[6450-01-P]

DEPARTMENT OF ENERGY

10 CFR Part 429

Docket No. EERE-2013-BT-NOC-0023

RIN: 1904-AD12

Energy Conservation Program: Certification of Commercial Heating, Ventilation, and Air-Conditioning (HVAC), Water Heating (WH), and Refrigeration (CRE) Equipment

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

ACTION: Final Rule.

SUMMARY: The U.S. Department of Energy is revising and expanding its existing regulations governing certifying compliance with the applicable energy conservation standards and the reporting of related ratings for commercial heating, ventilating, air-conditioning, water heating, and refrigeration equipment covered by EPCA.

DATES: Effective Dates: The effective date of this rule is **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].**

ADDRESSES: This rulemaking can be identified by docket number EERE-2013-BT-NOC-0023 and/or Regulatory Identification Number (RIN) 1904-AD12.

Docket: For access to the docket to read background documents, or comments received, go to the Federal eRulemaking Portal at http://www.regulations.gov.

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SUPPLEMENTARY INFORMATION:

I.Authority and Background

A. Authority

Title III of the Energy Policy and Conservation Act of 1975, as amended ("EPCA" or, in context, "the Act") sets forth a variety of provisions designed to improve energy efficiency. Part A of Title III (42 U.S.C. 6291–6309) provides for the Energy Conservation Program for Consumer Products Other Than Automobiles. The National Energy Conservation Policy Act (NECPA), Pub. L. 95-619, amended EPCA to add Part A-1 of Title III, which established an energy conservation program for certain industrial equipment. (42 U.S.C. 6311–6317)[1] The Department of Energy ("DOE") is charged with implementing these provisions.

Under EPCA, this program consists essentially of four parts: (1) testing; (2) labeling; (3) Federal energy conservation standards; and (4) certification and enforcement procedures. The Federal Trade Commission (FTC) is primarily responsible for labeling of consumer products, while DOE implements the remainder of the program. The testing requirements consist of test procedures that manufacturers of covered products and equipment must use (1) as the basis for

[1] For editorial reasons, Parts B (consumer products) and C (commercial equipment) of Title III of EPCA were re-designated as parts A and A-1, respectively, in the United States Code.

certifying to DOE that their products comply with the applicable energy conservation standards adopted under EPCA, and (2) for making representations about the efficiency of those products and equipment. Similarly, DOE must use these test requirements to determine whether the products comply with any relevant standards promulgated under EPCA. For certain consumer products and commercial equipment, DOE's existing testing regulations allow the use of an alternative efficiency determination method (AEDM) or an alternative rating method (ARM), in lieu of actual testing, to simulate the energy consumption or efficiency of certain basic models of covered products and equipment under DOE's test procedure conditions.

In addition, sections 6299–6305, and 6316 of EPCA authorize DOE to enforce compliance with the energy and water conservation standards (all non-product specific references herein referring to energy use and consumption include water use and consumption; all references to energy efficiency include water efficiency) established for certain consumer products and commercial equipment. (42 U.S.C. 6299–6305 (consumer products), 6316 (industrial equipment)) DOE has promulgated enforcement regulations that include specific certification and compliance requirements. *See* 10 CFR part 429; 10 CFR part 431, subparts B, U, and V.

B. Background

On March 7, 2011, DOE published a final rule in the Federal Register that, among other things, modified the requirements regarding manufacturer submission of compliance statements and certification reports to DOE (March 2011 Final Rule). 76 FR 12421. The rule imposed new or revised reporting requirements for some types of covered products and equipment, including a

requirement that manufacturers submit annual reports to the Department certifying compliance of their basic models with applicable standards. See 76 FR 12428–12429 for more information.

In response to the initial deadline for certifying compliance imposed on commercial heating, ventilation, and air conditioning (HVAC), water heater (WH), and commercial refrigeration equipment (CRE) manufacturers by the March 2011 Final Rule, certain manufacturers of particular types of commercial and industrial equipment stated that, for a variety of reasons, they would be unable to meet that deadline. DOE initially extended the deadline for certifications for commercial HVAC, WH, and CRE in a final rule published June 30, 2011 (June 30 Final Rule). 76 FR 38287 (June 30, 2011). DOE subsequently extended the compliance date for certification an additional 12 months to December 31, 2013, for these types of equipment to allow, among other things, the Department to explore the negotiated rulemaking process for this equipment. See 77 FR 76825 (Dec. 31, 2013).

In the summer of 2012, DOE had an independent convener evaluate the feasibility of developing certification requirements for commercial HVAC, WH, and refrigeration equipment (not including walk-in coolers and freezers) through consensus-based negotiations among affected parties. In October 2012, the convener issued his report after completing confidential interviews of forty (40) parties from a wide range of commercial HVAC, WH, and refrigeration equipment interests. The convener found the interviewed parties believed negotiated rulemaking was superior to notice and comment rulemaking for certification-related issues. Because of this, the convener found that a negotiated rulemaking would have a reasonable likelihood of achieving consensus based on the factors set forth in the Negotiated Rulemaking Act. The entire

report is available at *https://www1.eere.energy.gov/buildings/appliance_standards/pdfs/convening_report_hvac_cre_1.pdf.*

On February 26, 2013, members of the Appliance Standards and Rulemaking Federal Advisory Committee (ASRAC) unanimously decided to form a working group to engage in a negotiated rulemaking effort on the certification of commercial HVAC equipment (10 CFR part 431, subparts D, E and F), WH equipment (10 CFR part 431, subpart G), and refrigeration equipment (10 CFR part 431, subpart C). A notice of intent to form the Commercial Certification Working Group was published in the Federal Register on March 12, 2013, to which DOE received 35 nominations. 78 FR 15653. On April 16, 2013, the Department published a notice of open meeting that announced the first meeting and listed the 22 nominations that were selected to serve as members of the Working Group, in addition to two members from ASRAC, and one DOE representative. 78 FR 22431. The members of the Working Group were selected to ensure a broad and balanced array of stakeholder interests and expertise, and included efficiency advocates, manufacturers, a utility representative, and third party laboratory representatives.

As required, the Working Group submitted an interim report to ASRAC on June 26, 2013, summarizing the group's recommendations regarding AEDMs for commercial HVAC, WH, and refrigeration equipment. The interim report to ASRAC can be found at *http://www.regulations.gov/#!documentDetail;D=EERE-2013-BT-NOC-0023-0046.* ASRAC voted unanimously to approve the recommendations in the interim report for AEDMs. Subsequently, the Working Group submitted a final report on August 30, 2013, summarizing the

Working Group's recommendations for model grouping, certification requirements and deadlines, and features to be excluded from certification, verification, and enforcement testing as long as specific conditions were met. ASRAC voted unanimously to approve the recommendations in the final report. DOE proposed to adopt the Working Group's recommendations, without modification, for AEDMs, basic model definitions, and the initial compliance date for certification in a notice published on October 22, 2013 (78 FR 62472) and adopted these recommendations in a final rule published on December 31, 2013 (78 FR 79579). DOE proposed to adopt without modification the Working Group's remaining recommendations for certification requirements in a notice of proposed rulemaking (NOPR) published on February 14, 2014. 79 FR 8886. DOE intends to issue separate rulemaking or guidance documents regarding the treatment of specific features when testing.

II.Discussion of Specific Revisions to DOE's Regulations Certification

The Commercial Certification Working Group held nine full meetings in Washington, DC between April 30, 2013 and August 28, 2013. Sixty-nine interested parties, including members of the Working Group, attended the various meetings. A more detailed discussion of the recommendations can be found in the Commercial Certification Working Group meeting transcripts, which are located here: http://www.regulations.gov/#!docketDetail;D=EERE-2013-BT-NOC-0023

As noted above, DOE proposed to adopt without modification the remaining recommendations for certification requirements from the Working Group. See 79 FR 8886. DOE

received comments from 10 stakeholders including manufacturers, a trade association, an advocacy group, utility associations, and a component manufacturer. These comments are discussed in more detail below, and a full set of comments can be found at: http://www.regulations.gov/#!docketDetail;D=EERE-2013-BT-NOC-0023

Table II.1: Stakeholders that Submitted Comments on the NOPR

Name	Acronym	Organization Type
Air-Conditioning, Heating, and Refrigeration Institute	AHRI	Trade Association
American Council for an Energy-Efficient Economy	ACEEE	Energy Efficiency Advocacy Group
American Public Gas Association	APGA	Utility Association
California Investor Owned Utilities	CA IOUs	Utility Association
Continental Refrigerator	Continental	Manufacturer
Heat Transfer Products	HTP	Manufacturer
Multi-Wing Group Management Holding	Multi-Wing	Component Manufacturer
Summit	Summit	Manufacturer
Traulsen	Traulsen	Manufacturer
Zero Zone Inc.	Zero Zone	Manufacturer

DOE received several general comments in response to the NOPR. ACEEE and the CA IOUs supported the promulgation of the NOPR's certification requirements for commercial HVAC, WH, and refrigeration equipment. (ACEEE, No. 0075.1 at p. 1; CA IOUs, No. 0076.1 at p. 1) The CA IOUs also recommended that DOE increase its funding to support the expanded testing of commercial equipment, particularly since the Department is taking steps to reduce manufacturer testing burdens. (CA IOUs, No. 0076.1 at p. 1)

DOE received two comments regarding the compliance dates for commercial HVAC, WH, and refrigeration equipment. DOE's December 2013 final rule established a series of compliance requirements regarding the certification of commercial HVAC, WH, and refrigeration equipment in the context of AEDM usage. See 78 FR at 79593. AHRI

recommended that the compliance dates should be linked to DOE's release of the Compliance Certification Management System (CCMS) templates instead of the AEDM final rule because DOE had not yet released the templates. (AHRI, No. 0072.1 at p.4) (The templates are used by manufacturers to populate certain key information required by DOE for the purposes of certifying products and equipment as compliant with the applicable energy conservation standards.) Continental recommended DOE extend the certification deadline because the certification templates were not available immediately after the AEDM final rule was published. Continental recommended a certification deadline of 12 months after the templates are posted on the DOE website. (Continental, No. 0073.1 at p. 1) DOE emphasizes that the certification deadlines were agreed upon by the commercial certification working group and adopted in the AEDM final rule. 78 FR 79579, 79590. DOE notes that the information required to be reported in the templates consists of information that manufacturers should already have, and DOE does not anticipate that will take manufacturers a significant amount of time – certainly not 12 months – to enter the data into the templates. In addition, while DOE understands that the certification templates are useful aids for manufacturers in preparing for certification, the specific contents of the templates are necessarily tied to the outcome of this rulemaking and DOE was unable to publish the templates as part of the AEDM final rule. The Department will work to publish the certification templates promptly after the issuance of this final rule, which finalizes the information DOE is collecting. Further, the Working Group agreed to the commercial certification deadlines in the AEDM final rule under the following conditions: (1) The AEDM final rule was to be issued by December 31, 2013 extending the compliance for certifications for those products; (2) DOE in the course of implementing the Working Group's recommendations did not materially change the substance of any recommendation; and (3) no less than 2 months

would be provided between issuance of this final rule and the initial certification date for any commercial HVAC, WH, or refrigeration equipment. With the issuance of this final rule, DOE has met all three of these obligations and does not see a need for deviating from the Working Group recommendations.

