[6450-01-P]

DEPARTMENT OF ENERGY

10 CFR Part 431

[EERE-2020-BT-TP-0016]

RIN [1904- AF02]

Energy Conservation Program: Test Procedure for Walk-In Coolers and Walk-In Freezers

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

ACTION: Notice of proposed rulemaking and request for comment.

SUMMARY: The U.S. Department of Energy ("DOE") proposes to amend the test procedures for walk-in freezers to address an issue affecting hot gas defrost-equipped unit coolers ("hot gas defrost unit coolers"). DOE is proposing to amend the current test procedure regarding hot gas unit coolers consistent with an update to the industry standard that is incorporated by reference in the DOE test procedure for walk-in freezer refrigeration systems. Given the upcoming energy conservation standards compliance date of July 10, 2020, DOE is limiting the scope of this proposed rulemaking to expediently address how to test a hot gas defrost unit cooler.

DATES: DOE will accept comments, data, and information regarding this proposal no later than **[INSERT DATE 75 DAYS AFTER DATE OF PUBLICATION IN THE**

***FEDERAL REGISTER*]**. See section [V], "Public Participation," for details. DOE will hold a webinar on Friday, October 2, 2020, from 1:00 p.m. to 4:00 p.m. See section V, "Public Participation," for webinar registration information, participant instructions, and information about the capabilities available to webinar participants.

ADDRESSES: Interested persons are encouraged to submit comments using the Federal eRulemaking Portal at *http://www.regulations.gov*. Follow the instructions for submitting comments. Alternatively, interested persons may submit comments, identified by docket number EERE–2020-BT-TP-0016, by any of the following methods:

1) *Federal eRulemaking Portal*: *http://www.regulations.gov*. Follow the instructions for submitting comments.
2) *E-mail*: *WICF2020TP0016@ee.doe.gov*. Include the docket number EERE–2020-BT-TP-0016 or regulatory information number ("RIN") 1904-AF02 in the subject line of the message.
3) *Postal Mail*: Appliance and Equipment Standards Program, U.S. Department of Energy, Building Technologies Office, Mailstop EE-5B, 1000 Independence Avenue, SW., Washington, DC, 20585-0121. Telephone: (202) 287-1445. If possible, please submit all items on a compact disc ("CD"), in which case it is not necessary to include printed copies.
4) *Hand Delivery/Courier*: Appliance and Equipment Standards Program, U.S. Department of Energy, Building Technologies Office, 950 L'Enfant Plaza, SW., Suite 600, Washington, DC, 20024. Telephone: (202) 287-1445. If

possible, please submit all items on a CD, in which case it is not necessary to include printed copies.

No telefacsimilies ("faxes") will be accepted. For detailed instructions on submitting comments and additional information on the rulemaking process, see section [V] of this document.

Docket: The docket, which includes *Federal Register* notices, public meeting attendee lists and transcripts (if a public meeting is held), comments, and other supporting documents/materials, is available for review at *http://www.regulations.gov*. All documents in the docket are listed in the *http://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 web page can be found at *http://www.regulations.gov/docket?D=EERE-2020-BT-TP-0016*. The docket web page contains instructions on how to access all documents, including public comments, in the docket. See section [V] for information on how to submit comments through *http://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: *WICF2020TP0016@ee.doe.gov*.

Mr. Michael Kido, U.S. Department of Energy, Office of the General Counsel, GC-33, 1000 Independence Avenue, SW, Washington, DC 20585-0121. Telephone: (202) 586-8145. E-mail: *Michael.Kido@hq.doe.gov*.

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

SUPPLEMENTARY INFORMATION:

I. Authority and Background

Walk-in coolers and walk-in freezers ("WICFs" or "walk-ins") are included in the list of "covered equipment" for which DOE is authorized to establish and amend energy conservation standards and test procedures. (42 U.S.C. 6311(1)(G)) DOE has established test procedures and standards for the principal components that make up a walk-in: panels, doors, and refrigeration systems. See title 10 of the Code of Federal Regulations ("CFR") part 431 subpart R. Relevant to this document, DOE has established standards for walk-in freezer refrigeration systems as a component of walk-in freezers at 10 CFR 431.306, and test procedures for walk-in freezer refrigeration systems at 10 CFR 431.304(b)(4) and appendix C to subpart R of part 431 ("Appendix C"). This notice of proposed rulemaking ("NOPR") specifically addresses the procedures in Appendix C relevant to hot gas defrost unit coolers.

The following sections discuss DOE's authority generally to establish test procedures for walk-in coolers and walk-in freezers and relevant background information regarding DOE's consideration of test procedures for WICF refrigeration systems.

A. Authority

The Energy Policy and Conservation Act, as amended ("EPCA"),[1] Pub. L. 94-163 (Dec. 22, 1975), 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 of EPCA, added by the National Energy Conservation Policy Act, Pub. L. 95-619, Title IV, §441(a) (Nov. 9, 1978), established the Energy Conservation Program for Certain Industrial Equipment, which sets forth a variety of provisions designed to improve energy efficiency of various types of industrial equipment. As amended by the Energy Independence and Security Act of 2007, Pub. L. 110-140 (Dec. 19, 2007), this equipment includes walk-ins, the subject of this document. (42 U.S.C. 6311(1)(G))

The energy conservation program under EPCA 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).

The Federal testing requirements consist of test procedures that manufacturers of covered equipment must use as the basis for: (1) certifying to DOE that their equipment complies with the applicable energy conservation standards adopted pursuant to EPCA (42 U.S.C. 6316(a); 42 U.S.C. 6295(s)), and (2) making representations about the

[1] All references to EPCA in this document refer to the statute as amended through America's Water Infrastructure Act of 2018, Public Law 115–270 (Oct. 23, 2018).

efficiency of that equipment (42 U.S.C. 6314(d)). Similarly, DOE uses these test procedures to determine whether the equipment complies with relevant standards promulgated under EPCA. (42 U.S.C. 6316(a); 42 U.S.C. 6295(s))

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 for particular State laws or regulations, in accordance with the procedures and other provisions of EPCA. (42 U.S.C. 6316(b)(2)(D))

Under 42 U.S.C. 6314, EPCA sets forth the criteria and procedures DOE must follow when prescribing or amending test procedures for covered equipment. EPCA requires that any test procedures prescribed or amended under this section must be reasonably designed to produce test results which reflect energy efficiency, energy use or estimated annual operating cost of a given type of covered equipment during a representative average use cycle and requires that test procedures not be unduly burdensome to conduct. (42 U.S.C. 6314(a)(2))

