CRE by Equipment Class

Equipment Class	%	Equipment Class	%
VOP.RC.M	10.3%	SVO.SC.M	1.1%
VOP.RC.L	0.5%	SOC.RC.M	2.1%
VOP.SC.M	1.3%	SOC.SC.M	0.2%
VCT.RC.M	0.8%	HZO.RC.M	1.3%
VCT.RC.L	10.7%	HZO.RC.L	4.0%
VCT.SC.M	4.8%	HZO.SC.M	0.1%
VCT.SC.L	0.2%	HZO.SC.L	0.2%
VCT.SC.I	0.3%	HCT.SC.M	0.1%
VCS.SC.M	25.4%	HCT.SC.L	0.4%
VCS.SC.L	15.0%	HCT.SC.I	0.4%
VCS.SC.I	0.1%	HCS.SC.M	4.4%
SVO.RC.M	8.2%	HCS.SC.L	0.6%
PD.SC.M	7.6%		

VOP = Vertical Open
SVO = Semi-Vertical Open
HZO = Horizontal Open
VCT = Vertical Closed Transparent
HCT = Horizontal Closed Transparent
SOC = Service Over Counter
PD = Pull-Down
HCS = Horizontal Closed Solid
VCS = Vertical Closed Solid

RC = Remote Condensing
SC = Self Contained
M = Medium Temperature;
L = Low Temperature
I = Ice Cream Temperature

Table II.2: Total Estimated CRE Shipments from 2014 to 2020

Year	2014	2015	2016	2017	2018	2019	2020
Estimated Shipments (million units)	1.01	1.03	1.06	1.11	1.16	1.21	1.26
Estimated Shipments (million linear ft.)	6.14	6.24	6.45	6.72	7.00	7.30	7.60

Issue 6: DOE requests annual sales data (in units shipped or linear feet of shipped units) of CRE from 2014 to 2020, disaggregated by equipment class. DOE also seeks feedback on how the breakdowns by equipment class presented in Table II.1 of this document and the annual shipments estimates shown in Table II.2 of this document compare to the actual shipments in those years. If disaggregated shipments data are not available at the equipment class level, DOE requests shipments data at any broader available category.

Issue 7: DOE also seeks historical and current shipments data on any additional CRE categories under consideration for potential standards (*i.e.*, refrigerated salad bars, buffet tables, and preparation tables; solid-door equipment for pull-down temperature applications; chef bases or griddle stands; high-temperature CRE; and CRE with dedicated remote condensing units).

2. National Energy Savings

The purpose of the national impact analysis ("NIA") is to estimate aggregate impacts of potential new and/or amended efficiency standards at the national level in terms of national energy savings ("NES") and net present value ("NPV", discussed in section II.D.4 of this document) of the total consumer benefits. The NIA considers lifetime impacts of potential standards on equipment shipped in a 30-year period that begins with the expected compliance date for new and/or amended standards.

DOE measures savings of potential standards relative to a "no-new-standards" case that reflects conditions without new and/or amended standards, and uses current efficiency market shares to characterize the no-new-standards case equipment efficiency distribution. By accounting for consumers who already purchase more efficient CRE, DOE avoids overstating the potential benefits from potential standards. In the March 2014 Final Rule, DOE developed efficiency trends for CRE in the no-new-standards case and the standards cases assuming that the market would move over time to adopt ENERGY STAR rated equipment. To estimate the impact that energy efficiency standards would have in the year compliance becomes required, DOE used a "roll-up" scenario. A roll-up scenario assumes that equipment efficiencies in the no-new-standards case, which do not meet the standard level under consideration, would "roll up" to meet the new efficiency standard level. Equipment shipments at efficiencies above the

efficiency standard level under consideration are not affected. See chapter 10 of the March 2014 Final Rule TSD for details on this approach.

Issue 8: DOE seeks input on whether any market or technology changes would warrant a different approach to develop CRE efficiency trends than the one followed in the March 2014 Final Rule. DOE requests any relevant data that could be used to project efficiency trends for CRE.

C. Technological Feasibility

1. Technology Options

During the March 2014 Final Rule, DOE considered a number of technology options that manufacturers could use to reduce energy consumption in CRE. Table II.3 includes a complete list of those technology options considered in developing the March 2014 Final Rule.