Regarding AEDM requirements, HTP encouraged the Department to extend AEDMs to cover light commercial water heaters, a new category proposed in the Test Procedure for Residential and Commercial Water Heaters NOPR published on November 4, 2013 (78 FR 66202) because this equipment meets the requirements of commercial water heaters. (HTP, No. 0071.1 at p. 1) The Department appreciates HTP's comment, but extending the use of AEDMs to new equipment classes is outside the scope of this final rule, which is specific to certification. DOE notes that changes to the certification requirements proposed in this rule may be needed, depending on the outcome of that rulemaking. Any changes would be considered in a separate rulemaking.

APGA commented that equipment should be labeled with full-fuel cycle energy efficiency data because it would help consumers in making purchasing decisions. In its view, current labels are confusing and misleading. APGA asserted that a full fuel cycle energy methodology would represent the true efficiency of covered products and equipment because it examines all impacts associated with energy use like extraction, conversion, distribution, and ultimate energy consumption. (APGA, No. 0068.1 at p. 1-2) While DOE understands the concerns raised by APGA, DOE notes that the issue of labeling is outside of this scope of this rulemaking. Accordingly, DOE is not reaching any labeling decisions as part of today's rule.

Lastly, DOE received one general comment regarding test procedures. Continental suggested that DOE adopt ambient conditions in line with those adopted by the National Sanitation Foundation to better reflect real world conditions when testing commercial refrigeration equipment. (Continental, No. 0073.1 at p. 2) DOE notes that the specifics related to test procedure conditions fall outside of this rulemaking. DOE may, however, consider this issue in the context of a separate rulemaking as appropriate.

C. Engineered-to-Order Equipment

The Working Group recommended that a new concept, "engineered-to-order equipment," be added to DOE's certification regulations. The Working Group recommended that this concept be applied to a basic model that is not listed in any catalogs or marketing literature and is designed and built to customer requirements. As envisioned by the Working Group, an engineered-to-order basic model would not include any models offered as a "configure-to-order" or "menu-system" set of options.[2] Additionally, the Working Group determined that a basic model may not be classified as engineered-to-order for more than one annual certification cycle, effectively meaning that the basic model cannot be classified as engineer-to-order for more than 24 months. If the manufacturer does not recertify the engineered-to-order product as a typical basic model by the second annual certification deadline then the manufacturer is effectively

[2] The Working Group recommended the new concept to distinguish between models that are built to customer specifications from a list of options offered by the manufacturer (e.g., "configure-to-order") and models that are built to customer specifications that are completely unique, require original engineering design work, and are not built from options the manufacturer offers for sale (i.e., "engineered-to-order").

certifying that the model has been discontinued. In that case, DOE would automatically treat the basic model as discontinued.[3]

DOE received several comments in support of the definition of "engineered-to-order." Traulsen agreed that a product should be considered part of the company's offerings if it is purchased repeatedly by separate agreements and in multiple certification cycles. Additionally, Traulsen agrees that the definition of "engineered-to-order" must be different than "configure-to-order." However, Traulsen noted that these definitions will require manufacturers to review and amend their marketing materials, and DOE should keep this in mind regarding a proposed deadline. (Traulsen, No. 0074.1 at p. 1) The CA IOUs also supported DOE's proposed definition of engineered-to-order as a basic model classification and to limit the use of the classification to ensure it cannot be used for more than one annual certification cycle. (CA IOUs, No. 0076.1 at p. 1) AHRI generally agreed with DOE's definition of basic model, but added that manufacturers should be allowed to advertise in literature and other venues its capability to manufacture engineered-to-order equipment. (AHRI, No. 0072.1 at p. 2) DOE does not dispute that manufacturers can advertise their ability to make engineered-to-order models.

The Department also received several suggested changes to clarify the proposed "engineered-to-order" definition. First, AHRI suggested that DOE clarify that engineered-to-order equipment is provided by a manufacturer and is different from equipment assembled in the

[3] In all other circumstances, the manufacturer must affirmatively certify that a basic model has been discontinued as required by 10 CFR 429.12(f). Because engineered-to-order basic models are, by design, unlikely to be distributed more than once, the manufacturer would not be required to submit a certification report discontinuing an engineered-to-order basic model.

field by an installing contractor. (AHRI, No. 0072.1 at p. 2) At this time, DOE does not believe that its proposed definition of "engineered-to-order" requires this suggested clarification since the term "manufacture" already generally encompasses the concept of assembling a given item. Accordingly, in this context, any assembler of the types of equipment covered by today's rule would be treated as a manufacturer and would be responsible for certifying their engineered-to-order equipment.

Second, Traulsen requested that DOE modify the definition to prevent a manufacturer from claiming that a particular piece of equipment it produces is "engineered-to-order" when only cosmetic or minor changes are made to a model. (Traulsen, No. 0074.1 at p. 1) DOE notes that a minor or cosmetic change to an already existing model would not enable a manufacturer to claim that modified model as an "engineered-to-order model. Such a model would fail to be a separate basic model, which is a necessary predicate before a manufacturer can avail itself of the "engineered-to-order" designation. Consequently, at this time, DOE does not believe it is necessary to amend its proposed (and now adopted) definition in the manner suggested by Traulsen, but may revisit this issue if the application of this definition proves to be problematic in practice.

Finally, Multi-Wing recommended that the term "configure-to-order" mean "models that are built to customer specifications from a catalogue of standard and inflexible options offered by the manufacturer that likely require application modifications by the customer. It added that an exception should be made for models that are "built to customer specification from a catalogue above 100,000 inflexible options offered by the manufacturer that likely do not require

any application modification by the customer, and which can be considered as engineered-to-order due to the quantity of models available for selection for the same customer specification." (Multi-Wing, No. 0069.1 at p.1) Additionally, Multi-Wing suggested that the term "engineered-to-order" be defined as referring to those "models that are built to customer specification contingent upon both the requested duty point, working conditions, space conditions and which are different from any standard offering on the market." (Multi-Wing, No.0069.1 at p. 1) At this time, DOE is defining "engineered-to-order" as it proposed in the NOPR and is refraining from defining "configure-to-order" as suggested by Multi-Wing. In DOE's view, the definition for "engineered-to-order" recommended by the Working Group is narrower than the definition proposed by Multi-Wing. As proposed by the Working Group, engineered to order models are those models that are not part of the manufacturer's standard offerings – without limit to the number of options the manufacturer may offer. Accordingly, DOE is not adopting Multi-Wing's suggestions.

After considering the comments noted above, DOE is adopting the definition of the term "engineered-to-order" as recommended by the Working Group, along with the associated certification requirements, without modification.

DOE notes it also received two related comments regarding how manufacturers should rate engineered-to-order basic models. AHRI commented that DOE should provide the option to certify engineered-to-order equipment by testing just one basic model or by using an AEDM. (AHRI, No. 0072.1 at p.2) HTP suggested DOE clarify that "engineered-to-order" may be rated using a pre-existing AEDM. (HTP, No. 0071.1 at p. 1) DOE agrees with that an engineered-to-

order basic model may be rated with a pre-existing AEDM and notes that there are no limitations on the use of AEDMs with respect to engineered-to-order basic models. Therefore, no regulatory changes are needed. Permitting ratings based on tests of a single unit, however, will require a regulatory change, which DOE will consider in a future rulemaking.

D. Certification Reports

1. General Requirements

The Working Group recommended and DOE proposed in the NOPR that manufacturers submit general information to DOE in all certification reports. The only items that manufacturers are not currently required to provide DOE in accordance with 10 CFR 429.12 are customer-specified model numbers and the name of the AEDM used. The Working Group recommended the all commercial HVAC, WH, and refrigeration equipment certification reports include:

- Product or equipment type;
- Product or equipment class;
- Manufacturer name and address;
- Private labeler name and address, if applicable;
- Brand name;
- Basic model number;
- Individual model numbers covered by the basic model;
- Customer-specified model numbers, if applicable;
- Status (new certification, discontinued, existing, etc.);
- Test sample size (report "0" if an AEDM was used);

- U.S. Customs and Border Protection (CBP) importer ID number, if applicable;
- Whether the certification was based on test procedure waiver and the date of such waiver;
- Whether the certification was based on exception relief from the Office of Hearings and Appeals and the date of such relief; and
- AEDM name or identifier, if the sample size is "0."

The Working Group also recommended that only the information specified below be publicly posted on DOE's Web site. Accordingly, DOE is proposing to revise 10 CFR 429.7(a) to include these items as "not exempt from public disclosure."

- Product or equipment type;
- Product or equipment class;
- Private labeler name;
- Brand name;
- Individual model numbers covered by the basic model;
- Whether the certification was based on test procedure waiver and the date of such waiver; and
- Whether the certification was based on exception relief from the Office of Hearings and Appeals and the date of such relief.

Traulsen agreed in principle with the general certification requirements, but noted that adding more items and identifiers to the reporting process would create additional reporting

burdens.. (Traulsen, No. 0074.1 at p. 2) AHRI agreed that "private labeler name" should not be exempt from public disclosure, but for clarity suggested that DOE amend the term "private labeler name" to "manufacturer or private labeler name as applicable." (AHRI, No. 0072.1 at p. 2) DOE disagrees with AHRI. Where a private labeler is used, both the manufacturer and private labeler must be listed on the certification report to ensure that DOE has sufficiently complete information to readily identify a given equipment model's manufacturer. By including this information, DOE can more easily link a particular private label or name (which may change over time) with the appropriate manufacturer.

Traulsen expressed concern about disclosing the name of the private labeler because there are confidential agreements that exist with private branding. Traulsen said it would not support any requirements that would cause it to violate those agreements and place such information in a public database. (Traulsen, No. 0074.1 at p. 2)The manufacturer name will not be made public, as was recommended by the Working Group. Traulsen may have misunderstood that the "private labeler" is the party who is branding the product; it is the entity publicly tied to the brand. The manufacturer, on the other hand, is the "private" party, which may be confidential business information. DOE also notes that the Working Group, in which Traulsen was a voting member, supported this recommendation.

Zero Zone questioned if manufacturers can advertise alternate lower energy consumption values for models included in the basic model group. (Zero Zone, No. 0070.1 at p.1) DOE notes that the approach in its proposal would require a manufacturer to treat each group of its models that have essentially identical energy consumption or water consumption characteristics as a

‘‘basic model.’’ The manufacturer would then derive the efficiency rating for all models in that group from the results of testing sample units of these models. All of the models in the group would comprise the “basic model,” and they would all have the same efficiency rating. Manufacturers cannot advertise better energy efficiency or consumption ratings than those certified to the Department.

With respect to model numbers, DOE proposed that commercial HVAC, WH and refrigeration equipment manufacturers could provide customer-specified model numbers, in addition to the other current reporting requirements found within 10 CFR 429.12(b). The Working Group used the term “customer-specified model number” to describe an individual model number that is specified by a customer in lieu of the manufacturer's normal model numbering system. This “customer-specified model number” often includes the customer's name or brand name, and thus may reveal confidential business information about company relationships. Therefore, in the NOPR, DOE proposed to use the term “private model number” instead of “customer-specified model number” in the regulatory text to differentiate it from a manufacturer's individual model number, which is considered public information. DOE did not receive any comments on this proposal and is adopting it in this final rule.