EPCA provides specific requirements for determining the R value for certain walk-in components. (42 U.S.C. 6314(a)(9)(A)(i)-(iv)) In addition, EPCA required that DOE establish test procedures to measure walk-in energy-use. (42 U.S.C. 6314(a)(9)(B)(i))

In addition, if DOE determines that a test procedure amendment is warranted, it must publish proposed test procedures and offer the public an opportunity to present oral and written comments on them. (42 U.S.C. 6314(b)) EPCA also requires that, at least once every 7 years, DOE evaluate test procedures for each type of covered equipment, including walk-ins, to determine whether amended test procedures would more accurately or fully comply with the requirements for the test procedures to not be unduly burdensome to conduct and be reasonably designed to produce test results that reflect energy efficiency, energy use, and estimated operating costs during a representative average use cycle. (42 U.S.C. 6314(a)(1)) If the Secretary determines that a test procedure amendment is warranted, the Secretary must publish proposed test procedures in the *Federal Register*, and afford interested persons an opportunity (of not less than 45 days' duration) to present oral and written data, views, and arguments on the proposed test procedures. (42 U.S.C. 6314(b)) If DOE determines that test procedure revisions are not appropriate, DOE must publish its determination not to amend the test procedures. (42 U.S.C. 6314(a)(1)(A)(ii))

B. Background

On April 15, 2011, DOE published a final rule to establish test procedures for the principal components that make up a walk-in: panels, doors, and refrigeration systems. 76 FR 21580 (April 15, 2011). The test procedure for refrigeration systems at Appendix C measures energy using the annual walk-in energy factor ("AWEF") metric. Appendix C, Sec. 1. AWEF represents the ratio of the total heat removed from a walk-in, in British thermal units ("Btu"), during a one-year period of usage (not including the heat generated

by the operation of a refrigeration system), to the total energy input of the refrigeration system, in watt-hours ("Wh"), during the same period.

On May 13, 2014, DOE revised the existing regulations for walk-ins to allow WICF refrigeration system manufacturers, once certain qualifications are met, to use an alternative efficiency determination method ("AEDM") to determine the energy consumption of their products through simulation or modeling. Manufacturers can use that simulation information to certify compliance and report ratings. 79 FR 27388 ("May 2014 Final Rule").

The May 2014 Final Rule also introduced different approaches for testing refrigeration systems, accommodating testing not just of complete systems, but also accommodating the individual components of split systems to be tested separately. 79 FR 27388, 27398. A split-system refrigeration system consists of two separate components: a unit cooler[2] that is installed inside a walk-in enclosure, and a condensing unit,[3] which is installed outside the enclosure, either inside a building in which the walk-in is constructed, or outdoors. The amendments finalized in the May 2014 Final Rule accommodate testing of the entire "matched pair" refrigeration system (*i.e.*, a condensing unit and unit cooler together), the condensing unit alone, or the unit cooler alone. When testing an individual component alone, the energy use attributed to the other system

[2] A unit cooler is defined as an assembly, including means for forced air circulation and elements by which heat is transferred from air to refrigerant, thus cooling the air, without any element external to the cooler imposing air resistance. (10 CFR 431.302)

[3] A condensing unit, for the purposes of DOE walk-in refrigeration system testing, is an assembly that (1) includes 1 or more compressors, a condenser, and one refrigeration circuit; and (2) is designed to serve one refrigerated load. (10 CFR 431.302)

component is represented by a default value or using a default performance characteristic. Specifically, when testing a unit cooler alone, the condensing unit energy use is determined using the representative energy efficiency ratio ("EER") specified for the appropriate adjusted dew point temperature in Table 17 of AHRI 1250-2009. Energy use of the unit cooler's components, *i.e.*, its evaporator fan(s) and its electric defrost heater (for units that use electric defrost), is directly measured during the test. Conversely, when testing a condensing unit alone, the compressor and condenser fan energy are directly measured, while the energy use of the components of the unit cooler are represented by default values. The test procedure provides default values for the evaporator fans, and, for low-temperature refrigeration systems, the energy use and heat load associated with defrost.[4] Appendix C, Sections 3.4.2 through 3.4.5. The default defrost energy and heat values are based on representative energy use of electric defrost, by far the most common form of defrost. Electric defrost consists of electric resistance heaters built into the evaporator coil and the unit cooler drain pan that are energized occasionally during the day to warm the coil and melt the frost.

Additionally, the May 2014 Final Rule established a method for determination of AWEF for refrigeration systems with "hot gas" defrost, using nominal values to represent the energy use and heat load of this method. 79 FR 27388, 27401. Rather than using electric resistance coils embedded in the evaporator for defrosting, hot gas defrost uses refrigerant to transfer heat from ambient air outside the walk-in, the compressor, and/or a

[4] Defrost is required to remove frost from the evaporator coils of refrigeration systems, which collects during the refrigeration system on-cycle as water vapor in the air freezes onto the cold evaporator surfaces. Defrost capability is required for freezers, but is optional for coolers, since the surrounding walk-in interior temperature is above freezing temperature and thus can melt the frost between on-cycles in many walk-in cooler applications.

thermal storage component that stores heat generated during the compressor on-cycle. DOE notes that, in contrast with the default values for electric defrost, which are required for use only when testing condensing units, the hot gas defrost nominal values were to be used for any system using hot gas defrost (see section 431.303(c)(10)(xii) as finalized in the May 2014 Final Rule for unit coolers and complete refrigeration systems (e.g. matched pairs) and see section 431.303(c)(12)(ii) as finalized in the May 2014 Final Rule for condensing units). 79 FR 27388, 27413-27414.[5] The application of the hot gas defrost nominal values was established for all system configurations because an appropriate test method to accurately measure hot gas defrost that would not be unduly burdensome to conduct had not been developed. 79 FR 27388, 27401. As such, energy use and heat load default values were established for both hot gas unit coolers and condensing units tested alone that use hot gas defrost.

DOE most recently amended the test procedures for the performance requirements for walk-in refrigeration system components (*e.g.*, refrigeration systems such as unit coolers), in a final rule published on December 28, 2016. 81 FR 95758 ("December 2016 Final Rule"). That rule adopted a series of amendments to provisions affecting certain walk-in refrigeration systems, including product-specific definitions, removal of a performance credit for hot gas defrost, and a method to accommodate refrigeration equipment that use adaptive defrost and on-cycle variable-speed evaporator fan control. *See id.* These amendments had their initial origins as part of a negotiated rulemaking

[5] These requirements were later removed in a test procedure final rule published on December 28, 2016. 81 FR 95758, 95774-95777.

effort held under the Appliance Standards and Rulemaking Federal Advisory Committee ("ASRAC"). *See* 80 FR 46521 (August 5, 2015) (establishing a WICF Working Group under ASRAC).[6] The removal of the hot gas defrost credit was part of the Working Group's test procedure-related recommendations. See Docket No. EERE–2015–BT–STD–0016, No. 56 at p. 2 (ASRAC Term Sheet, Recommendation No. 3 -- elimination of the "hot gas defrost credit" in the walk-in test procedure). See also 81 FR 95758, 95761 (discussing ASRAC recommendations).