Table II.3: Technology Options for CRE Considered in the Development of the March 2014 Final Rule

Technology Option Category	Technology Option
Lighting	Higher efficiency lighting (*e.g.*, Light Emitting Diodes [LEDs])
	Higher efficiency lighting ballasts
	Remote lighting ballast location
	Lighting occupancy sensors
Heat Exchangers	Improved evaporator coil design
	Improved condenser coil design (self-contained equipment only)
	Low-pressure differential evaporators
	Liquid suction heat exchangers
Fans	Higher efficiency fan motors (*e.g.*, Electronically Commutated Motors ("ECM"))
	Variable-speed fan motors with controls
	Higher efficiency fan blades
Defrost	Hot-gas defrost
	Defrost cycle controls
Insulation	Increased insulation thickness

	Vacuum insulated panels
Expansion Valves	Higher efficiency expansion valves
Doors	Improved gaskets
	Inert gas fill
	Low-emissivity coating
	Additional glass panes
	Anti-fog films
	Anti-sweat heater controls
Other Technologies	Night Curtains
Compressors	Higher efficiency compressors (for self-contained equipment only)

Issue 9: DOE seeks information on the technologies listed in Table II.3 of this document, including their applicability to the current market and how these technologies may impact the energy use of CRE as measured according to the DOE test procedure. DOE also seeks information on how these technologies may have changed since they were considered in the March 2014 Final Rule analysis. Specifically, DOE seeks information on the range of efficiencies or performance characteristics that are currently available for each technology option.

Issue 10: DOE seeks information on the technologies listed in Table II.3 of this document regarding their market adoption, costs, and any concerns with incorporating them into products (*e.g.*, impacts on consumer utility, potential safety concerns, manufacturing/production/implementation issues, *etc.*), particularly as to changes that may have occurred since the March 2014 Final Rule.

Issue 11: DOE seeks comment on any other technology options that it should consider for inclusion in its analysis and if these technologies may impact equipment features or user utility.

In a final rule published on December 20, 2011, EPA listed propane (R-290) as acceptable for use in self-contained CRE, subject to a charge limit of 150 grams and other appropriate safety measures to address the flammability risk. 76 FR 78832. In an April 10, 2015 final rule, EPA additionally listed isobutane (R-600a) and the hydrocarbon blend R-441A as acceptable for use in self-contained CRE, also subject to a 150-gram charge limit and other safety measures to address flammability. 80 FR 19454.

A review of the market indicates that manufacturers of self-contained CRE have begun transitioning to hydrocarbon refrigerants, which have different thermo-physical properties than traditionally-used refrigerants. In considering how manufacturers would improve efficiencies for CRE, DOE is interested in how equipment energy consumption is affected by the ongoing transition to alternative refrigerants.

Issue 12: DOE requests comment on which refrigerant(s) DOE should consider as potential technology options for improving CRE efficiencies. DOE additionally requests comment and supporting data on the energy consumption impact of this transition to alternative refrigerants. DOE also seeks information on the availability of such alternative refrigerants and their applicability and/or penetration in the current market. Specifically, DOE requests information on whether charge limits or safety standards (*e.g.*, standards issued by Underwriter's Laboratory) would restrict their use. DOE also requests comment on any additional design changes or safety measures that may be required for CRE to incorporate alternative refrigerants.

Issue 13: DOE similarly requests comment on the likely alternative refrigerant(s) for use with remote condensing CRE. DOE specifically requests supporting data on how such a

transition would impact the energy consumption of remote condensing CRE as measured under the DOE test procedure and on any additional design changes or safety measures that may be required for some alternative refrigerants.

CRE manufacturers may similarly be transitioning from traditional foam blowing agents to alternatives, which may affect the physical properties of the foam itself, namely its ability to resist heat transfer (*i.e.,* the R-value). These differences in the R-value of insulation foam in turn affect the energy performance of CRE by influencing case heat load.

Issue 14: DOE requests comment and supporting data on the market penetration, costs, and thermal resistivities of insulation foams using traditional and alternative blowing agents. DOE additionally requests comment on any potential safety concerns, such as flammability, arising from alternative foam blowing agents. Finally, DOE requests comment and supporting data on any additional design changes or safety measures that may be required to incorporate alternative foam blowing agents in CRE.

As discussed previously in this RFI, DOE may consider energy conservation standards for refrigerated salad bars, buffet tables, and preparation tables; additional pull-down temperature applications; chef bases or griddle stands; high-temperature CRE; and CRE with dedicated remote condensing units. The features and operation of these types of equipment may introduce additional technology options not previously considered.