The Working Group also recommended changes to the AEDM provisions as applied to commercial HVAC, WH and refrigeration equipment, which DOE addressed in a separate rulemaking. See 78 FR 79579 (Dec. 31, 2013). As part of those recommendations, the Working Group developed the concept of having multiple, unique AEDMs. Because certain verification provisions are tied to the basic models rated with each AEDM, the Working Group

recommended that manufacturers use a name or other identifier to designate which basic models were rated using which AEDM. The Working Group recommended that a manufacturer include that AEDM name/identifier as part of the certification of a basic model that was rated using the AEDM. DOE proposed to require the AEDM name or identifier as part of the certification of a basic model where the basic model was rated using an AEDM. The Working Group further recommended that DOE modify the language regarding sample size in 429.12(b)(8) to indicate that models certified with performance data based upon an AEDM should indicate the sample size is "0".

DOE received one comment on this proposal. AHRI agreed that if the sample size is "0," which would indicate that the basic model is rated with an AEDM, then the manufacturer should identify the method of determining the "measures of energy conservation." It suggested that DOE allow manufacturers of 3-phase, small, air-cooled commercial HVAC equipment to use ARMs that were developed and approved for similar single-phase residential equipment. (AHRI, No. 0072.1 at p. 3) DOE agrees with AHRI that manufacturers can use simulations developed for central air conditioners and heat pumps for similar 3-phase, air-cooled equipment with a cooling capacity less than 65,000 Btu/h. However, the manufacturer would still need to validate the simulation as an AEDM according to DOE's requirements in 10 CFR 429.70. In this final rule, DOE is adopting the requirement for manufacturers to specify the AEDM name or identifier as part of the certification of a basic model which was rated using an AEDM.

The Working Group also recommended that certification reports for commercial HVAC, WH, and refrigeration equipment identify whether the basic model was engineered-to-order. The

CA IOUs supported DOE's requirements to modify general certification reports by adding private model numbers and engineered-to-order classification options, the name of the AEDM used, and if applicable changing the sample size specified when using an AEDM. (CA IOUs, No. 0076.1 at p. 1) DOE received no other comments on this issue.

DOE generally requires manufacturers to certify to DOE, prior to distribution in commerce, the compliance of each basic model subject to an applicable energy conservation standard set forth in 10 CFR 430 or 10 CFR 431. See 10 CFR 429.12. The Working Group made several recommendations regarding when manufacturers should be required to submit a certification report to DOE based on the specific circumstances regarding manufacturing of commercial HVAC, WH, and refrigeration equipment. For domestically manufactured, engineered-to-order products, the Working Group recommended that DOE consider distribution in commerce to begin on the date on which the basic model is shipped. For all other domestic products, it recommended that DOE consider distribution in commerce to begin on the date on which a manufacturer is first willing to accept an order. For engineered-to-order products built outside of the U.S., the Working Group recommended that DOE consider distribution in commerce to begin on the date on which the basic model is imported. For all other foreign manufactured products, it recommended that DOE consider distribution in commerce to begin on either the date on which a basic model is imported for sale or the date on which a manufacturer is willing to accept an order, whichever is first. DOE proposed to adopt these interpretations for the limited purposes of determining by what date certification reports must be submitted to the Department for commercial HVAC, WH and refrigeration equipment. The Department did not receive any comments on this proposal.

In this final rule the Department is adopting the Working Group's recommendations, which include the general certification information required from manufacturers, specific information that is not exempt from public disclosure, private model numbers (i.e., customer-specified model numbers for which DOE is simply modifying the name for clarity), AEDM identifiers, engineered-to-order designation, sample size "0" for basic models rated with an AEDM, and guidelines establishing when a basic model is distributed in commerce.

2. Equipment Specific Certification Information

DOE adopted an approach that permits commercial HVAC, WH, and refrigeration equipment manufacturers to elect to have a manufacturer's representative on-site to witness test set-up before verification testing occurs. Under this approach, a maximum of 10 percent of the manufacturer's certified basic models rated with an AEDM may be witness-tested. A manufacturer would indicate which of its basic models in its certification report(s) would be eligible to be witness-tested. 78 FR 79579, 79585. DOE has included this certification requirement in its proposal in the equipment-specific certification sections. AHRI commented that manufacturers should be allowed to elect to witness test all models and not just those rated by an AEDM. (AHRI, No. 0072.1 at p.3) DOE notes that this rule is adopting the necessary certification provisions to implement the Working Group's recommendation regarding witness testing of basic models rated using an AEDM. The Working Group did not negotiate similar provisions for other basic models, and whether DOE should adopt similar provisions for basic models not rated using an AEDM is outside the scope of this rulemaking.

The Working Group also outlined information specific to the commercial HVAC, WH, and refrigeration equipment that should be certified to DOE, listed in Table II.2, Table II.3, Table II.4, and Table II.5. In addition to the equipment-specific information it identified, the Working Group recommended that manufacturers be permitted to submit a document in PDF format with additional testing instructions that are required to test the equipment according to the applicable DOE test procedure. For instance, the PDF with additional instructions may include the refrigerant charging instructions for a given basic model. As indicated in Tables II.4 and II.5, the Working Group determined that the PDF with testing instructions should be optional for some types of equipment but mandatory for others due to the complexities with testing certain basic models and the unique nature associated with certain basic models of custom equipment. For those types of HVAC equipment that are required to have additional testing instructions submitted along with its certification, the Working Group further provided a list of specific information that should be included in those instructions as detailed in Table II.4. DOE proposed to adopt these certification requirements in the NOPR. 79 FR 8886, 8890.

For commercial HVAC and refrigeration equipment, the Working Group recommended that certain features should not be subject to testing and, thus, should not be considered when determining the efficiency of a basic model. Models with these special features would only be excluded from testing and certification if the manufacturer offers an otherwise identical model without the feature(s) in the basic model. The Working Group recommended that a manufacturer identify in the PDF portion of a certification report whether a basic model includes any of these special features. That is, if the manufacturer does not offer an "otherwise identical" model

without the feature—meaning the certification is based on testing *with* the feature—the manufacturer must specify in the PDF portion of the certification report which "special" features are included in the basic model's rating.

Table II.2: CRE Certification Report Requirements

Equipment Type	Certification Report Must Include:	Additional testing instructions:
-Self-contained commercial refrigerators and freezer with solid doors -Self-contained commercial refrigerators and freezers with transparent doors	-Daily energy consumption (kWh/day) -Chilled or frozen compartment volume (ft^3)	Must be submitted with certification report
Self-contained commercial refrigerator-freezers with solid doors	-Daily energy consumption (kWh/day) -Adjusted volume (ft^3)	Must be submitted with certification report
-Remote condensing commercial refrigerators, freezers, and refrigerator-freezers -Self-contained commercial refrigerators, freezers, and refrigerator-freezers without doors -Commercial ice-cream freezers -Commercial refrigeration equipment with two or more compartments -Service over the counter refrigerators and freezers	- Daily energy consumption (kWh/day) -Total display area (ft^2) or chilled volume (ft^3) as applicable -Rating temperature (°F) -Equipment class designation as described in 10 CFR 431.66	Must be submitted with certification report

Table II.3: HVAC Certification Report Requirements

Equipment Type	Certification Reports Must Include:
Commercial Warm Air Furnaces	-Thermal efficiency (%) -Maximum rated input capacity (Btu/h)
Commercial Packaged Boilers	-Combustion efficiency (%) or thermal efficiency (%) as applicable -Maximum rated capacity (Btu/h)
Air-Cooled, Split and Packaged (ACs) and (HPs) less than 65,000 Btu/h cooling capacity (3-Phase)	-Seasonal energy efficiency ratio (Btu/Wh) -Heating seasonal performance factor (Btu/Wh) if applicable -Rated cooling capacity (Btu/h)
Commercial packaged air-cooled, evaporatively-cooled, and water cooled air conditioners and heat pumps greater than or equal to 65,000 Btu/h cooling capacity	-Energy efficiency ratio (Btu/Wh) -Coefficient of performance, if applicable -Rated cooling capacity (Btu/h) -Heating type (may be none)
PTACs and PTHPs	-Energy efficiency ratio (Btu/Wh) -Coefficient of performance, if applicable -Cooling capacity (Btu/h) -Wall sleeve dimensions (in)
SPVUs	-Energy efficiency ratio (Btu/Wh) -Coefficient of performance, if applicable

	-Cooling capacity (Btu/h)
VRF ACs and HPs with less than 65,000 Btu/h cooling capacity	-Seasonal energy efficiency ratio (Btu/Wh) -Heating seasonal performance factor (Btu/Wh) if applicable -Rated cooling capacity (Btu/h)
VRF AC and HPs with 65,000 Btu/h cooling capacity or more	-Energy efficiency ratio (Btu/Wh) -Coefficient of performance, if applicable -Rated cooling capacity (Btu/h) -Heating type (may be none)
Water Source VRFs HPs	-Energy efficiency ratio (Btu/Wh) -Coefficient of performance -Rated cooling capacity (Btu/h) -Heating type (may be none)
Computer Room ACs	-Net sensible cooling capacity (Btu/h), -Net cooling capacity (Btu/h), -Configuration (upflow/downflow) -Economizer presence (Yes or No) -Condenser medium (air, water, or glycol-cooled) -Sensible coefficient of performance -Rated airflow (SCFM)
Water Source HPs	-Energy efficiency ratio (Btu/Wh) -Coefficient of performance -Rated cooling capacity (Btu/h) -Heating type (may be none)

Table II.4: HVAC Requirements for Additional Testing Instructions

Equipment Type	**Additional Testing Instructions**
Commercial Warm Air Furnaces	Optional
Commercial Packaged Boilers	Optional
Air-Cooled, Split and Packaged ACs and HPs less than 65,000 Btu/h Cooling Capacity (3-Phase)	Must be submitted and include: -Nominal cooling capacity (Btu/h), -Rated heating capacity (Btu/h), if applicable, -Rated airflow (SCFM) for each fan coil, -Rated static pressure (inches of water), -Charging instructions, -Frequency set points, -Required dip switch/control setting for step or variable components, -Indication that model will not operate at test conditions without manufacturer programming, -Base motor designation, and -Indication if excluded features are included in base model.
Commercial packaged air-cooled ACs and HPs with 65,000 Btu/h Cooling Capacity or More, Evaporatively-Cooled ACs and HPs, and Water-Cooled ACs and HPs	Must be submitted and include: -Nominal cooling capacity, -Rated heating capacity, if applicable, -Rated airflow (SCFM) for each fan coil, -Water flow rate (gpm) for water-cooled units only -Rated static pressure, -Charging instructions, -Frequency set points, -Required dip switch/control setting for step or variable components, -Indication that model will not operate at test conditions without manufacturer programming, -Base motor designation, and

	-Indication if excluded features are included in base model.
PTACs and PTHPs	Optional
SPVUs	Optional
Variable Refrigerant Flow ACs and HPs less than 65,000 Btu/h Cooling Capacity	Must be submitted and include: -Nominal cooling capacity (Btu/h), -Rated heating capacity (Btu/h), if applicable, -Outdoor unit(s) and indoor units identified in the tested combination -Components needed for heat recovery if applicable, -Rated airflow (SCFM) for each indoor unit, -Water flow rate (gpm) for water-cooled units only -Rated static pressure (inches of water), -Compressor frequency set points, -Required dip switch/control setting for step or variable components, -Indication that model will not operate at test conditions without manufacturer programming, -Base motor designation, and -Indication if excluded features are included in base model. Upon request by DOE manufacturer must provide a layout of the system set-up for testing including charging instructions consistent with installation manual.
Variable Refrigerant Flow ACs and HPs with 65,000 Btu/h Cooling Capacity or More	Must be submitted and include: -Nominal cooling capacity (Btu/h), -Rated heating capacity (Btu/h), if applicable, -Outdoor unit(s) and indoor units identified in the tested combination -Components needed for heat recovery if applicable, -Rated airflow (SCFM) for each indoor unit, -Water flow rate (gpm) for water-cooled units only -Rated static pressure (inches of water), -Compressor frequency set points, -Required dip switch/control setting for step or variable components, -Indication that model will not operate at test conditions without manufacturer programming, -Base motor designation, and -Indication if excluded features are included in base model. Upon request by DOE manufacturer must provide a layout of the system set-up for testing including charging instructions consistent with installation manual.
Water Source Variable Refrigerant Flow HPs	Must be submitted and include: -Nominal cooling capacity (Btu/h), -Rated heating capacity (Btu/h), -Rated airflow (SCFM) for each indoor uit, -Water flow rate (gpm), -Rated static pressure (inches of water) if applicable, -Charging instructions, -Compressor/VFD frequency set points, -Required dip switch/control setting for step or variable components, -Indication that model will not operate at test conditions without manufacturer programming, -Base motor designation, and -Indication if excluded features are included in base model. Upon request by DOE manufacturer must provide a layout of the system set-up for testing including charging instructions consistent with installation manual.