Up until the December 2016 Final Rule, the walk-in test procedure had included a method for calculating defrost energy and defrost heat load of hot gas defrost refrigeration systems. See 79 FR 27388, 27413 (incorporating as part of the May 2014 Final Rule a method for calculating defrost energy and heat load for hot gas defrost systems). The method DOE established relied on certain default values for calculating hot gas defrost energy and heat load, and separate default values for calculating electric defrost energy use and heat load, for testing refrigeration systems. 79 FR 27388, 27401. As discussed above, the electric defrost energy use and heat load values were required for testing of condensing units only, whereas the hot gas defrost values were required for testing of any refrigeration system configuration. The default values for calculating hot gas defrost energy and heat load established in the May 2014 Final Rule were much lower than the default values established for calculating energy use and heat load for electric defrost; thus, use of these values represented a "hot gas defrost credit." *Id.* Given that this "hot gas defrost credit" in the test procedure resulted in more favorable

[6] Working Group for Certain Equipment Classes of Refrigeration Systems of Walk-in Coolers and Freezers to Negotiate a Notice of Proposed Rulemaking for Energy Conservation Standards ("Working Group").

AWEF results for systems using hot gas defrost (in comparison to using electric defrost, all else being equal), the use of hot gas defrost was subsequently considered as a design option in the June 3, 2014 energy conservation standard rulemaking, which set new performance standards for walk-in refrigeration systems. 79 FR 32050. As a result, DOE's analysis indicated that manufacturers would need to use hot gas defrost technology for most of the WICF refrigeration system equipment classes in order to comply with the new standards.[7]

As discussed in the December 2016 Final Rule, simply eliminating the hot gas defrost energy and heat load values by reducing these values to zero would not eliminate the hot gas defrost credit, but rather would magnify the relative benefit given to hot gas defrost units by removing from the calculation any energy use associated with defrost for such units. 81 FR 95758, 95774. Comments provided by stakeholders recommended revising the test procedure such that the test results for hot gas defrost systems would be equivalent to those of electric defrost systems. 81 FR 95758, 95774-95775. DOE considered a variety of options for establishing efficiency representations of refrigeration systems with hot gas defrost comparable to those with electric defrost, including recommendations from stakeholder comments. Such representations would generally overestimate the energy use of hot gas defrost systems, since hot gas defrost is generally

[7] In the energy conservation standard final rule published on June 3, 2014, DOE set standards at Trial Standard Level ("TSL") 2. 79 FR 32050, 32116. The analysis showed that this TSL would generally require use of hot gas defrost. For example, for equipment class DC.L.O (low-temperature outdoor dedicated condensing unit) at 9,000 Btu/h nominal capacity, TSL 2 represented efficiency level ("EL") 11. See Table V.2, 79 FR 32050, 32099. EL 11 represented the maximum-technology ("Max-tech") level in the analysis, which relied on hot gas defrost, as shown in Table 5A.5.42 of the Technical Support Document. (Docket Number EERE-2008-BT-STD-0015, No. 0131 at p. 5A-57)

less energy-intensive than electric defrost.[8] Further, unlike electric defrost systems—for which the energy use of the dedicated electric resistance heaters can be easily measured—an appropriate test method to determine the energy use of hot gas defrost that is not unduly burdensome had not (and still has not) been developed.

The approach that DOE adopted in the December 2016 Final Rule was to assign to hot gas defrost unit coolers the same default values for electric defrost heat and energy use calculations that the test procedure assigns to dedicated condensing units that are not matched with a unit cooler for testing (*i.e.*, tested alone). 81 FR 95758, 95776. As described in the final rule, the intent was that the use of a hot gas defrost feature would not affect the measured efficiency either positively or negatively. In that aspect, the test procedure for units with hot gas defrost would be essentially the same as the test procedure for units with electric defrost.. 81 FR 95758, 95776. The approach adopted in the December 2016 Final Rule remains the current test method for addressing hot gas defrost.

In general, the current DOE test procedure requires testing of WICF refrigeration systems to be conducted pursuant to the industry standard, Air Conditioning, Heating, and Refrigeration Institute ("AHRI") Standard 1250-2009 ("AHRI 1250-2009"). Section 3.0 of Appendix C. For testing unit coolers, the DOE test procedure also provides a number of clarifications and modifications to AHRI 1250-2009 as specified in 3.1.5

[8] See, e.g., Docket EERE-2015-BT-STD-0016, No. 0007 at p. 15, which compares hot gas defrost thermal load and energy contributions measured in laboratory testing compared with the electric defrost default values and the hot gas defrost default values. As discussed, the hot gas defrost thermal load and energy contribution values had been adopted in the walk-in refrigeration system test procedures in the May 2014 Final Rule (79 FR 27388) and were eliminated in the December 2016 Final Rule (81 FR 95758).

(which modifies Tables 15 and 16 of the test standard to add requirements for liquid inlet saturation temperature), 3.3.1 (which clarifies the suction test conditions listed in AHRI 1250-2009 that apply to the DOE test procedure and also clarifies which instructions contained in AHRI 1250-2009 are to be used for calculating AWEF), 3.3.3 (which modifies the minimum evaporator fan duty cycle or speed to be used in the calculations for compressor off-cycle periods), and 3.3.7 (which specifies operating variable-speed evaporator fans at full speed during compressor on-cycle periods in calculations to demonstrate compliance with DOE standards) of Appendix C.