Issue 15: DOE requests comment on any technology options not previously considered for CRE, including technology options that could be used to improve the energy efficiency of refrigerated salad bars, buffet tables, and preparation tables; additional pull-

down temperature applications; chef bases or griddle stands; high-temperature CRE; and CRE with dedicated remote condensing units. DOE also seeks information on how technology options may have unique efficiency impacts on these equipment categories. For example, there may be greater energy savings potential associated with variable-speed compressors and fan motors in pull-down temperature applications and chef bases or griddle stands compared to the other existing CRE equipment classes.

2. Screening Analysis

The purpose of the screening analysis is to evaluate the technologies that improve equipment efficiency to determine which technologies will be eliminated from further consideration and which will be passed to the engineering analysis for further consideration. DOE determines whether to eliminate certain technology options from further consideration based on the following criteria: technological feasibility; practicability to manufacture, install, and service; adverse impacts on product utility or product availability; adverse impacts on health or safety; and unique-pathway proprietary technologies. 10 CFR part 430, subpart C, appendix A, 6(c)(3).

Table II.4 summarizes the technology options that DOE screened out in the March 2014 Final Rule, and the applicable screening criteria.

Table II.4 Previously Screened Out Technology Options from the March 2014 Final Rule

Screened Technology Option	EPCA Criteria (X = Basis for Screening Out)				
	Technological Feasibility	Practicability to Manufacture, Install, and Service	Adverse Impact on Product Utility	Adverse Impacts on Health and Safety	Does Not Reduce Energy Consumption Measured by the DOE Test Procedure
Higher Efficiency Expansion Valves					X
Variable Speed Condenser Fans and Condenser Fan Motor Controllers					X
Anti-Sweat Heater Controllers					X
Liquid Suction Heat Exchangers		X			X
Air Curtain Design		X			

Issue 16: DOE requests feedback on what impact, if any, the screening criteria described in this section would have on each of the technology options listed in Table II.3 of this document with respect to CRE. Similarly, DOE seeks information regarding how these same criteria would affect any other technology options not already identified in this document with respect to their potential use in CRE.

Issue 17: With respect to the screened out technology options listed in Table II.4 of this document, DOE seeks information on whether these options would, based on current and projected assessments regarding each of them, remain screened out under the screening criteria described in this section. With respect to each of these technology options, what steps, if any, could be (or have already been) taken to facilitate the introduction of each option as a means to improve the energy performance of CRE and the potential to impact consumer utility of the CRE.

3. Engineering Efficiency Analysis

The engineering analysis estimates the cost-efficiency relationship of equipment at different levels of increased energy efficiency ("efficiency levels"). This relationship serves as the basis for the cost-benefit calculations for commercial consumers, manufacturers, and the Nation, as described further in section II.D of this document.

As discussed, the current energy conservation standard for each CRE equipment class is based on MDEC in kWh/day determined according to an equation using the equipment's chilled volume ("V") in cubic feet ("ft^3"), or its TDA in square feet ("ft^2"). The current standards for CRE are found at 10 CFR 431.62.

Issue 18: DOE requests feedback on whether the current established energy conservation standards for CRE are appropriate baseline efficiency levels for the existing equipment classes. DOE further requests comment on whether the existing energy conservation standards are based on the appropriate normalization metric (*i.e.*, TDA or volume) for the existing equipment classes.

As mentioned in section II.A.2 of this RFI, DOE is evaluating whether to develop test procedures for refrigerated salad bars, buffet tables, and preparation buffet tables; solid-doored equipment for pull-down applications; chef bases or griddle stands; high-temperature CRE; and CRE with dedicated remote condensing units. As no energy conservation standards currently exist for refrigerated salad bars, buffet tables, and preparation buffet tables, solid-doored equipment for pull-down applications, chef bases or griddle stands, and current energy conservation standards are not specific to high-temperature CRE and CRE with dedicated remote condensing units, DOE is interested in

data that would allow the development of a baseline efficiency levels for these equipment categories (and any applicable equipment classes).

Although existing CRE energy conservation standards are based on either the chilled volume or TDA for a CRE model, for these newly considered equipment categories, other parameters may be more appropriate as the basis for an equation representing how the maximum allowable daily energy consumption varies with equipment size and application. For example, for refrigerated salad bars, buffet tables, and preparation tables, pan volume or surface area (possibly in addition to the chilled volume of any refrigerated compartments that are not thermally separate from the pans) may be the appropriate capacity metric. Similarly, for solid-doored equipment for pull-down applications, product capacity may be the relevant metric.