Computer Room ACs	Optional
Water Source HPs	Must be submitted and include: -Nominal cooling capacity (Btu/h), -Rated heating capacity (Btu/h), if applicable, -Rated airflow (SCFM), -Water flow rate (gpm), -Rated static pressure (inches of water), -Charging instructions, -Compressor/VFD frequency set points, -Required dip switch/control setting for step or variable components, -Indication that model will not operate at test conditions without manufacturer programming, -Base motor designation, and -Indication if excluded features are included in base model.

Table II.5: WH Certification Report Requirements

Equipment Type	Certification Report Must Include:	Additional testing instructions:
Commercial Electric Storage Water Heaters	-Maximum standby loss (%/h) -Measured storage volume (gal)	Optional
Commercial gas-fired and oil-fired storage water heaters	-Thermal efficiency (%) -Maximum standby loss (Btu/h) -Rated storage volume (gal) -Nameplate input rate (Btu/h)	Optional
Commercial water heaters and hot water supply boilers (storage capacity > 140 gal)	-Storage volume is greater than 140 gal (Yes/No) -Tank surface area is insulated with at least R-12.5 (Yes/No) -No standing pilot light (Yes/No) -Gas or oil-fired water heater has a fire damper or fan assisted combustion (Yes/No) -If "no" to any of the above, report standby loss (Btu/h) and measured storage volume (gal)	Optional
Commercial gas-fired and oil-fired instantaneous water heaters less than 10 gallons and gas-fired and oil-fired hot water supply boilers less than 10 gallons	-Thermal efficiency (%) -Storage volume (gal)	Optional
Commercial gas-fired and oil-fired instantaneous water heaters greater than or equal to 10 gallons and gas-fired and oil-fired hot water supply boilers greater than or equal to10 gallons	-Thermal efficiency (%) -Maximum standby loss (Btu/h) -Rated storage volume (gal) -Nameplate input rate (Btu/h)	Optional
Commercial unfired hot water storage tanks	-Thermal insulation (R-value) -Stored water volume (gal)	Optional

AHRI provided several comments on the proposed requirements for commercial HVAC equipment. AHRI requested that DOE list the requirements for commercial heat pumps and air conditioners separately to improve the comprehensibility of the regulations. (AHRI, No. 0072.1 at p. 3) DOE agrees with AHRI and will list the requirements separately in the regulatory text in this final rule.

AHRI also stated that net cooling capacity is not relevant to computer room air conditioners, as the cooling loads associated with these products are primarily sensible (i.e., the cooling loads associated with the dry-bulb temperatures), and therefore DOE should remove "net cooling capacity" from the certification report. (AHRI, No. 0072.1 at p. 3) DOE agrees that the load for computer room air conditioners is primarily sensible loads. However, the net cooling capacity remains useful for assessment purposes since this value can be used to aid commercial customers in matching the loads they may encounter in the field. Additionally, net cooling capacity is measured as part of the computer room air conditioner test procedure and reporting this value would be unlikely to increase manufacturer testing burdens. Accordingly, DOE is declining to adopt AHRI's suggestion.

AHRI also requested that the presence of an economizer (i.e., an automatic system that enables a cooling system to supply outdoor air to reduce or eliminate the need for mechanical cooling during mild or cold weather) should be listed as "Yes, No, or Optional" for computer room air conditioners. (AHRI, No. 0072.1 at p. 3) DOE understands that some models have the option of an economizer, but as this type of feature impacts the unit's performance, in DOE's view, manufacturers should consider whether to group models equipped with economizers

separately from models without economizers since the energy consumption characteristics could differ.

AHRI commented that manufacturers of water source heat pumps should not be required to provide duplicate information in the proposed supplemental PDF submission, like rated airflow, rated heating capacity, and nominal cooling capacity, because this information is already in the certification report. (AHRI, No. 0072.1 at p.4) DOE agrees with AHRI that manufacturers should not have to report any information in the supplemental PDF that was already included in the certification report. However, in addition to the general certification information requirements, the certification report for water source heat pumps only requires the energy efficiency ratio (Btu/Wh), coefficient of performance, rated cooling capacity (Btu/h), and heating type (which may be none). None of the product specific information identified by AHRI are certification report requirements duplicated in the supplemental PDF.

AHRI requested that DOE clarify that the proposed certification report requirements applying to variable refrigerant flow (VRF) multi-split systems with less than 65,000 Btu/h cooling capacity should only apply to 3-phase equipment. (AHRI, No. 0072.1 at p. 3) DOE agrees and has made appropriate clarifications in the regulatory text in part 429.

DOE received a number of comments on the proposed supplemental PDF submission. Traulsen commented that a generic set of charging instructions by product family with the listing of excluded features could be provided with the initial certification and reviewed annually. (Traulsen, No. 0074.1 at p. 2) DOE agrees that a manufacturer may submit one PDF covering

multiple basic models, particularly if all the basic models are part of the same product family, because it would reduce the certification burden while still providing the necessary testing information. For those equipment types for which PDFs are required or for which a manufacturer elects to submit a PDF, manufacturers must associate the appropriate PDF file name with its certification of the basic model in the template. Thus, if a manufacturer submits a single PDF spanning many different basic models, it should clearly mark within the PDF which testing instructions are applied to each specific basic model.

Summit strongly opposed DOE's proposal that manufacturers submit a PDF with specific testing requirements for every registered product because it would create a significant testing burden for manufacturers. Summit estimated that it would take 16 to 40 hours per model to initially develop and review the testing instructions and an additional 4 to 16 hours per model to review the supplement PDF each year. Summit explained that this amount of time would require manufacturers to hire full time staff to work on certification issues, which would be detrimental to small businesses in particular. (Summit, No. 0067.1 at pp. 1-2) DOE clarifies that the supplemental PDF for commercial refrigeration equipment must include any additional testing instructions the manufacturer deems necessary to properly test its equipment, as long as such instructions do not contradict the test procedure. These instructions are included at the manufacturer's discretion, and the manufacturer may determine that no additional testing instructions are necessary.

Summit also questioned how a specific test instruction recommended by the manufacturer could be used if it contradicted the DOE test procedure. (Summit, No. 0067.1 at p.

1) As previously stated, DOE will not use any manufacturer recommended test instructions that are not allowed by or are inconsistent with the DOE test procedure.

Finally, DOE proposed to move the provisions for certifying commercial packaged boilers and commercial warm air furnaces from 10 CFR 429.43 to 10 CFR 429.41 and 429.60, respectively. (Section 429.41, which is currently reserved for electric motors, would be moved to another available section.) This change would reflect that commercial packaged boilers and commercial warm air furnaces are types of equipment for which the regulations are typically amended through separate rulemakings and are located in different subparts of 10 CFR part 431 (subpart D for commercial warm air furnaces and subpart E for commercial packaged boilers) than commercial air conditioning and heat pump equipment (subpart F). DOE is not proposing any changes to the sampling provisions for these products; the modification would ensure that the organizational structure of part 429 better reflects the structure of part 431. DOE notes that section 429.43 would continue to provide the certification requirements for the equipment in 10 CFR part 431, subpart F (commercial air conditioners and heat pumps). DOE did not receive any comments on this proposal and will adopt this change in this final rule.

III. Procedural Issues and Regulatory Review

A. Review Under Executive Order 12866

This regulatory action is not a "significant regulatory action" under section 3(f) of Executive Order 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 the Office of Management and Budget (OMB).

B. Review Under the Regulatory Flexibility Act

The Regulatory Flexibility Act (5 U.S.C. 601, et seq.) requires preparation of an initial regulatory flexibility analysis (IRFA) for any rule that by law must be proposed for public comment and a final regulatory flexibility analysis (FRFA) for any rule that an agency adopts as a final rule, 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 rulemaking process. 68 FR 7990. DOE has made its procedures and policies available on the Office of the General Counsel's Web site (http://energy.gov/gc/office-general-counsel). DOE reviewed the February 2014 NOPR and this final rule under the provisions of the Regulatory Flexibility Act procedures and policies published on February 19, 2004.

For manufacturers of HVAC, WH, and refrigeration equipment, the Small Business Administration (SBA) has set a size threshold, which defines those entities classified as "small businesses" for the purposes of the statute. DOE used the SBA's small business size standards to determine whether any small entities would be subject to the requirements of the rule. 65 FR 30848 (May 15, 2000), as amended at 65 FR 53533, 53544 (Sept. 5, 2000) and codified at 13 CFR part 121. The size standards are listed by North American Industry Classification System

(NAICS) code and industry description and are available at http://www.sba.gov/category/navigation-structure/contracting/contracting-officials/small-business-size-standards. Manufacturing of HVAC and commercial refrigeration equipment is classified under NAICS 333415, "Air-Conditioning and Warm Air Heating Equipment and Commercial and Industrial Refrigeration Equipment Manufacturing." The SBA sets a threshold of 750 employees or less for an entity to be considered as a small business for this category. Manufacturing of WH equipment is classified under NAICS 333319, "Other Commercial and Service Industry Machinery Manufacturing," for which SBA also sets a size threshold of 500 employees or fewer for being considered a small business.

1. Description and Estimated Number of Small Entities Regulated

To estimate the number of companies that could be small business manufacturers of equipment covered by this rulemaking, DOE conducted a market survey using publicly available information. DOE's research involved industry trade association membership directories (including AHRI), information from previous rulemakings, product directories (AHRI Directory, [4] the California Energy Commission Appliance Efficiency Database [5]), individual company Web sites, and market research tools (e.g., Dunn and Bradstreet reports[6] and Hoovers reports [7]). DOE used information from these sources to create a list of companies that potentially manufacture commercial HVAC, WH, and refrigeration equipment covered by this rulemaking. DOE screened out companies that do not offer equipment covered by this rulemaking, do not meet the definition of a "small business," or are foreign owned and operated. Based on these efforts, DOE estimates that there are 5 small business manufacturers of all

commercial HVAC equipment, 32 small business manufacturers of commercial refrigeration equipment, and 9 small business manufacturers of commercial WH equipment.