As discussed, the DOE test procedure delineates between WICF refrigeration systems that are condensing units and those that are unit coolers. *See e.g.*, 3.5.1 and 3.5.2 of Appendix C.[9] The DOE test procedure also provides specific provisions for testing condensing units and unit coolers with hot gas defrost. Sections 3.5, 3.5.1, and 3.5.2 of Appendix C. In general, hot gas defrost condensing units tested alone are tested in the same manner as electric defrost dedicated condensing units that are not matched for testing and are not treated as single-package dedicated systems as specified in section 3.4 of Appendix C (after removing hot gas defrost mechanical components and disconnecting all such components form electrical power). Section 3.5 and 3.5.1 of Appendix C. In general, hot gas defrost unit coolers are similarly tested with the hot gas defrost mechanical components removed and disconnected from electrical power. Section 5.5 of Appendix C. However, for hot gas defrost unit coolers, the test requirements deviate

[9] A unit cooler is defined as an assembly, including means for forced air circulation and elements by which heat is transferred from air to refrigerant, thus cooling the air, without any element external to the cooler imposing air resistance. 10 CFR 431.302. A condensing unit, for the purposes of DOE walk-in refrigeration system testing, is an assembly that (1) includes 1 or more compressors, a condenser, and one refrigeration circuit; and (2) is designed to serve one refrigerated load. *Id.*

from those prescribed for electric defrost unit coolers. Specifically, the defrost tests described in sections 3.3.4 and 3.3.5 of Appendix C are not conducted. Section 3.5.2 of Appendix C. Instead, default defrost energy and heat contributions are calculated and applied as specified in sections 3.4.2.4 and 3.4.2.5 of Appendix C. Section 3.5.2 of Appendix C. This approach assigns electric defrost energy and heat load to the AWEF calculation for both hot gas defrost condensing units and hot gas defrost unit coolers, consistent with the intent discussed above to establish equivalent test results for hot gas defrost and electric defrost for all walk-in refrigeration systems.

Relatedly, DOE also published a final rule on July 10, 2017, that adopted energy conservation standards for WICFs recommended by the Working Group. 82 FR 31808 ("July 2017 Final Rule").[10] The analysis supporting the development of these standards considered only electric defrost walk-in refrigeration systems consistent with the Working Group's Term Sheet recommendation to remove the hot gas defrost credit. For the condensing unit analysis, DOE relied on the default values for electric defrost found in the test procedure as the defrost energy and heat load contributions. The analysis for unit coolers used defrost heater wattage levels for specific unit cooler models considered to be representative and defrost heater activation times agreed to by the Working Group.[11]

[10] The July 2017 Final Rule established standards for six classes of refrigeration systems for which the prior standards had been vacated by a controlling court order issued on August 10, 2015, under a settlement agreement reached in *Lennox Int'l v. Dep't of Energy*, Case No. 14–60535 (5th Cir.). 82 FR 31808, 31817.
[11] The defrost heater activation times were discussed during the September 30, 2015 Working Group meeting. The data discussed addressing this issue is in the meeting presentation, specifically page 29. (EERE-2015-BT-STD-0016, No. 0007 at pp. 27-32) The Working Group agreed with the defrost

The compliance date for the standards established in the July 2017 Final Rule is July 10, 2020. 82 FR 31808.

As noted elsewhere in this document, the issues addressed in this proposal were addressed as part of DOE's prior negotiated rulemaking efforts to amend the test procedure for this equipment and are narrowly focused on a specific range of equipment. Because efforts to address this issue through rulemaking were already in progress at the time DOE's revised Process Rule provisions were published, see 85 FR 8626 (February 14, 2020), DOE will apply those provisions moving forward (*i.e.*, rather than reinitiating the entire rulemaking process on this issue). However, DOE welcomes comment, information, and data bearing on the issues that would be raised in an early assessment for walk-in refrigeration systems. Further, while DOE's analysis indicates the need to make the changes being proposed, to the extent that interested parties believe that the amendments contained in this proposal are unnecessary, DOE welcomes comment – along with supporting reasons and data – regarding that view as well.

activation times. (Working Group Meeting Transcript, EERE-2015-BT-STD-0016, No. 0067 at pp. 147-153).

II. Synopsis of the Notice of Proposed Rulemaking

In this NOPR, DOE proposes to update 10 CFR 431.304, "Uniform test method for the measurement of energy consumption of walk-in coolers and walk-in freezers" as follows:

> Amend section 3.5.2 of Appendix C of the current test procedure for evaluating defrost energy and heat contribution for hot gas defrost unit cooler tests by incorporating equations consistent with Section C10.2.2 of Appendix C of AHRI 1250-2020 (including equations C46 through C49, which address electric defrost energy use for dedicated condensing units tested alone).[12]

DOE's proposed actions are summarized in Table II.1 and compared to the current test procedure. Table II.1 also includes the reason for the proposed change.

Table II.1 Summary of Changes in Proposed Test Procedure Relative to Current Test Procedure

Current DOE Test Procedure	Proposed Test Procedure	Reason
Defrost energy and heat contribution for hot gas defrost unit cooler are determined based on the calculation for electric defrost for dedicated condensing units that are not matched for testing.	Revise defrost energy and heat contribution values for hot gas defrost unit coolers to be consistent with the electric defrost energy use and heat contributions in section C10.2.2 in Appendix C of AHRI 1250-2020.	Industry TP Update

DOE has tentatively determined that the proposed amendments described in section III of this NOPR would better evaluate the measured efficiency of the walk-in refrigeration system equipment using hot gas defrost identified in this proposal, and that

[12] DOE slightly modified equation C49 by removing division by 1.0 to simplify the equation. This change does not affect the result.

the proposed test procedures would not add any burden to conduct. Discussion of DOE's proposed actions are addressed in detail in section III of this NOPR.

III. Discussion

The following subsections describe the scope and details of the proposed rulemaking changes discussed in this NOPR.

A. Scope of Applicability

This rulemaking applies specifically to low temperature hot gas defrost walk-in unit coolers tested alone.

DOE defines a "walk-in cooler and walk-in freezer" as an enclosed storage space refrigerated to temperatures, respectively, above, and at or below 32 degrees Fahrenheit that can be walked into, and has a total chilled storage area of less than 3,000 square feet (excluding products designed and marketed exclusively for medical, scientific, or research purposes). 10 CFR 431.302.

DOE defines a "*unit cooler"* as an assembly, including means for forced air circulation and elements by which heat is transferred from air to refrigerant, thus cooling the air, without any element external to the cooler imposing air resistance. A unit cooler is a *refrigeration system*, which DOE defines as the mechanism (including all controls and other components integral to the system's operation) used to create the refrigerated environment in the interior of a walk-in cooler or walk-in freezer, consisting of: (1) A

dedicated condensing refrigeration system (as defined in 10 CFR 431.302); or (2) A unit cooler.

This NOPR addresses the test procedure only for hot gas defrost unit coolers. DOE has initially determined that for hot gas defrost unit coolers, the current DOE test procedure provides results that are not essentially the same as the test procedure for units with electric defrost as intended in the December 2016 Final Rule. As a result, it would not be possible for certain hot gas defrost unit coolers to comply with the energy conservation standards set to take effect on July 10, 2020.