Issue 19: DOE requests comment on appropriate parameters to use as the basis for efficiency levels to represent potential energy conservation standards for refrigerated salad bars, buffet tables, and preparation tables. DOE similarly seeks information on appropriate parameters to use in developing efficiency levels for solid-door equipment for pull-down applications, chef bases or griddle stands, high-temperature CRE, and CRE with dedicated remote condensing units.

Issue 20: DOE requests data describing the energy consumption, and storage and/or display capacity of refrigerated salad bars, buffet tables, and preparation tables; solid-door equipment for pull-down applications; chef bases or griddle stands; high-temperature CRE; and CRE with dedicated remote condensing units that could be used in assessing appropriate baseline efficiency levels based on the current market for this

equipment. DOE requests information on the typical design options that would be expected to be incorporated into a baseline model for each equipment category.

As part of DOE's analysis, DOE develops efficiency levels above the baseline as potential energy conservation standards to evaluate in the rulemaking analyses. Among these, DOE typically establishes efficiency levels at the maximum available and max-tech efficiencies. The maximum available efficiency level represents the highest efficiency units currently available on the market.

DOE has performed a preliminary analysis of CRE models, found in the DOE's Compliance Certification ("CCMS") Database,[14] to assess the potential to improve efficiency relative to current (*i.e.*, baseline) standard levels. DOE observed that models are currently available with daily energy consumptions significantly lower than the baseline at the currently allowable energy conservation standard.

Issue 21: DOE seeks input on whether the maximum available efficiency levels (*i.e.*, the lowest available energy use levels) are appropriate and technologically feasible for consideration as possible energy conservation standards for CRE. DOE seeks information on the design options incorporated into these maximum-available models, and also on the order in which manufacturers incrementally incorporate each design option when improving efficiency from the baseline to the maximum-available efficiency level (*i.e.*, which design options would be included at incremental efficiency levels between the baseline and maximum available). DOE also requests information on the

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[14] Available at *https://www.regulations.doe.gov/certification-data/#q=Product_Group_s%3A**.

design changes implemented to achieve efficiencies better than the max-tech considered in the March 2014 Final Rule analysis.

Issue 22: DOE also seeks information on the maximum-available efficiencies for the CRE for which there are no specific DOE energy conservation standards, and for which DOE does not have manufacturer-submitted efficiency information (*i.e.*, refrigerated salad bars, buffet tables, and preparation tables; solid-door equipment for pull-down applications; chef bases or griddle stands; high-temperature CRE; and CRE with dedicated remote condensing units), and on the test procedures used to determine any such efficiencies. DOE requests feedback on which design options are incorporated into the most efficient equipment available in these equipment categories.

DOE defines a max-tech efficiency level to represent the theoretical maximum possible efficiency if all available design options are incorporated in a model. In many cases, the max-tech efficiency level is not commercially available because it is not economically feasible. In the March 2014 Final Rule, DOE determined max-tech efficiency levels using energy modeling. The energy models were based on the use of all design options applicable to the specific equipment classes. While some of these equipment configurations had not likely been tested as prototypes, all of the individual design options had been incorporated in available equipment. See chapter 5 of the March 2014 Final Rule TSD for details on this approach. In its review of the CCMS data, DOE identified basic models with certified daily energy consumptions lower than the max-tech efficiency levels considered in the March 2014 Final Rule analysis.

Issue 23: DOE seeks feedback on what design options would be incorporated at a max-tech efficiency level, and the efficiencies associated with those levels, for each equipment

class. As part of this request, DOE also seeks information as to whether there are limitations on the use of certain combinations of design options. DOE is particularly interested in any design options that may have become available since the March 2014 Final Rule that would allow greater energy savings relative to the max-tech efficiency levels assessed for each equipment class in that rulemaking.

Issue 24: Additionally, DOE requests comment on what design options should be considered for the max-tech efficiency levels for refrigerated salad bars, buffet tables, and preparation tables; solid-door equipment for pull-down applications; chef bases or griddle stands; high-temperature CRE; and CRE with dedicated remote condensing units, as well as other potential equipment classes not currently subject to a standard.

D. Economic Justification

In determining whether a proposed energy conservation standard is economically justified, DOE analyzes, among other things, the potential economic impact on consumers, manufacturers, and the Nation. DOE seeks comment on whether there are economic barriers to the adoption of more-stringent energy conservation standards. DOE also seeks comment and data on any other aspects of its economic justification analysis from the March 2014 Final Rule that may indicate whether a more-stringent energy conservation standard would be economically justified or cost effective.