2. Description and Estimated of Compliance Requirements

DOE entered into negotiations with commercial HVAC, water heating, and refrigeration equipment manufacturers regarding the types of information to submit when certifying their equipment and when that certification must be made to the Department. The outcomes of the negotiation resulted in slight changes to the information that DOE is collecting for commercial HVAC, WH, and refrigeration equipment. The most notable of these changes adopted in this rule is that some manufacturers of commercial refrigeration equipment and some types of commercial HVAC equipment must submit a PDF with specific testing instructions to be used by the Department during verification and enforcement testing. Manufacturers of water heating equipment and some types of commercial HVAC equipment would have the option of submitting a PDF with additional testing instructions at the manufacturer's discretion. The certification requirements adopted in this final rule reflect the direct results of the negotiations. By permitting manufacturers to submit PDFs with additional testing instructions, individual manufacturers will have a mechanism to provide the Department with additional information necessary for testing each basic model.

In general, this rule requires manufacturers to submit a certification report indicating that all basic models distributed in commerce in the U.S. comply with the applicable standards using DOE's testing procedures, as well as the necessary product specific certification data describing the efficiency and characteristics of the basic model. The certification reports are submitted for

each basic model, either when the requirements go into effect (for models already in distribution), or when the manufacturer begins distribution of a particular basic model, and annually thereafter. Reports must be updated when a new model is introduced or a change affecting energy efficiency or use is made to an existing model resulting in a change in the certified rating.

DOE currently requires manufacturers or their party representatives to prepare and submit certification reports using DOE's electronic Web-based tool, the Compliance and Certification Management System (CCMS), which is the only mechanism for submitting certification reports to DOE. CCMS currently has product specific templates that manufacturers must use when submitting certification data to DOE. See http://www.regulations.doe.gov/ccms. This final rule would not change the electronic submission requirement for commercial HVAC, WH, and refrigeration equipment. DOE believes the availability of electronic filing through the CCMS system reduces reporting burdens, streamlines the process, and provides the Department with needed information in a standardized, more accessible form. This electronic filing system also ensures that records are recorded in a permanent, systematic way.

3. Duplication, Overlap, and Conflict with Other Rules and Regulations

DOE is not aware of any rules or regulations that duplicate, overlap, or conflict with this final rule.

4. Significant Alternatives to the Rule

This section considers alternatives to the certification, compliance, and enforcement provisions in this rulemaking. DOE has tried to minimize the reporting burden as much as possible by: (1) Accepting electronic submissions; (2) providing preformatted templates that lay out the certification and compliance requirements for each product; and (3) allowing manufacturers to group individual models into basic models for the purposes of certification to reduce the number of discrete models reported to the Department. DOE also notes that the Working Group included representatives of small businesses and that this proposal reflects the recommendations of that Working Group. DOE has also made efforts to address the concerns of small businesses by expanding the ability of manufacturers to use alternative efficiency determination methods (AEDMs) in lieu of testing equipment. Further, DOE is adopting certification provisions set forth in this rulemaking as negotiated by the Working Group for all manufacturers of covered products and covered equipment that would be affected by this proposal.

C. Review Under the Paperwork Reduction Act

Under the Paperwork Reduction Act of 1995 (PRA) (44 U.S.C. 3501, et seq.), Federal agencies must obtain approval from the Office of Management and Budget (OMB) for each collection of information they conduct, sponsor, or require through regulations. This final rule mandates that manufacturers and importers of covered commercial HVAC, WH, and refrigeration equipment certify to the Department that the products they are distributing in commerce in the U.S. comply with the applicable energy conservation standards.

In compliance with the PRA, DOE sought comment on the proposed expansion of the existing information collection. As noted earlier in the preamble, DOE negotiated these certification requirements with interested parties in an effort to minimize the burden of the reporting requirements, while providing DOE with important information about equipment being sold.

DOE proposed to require that manufacturers certify as compliant with the applicable energy conservation standards the following groups of basic models of equipment: (1) New basic models before distribution in commerce; (2) existing basic models, whose certified rating remains valid, annually; (3) existing basic models, whose designs have been altered and result in a change in rating that is more consumptive or less efficient, at the time the design change is made; and (4) previously certified basic models that have been discontinued on an annual basis. Respondents may submit reports to the Department at any time during the year using DOE's online system.

The outcomes of the negotiation resulted in slight changes to the information that DOE will collect for commercial HVAC, WH, and refrigeration equipment. The most notable of these changes is that DOE proposed in the NOPR that manufacturers of commercial refrigeration equipment and some types of commercial HVAC equipment must submit a PDF with specific testing instructions to be used by the Department during verification and enforcement testing. Manufacturers of commercial water heating equipment and some types of commercial HVAC equipment have the option of submitting a PDF with additional testing instructions at the

manufacturer's discretion. DOE's proposal and final rule both reflect the direct results of the negotiations, without modification in this regard.

In the NOPR, DOE estimated that it will take each respondent approximately 30 hours total per company per year to comply with the certification requirements based on 20 hours of technician/technical work and 10 hours clerical work to submit the CCMS templates. For the purposes of estimating burden, DOE assumed that each respondent will submit approximately 10 CCMS templates during the course of the year, which is encompassed by the 30 hours total per company per year estimate. DOE recognizes that a respondent may submit a minimum of 1 report per year, whereas other respondents may submit one weekly. DOE estimates the burden for this rule as follows:

(1) Annual Estimated Number of Respondents: 100;

(2) Annual Estimated Number of Total Responses: 1,000;

(3) Annual Estimated Number of Burden Hours: 30,000 (14 hours for certification reports, compliance statements, and recordkeeping; 16 hours for testing pdfs);

(4) Annual Estimated Reporting and Recordkeeping Cost Burden: $300,000.

DOE requested comment on: (a) Whether the proposed collection of information is necessary for the proper performance of the functions of the agency, including whether the information shall have practical utility; (b) the accuracy of the agency's estimate of the burden of the proposed collection of information, including the validity of the methodology and assumptions used; (c) ways to enhance the quality, utility, and clarity of the information to be collected; and (d) ways to minimize the burden of the collection of information on respondents,

including through the use of automated collection techniques or other forms of information technology.

Traulsen commented on the necessity of the information DOE proposed to collect in the NOPR. Traulsen does not believe that the additional categories of information and classifications are necessary for DOE to have in addition to the efficiency ratings of products on the market. Companies should be allowed to keep its information private and present it to the DOE only if a failure is declared. (Traulsen, No. 0074.1 at p. 2) DOE does not agree with Traulsen. In order for the Department to check certification reports and conduct assessment testing, DOE requires additional information beyond the efficiency rating like product class and exact charging instructions. During the negotiation, manufacturers asserted that, without such information available prior to assessment testing, DOE would lack the ability to test certain types of equipment, which would prevent the Department from enforcing the energy conservation standards. (42 U.S.C. 6311–6317)

Four stakeholders commented on the estimated burden of the collection of information. AHRI commented that the number of hours needed to prepare and submit a certification report is more than 30 hours per year. (AHRI, No. 0072.1 at p. 4) Continental also commented that the burden to certify exceeds 30 hours per year because manufacturers have hundreds of models with thousands of product variations. Continental also remarked that with these new regulations customer requests must be reviewed for compliance, which increases manufacturer burden. (Continental, No. 0073.1 at p. 1) Summit stated that DOE underestimated the time burden to certify by two orders of magnitude and the financial burden. Summit also estimated that it would

cost manufacturers $225 million. Summit urged DOE to survey CCMS filers, including small businesses, to establish more accurate burden estimates before imposing these reporting requirements. (Summit, No. 0067 at pp. 2-3) Zero Zone remarked that it is difficult to determine if 30 hours per year per manufacturer is reasonable because the templates have not yet been posted. (Zero Zone, No. 0070.1 at pp. 1-2)

With respect to each of these concerns, DOE notes first that neither AHRI nor Continental provided an estimate of the number of hours required for certification. As a result, DOE is continuing to adhere to its current estimated number of hours. Should additional information become available in the future, DOE would reevaluate its estimates and make any necessary adjustments. Using the basic model definitions agreed upon by the Working Group, of which Continental was a voting member, manufacturers may group models with similar features and the same consumption ratings; therefore, a manufacturer is not required to certify the compliance of each, individual model separately. In addition, DOE has clarified in a CRE test procedure final rule (79 FR 22277, April 21, 2014) that a variety of options do not need to be accounted for in ratings; thus, many variations offered by manufacturers do not result in different basic models. DOE notes that the certification requirements do not impose new burdens with respect to evaluating customer requests to ensure that the equipment produced is compliant; manufacturers have had an ongoing obligation to ensure that equipment produced complied with the applicable standard.

Traulsen and Zero Zone suggested that DOE could minimize the burden of collecting information. Trauslen commented that DOE could reduce the reporting burden by limiting the

number of changes made to the certification regulations. Additionally, Traulsen commented that certification would be less burdensome if DOE provided the certification templates earlier. (Traulsen, No. 0074.1 at p. 3) DOE agrees that modifying the certification requirements can be burdensome to manufacturers. However, the changes adopted by this final rule were the result of the Working Group's recommendations, of which Traulsen, along with other manufacturers, was a participant. Regarding certification templates, the Department is not able to publish certification templates until the requirements are finalized, which they will be as a result of this final rule.

Zero Zone remarked that the certification burden would be reduced to about 8.5 hours per year if a manufacturer can advertise alternate lower energy consumption values for a model included in the basic model group; otherwise, in its view, the certification burden would be around 1333 hours per year. (Zero Zone, No. 0070.1 at pp. 1-2) As previously stated, the Working Group negotiated a definition of a basic model, which requires all of the models in the basic model to have essentially identical energy consumption or water consumption characteristics, such that the manufacturer would derive the efficiency rating for all models in the group from testing sample units of these models. All of the models in the group would comprise the "basic model," and they would all have the same efficiency rating. Manufacturers cannot advertise better energy efficiency or consumption ratings than those certified to the Department for a given basic model.

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.

D. Review Under the National Environmental Policy Act

DOE has determined that this rule falls into a class of actions that are categorically excluded from review under the National Environmental Policy Act of 1969 (42 U.S.C. 4321, et seq.) and DOE's implementing regulations at 10 CFR part 1021. Specifically, this rule adopts changes for certifying certain covered products and equipment, so it would not affect the amount, quality or distribution of energy usage, and, therefore, would not result in any environmental impacts. Thus, this rulemaking is covered by Categorical Exclusion A6 under 10 CFR part 1021, subpart D. Accordingly, neither an environmental assessment nor an environmental impact statement is required.

E. Review Under Executive Order 13132

Executive Order 13132, "Federalism," 64 FR 43255 (August 10, 1999) imposes certain requirements on agencies formulating and implementing policies or regulations that preempt State law or that have Federalism implications. The Executive Order requires agencies to examine the constitutional and statutory authority supporting any action that would limit the policymaking discretion of the States and to 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 rule and has determined that it does 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 products that are the subject of this final 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.

F. 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, this final rule meets the relevant standards of Executive Order 12988.

G. 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. Pub. L. No. 104-4, sec. 201 (codified at 2 U.S.C. 1531). For a 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 www.gc.doe.gov. DOE examined this final 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.

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

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

I. 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 regulation would not result in any takings that might require compensation under the Fifth Amendment to the U.S. Constitution.

J. Review Under the Treasury and General Government Appropriations Act, 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 final rule under the OMB and DOE guidelines and has concluded that it is consistent with the applicable policies in those guidelines.

K. Review Under Executive Order 13211

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 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.

