

PTC 4.1 (Incorporated by reference, see § 431.85).

(ii) *Test Conditions for the Combustion Efficiency.*

(A) Steam pressure for steam boilers—Test must be made at atmospheric pressure or at a pressure not exceeding 2 psig.

(B) Water temperature for hot water boilers—The inlet temperature must be 35 °F to 80 °F, except that when a boiler is tested in the field after installation the inlet temperature may be as recommended by the manufacturer, but must not exceed 140 °F. The outlet temperature shall be 180 °F ± 2 °F.

(C) After steady state operation is achieved, the minimum duration of a test run shall be 30 minutes.

(2) *Test Measurements.* Use the test procedure from Section 5, Efficiency by Heat Loss Method, of ASME PTC 4.1 (Incorporated by reference, see § 431.85). Use the test conditions as specified in paragraph (d)(1) of this section. For a boiler that is capable of supplying either steam or hot water, follow paragraph (c)(2)(iii) of this section.

(3) *Calculation of Combustion Efficiency.* Use the heat loss method for gas or oil fuel as specified in Section 7.3 and the Test Forms for the Abbreviated Efficiency Test, PTC 4.1-a (Summary Sheet) and PTC 4.1-b (Calculation Sheet), of ASME PTC 4.1 to determine the combustion efficiency, except that the following specific heat loss terms (as listed in Section 7.3 of ASME PTC 4.1) to 0: sections 7.3.2.03 (moisture in fuel), 7.3.2.01 (combustible in dry refuse), 7.3.2.10 (radiation to surroundings), 7.3.2.05 through 7.3.2.09 and 7.3.2.11 through 7.3.2.14 (unmeasured losses) must be set. (Incorporated by reference, see § 431.85)

Energy Efficiency Standards

§ 431.87 Energy conservation standards and their effective dates.

Each manufacturer of a commercial packaged boiler manufactured on or after January 1, 1994, must meet the following energy efficiency standard levels:

(a) For a gas-fired packaged boiler with a capacity (rated maximum input) of 300,000 Btu/hr or more, the combustion efficiency at the maximum rated capacity must be not less than 80 percent.

(b) For an oil-fired packaged boiler with a capacity (rated maximum input) of 300,000 Btu/hr or more, the combustion efficiency at the maximum

rated capacity must be not less than 83 percent.

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DEPARTMENT OF ENERGY

Office of Energy Efficiency and Renewable Energy

10 CFR Part 431

[Docket No. EE-RM/TP-99-460]

RIN 1904-AA97

Energy Efficiency Program for Certain Commercial and Industrial Equipment: Test Procedures and Efficiency Standards for Commercial Air Conditioners and Heat Pumps

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

ACTION: Direct final rule.

SUMMARY: Pursuant to the Energy Policy and Conservation Act (EPCA), the Department of Energy (the Department) promulgates a rule that accomplishes three objectives. First and principally, the rule sets forth test procedures to rate the energy efficiency of commercial air conditioners and heat pumps. Second, for ease of reference by commercial air conditioner manufacturers, this rule also includes the energy conservation standards prescribed by EPCA for commercial equipment that the Department has not amended. Third, also for ease of reference by commercial air conditioner manufacturers, the rule moves commercial air conditioning and heat pump minimum efficiency levels to a separate subpart.

DATES: This direct final rule is effective December 20, 2004, unless significant adverse or critical comments are received by November 22, 2004. If the effective date is delayed, a timely notice will be published in the **Federal Register**. The incorporation by reference of certain publications listed in this rule is approved by the Director of the Federal Register as of December 20, 2004.

ADDRESSES: You may submit comments, identified by docket number EE-RM/TP-99-460 and/or RIN number 1904-AA97, by any of the following methods:

- Federal eRulemaking Portal: <http://www.regulations.gov>. Follow the instructions for submitting comments.
- E-mail: CommACHeatPumpDirectFinalRuleComments@ee.doe.gov. Include EE-RM/TP-99-460 and/or RIN 1904-AA97 in the subject line of the message.

- Mail: Ms. Brenda Edwards-Jones, U.S. Department of Energy, Building Technologies Program, Mailstop EE-2J, Direct Final Rule for Commercial AC and Heat Pumps, EE-RM/TP-99-460 and/or RIN 1904-AA97, 1000 Independence Avenue, SW., Washington, DC, 20585-0121. Telephone: (202) 586-2945. Please submit one signed paper original.

- Hand Delivery/Courier: Ms. Brenda Edwards-Jones, U.S. Department of Energy, Building Technologies Program, Room 1J-018, 1000 Independence Avenue, SW., Washington, DC, 20585.

Instructions: All submissions received must include the agency name and docket number or Regulatory Information Number (RIN) for this rulemaking.

Docket: For access to the docket to read background documents or comments received, go to the U.S. Department of Energy, Forrestal Building, Room 1J-018 (Resource Room of the Building Technologies Program), 1000 Independence Avenue, SW., Washington, DC, (202) 586-9127, between 9 a.m. and 4 p.m., Monday through Friday, except Federal holidays. Please call Ms. Brenda Edwards-Jones at the above telephone number for additional information regarding visiting the Resource Room. **Please note:** The Department's Freedom of Information Reading Room (formerly Room 1E-190 at the Forrestal Building) is no longer housing rulemaking materials.