B. Revision of the Calculation of Defrost Energy and Heat Contribution for Hot Gas Defrost Unit Coolers Tested Alone

DOE was informed by manufacturers and AHRI in 2019 that the test method for addressing hot gas defrost unit coolers does not provide results appropriately comparable with the results obtained under the method prescribed for electric defrost unit coolers, and likely are not appropriately comparable for determining compliance with the energy conservation standards. As a result, hot gas defrost unit coolers above a certain capacity will likely not be able to comply with the energy conservation standards for which compliance is required beginning July 10, 2020.

As discussed in section I.B, hot gas defrost provides efficiency benefits compared with electric defrost by using refrigerant to transfer heat from the walk-in exterior, the

compressor, and/or a thermal storage component that stores heat generated during the compressor on-cycle as opposed to using electric resistance coils for defrosting.

Table 1 below compares hypothetical best-case AWEF values (assuming the unit cooler fans draw zero power, an impossible situation) and AWEF values assuming representative fan wattages calculated for unit coolers of different gross capacity levels[13] using the method prescribed in Appendix C of the current test procedure using the defrost energy and heat load values in the current test procedure—these are the same values as used to represent electric defrost energy and heat values for determination of AWEF for condensing units tested alone. The zero-fan-watt AWEF levels are higher than would be achieved by max-tech unit coolers, since the calculations were done assuming that the unit cooler fans consume zero energy for illustrative purposes.

The hypothetical AWEF values were calculated as follows. Energy contributions included in the AWEF calculation for this case include the compressor energy and the defrost energy. The compressor energy is calculated as the unit cooler gross capacity, divided by a compressor system EER prescribed in Table 17 of AHRI 1250-2009 for low-temperature unit coolers (*i.e.*, EER = 6.7) multiplied by a load factor representing percentage compressor run time. The load factor is equal to walk-in enclosure thermal load plus the average per-hour defrost heat contribution divided by the unit cooler's net capacity. In this calculation, higher defrost energy and heat load both reduce AWEF; a

[13] Gross capacity is the cooling delivered by the refrigerant passing through the unit cooler evaporator. Net capacity or cooling effect is less than this value by an amount equal to the heat of the fans (*i.e.*, fan input power in Watts converted to heat in Btu/h by multiplying by 3.412) used to circulate air through the unit cooler.

higher AWEF value indicates more efficient performance. The calculations indicate that, for unit coolers above a certain capacity—even for the hypothetical impossible zero-fan-watt scenario, using the default defrost energy and heat load values results in a measured AWEF lower than the low-temperature unit cooler minimum standard for which compliance will be required on July 10, 2020.

Table 1: Hot Gas Defrost Unit Cooler AWEF

Gross Capacity (Btu/h)	AWEF[1] (Btu/W-h)		Minimum AWEF Standard[2] (Btu/W-h)
	Assuming Zero Fan Power	Assuming Fan Power Correlations of AHRI 1250-2020, equation 173 in section 7.9.3.3[1]	
10,000	5.08	4.30	4.07
17,500	4.65	4.15	4.15
50,000	4.49	3.83	4.15
100,000	4.21	3.51	4.15
114,300	4.15	3.45	4.15
150,000	4.03	3.35	4.15
200,000	3.91	3.23	4.15

[1]These correlations, representative of freezer unit cooler evaporator fan power, are used in the test method prescribed in AHRI 1250-2020 for freezer condensing units tested alone.
[2]Unit Cooler--Low, 10 CFR 431.306(e)

As mentioned, the DOE test procedure determines the AWEF of hot gas defrost unit coolers by using the default electric defrost energy use and heat load values from the test procedure provisions applicable to condensing units tested alone. Appendix C Sections 3.5.2, 3.4.2.4, and 3.4.2.5. In April 2020, AHRI published an updated version of its AHRI 1250 test standard ("AHRI 1250-2020") that revised the values for electric defrost energy use and heat contributions to apply when testing condensing units that are tested alone (see section C10.2.2 in Appendix C of AHRI 1250-2020). In part, AHRI

based the update on testing a sample of unit coolers having electric defrost. Although the updated values specified in AHRI 1250-2020 are expressed as average per-hour contributions rather than daily contributions, they can be converted to daily contributions (by multiplying by 24) for comparison with the current DOE test procedure values. As expressed in daily values, the values based on AHRI 1250-2020 are significantly lower than the values in the current DOE test procedure, as indicated in Table 2.

Table 2: Comparison of Unit Cooler Default Electric Defrost Energy and Heat Load between Current DOE Test Procedure and AHRI 1250-2020

Gross Capacity (Btu/h)	Daily Defrost Energy Use, DF (Wh)		Daily Defrost Heat Load, Q_{DF} (Btu)	
	Current DOE Test Procedure*	AHRI 1250-2020	Current DOE Test Procedure*	AHRI 1250-2020
10,000	4,088	2,400	13,300	7,800
50,000	31,600	10,400	102,300	33,600
100,000	76,100	18,000	247,000	58,500
150,000	128,00	27,000	413,000	87,600
200,000	184,000	36,000	595,000	117,000

* See Appendix C, Sections 3.4.2.4 and 3.4.2.5. Applicable for hot gas defrost unit coolers as required in Appendix C, Section 3.5.2.

DOE notes that the AHRI 1250-2020 revisions also include correlations for the energy use and heat load associated with hot gas defrost. These values were based on testing of units with hot gas defrost. However, DOE is proposing to use the correlations developed for electric defrost rather than hot gas defrost, to achieve consistency between ratings of hot gas and electric defrost unit coolers, as intended by the December 2016 Final Rule.

DOE has initially determined that the equations in AHRI 1250-2020 section C10.2.2 provide better representation of electric defrost energy use and heat load than those in the current DOE test procedure in Appendix C, sections 3.4.2.4 and 3.4.2.5 and hence would provide better equivalence of a hot gas unit cooler's performance rating with that of an otherwise similar electric defrost unit cooler, regardless of gross capacity. The default electric defrost energy and heat values in the DOE test procedure were validated based on testing with unit coolers of a more limited range of capacity than the sample tested by AHRI. DOE testing to evaluate the electric defrost correlations is summarized in the Sept. 30/Oct. 1, 2015 Working Group presentation (Docket EERE-2015-BT-STD-0016, No. 0007 at p. 31), which reports testing of refrigeration systems with measured gross capacity up to 18,100 Btu/h. The default electric defrost energy and heat values provided in AHRI 1250-2020 were based on a test program measuring performance of a range of capacities of unit coolers that included unit coolers of higher capacity than tested by DOE in development of the DOE test procedure (*i.e.*, the AHRI sample included unit coolers with capacities greater than 18,000 Btu/h). DOE has initially determined that, because of the more robust sample, the AHRI 1250-2020 values provide the best available representation of electric defrost energy consumption associated with unit cooler defrost and thus are more appropriate to use to provide equivalence between performance representations between hot gas defrost and electric defrost unit coolers. Hence, DOE is proposing to revise its test procedure for hot gas

defrost low-temperature unit coolers to use the AHRI 1250-2020 equations to provide more equivalent test results between electric and hot gas defrost unit coolers.[14]

The proposed revisions would be made to the test procedure for walk-in freezer refrigeration systems prescribed by DOE in Appendix C. If made final, the proposal would add section 3.5.3 specifically for hot gas defrost unit coolers, which relies on the defrost energy and heat equations from AHRI 1250-2020.