While DOE's request for information is not limited to the following issues, DOE is particularly interested in comment, information, and data on the following.

1. Engineering Cost Analysis

For the March 2014 Final Rule, DOE developed cost-efficiency relationships by estimating the efficiency improvements and costs associated with incorporating specific

design options into the assumed baseline model for each analyzed equipment class. See chapter 5 of the March 2014 Final Rule TSD for details on this approach. As a result of recent technological innovations, costs for several design options considered in the March 2014 Final Rule (*e.g.*, LED lighting and ECMs for fans) are likely to have changed since they were previously assessed.

Issue 25: DOE requests comment on the increase in manufacturer production cost associated with incorporating each particular design option from the baseline efficiency to max-tech. Specifically, DOE is interested in whether and how the costs estimated for design options in the March 2014 Final Rule have changed since the time of that analysis. DOE also requests information on the investments necessary to incorporate specific design options, including, but not limited to, costs related to new or modified tooling (if any), materials, engineering and development efforts to implement each design option, and manufacturing/production impacts.

Issue 26: DOE requests comment and supporting data on the incremental manufacturer product costs associated with transitioning to alternative refrigerants, including costs associated with converting any refrigeration system components (*e.g.*, compressors, heat exchangers) and with any additional safety measures (*e.g.*, labels, ventilation fans, or leak detection sensors) that may be required to address the flammability risks of some alternative refrigerants.

DOE also seeks information on whether any updates to the approach used in the analysis supporting the March 2014 Final Rule would be appropriate based on the current CRE market. For example, customer demand for certain equipment configurations and sizes may have changed. For the March 2014 Final Rule, DOE developed cost-efficiency

curves for 25 primary equipment classes based on units with typical sizes and configurations within those classes See chapter 5 and appendix 5A of the March 2014 Final Rule TSD for details on the cost-efficiency analysis, including the primary equipment class analysis and representative model configurations.

Issue 27: DOE seeks feedback on whether the 25 primary equipment classes and the corresponding representative unit configurations in the March 2014 Final Rule analysis are still appropriate for the current CRE market. If not, DOE requests information on whether representative equipment characteristics (*e.g.*, volume, dimensions, operating parameters, and controls) have significantly changed since the March 2014 Final Rule analysis.

2. Markups Analysis & Distribution Channels

In generating end-user price inputs for the life-cycle cost ("LCC") and payback period ("PBP") analysis and national impact analysis ("NIA"), DOE must identify distribution channels (*i.e.*, how the equipment are distributed from the manufacturer to the consumer), and estimate relative sales volumes through each channel. By applying a multiplier called a "markup" to the manufacturer selling price, DOE estimates the commercial consumer's price.

For the March 2014 Final Rule, DOE defined three distribution channels for CRE and estimated their respective shares of shipments: (1) from manufacturers to consumers (national account channel); (2) from manufacturers to wholesalers to consumers (wholesaler channel); and (3) from manufacturers to wholesalers to mechanical contractors and then to consumers (contractor channel). Table II.5 shows the distribution

channel market shares. See chapter 6 of the March 2014 Final Rule TSD for details on this approach.

Table II.5 Distribution Channels Market Shares

Equipment Type	National Account Channel	Wholesaler Channel	Contractor Channel
Display Cases (VOP, SVO, HZO, VCT, HCT, SOC, and PD)	70%	15%	15%
Solid-Door Equipment (VCS and HCS)	30%	60%	10%

Issue 28: DOE seeks input on whether the distribution channels described, and the percentage of shipments in each channel, as shown in Table II.5 of this document, are still accurate for CRE. DOE also requests data and feedback on the magnitude and impact of online sales to the CRE distribution channels. More specifically, DOE seeks input on whether the markups for online sales are significantly different from CRE sold through conventional distribution channels.

Issue 29: DOE requests similar data on the distribution channels and percentage of shipments in each channel for the other categories of CRE being considered in a potential energy conservation standards rulemaking (*i.e.*, refrigerated salad bars, buffet tables, and preparation tables; solid-door equipment for pull-down applications; chef bases or griddle stands; high-temperature CRE; and CRE with dedicated remote condensing units).