This final rule amends certification requirements for all covered consumer products and commercial equipment and is not a significant regulatory action under Executive Order 12866. Moreover, it does 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.

L. 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 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. This final rule to amend the certification requirements for all covered consumer products and commercial equipment does not propose the use of any commercial standards.

M. Congressional Notification

As required by 5 U.S.C. 801, the DOE will submit to Congress a report regarding the issuance of this final rule prior to the effective date set forth at the outset of this rule. The report will state that it has been determined that the rule is not a "major rule" as defined by 5 U.S.C. 801(2).

IV. Approval of the Office of the Secretary

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

List of Subjects

10 CFR Part 429

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

Issued in Washington, DC, on April 28, 2014.

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

For the reasons set forth in the preamble, DOE is amending part 429 of chapter II, subchapter D, of title 10 of the Code of Federal Regulations, as set forth below:

PART 429 – CERTIFICATION, COMPLIANCE AND ENFORCEMENT FOR CONSUMER PRODUCTS AND COMMERCIAL AND INDUSTRIAL EQUIPMENT

1. The authority citation for part 429 continues to read as follows:

Authority: 42 U.S.C. 6291–6317.

2. Section 429.2 is amended by adding, in alphabetical order, the definition for "engineered-to-order" to read as follows:

§ 429.2 Definitions.

* * * * *

Engineered-to-order means a basic model of commercial water heating equipment, commercial packaged boiler, commercial heating, ventilation, and air conditioning (HVAC) equipment, or commercial refrigeration equipment that is: (1) not listed in any catalogs or marketing literature and (2) designed and built to specific customer requirements. A unit of an engineered-to-order basic model is not offered as a set of options (e.g., configure-to-order, menu-system).

* * * * *

3. Section 429.7 is amended by revising paragraph (a), redesignating paragraphs (b) and (c) as paragraphs (c) and (d), respectively, and adding new paragraph (b) to read as follows:

§429.7 Confidentiality.

(a) The following records are not exempt from public disclosure: product or equipment type; product or equipment class; private labeler name; brand name; applicable model number(s) unless that information meets the criteria specified in paragraph (b) of this section; energy or water ratings submitted by manufacturers to DOE pursuant to § 429.12(b)(13); whether the certification was based on a test procedure waiver and the date of such waiver; and whether the certification was based on exception relief from the Office of Hearing and Appeals and the date of such relief.

(b) An individual, manufacturer model number is public information unless it is:

(1) The individual, manufacturer model number is a unique model number of a commercial packaged boiler, commercial water heating equipment, commercial HVAC equipment or commercial refrigeration equipment that was developed for an individual customer,

(2) The individual, manufacturer model number is not displayed on product literature, and

(3) The manufacturer treats the model number as confidential business information – in which case, the manufacturer may identify the individual manufacturer model number as a private model number on a certification report submitted pursuant to §429.12(b)(6).

* * * * *

4. Section 429.12 is amended by revising paragraph (b) to read as follows:

§ 429.12 General requirements applicable to certification reports.

* * * * *

(b) Certification report. A certification report shall include a compliance statement (see paragraph (c) of this section), and for each basic model, the information listed in this paragraph (b).

(1) Product or equipment type;

(2) Product or equipment class (as denoted in the provisions of part 430 or 431 of this chapter containing the applicable energy conservation standard);

(3) Manufacturer's name and address;

(4) Private labeler's name(s) and address(es) (if applicable);

(5) Brand name;

(6) For each brand, the basic model number and the manufacturer's individual model number(s) in that basic model with the following exceptions: For external power supplies that are certified based on design families, the design family model number and the individual manufacturer's model numbers covered by that design family must be submitted for each brand. For walk-in coolers, the basic model number for each brand must be submitted. For distribution transformers, the basic model number or kVA grouping model number (depending on the certification method) for each brand must be submitted. For commercial HVAC, WH, and refrigeration equipment, an individual manufacturer model number may be identified as a "private model number" if it meets the requirements of §429.7(b).

(7) Whether the submission is for a new model, a discontinued model, a correction to a previously submitted model, data on a carryover model, or a model that has been found in violation of a voluntary industry certification program;

(8) The test sample size (i.e., number of units tested for each basic model). Manufacturers must enter “0” if an AEDM was used in lieu of testing;

(9) The certifying party's U.S. Customs and Border Protection (CBP) importer identification numbers assigned by CBP pursuant to 19 CFR 24.5, if applicable;

(10) Whether certification is based upon any waiver of test procedure requirements under § 430.27 or § 431.401of this chapter and the date(s) of such waiver(s);

(11) Whether certification is based upon any exception relief from an applicable energy conservation standard and the date such relief was issued by DOE's Office of Hearings and Appeals;

(12) If the test sample size is listed as “0” to indicate the certification is based upon the use of an alternate way of determining measures of energy conservation, identify the method used for determining measures of energy conservation (such as "AEDM," “ARM,” or linear interpolation) and the approval date, if applicable, of any such alternate rating, testing, or efficiency determination method. Manufacturers of commercial packaged boilers, commercial water heating equipment, commercial refrigeration equipment and commercial HVAC equipment, must provide the manufacturer’s designation (name or other identifier) of the AEDM used; and

(13) Product specific information listed in §§ 429.14 through 429.54 of this chapter.

* * * * *

5. Revise § 429.41 to read as follows:

§ 429.41 Commercial Warm Air Furnaces.

(a) Determination of represented value. Manufacturers must determine the represented value, which includes the certified rating, for each basic model of commercial warm air furnace either by testing, in conjunction with the applicable sampling provisions, or by applying an AEDM.

(1) Units to be tested.

(i) If the represented value is determined through testing, the general requirements of § 429.11 are applicable; and

(ii) For each basic model selected for testing, a sample of sufficient size shall be randomly selected and tested to ensure that—

(A) Any represented value of energy consumption or other measure of energy use of a basic model for which consumers would favor lower values shall be greater than or equal to the higher of:

(1) The mean of the sample, where:

$$\bar{x} = \frac{1}{n}\sum_{i=1}^{n} x_i$$

and, $\bar{x}$ is the sample mean; n is the number of samples; and x_i is the i^{th} sample; Or,

(2) The upper 95 percent confidence limit (UCL) of the true mean divided by 1.05, where:

$$UCL = \bar{x} + t_{0.95}(\frac{s}{\sqrt{n}})$$

And $\bar{x}$ is the sample mean; s is the sample standard deviation; n is the number of samples; and $t_{0.95}$ is the t statistic for a 95% one-tailed confidence interval with n-1 degrees of freedom (from Appendix A to subpart B of part 429). And,

(B) Any represented value of energy efficiency or other measure of energy consumption of a basic model for which consumers would favor higher values shall be less than or equal to the lower of:

(1) The mean of the sample, where:

$$\bar{x} = \frac{1}{n}\sum_{i=1}^{n} x_i$$

and, $\bar{x}$ is the sample mean; n is the number of samples; and x_i is the i^{th} sample; Or,

(2) The lower 95 percent confidence limit (LCL) of the true mean divided by 0.95, where:

$$LCL = \bar{x} - t_{0.95}(\frac{s}{\sqrt{n}})$$

And $\bar{x}$ is the sample mean; s is the sample standard deviation; n is the number of samples; and $t_{0.95}$ is the t statistic for a 95% one-tailed confidence interval with n-1 degrees of freedom (from Appendix A to subpart B of part 429).

(2) Alternative efficiency determination methods. In lieu of testing, a represented value of efficiency or consumption for a basic model of commercial warm air furnace must be determined through the application of an AEDM pursuant to the requirements of § 429.70 and the provisions of this section, where:

(i) Any represented value of energy consumption or other measure of energy use of a basic model for which consumers would favor lower values shall be greater than or equal to the output of the AEDM and less than or equal to the Federal standard for that basic model; and

(ii) Any represented value of energy efficiency or other measure of energy consumption of a basic model for which consumers would favor higher values shall be less than or equal to the output of the AEDM and greater than or equal to the Federal standard for that basic model.

(b) Certification reports. (1) The requirements of § 429.12 are applicable to commercial warm air furnaces; and

(2) Pursuant to § 429.12(b)(13), a certification report must include the following public, equipment-specific information: the thermal efficiency in percent (%), and the maximum rated input capacity in British thermal units per hour (Btu/h).

(3) Pursuant to § 429.12(b)(13), a certification report must include the following additional equipment-specific information:

(i) Whether the basic model is engineered-to-order; and

(ii) For any basic model rated with an AEDM, whether the manufacturer elects the witness test option for verification testing. (See § 429.70(c)(5)(iii) for options). However, the manufacturer may not select more than 10% of AEDM-rated basic models.

(4) Pursuant to § 429.12(b)(13), a certification report may include supplemental testing instructions in PDF format. A manufacturer may also include with a certification report other supplementary items in PDF format (e.g., manuals) for DOE consideration in performing testing under subpart C of this part.

6. Section 429.42 is amended by:

a. Removing "can" from paragraph (a) and adding "must" in its place; and

b. Revising paragraph (b) to read as follows:

§ 429.42 Commercial refrigerators, freezers, and refrigerator-freezers.

* * * * *

(b) Certification reports. (1) The requirements of § 429.12 are applicable to commercial refrigerators, freezers, and refrigerator-freezers; and

(2) Pursuant to § 429.12(b)(13), a certification report must include the following public, equipment-specific information:

(i) The daily energy consumption in kilowatt hours per day (kWh/day);

(ii) The rating temperature (e.g. lowest product application temperature, if applicable) in degrees Fahrenheit (°F); and

(iii) The chilled or frozen compartment volume in cubic feet (ft^3), the adjusted volume in cubic feet (ft^3), or the total display area (TDA) in feet squared (ft^2) (as appropriate for the equipment class).

(3) Pursuant to § 429.12(b)(13), a certification report must include the following additional, equipment-specific information:

(i) Whether the basic model is engineered-to-order; and

(ii) For any basic model rated with an AEDM, whether the manufacturer elects the witness test option for verification testing. (See § 429.70(c)(5)(iii) for options). However, the manufacturer may not select more than 10% of AEDM-rated basic models.

(4) Pursuant to § 429.12(b)(13), a certification report must include supplemental information submitted in PDF format. The equipment-specific, supplemental information must include testing instructions (e.g., charging instructions); and which, if any, special features were included in rating the basic model. A manufacturer may also include with a certification report other supplementary items in PDF format (e.g., manuals) for DOE consideration in performing testing under subpart C of this part. Manufacturers may submit a single supplemental PDF with information for multiple basic models as long as the basic models to which the PDF applies are designated.

7. Section 429.43 is amended by:

a. Removing "can" from paragraph (a) and adding "must" in its place; and

b. Revising paragraph (b) to read as follows:

§ 429.43 Commercial heating, ventilating, air conditioning (HVAC) equipment.

* * * * *

(b) Certification reports. (1) The requirements of § 429.12 are applicable to commercial HVAC equipment; and

(2) Pursuant to § 429.12(b)(13), a certification report must include the following public equipment-specific information:

(i) Commercial package air-conditioning equipment (except commercial package air conditioning that are air-cooled with a cooling capacity less than 65,000 Btu/h): the energy efficiency ratio (EER in British thermal units per Watt-hour (Btu/Wh)), the rated cooling

capacity in British thermal units per hour (Btu/h), and the type(s) of heating used by the basic model (e.g., electric, gas, hydronic, none).