DOE requests comment on its proposal to revise the test procedure for hot gas defrost unit coolers by revising the equations used to calculate energy and heat contributions for defrost consistent with those specified in AHRI 1250-2020 in Section C10.2.2 of Appendix C for electric defrost.

C. Test Procedure Costs, Harmonization, and Other Topics

1. Test Procedure Costs and Impact

EPCA requires that test procedures proposed by DOE not be unduly burdensome to conduct. In this NOPR, DOE proposes to amend the existing test procedure for walk-in freezers by revising the calculations used to determine representations for hot gas defrost unit coolers when tested alone. If finalized, this test procedure would impact only

[14] DOE has not identified an analogous issue with the use of hot gas defrost default values when testing condensing units tested alone that use hot gas defrost. The condensing unit test procedure provisions require use of the same defrost default values that were used to develop the energy conservation standards for which compliance is required on July 10, 2020.

WICF refrigeration systems that are hot gas defrost unit coolers. DOE has tentatively determined that the proposed amendment would not add any burden to manufacturers to conduct the test procedure for this equipment since the proposal would require only a mathematical change to the measured results and would not require any additional testing or re-testing on the part of manufacturers.

2. Harmonization with Industry Standards

DOE's established practice is to adopt relevant industry standards as DOE test procedures unless such methodology would be unduly burdensome to conduct or would not produce test results that reflect the energy efficiency, energy use, water use (as specified in EPCA) or estimated operating costs of that product during a representative average use cycle. 10 CFR 431.4; 10 CFR part 430, subpart C, appendix A, section 8(c). In cases where the industry standard does not meet the relevant statutory criteria, DOE will make needed modifications to these standards through rulemaking to ensure that the test procedure being adopted satisfies these criteria. *Id.*

DOE is proposing to adopt the method for determining the energy use attributable to hot gas defrost in unit coolers as detailed in AHRI 1250-2020, which is the updated version of the industry test procedure generally incorporated by reference in Appendix C. To address the determination of AWEF for hot gas defrost unit coolers as discussed in this NOPR, DOE is focusing this proposal on updating the Federal test procedure consistent with AHRI 1250-2020 only in this context. DOE may undertake a separate

evaluation of whether amendments to the WICF test procedure are necessary more generally, and would as part of that evaluation consider whether the existing reference to AHRI 1250 should be updated to the 2020 version.

D. Compliance Date

EPCA prescribes that, if DOE amends a test procedure, all representations of energy efficiency and energy use, including those made on marketing materials and product labels, must be made in accordance with that amended test procedure, beginning 180 days after publication of such a test procedure final rule in the *Federal Register*. (42 U.S.C. 6314(d)(1)) Manufacturers do, however, have the option to use the amended test procedure prior to that time.

If DOE were to publish an amended test procedure, EPCA provides an allowance for individual manufacturers to petition DOE for an extension of the 180-day period if the manufacturer may experience undue hardship in meeting the deadline. (42 U.S.C. 6314(d)(2)) To receive such an extension, petitions must be filed with DOE no later than 60 days before the end of the 180-day period and must detail how the manufacturer will experience undue hardship. (*Id.*)

IV. Procedural Issues and Regulatory Review

A. Review Under Executive Order 12866

The Office of Management and Budget ("OMB") has determined that this test procedure rulemakings does not constitute a "significant regulatory action" under section

3(f) of Executive Order ("E.O.") 12866, Regulatory Planning and Review, 58 FR 51735 (Oct. 4, 1993). Accordingly, this action was not subject to review under the Executive Order by the Office of Information and Regulatory Affairs ("OIRA") in OMB.

B. Review Under Executive Orders 13771 and 13777

On January 30, 2017, the President issued E.O. 13771, "Reducing Regulation and Controlling Regulatory Costs." See 82 FR 9339 (Feb. 3, 2017). E.O. 13771 stated the policy of the executive branch is to be prudent and financially responsible in the expenditure of funds, from both public and private sources. E.O. 13771 stated it is essential to manage the costs associated with the governmental imposition of private expenditures required to comply with Federal regulations.

Additionally, on February 24, 2017, the President issued E.O. 13777, "Enforcing the Regulatory Reform Agenda." 82 FR 12285 (March 1, 2017). E.O. 13777 required the head of each agency designate an agency official as its Regulatory Reform Officer ("RRO"). Each RRO oversees the implementation of regulatory reform initiatives and policies to ensure that agencies effectively carry out regulatory reforms, consistent with applicable law. Further, E.O. 13777 requires the establishment of a regulatory task force at each agency. The regulatory task force is required to make recommendations to the agency head regarding the repeal, replacement, or modification of existing regulations, consistent with applicable law. At a minimum, each regulatory reform task force must attempt to identify regulations that:

(i) Eliminate jobs, or inhibit job creation;

(ii) Are outdated, unnecessary, or ineffective;

(iii) Impose costs that exceed benefits;

(iv) Create a serious inconsistency or otherwise interfere with regulatory reform initiatives and policies;

(v) Are inconsistent with the requirements of the Information Quality Act, or the guidance issued pursuant to that Act, in particular those regulations that rely in whole or in part on data, information, or methods that are not publicly available or that are insufficiently transparent to meet the standard for reproducibility; or

(vi) Derive from or implement Executive Orders or other Presidential directives that have been subsequently rescinded or substantially modified.

DOE initially concludes that this rulemaking is consistent with the directives set forth in these executive orders. This proposed rule is estimated to have no cost impact. Therefore, if finalized as proposed, this rule is expected to be an E.O. 13771 other action.