3. Life-Cycle Cost and Payback Period Analysis

DOE conducts the LCC and PBP analysis to evaluate the economic effects of potential energy conservation standards for CRE on individual consumers. For any given efficiency level, DOE measures the PBP and the change in LCC relative to an estimated baseline level. The LCC is the total consumer expense over the life of the equipment, consisting of purchase, installation, and operating costs (expenses for energy use,

maintenance, and repair). Inputs to the calculation of total installed cost include the cost of the equipment—which includes the manufacturer selling price, distribution channel markups, and sales taxes—and installation costs. Inputs to the calculation of operating expenses include annual energy consumption, energy prices and price projections, repair and maintenance costs, equipment lifetimes, discount rates, and the year that compliance with new and amended standards is required.

a. Efficiency Distribution

For the March 2014 Final Rule, due to lack of data on CRE market shares by efficiency level within each of the equipment classes, DOE developed the no-new-standards case efficiency distribution of CRE according to a cost-based method that used parameters and assumptions from the EIA's National Energy Modeling System ("NEMS")[15]. DOE also used CRE market data from the ENERGY STAR program. See chapter 10 of the March 2014 Final Rule TSD for details on this approach.

Issue 30: DOE requests data regarding the current, historical, and future market shares of CRE by efficiency level (*e.g.*, expressed in terms of increments of 10 percent reduction below the MDEC in kWh/day, as determined by the current standards, specified at 10 CFR 431.62) for each equipment class.

Issue 31: DOE also seeks data on the current, historical, and future efficiency distribution of any additional categories of CRE under consideration broken out by efficiency for potential standards (*i.e.*, refrigerated salad bars, buffet tables, and preparation tables;

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[15] U.S. Department of Energy, Energy Information Administration. Commercial Demand Module of the National Energy Modeling System: Model Documentation 2012 DOE/EIA-M066. 2012. Washington, D.C.

solid-door equipment for pull-down applications; chef bases or griddle stands; high-temperature CRE; and CRE with dedicated remote condensing units).

b. Installation Costs

For the March 2014 Final Rule, DOE estimated different installation costs for remote condensing and self-contained CRE but assumed that installation costs do not vary with efficiency levels in any equipment class. Therefore, installation costs did not impact the LCC or PBP analysis. See chapter 8 of the March 2014 Final Rule TSD.

Issue 32: DOE requests comment on whether any market or technology changes since the March 2014 Final Rule would indicate that installation costs vary by efficiency level, and, if so, what the factors and technologies affecting installation costs are, and how costs vary as CRE efficiency increases, for each equipment class.

Issue 33: DOE also requests comment and data on installation costs for any additional categories of CRE under consideration for potential standards (*i.e.*, refrigerated salad bars, buffet tables, and preparation tables; solid-door equipment for pull-down applications; chef bases or griddle stands; high-temperature CRE; and CRE with dedicated remote condensing units).

c. Repair and Maintenance Costs

Maintenance costs are associated with maintaining equipment's operation, whereas repair costs are associated with repairing or replacing components that have failed in a refrigeration system and envelope (*i.e.*, panels and doors). In the March 2014 Final Rule, DOE estimated maintenance and repair costs as annualized values applied over the life of the considered equipment. For maintenance costs, DOE considered lamp

replacements and other lighting maintenance activities as required maintenance for CRE, with varying costs by efficiency level. For repair costs, DOE considered costs for component failures (*i.e.*, evaporator fans, condenser fans, compressors, coils, doors) during the lifetime of CRE, which varied by efficiency level. 79 FR 17726, 17766; see chapter 8 of the March 2014 Final Rule TSD for details on this approach.

Issue 34: DOE seeks comment and data on whether it should estimate maintenance and repair costs for CRE based on the March 2014 Final Rule approach in a potential future rulemaking for CRE, considering any additional technology options discussed in this RFI, and any market and technology changes since the March 2014 Final Rule. In particular, DOE is interested in data on the maintenance and repair costs of CRE with alternative refrigerants, and how those vary, if at all, compared to CRE with traditionally used refrigerants.

Issue 35: DOE also requests comment and data on maintenance and repair costs for any additional categories of CRE under consideration for potential standards (*i.e.*, refrigerated salad bars, buffet tables, and preparation tables; solid-door equipment for pull-down applications; chef bases or griddle stands; high-temperature CRE; and CRE with dedicated remote condensing units).

d. Equipment Lifetimes

The equipment lifetime is the age at which the equipment is retired from service. In the March 2014 Final Rule, DOE based its estimates of CRE lifetime on discussions with industry experts and assumed a 10-year average lifetime for most CRE in large grocery/multi-line stores and restaurants. For small food retail stores and other small businesses, DOE used a 15-year average lifetime to account for longer consumer usage of

CRE. DOE reflects the uncertainty of equipment lifetimes in the LCC analysis for both equipment markets by using probability distributions. 79 FR 17726, 17766; see chapter 8 of the March 2014 Final Rule TSD for details on this approach.