(ii) Commercial package heating equipment (except commercial package heating equipment that is air-cooled with a cooling capacity less than 65,000 Btu/h): the energy efficiency ratio (EER in British thermal units per Watt-hour (Btu/Wh)), the coefficient of performance (COP), the rated cooling capacity in British thermal units per hour (Btu/h), and the type(s) of heating used by the basic model (e.g., electric, gas, hydronic, none).

(iii) Commercial package air conditioning equipment that is air-cooled with a cooling capacity less than 65,000 Btu/h (3-Phase): The seasonal energy efficiency ratio (SEER in British thermal units per Watt-hour (Btu/Wh)), and the rated cooling capacity in British thermal units per hour (Btu/h).

(iv) Commercial package heating equipment that is air-cooled with a cooling capacity less than 65,000 Btu/h (3-Phase): The seasonal energy efficiency ratio (SEER in British thermal units per Watt-hour (Btu/Wh)), the heating seasonal performance factor (HSPF in British thermal units per Watt-hour (Btu/Wh)), and the rated cooling capacity in British thermal units per hour (Btu/h).

(v) Package terminal air conditioners: The energy efficiency ratio (EER in British thermal units per Watt-hour (Btu/Wh)), the rated cooling capacity in British thermal units per hour (Btu/h), and the wall sleeve dimensions in inches (in).

(vi) Package terminal heat pumps: The energy efficiency ratio (EER in British thermal units per Watt-hour (Btu/W-h)), the coefficient of performance (COP), the rated cooling capacity in British thermal units per hour (Btu/h), and the wall sleeve dimensions in inches (in).

(vii) Single package vertical air conditioners: the energy efficiency ratio (EER in British thermal units per Watt-hour (Btu/Wh)) and the rated cooling capacity in British thermal units per hour (Btu/h).

(viii) Single package vertical heat pumps: the energy efficiency ratio (EER in British thermal units per Watt-hour (Btu/Wh)), the coefficient of performance (COP), and the rated cooling capacity in British thermal units per hour (Btu/h).

(ix) Variable refrigerant flow multi-split air conditioners with rated cooling capacity less than 65,000 Btu/h (3-Phase): the seasonal energy efficiency ratio (SEER in British thermal units per Watt-hour (Btu/Wh)) and rated cooling capacity in British thermal units per hour (Btu/h).

(x) Variable refrigerant flow multi-split heat pumps with rated cooling capacity less than 65,000 Btu/h (3-Phase): the seasonal energy efficiency ratio (SEER in British thermal units per Watt-hour (Btu/Wh)), the heating seasonal performance factor (HSPF in British thermal units per Watt-hour (Btu/Wh)), and rated cooling capacity in British thermal units per hour (Btu/h).

(xi) Variable refrigerant flow multi-split air conditioners with rated cooling capacity greater than or equal to 65,000 Btu/h: the energy efficiency ratio (EER in British thermal units per Watt-hour (Btu/Wh)), rated cooling capacity in British thermal units per hour (Btu/h), and the type(s) of heating used by the basic model (e.g., electric, gas, hydronic, none).

(xii) Variable refrigerant flow multi-split heat pumps with rated cooling capacity greater than or equal to 65,000 Btu/h: the energy efficiency ratio (EER in British thermal units per Watt-hour (Btu/Wh)), the coefficient of performance (COP), rated cooling capacity in British

thermal units per hour (Btu/h), and the type(s) of heating used by the basic model (e.g., electric, gas, hydronic, none).

(xiii) Water source variable refrigerant flow heat pumps (all rated cooling capacities): the energy efficiency ratio (EER in British thermal units per Watt-hour (Btu/Wh)), the coefficient of performance (COP), rated cooling capacity in British thermal units per hour (Btu/h), and the type(s) of heating used by the basic model (e.g., electric, gas, hydronic, none).

(xiv) Computer room air-conditioners: the net sensible cooling capacity in British thermal units per hour (Btu/h), the net cooling capacity in British thermal units per hour (Btu/h), the configuration (upflow/downflow), economizer presence (yes or no), condenser medium (air, water, or glycol-cooled), sensible coefficient of performance (SCOP), and rated airflow in standard cubic feet per minute (SCFM).

(xv) Water source heat pumps (other than variable refrigerant flow): the energy efficiency ratio (EER in British thermal units per Watt-hour (Btu/Wh)), the coefficient of performance (COP), the rated cooling capacity in British thermal units per hour (Btu/h), and the type(s) of heating used by the basic model (e.g., electric, gas, hydronic, none).

(3) Pursuant to § 429.12(b)(13), a certification report must include the following additional equipment-specific information:

(i) Whether the basic model is engineered-to-order; and

(ii) For any basic model rated with an AEDM, whether the manufacturer elects the witness test option for verification testing. (See § 429.70(c)(5)(iii) for options). However, the manufacturer may not select more than 10% of AEDM-rated basic models.

(4) Pursuant to § 429.12(b)(13), a certification report must include supplemental information submitted in PDF format. A manufacturer may also include with a certification

report other supplementary items in PDF format (e.g., manuals) for DOE consideration in performing testing under subpart C of this part. The equipment-specific, supplemental information must include at least the following:

(i) Commercial package air-conditioning equipment (except commercial package air conditioning equipment that is air-cooled with a cooling capacity less than 65,000 Btu/h): the nominal cooling capacity in British thermal units per hour (Btu/h); rated airflow in standard cubic feet per minute (SCFM) for each fan coil; water flow rate in gallons per minute (gpm) for water cooled units only; rated static pressure in inches of water; refrigeration charging instructions (e.g., refrigerant charge, superheat and/or subcooling temperatures); frequency or control set points for variable speed components (e.g., compressors, VFDs); required dip switch/control settings for step or variable components; a statement whether the model will operate at test conditions without manufacturer programming; any additional testing instructions, if applicable; if a variety of motors/drive kits are offered for sale as options in the basic model to account for varying installation requirements, the model number and specifications of the motor (to include efficiency, horsepower, open/closed, and number of poles) and the drive kit, including settings, associated with that specific motor that were used to determine the certified rating; and which, if any, special features were included in rating the basic model.

(ii) Commercial package heating equipment (except commercial package heating equipment that is air-cooled with a cooling capacity less than 65,000 Btu/h): the nominal cooling capacity in British thermal units per hour (Btu/h); rated heating capacity in British thermal units per hour (Btu/h); rated airflow in standard cubic feet per minute (SCFM) for each fan coil; water flow rate in gallons per minute (gpm) for water cooled units only; rated static pressure in inches of water; refrigeration charging instructions (e.g., refrigerant charge, superheat and/or subcooling

temperatures); frequency or control set points for variable speed components (e.g., compressors, VFDs); required dip switch/control settings for step or variable components; a statement whether the model will operate at test conditions without manufacturer programming; any additional testing instructions, if applicable; if a variety of motors/drive kits are offered for sale as options in the basic model to account for varying installation requirements, the model number and specifications of the motor (to include efficiency, horsepower, open/closed, and number of poles) and the drive kit, including settings, associated with that specific motor that were used to determine the certified rating; and which, if any, special features were included in rating the basic model.

(iii) Commercial package air conditioning equipment that is air-cooled with a cooling capacity less than 65,000 Btu/h (3-phase): the nominal cooling capacity in British thermal units per hour (Btu/h); rated airflow in standard cubic feet per minute (SCFM) for each fan coil; rated static pressure in inches of water; refrigeration charging instructions (e.g., refrigerant charge, superheat and/or subcooling temperatures); frequency or control set points for variable speed components (e.g., compressors, VFDs); required dip switch/control settings for step or variable components; a statement whether the model will operate at test conditions without manufacturer programming; any additional testing instructions, if applicable; if a variety of motors/drive kits are offered for sale as options in the basic model to account for varying installation requirements, the model number and specifications of the motor (to include efficiency, horsepower, open/closed, and number of poles) and the drive kit, including settings, associated with that specific motor that were used to determine the certified rating; and which, if any, special features were included in rating the basic model.

(iv) Commercial package heating equipment that is air-cooled with a cooling capacity less than 65,000 Btu/h (3-phase): the nominal cooling capacity in British thermal units per hour (Btu/h); rated heating capacity in British thermal units per hour (Btu/h); rated airflow in standard cubic feet per minute (SCFM) for each fan coil; rated static pressure in inches of water; refrigeration charging instructions (e.g., refrigerant charge, superheat and/or subcooling temperatures); frequency or control set points for variable speed components (e.g., compressors, VFDs); required dip switch/control settings for step or variable components; a statement whether the model will operate at test conditions without manufacturer programming; any additional testing instructions, if applicable; if a variety of motors/drive kits are offered for sale as options in the basic model to account for varying installation requirements, the model number and specifications of the motor (to include efficiency, horsepower, open/closed, and number of poles) and the drive kit, including settings, associated with that specific motor that were used to determine the certified rating; and which, if any, special features were included in rating the basic model.

(v) Variable refrigerant flow multi-split air conditioners with cooling capacity less than 65,000 Btu/h (3-phase): the nominal cooling capacity in British thermal units per hour (Btu/h); outdoor unit(s) and indoor units identified in the tested combination; components needed for heat recovery, if applicable; rated airflow in standard cubic feet per minute (SCFM) for each indoor unit; water flow rate in gallons per minute (gpm) for water-cooled units only; rated static pressure in inches of water; compressor frequency set points; required dip switch/control settings for step or variable components; a statement whether the model will operate at test conditions without manufacturer programming; any additional testing instructions, if applicable; if a variety of motors/drive kits are offered for sale as options in the basic model to account for varying

installation requirements, the model number and specifications of the motor (to include efficiency, horsepower, open/closed, and number of poles) and the drive kit, including settings, associated with that specific motor that were used to determine the certified rating; and which, if any, special features were included in rating the basic model. Additionally, upon DOE request, the manufacturer must provide a layout of the system set-up for testing including charging instructions consistent with the installation manual.

(vi) Variable refrigerant flow multi-split heat pumps with cooling capacity less than 65,000 Btu/h (3-phase): the nominal cooling capacity in British thermal units per hour (Btu/h); rated heating capacity in British thermal units per hour (Btu/h); outdoor unit(s) and indoor units identified in the tested combination; components needed for heat recovery, if applicable; rated airflow in standard cubic feet per minute (SCFM) for each indoor unit; water flow rate in gallons per minute (gpm) for water-cooled units only; rated static pressure in inches of water; compressor frequency set points; required dip switch/control settings for step or variable components; a statement whether the model will operate at test conditions without manufacturer programming; any additional testing instructions, if applicable; if a variety of motors/drive kits are offered for sale as options in the basic model to account for varying installation requirements, the model number and specifications of the motor (to include efficiency, horsepower, open/closed, and number of poles) and the drive kit, including settings, associated with that specific motor that were used to determine the certified rating; and which, if any, special features were included in rating the basic model. Additionally, upon DOE request, the manufacturer must provide a layout of the system set-up for testing including charging instructions consistent with the installation manual.