C. Review Under the Regulatory Flexibility Act

The Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*) requires preparation of an initial regulatory flexibility analysis ("IRFA") for any rule that by law must be proposed for public comment, unless the agency certifies that the rule, if promulgated, will not have a significant economic impact on a substantial number of small entities. As required by Executive Order 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 impacts of its rules on small entities are

properly considered during the DOE rulemaking process. 68 FR 7990. DOE has made its procedures and policies available on the Office of the General Counsel's website: *http://energy.gov/gc/office-general-counsel*.

The proposed change to the test procedure would have no cost impact. As discussed, the proposed rule, if finalized, would require use of a different calculation to determine the AWEF for hot gas defrost unit coolers. The proposed amendment would not require additional testing or retesting.

Therefore, DOE initially concludes that the impacts of the proposed test procedure amendments would not have a "significant economic impact on a substantial number of small entities," and that the preparation of an IRFA is not warranted. DOE will transmit the 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).

D. Review Under the Paperwork Reduction Act of 1995

Manufacturers of WICFs must certify to DOE that their products comply with any applicable energy conservation standards. To certify compliance, manufacturers must first obtain test data for their products according to the DOE test procedures, including any amendments adopted for those test procedures. DOE has established regulations for the certification and recordkeeping requirements for all covered consumer products and commercial equipment, including walk-in coolers and freezers. (See generally 10 CFR part 429.) The collection-of-information requirement for the certification and

recordkeeping is subject to review and approval by OMB under the Paperwork Reduction Act ("PRA"). This requirement has been approved by OMB under OMB control number 1910-1400. Public reporting burden for the certification is estimated to average 35 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

Notwithstanding any other provision of the law, no person is required to respond to, nor shall any person be subject to a penalty for failure to comply with, a collection of information subject to the requirements of the PRA, unless that collection of information displays a currently valid OMB Control Number.

The amendment proposed in this NOPR, if made final would not impact the reporting burden for manufacturers of WICFs.

E. Review Under the National Environmental Policy Act of 1969

DOE is analyzing this proposed regulation in accordance with the National Environmental Policy Act of 1969 ("NEPA") and DOE's NEPA implementing regulations (10 CFR part 1021). DOE's regulations include a categorical exclusion for rulemakings interpreting or amending an existing rule or regulation that does not change the environmental effect of the rule or regulation being amended. 10 CFR part 1021, Subpart D, Appendix A5. DOE anticipates that this rulemaking qualifies for categorical exclusion A5 because it is an interpretive rulemaking that does not change the environmental effect of the rule and otherwise meets the requirements for application of a

categorical exclusion. See 10 CFR 1021.410. DOE will complete its NEPA review before issuing the final rule.

F. Review Under Executive Order 13132

Executive Order 13132, "Federalism," 64 FR 43255 (Aug. 4, 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 carefully assess 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 the development of regulatory policies that have Federalism implications. On March 14, 2000, DOE published a statement of policy describing the intergovernmental consultation process it will follow in the development of such regulations. 65 FR 13735. DOE has examined this proposed rule and has determined that it would not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. EPCA governs and prescribes Federal preemption of State regulations as to energy conservation for the equipment that are the subject of this proposed rule. States can petition DOE for exemption from such preemption to the extent, and based on criteria, set forth in EPCA. (42 U.S.C. 6297(d)) No further action is required by Executive Order 13132.

G. Review Under Executive Order 12988

Regarding the review of existing regulations and the promulgation of new regulations, section 3(a) of Executive Order 12988, "Civil Justice Reform," 61 FR 4729 (Feb. 7, 1996), imposes on Federal agencies the general duty to adhere to the following requirements: (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 Executive Order 12988 specifically requires that Executive agencies make every reasonable effort to ensure that the regulation (1) clearly specifies the preemptive effect, if any, (2) clearly specifies any effect on existing Federal law or regulation, (3) provides a clear legal standard for affected conduct while promoting simplification and burden reduction, (4) specifies the retroactive effect, if any, (5) adequately defines key terms, and (6) addresses other important issues affecting clarity and general draftsmanship under any guidelines issued by the Attorney General. Section 3(c) of Executive Order 12988 requires Executive agencies to review regulations in light of applicable standards in sections 3(a) and 3(b) to determine whether they are met or it is unreasonable to meet one or more of them. DOE has completed the required review and determined that, to the extent permitted by law, the proposed rule meets the relevant standards of Executive Order 12988.

H. Review Under the Unfunded Mandates Reform Act of 1995

Title II of the Unfunded Mandates Reform Act of 1995 ("UMRA") requires each Federal agency to assess the effects of Federal regulatory actions on State, local, and Tribal governments and the private sector. Public Law 104-4, sec. 201 (codified at 2

U.S.C. 1531). For a proposed regulatory action likely to result in a rule that may cause the expenditure 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), (b)) The UMRA also 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," and requires an agency plan for giving notice and opportunity for timely input to potentially affected small governments before establishing any requirements that might significantly or uniquely affect small governments. On March 18, 1997, DOE published a statement of policy on its process for intergovernmental consultation under UMRA. 62 FR 12820; also available at *http://energy.gov/gc/office-general-counsel*. DOE examined this proposed rule according to UMRA and its statement of policy and determined that the rule contains neither an intergovernmental mandate, nor a mandate that may result in the expenditure of $100 million or more in any year, so these requirements do not apply.

I. Review Under the Treasury and General Government Appropriations Act, 1999

Section 654 of the Treasury and General Government Appropriations Act, 1999 (Public Law 105-277) requires Federal agencies to issue a Family Policymaking Assessment for any rule that may affect family well-being. This proposed rule 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.

J. Review Under Executive Order 12630

DOE has determined, under Executive Order 12630, "Governmental Actions and Interference with Constitutionally Protected Property Rights" 53 FR 8859 (March 18, 1988), that this proposed regulation would not result in any takings that might require compensation under the Fifth Amendment to the U.S. Constitution.

K. Review Under Treasury and General Government Appropriations Act, 2001

Section 515 of the Treasury and General Government Appropriations Act, 2001 (44 U.S.C. 3516 note) provides for agencies to review most disseminations of information to the public under guidelines established by each agency pursuant to general guidelines issued by OMB. OMB's guidelines were published at 67 FR 8452 (Feb. 22, 2002), and DOE's guidelines were published at 67 FR 62446 (Oct. 7, 2002). DOE has reviewed this proposed rule under the OMB and DOE guidelines and has concluded that it is consistent with applicable policies in those guidelines.

L. Review Under Executive Order 13211

Executive Order 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 promulgated or is expected to lead to promulgation of a final rule, and that (1) is a significant regulatory action under Executive Order 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 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 should the proposal be implemented, and of reasonable alternatives to the action and their expected benefits on energy supply, distribution, and use.