Issue 36: DOE requests comment and data on whether any market and technology changes since the March 2014 Final Rule would affect its equipment lifetime estimates for CRE for which DOE currently has standards, and if so, how.

Issue 37: DOE also requests comment and data on lifetimes of any additional categories of CRE under consideration for potential standards (*i.e.*, refrigerated salad bars, buffet tables, and preparation tables; solid-door equipment for pull-down applications; chef bases or griddle stands; high-temperature CRE; and CRE with dedicated remote condensing units).

4. Net Present Value

To develop the national NPV from potential standards, DOE calculates annual energy expenditures and annual equipment expenditures for the no-new-standards case and the standards case. The discounted difference between energy bill savings and increased equipment expenditures in each year is the NPV.

In the March 2014 Final Rule, DOE developed an equipment price trend for CRE, based on the inflation-adjusted index of the producer price index ("PPI") for air conditioning, refrigeration, and forced air heating from 1978 to 2012,[16] which showed a slight downward trend. DOE projected a future trend in the analysis period by

[16] Bureau of Labor Statistics, Producer Price Index Industry Data, Series: PCU3334153334153.

extrapolating the historic trend using linear regression. Were DOE to conduct a rulemaking, DOE may consider incorporating price trends for certain design options that may experience price declines during the analysis period (*e.g.*, LED lighting and ECM fan motors).

Issue 38: DOE requests comment on its approach for projecting a long-term price trend for CRE, as well as on the merits of incorporating price trends for certain design options that may experience price declines during the expected 30-year analysis period, following potential future energy conservation standards for CRE.

5. Manufacturer Impact Analysis

The purpose of the manufacturer impact analysis ("MIA") is to estimate the financial impact of amended energy conservation standards on manufacturers of CRE, and to evaluate the potential impact of such standards on direct employment and manufacturing capacity. As part of the MIA, DOE intends to analyze impacts of amended energy conservation standards on subgroups of manufacturers of covered equipment, including small business manufacturers. DOE uses the Small Business Administration's ("SBA") small business size standards to determine whether manufacturers qualify as small businesses, which are listed by the North American Industry Classification System ("NAICS").[17] Manufacturing of CRE is classified under NAICS 333415, "Air-conditioning and warm air heating equipment and commercial and industrial refrigeration equipment manufacturing," and the SBA sets a threshold of 1,250 employees or less for a domestic entity to be considered as a small business. This

[17] Available online at*: https://www.sba.gov/sites/default/files/files/Size_Standards_Table.pdf.*

employee threshold includes all employees in a business' parent company and any other subsidiaries.

One aspect of assessing manufacturer burden involves examining the cumulative impact of multiple DOE standards and the product-specific regulatory actions of other Federal agencies that affect the manufacturers of a covered product or equipment. In addition to energy conservation standards, other regulations can significantly affect manufacturers' financial operations. Multiple regulations affecting the same manufacturer can strain profits and lead companies to abandon product lines or markets with lower expected future returns than competing products. For these reasons, DOE conducts an analysis of cumulative regulatory burden as part of its rulemakings pertaining to appliance efficiency.

Issue 39: To the extent feasible, DOE seeks the names and contact information of any domestic or foreign-based manufacturers that distribute CRE in the United States.

Issue 40: DOE requests the names and contact information of small business CRE manufacturers, as defined by the SBA's size threshold that distribute equipment in the United States. In addition, DOE requests comment on any other manufacturer subgroups that could disproportionally be impacted by amended energy conservation standards. DOE requests feedback on any potential approaches that could be considered to address impacts on manufacturers, including small businesses.

Issue 41: DOE requests information regarding the cumulative regulatory burden impacts on manufacturers of CRE associated with (1) other DOE standards applying to different products or equipment that these manufacturers may also make, and (2) equipment-

specific regulatory actions of other Federal agencies. DOE also requests comment on its methodology for computing cumulative regulatory burden and whether there are any flexibilities it can consider that would reduce this burden while remaining consistent with the requirements of EPCA.