(vii) Variable refrigerant flow multi-split air conditioners with cooling capacity greater than or equal to 65,000 Btu/h: the nominal cooling capacity in British thermal units per hour (Btu/h); outdoor unit(s) and indoor units identified in the tested combination; components needed for heat recovery, if applicable; rated airflow in standard cubic feet per minute (SCFM) for each indoor unit; water flow rate in gallons per minute (gpm) for water-cooled units only; rated static pressure in inches of water; compressor frequency set points; required dip switch/control settings for step or variable components; a statement whether the model will operate at test conditions without manufacturer programming; any additional testing instructions if applicable; if a variety of motors/drive kits are offered for sale as options in the basic model to account for varying installation requirements, the model number and specifications of the motor (to include efficiency, horsepower, open/closed, and number of poles) and the drive kit, including settings, associated with that specific motor that were used to determine the certified rating; and which, if any, special features were included in rating the basic model. Additionally, upon DOE request, the manufacturer must provide a layout of the system set-up for testing including charging instructions consistent with the installation manual.

(viii) Variable refrigerant flow multi-split heat pumps with cooling capacity greater than or equal to 65,000 Btu/h: the nominal cooling capacity in British thermal units per hour (Btu/h); rated heating capacity in British thermal units per hour (Btu/h); outdoor unit(s) and indoor units identified in the tested combination; components needed for heat recovery, if applicable; rated airflow in standard cubic feet per minute (SCFM) for each indoor unit; water flow rate in gallons per minute (gpm) for water-cooled units only; rated static pressure in inches of water; compressor frequency set points; required dip switch/control settings for step or variable components; a statement whether the model will operate at test conditions without

manufacturer programming; any additional testing instructions if applicable; if a variety of motors/drive kits are offered for sale as options in the basic model to account for varying installation requirements, the model number and specifications of the motor (to include efficiency, horsepower, open/closed, and number of poles) and the drive kit, including settings, associated with that specific motor that were used to determine the certified rating; and which, if any, special features were included in rating the basic model. Additionally, upon DOE request, the manufacturer must provide a layout of the system set-up for testing including charging instructions consistent with the installation manual.

(ix) Water source variable refrigerant flow heat pumps: the nominal cooling capacity in British thermal units per hour (Btu/h); rated heating capacity in British thermal units per hour (Btu/h); rated airflow in standard cubic feet per minute (SCFM) for each indoor unit; water flow rate in gallons per minute (gpm); rated static pressure in inches of water; refrigeration charging instructions (e.g., refrigerant charge, superheat and/or subcooling temperatures); frequency set points for variable speed components (e.g., compressors, VFDs), including the required dip switch/control settings for step or variable components; a statement whether the model will operate at test conditions without manufacturer programming; any additional testing instructions if applicable; if a variety of motors/drive kits are offered for sale as options in the basic model to account for varying installation requirements, the model number and specifications of the motor (to include efficiency, horsepower, open/closed, and number of poles) and the drive kit, including settings, associated with that specific motor that were used to determine the certified rating; and which, if any, special features were included in rating the basic model. Additionally, upon DOE request, the manufacturer must provide a layout of the system set-up for testing including charging instructions consistent with the installation manual.

(x) Water source heat pumps: the nominal cooling capacity in British thermal units per hour (Btu/h); rated heating capacity in British thermal units per hour (Btu/h); rated airflow in standard cubic feet per minute (SCFM) for each indoor unit; water flow rate in gallons per minute (gpm); rated static pressure in inches of water; refrigerant charging instructions, (e.g., refrigerant charge, superheat and/or subcooling temperatures); frequency set points for variable speed components (e.g., compressors, VFDs), including the required dip switch/control settings for step or variable components; a statement whether the model will operate at test conditions without manufacturer programming; any additional testing instructions if applicable; if a variety of motors/drive kits are offered for sale as options in the basic model to account for varying installation requirements, the model number and specifications of the motor (to include efficiency, horsepower, open/closed, and number of poles) and the drive kit, including settings, associated with that specific motor that were used to determine the certified rating; and which, if any, special features were included in rating the basic model.

(xi) Single package vertical air conditioners: any additional testing instructions, if applicable; if a variety of motors/drive kits are offered for sale as options in the basic model to account for varying installation requirements, the model number and specifications of the motor (to include efficiency, horsepower, open/closed, and number of poles) and the drive kit, including settings, associated with that specific motor that were used to determine the certified rating; and which, if any, special features were included in rating the basic model.

(xii) Single package vertical heat pumps: any additional testing instructions, if applicable; if a variety of motors/drive kits are offered for sale as options in the basic model to account for varying installation requirements, the model number and specifications of the motor (to include efficiency, horsepower, open/closed, and number of poles) and the drive kit,

including settings, associated with that specific motor that were used to determine the certified rating; and which, if any, special features were included in rating the basic model.

(xiii) Computer room air-conditioners: any additional testing instructions, if applicable; and which, if any, special features were included in rating the basic model.

(xiv) Package terminal air conditioners and package terminal heat pumps: any additional testing instructions, if applicable.

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8. Section 429.44 is amended by:

a. Removing "can" in paragraph (a) and adding "must" in its place; and

b. Revising paragraph (b) to read as follows:

§ 429.44 Commercial water heating equipment.

* * * * *

(b) Certification reports. (1) The requirements of § 429.12 are applicable to commercial WH equipment; and

(2) Pursuant to § 429.12(b)(13), a certification report must include the following public equipment-specific information:

(i) Commercial electric storage water heaters: the maximum standby loss in percent per hour (%/hr) and the measured storage volume in gallons (gal).

(ii) Commercial gas-fired and oil-fired storage water heaters: the thermal efficiency in percent (%), the maximum standby loss in British thermal units per hour (Btu/h), the rated storage volume in gallons (gal), and the nameplate input rate in British thermal units per hour (Btu/h).

(iii) Commercial water heaters and hot water supply boilers with storage capacity greater than 140 gallons: the thermal efficiency in percent (%), whether the storage volume is greater than 140 gallons (Yes/No); whether the tank surface area is insulated with at least R-12.5 (Yes/No); whether a standing pilot light is used (Yes/No); for gas or oil-fired water heaters, whether the basic model has a fire damper or fan assisted combustion (Yes/No); and, if applicable, pursuant to 10 CFR 431.110, the maximum standby loss in British thermal units per hour (Btu/ h) and measured storage volume in gallons (gal).

(iv) Commercial gas-fired and oil-fired instantaneous water heaters greater than or equal to 10 gallons and gas-fired and oil-fired hot water supply boilers greater than or equal to 10 gallons: the thermal efficiency in percent (%), the maximum standby loss in British thermal units per hour (Btu/h), the rated storage volume in gallons (gal), and the nameplate input rate in Btu/h.

(v) Commercial gas-fired and oil-fired instantaneous water heaters less than 10 gallons and gas-fired and oil-fired hot water supply boilers less than 10 gallons: the thermal efficiency in percent (%) and the rated storage volume in gallons (g).

(vi) Commercial unfired hot water storage tanks: the thermal insulation (i.e., R-value) and stored volume in gallons (gal).

(3) Pursuant to § 429.12(b)(13), a certification report must include the following additional, equipment-specific information:

(i) Whether the basic model is engineered-to-order; and

(ii) For any basic model rated with an AEDM, whether the manufacturer elects the witness test option for verification testing. (See § 429.70(c)(5)(iii) for options). However, the manufacturer may not select more than 10% of AEDM-rated basic models to be eligible for witness testing.

(4) Pursuant to § 429.12(b)(13), a certification report may include supplemental testing instructions in PDF format. A manufacturer may also include with a certification report other supplementary items in PDF format (e.g., manuals) for DOE consideration in performing testing under subpart C of this part.

* * * * *

9. Add § 429.60 to read as follows:

§ 429.60 Commercial packaged boilers.

(a) Determination of represented value. Manufacturers must determine the represented value, which includes the certified rating, for each basic model of commercial packaged boilers either by testing, in conjunction with the applicable sampling provisions, or by applying an AEDM.

(1) Units to be tested.

(i) If the represented value is determined through testing, the general requirements of § 429.11 are applicable; and

(ii) For each basic model selected for testing, a sample of sufficient size shall be randomly selected and tested to ensure that—

(A) Any represented value of energy consumption or other measure of energy use of a basic model for which consumers would favor lower values shall be greater than or equal to the higher of:

(1) The mean of the sample, where:

$$\bar{x} = \frac{1}{n}\sum_{i=1}^{n} x_i$$

and, $\bar{x}$ is the sample mean; n is the number of samples; and x_i is the i^{th} sample; Or,

(2) The upper 95 percent confidence limit (UCL) of the true mean divided by 1.05, where:

$$UCL = \bar{x} + t_{0.95}(\frac{s}{\sqrt{n}})$$

And $\bar{x}$ is the sample mean; s is the sample standard deviation; n is the number of samples; and $t_{0.95}$ is the t statistic for a 95% one-tailed confidence interval with n-1 degrees of freedom (from Appendix A to subpart B of part 429). And,

(B) Any represented value of energy efficiency or other measure of energy consumption of a basic model for which consumers would favor higher values shall be less than or equal to the lower of:

(1) The mean of the sample, where:

$$\bar{x} = \frac{1}{n}\sum_{i=1}^{n} x_i$$

and, $\bar{x}$ is the sample mean; n is the number of samples; and x_i is the i^{th} sample; Or,

(2) The lower 95 percent confidence limit (LCL) of the true mean divided by 0.95, where:

$$LCL = \bar{x} - t_{0.95}(\frac{s}{\sqrt{n}})$$

And $\bar{x}$ is the sample mean; s is the sample standard deviation; n is the number of samples; and $t_{0.95}$ is the t statistic for a 95% one-tailed confidence interval with n-1 degrees of freedom (from Appendix A to subpart B of part 429).

(2) Alternative efficiency determination methods. In lieu of testing, a represented value of efficiency or consumption for a basic model of commercial packaged boiler must be determined

through the application of an AEDM pursuant to the requirements of § 429.70 and the provisions of this section, where:

(i) Any represented value of energy consumption or other measure of energy use of a basic model for which consumers would favor lower values shall be greater than or equal to the output of the AEDM and less than or equal to the Federal standard for that basic model; and

(ii) Any represented value of energy efficiency or other measure of energy consumption of a basic model for which consumers would favor higher values shall be less than or equal to the output of the AEDM and greater than or equal to the Federal standard for that basic model.

(b) Certification reports. (1) The requirements of § 429.12 are applicable to commercial packaged boilers; and

(2) Pursuant to § 429.12(b)(13), a certification report must include the following public equipment-specific information: the combustion efficiency in percent (%) or the thermal efficiency in percent (%), as required in § 431.87 of this chapter; and the maximum rated input capacity in British thermal units per hour (Btu/h).

(3) Pursuant to § 429.12(b)(13), a certification report must include the following additional equipment-specific information:

(i) Whether the basic model is engineered-to-order; and

(ii) For any basic model rated with an AEDM, whether the manufacturer elects the witness test option for verification testing. (See § 429.70(c)(5)(iii) for options). However, the manufacturer may not select more than 10% of AEDM-rated basic models to be eligible for witness testing.

(4) Pursuant to § 429.12(b)(13), a certification report may include supplemental testing instructions in PDF format. A manufacturer may also include with a certification report other supplementary items in PDF format (e.g., manuals) for DOE consideration in performing testing under subpart C of this part.

(c) Alternative methods for determining efficiency or energy use for commercial packaged boilers can be found in § 429.70.

10. Section 429.70 is amended by revising the section heading and the introductory text in paragraph (c) to read as follows:

§ 429.70 Alternative methods for determining energy efficiency and energy use.

* * * * *

(c) *Alternative efficiency determination method (AEDM) for commercial HVAC (includes commercial warm air furnaces and commercial packaged boilers), WH, and refrigeration equipment—* ***

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