The proposed regulatory action to amend the test procedure for measuring the energy efficiency of walk-in coolers and freezers is not a significant regulatory action under Executive Order 12866. Moreover, it would not have a significant adverse effect on the supply, distribution, or use of energy, nor has it been designated as a significant energy action by the Administrator of OIRA. Therefore, it is not a significant energy action, and, accordingly, DOE has not prepared a Statement of Energy Effects.

M. Review Under Section 32 of the Federal Energy Administration Act of 1974

Under section 301 of the Department of Energy Organization Act (Pub. L. 95–91; 42 U.S.C. 7101), DOE must comply with section 32 of the Federal Energy Administration Act of 1974, as amended by the Federal Energy Administration Authorization Act of 1977. (15 U.S.C. 788; "FEAA") Section 32 essentially provides in relevant part that, where a proposed rule authorizes or requires use of commercial standards, the notice of proposed rulemaking must inform the public of the use and background of such standards. In addition, section 32(c) requires DOE to consult with the Attorney General and the Chairman of the Federal Trade Commission ("FTC") concerning the impact of the commercial or industry standards on competition.

V. Public Participation

A. Participation in the Webinar

The time and date for the webinar are listed in the **DATES** section at the beginning of this document. Webinar registration information, participant instructions, and information about the capabilities available to webinar participants will be published on DOE's website: *https://www1.eere.energy.gov/buildings/appliance_standards/standards.aspx?productid=56&action=viewlive*. Participants are responsible for ensuring their systems are compatible with the webinar software.

B. Submission of Comments

DOE will accept comments, data, and information regarding this proposed rule no later than the date provided in the **DATES** section at the beginning of this proposed rule. Interested parties may submit comments using any of the methods described in the **ADDRESSES** section at the beginning of this document.

Submitting comments via *http://www.regulations.gov*. The *http://www.regulations.gov* web page will require 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. 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 *http://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 *http://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 *http://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 *http://www.regulations.gov* provides after you have successfully uploaded your comment.

Submitting comments via email, hand delivery/courier, or postal mail. Comments and documents submitted via email, hand delivery/courier, or postal mail also will be posted to *http://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 on 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. If you submit via postal mail or hand delivery/courier, please provide all items on a CD, if feasible, in which case it is not necessary to submit printed copies. No faxes will 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, postal mail, or hand delivery/courier 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 or on a CD, if feasible. 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).

C. Issues on Which DOE Seeks Comment

Although DOE welcomes comments on any aspect of this proposal, DOE is particularly interested in receiving comments and views of interested parties concerning the following issues:

1) DOE requests comment on its proposal to revise the test procedure for hot gas defrost unit coolers by revising the equations used to calculate energy and heat contributions for defrost consistent with those specified for electric defrost in in Section C10.2.2 of Appendix C of AHRI 1250-2020. If such revision is not appropriate, DOE requests information and data that would inform

development of a more suitable set of equations to represent defrost to allow equivalent ratings for hot gas and electric defrost unit coolers.

VI. Approval of the Office of the Secretary

The Secretary of Energy has approved publication of this proposed rule.

List of Subjects in 10 CFR Part 431

Administrative practice and procedure, Confidential business information, Energy conservation test procedures, Incorporation by reference, and Reporting and recordkeeping requirements.

Signing Authority

This document of the Department of Energy was signed on August 31, 2020, Alexander N. Fitzsimmons, Deputy Assistant Secretary for Energy Efficiency, Office 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, DC, on August 31, 2020.

X Alexander N. Fitzsimmons

Signed by: ALEXANDER FITZSIMMONS

Alexander N. Fitzsimmons
Deputy Assistant Secretary
for Energy Efficiency
Energy Efficiency and Renewable Energy

For the reasons stated in the preamble, DOE is proposing to amend part 431 of Chapter II of Title 10, Code of Federal Regulations as set forth below:

PART 431 -- ENERGY CONSERVATION PROGRAM FOR CERTAIN COMMERCIAL AND INDUSTRIAL EQUIPMENT

1. The authority citation for part 431 continues to read as follows:

Authority: 42 U.S.C. 6291-6317; 28 U.S.C. 2461 note.

2. Appendix C to subpart R of part 431 is amended by:

a. Revising section 3.5.2; and

b. Adding new section 3.5.3.

The revision and addition reads as follows:

Appendix C to Subpart R of Part 431-- Uniform Test Method for the Measurement of Net Capacity and AWEF of Walk-In Cooler and Walk-In Freezer Refrigeration Systems

* * * * *

3.5.2 Hot Gas Defrost Matched Systems and Single-package Dedicated Systems: Test these units as described in section 3.3 of this appendix for electric defrost matched systems and single-package dedicated systems, but do not conduct defrost tests as described in sections 3.3.4 and 3.3.5 of this appendix. Calculate daily defrost energy use

as described in section 3.4.2.4 of this appendix. Calculate daily defrost heat contribution as described in section 3.4.2.5 of this appendix.

3.5.3 Hot Gas Defrost Unit Coolers Tested Alone: Test these units as described in section 3.3 of this appendix for electric defrost unit coolers tested alone, but do not conduct defrost tests as described in sections 3.3.4 and 3.3.5 of this appendix. Calculate average defrost heat load $\dot{Q}_{DF}$, expressed in Btu/h, as follows:

If $\dot{Q}_{gross} \leq 25{,}000$ Btu/h:

$$\dot{Q}_{DF} = 0.195 \cdot \dot{Q}_{gross} \cdot \frac{N_{DF}}{24}$$

If $\dot{Q}_{gross} > 25{,}000$ Btu/h and $\dot{Q}_{gross} \leq 70{,}000$ Btu/h:

$$\dot{Q}_{DF} = \dot{Q}_{gross} \cdot \left[0.195 - \frac{0.049 \left(\dot{Q}_{gross} - 25{,}000 \right)}{45{,}000} \right] \cdot \frac{N_{DF}}{24}$$

If $\dot{Q}_{gross} > 70{,}000$ Btu/h:

$$\dot{Q}_{DF} = 0.146 \cdot \dot{Q}_{gross} \cdot \frac{N_{DF}}{24}$$

Where:

$\dot{Q}_{gross}$ is the measured gross capacity in Btu/h at the Suction A condition; and

N_{DF} is the number of defrosts per day, equal to 4.

Calculate average defrost power input $\dot{DF}$, expressed in Watts, as follows:

$$\dot{DF} == \frac{\dot{Q}_{DF}}{0.95 \times 3.412}$$

Where:

$\dot{Q}_{DF}$ is the average defrost heat load in Btu/h