III. Submission of Comments

DOE invites all interested parties to submit in writing by the date under the **DATES** heading, comments and information on matters addressed in this notification and on other matters relevant to DOE's early assessment of whether more-stringent energy conservation standards are not warranted for CRE.

Submitting comments via https://www.regulations.gov. The *https://www.regulations.gov* webpage requires you to provide your name and contact information. Your contact information will be viewable to DOE Building Technologies staff only. Your contact information will not be publicly viewable except for your first and last names, organization name (if any), and submitter representative name (if any). If your comment is not processed properly because of technical difficulties, DOE will use this information to contact you. If DOE cannot read your comment due to technical difficulties and cannot contact you for clarification, DOE may not be able to consider your comment.

However, your contact information will be publicly viewable if you include it in the comment or in any documents attached to your comment. Any information that you do not want to be publicly viewable should not be included in your comment, nor in any document attached to your comment. If this instruction is followed, persons viewing

comments will see only first and last names, organization names, correspondence containing comments, and any documents submitted with the comments.

Do not submit to *https://www.regulations.gov* information for which disclosure is restricted by statute, such as trade secrets and commercial or financial information (hereinafter referred to as Confidential Business Information (CBI)). Comments submitted through *https://www.regulations.gov* cannot be claimed as CBI. Comments received through the website will waive any CBI claims for the information submitted. For information on submitting CBI, see the Confidential Business Information section.

DOE processes submissions made through *https://www.regulations.gov* before posting. Normally, comments will be posted within a few days of being submitted. However, if large volumes of comments are being processed simultaneously, your comment may not be viewable for up to several weeks. Please keep the comment tracking number that *https://www.regulations.gov* provides after you have successfully uploaded your comment.

Submitting comments via email. Comments and documents submitted via email also will be posted to *https://www.regulations.gov*. If you do not want your personal contact information to be publicly viewable, do not include it in your comment or any accompanying documents. Instead, provide your contact information in a cover letter. Include your first and last names, email address, telephone number, and optional mailing address. The cover letter will not be publicly viewable as long as it does not include any comments.

Include contact information each time you submit comments, data, documents, and other information to DOE. Faxes will not be accepted.

Comments, data, and other information submitted to DOE electronically should be provided in PDF (preferred), Microsoft Word or Excel, WordPerfect, or text (ASCII) file format. Provide documents that are not secured, written in English, and free of any defects or viruses. Documents should not contain special characters or any form of encryption and, if possible, they should carry the electronic signature of the author.

Campaign form letters. Please submit campaign form letters by the originating organization in batches of between 50 to 500 form letters per PDF or as one form letter with a list of supporters' names compiled into one or more PDFs. This reduces comment processing and posting time.

Confidential Business Information. Pursuant to 10 CFR 1004.11, any person submitting information that he or she believes to be confidential and exempt by law from public disclosure should submit via email two well-marked copies: one copy of the document marked "confidential" including all the information believed to be confidential, and one copy of the document marked "non-confidential" with the information believed to be confidential deleted. Submit these documents via email. DOE will make its own determination about the confidential status of the information and treat it according to its determination.

It is DOE's policy that all comments may be included in the public docket, without change and as received, including any personal information provided in the comments (except information deemed to be exempt from public disclosure).

DOE considers public participation to be a very important part of the process for developing test procedures and energy conservation standards. DOE actively encourages the participation and interaction of the public during the comment period in each stage of

this process. Interactions with and between members of the public provide a balanced discussion of the issues and assist DOE in the process. Anyone who wishes to be added to the DOE mailing list to receive future notices and information about this process should contact Appliance and Equipment Standards Program staff at (202) 287-1445 or via e-mail at *ApplianceStandardsQuestions@ee.doe.gov*.

Signing Authority

This document of the Department of Energy was signed on July 9, 2021, by Kelly Speakes-Backman, Principal Deputy Assistant Secretary and Acting Assistant Secretary for Energy Efficiency and Renewable Energy, pursuant to delegated authority from the Secretary of Energy. That document with the original signature and date is maintained by DOE. For administrative purposes only, and in compliance with requirements of the Office of the Federal Register, the undersigned DOE Federal Register Liaison Officer has been authorized to sign and submit the document in electronic format for publication, as an official document of the Department of Energy. This administrative process in no way alters the legal effect of this document upon publication in the *Federal Register*.

Signed in Washington, D.C., on July 9, 2021.

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Treena V. Garrett
Federal Register Liaison Officer,
U.S. Department of Energy

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