FOR FURTHER INFORMATION CONTACT:

Mohammed Khan, Project Manager, U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, Building Technologies Program, Forrestal Building, EE-2J, 1000 Independence Avenue, SW., Washington, DC 20585-0121, (202) 586-7892, FAX (202) 586-4617, e-mail: Mohammed.Khan@ee.doe.gov, or Francine Pinto, Esq., U.S. Department of Energy, Office of General Counsel, Forrestal Building, GC-72, 1000 Independence Avenue, SW., Washington, DC 20585, (202) 586-9507, e-mail: Francine.Pinto@hq.doe.gov.

SUPPLEMENTARY INFORMATION: This direct final rule incorporates, by reference, into Subpart F of Part 431, four test procedures for air conditioners and heat pumps contained in industry standards referenced by the American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. (ASHRAE) and the Illuminating Engineering Society of North America (IES or IESNA) Standard 90.1 (ASHRAE/IES Standard 90.1). Two of these industry standards were published

by the Air-Conditioning and Refrigeration Institute (ARI), the third was published by the International Organization for Standardization (ISO), and the fourth was jointly published by the ARI and the Canadian Standards Association (CSA). These four standards are as follows:

- ARI Standard 210/240-2003, “Unitary Air-Conditioning and Air-Source Heat Pump Equipment”,
- ARI Standard 340/360-2000, “Commercial and Industrial Unitary Air-Conditioning and Heat Pump Equipment”,
- ISO Standard 13256-1, “Water-source heat pumps—Testing and rating for performance—Part 1: Water-to-air and brine-to-air heat pumps”, and
- ARI Standard 310/380-2004 (which also has a CSA designation CSA-C744-04), “Standard for Packaged Terminal Air-Conditioners and Heat Pumps.”

You can view copies of these standards in the resource of the Buildings Technologies Program, room 1J-018 of the Forrestal Building at the Department of Energy, 1000 Independence Avenue, SW., Washington, DC 20585, between the hours of 9 a.m. and 4 p.m., Monday through Friday, except Federal holidays. Please call Ms. Brenda Edwards-Jones at (202) 586-2945, for additional information regarding visiting the resource room. In addition, you can purchase copies of ASHRAE/IES Standard 90.1 from the American Society of Heating, Refrigerating, and Air-Conditioning Engineers, Inc., 1971 Tullie Circle, NE., Atlanta, GA 30329, <http://www.ashrae.org>; you can purchase copies of ISO Standard 13256-1 from the International Organization for Standardization, Case Postale 56, CH-1211, Geneva 20, Switzerland. <http://www.iso.ch/> or from the American National Standards Institute, 25 West 43rd Street, New York, New York 10036, <http://www.ansi.org>. Copies of ARI standards are available from the Air-Conditioning and Refrigeration Institute, 4301 North Fairfax Drive, Suite 425, Arlington, VA 22203, <http://www.ari.org>.

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I. Introduction

A. Authority

Part B of Title III of the Energy Policy and Conservation Act (EPCA) of 1975, Public Law 94-163, as amended, by the National Energy Conservation Policy Act of 1978 (NECPA), Public Law 95-619, the National Appliance Energy Conservation Act of 1987 (NAECA), Public Law 100-12, the National Appliance Energy Conservation Amendments of 1988 (NAECA 1988), Public Law 100-357, and the Energy Policy Act of 1992 (EPACT), Public Law 102-486, established the “Energy Conservation Program for Consumer Products other than Automobiles.” Part 3 of Title IV of NECPA amended EPCA to add “Energy Efficiency of Industrial Equipment,” which included air conditioning equipment and other types of commercial equipment.¹

EPACT also amended EPCA with respect to certain commercial equipment. It provided definitions, test procedures, labeling provisions, energy conservation standards, and authority to require information and reports from manufacturers. See 42 U.S.C. 6311-6316. EPCA authorizes the Secretary of Energy to prescribe test procedures that

are reasonably designed to produce results which reflect energy efficiency, energy use and estimated operating costs, and that are not unduly burdensome to conduct. (42 U.S.C. 6314)

With respect to some commercial equipment for which EPCA prescribes energy conservation standards, including commercial air conditioners and heat pumps, “the test procedures shall be those generally accepted industry testing procedures or rating procedures developed or recognized by the Air-Conditioning and Refrigeration Institute or by the American Society of Heating, Refrigerating and Air Conditioning Engineers, as referenced in ASHRAE/IES Standard 90.1 and in effect on June 30, 1992.” (42 U.S.C. 6314(a)(4)(A)) Further, if such an industry testing or rating procedure is amended, the Department must revise its test procedure to be consistent with the amendment, unless the Secretary determines, based on clear and convincing evidence, that to do so would not meet certain general requirements spelled out in the statute for test procedures. (42 U.S.C. 6314(a)(4)(B)) Before prescribing any test procedures for such equipment, the Secretary must publish them in the **Federal Register** and afford interested persons at least 45 days to present data, views and arguments. (42 U.S.C. 6314(b)) Effective 360 days after a test procedure rule applicable to any covered commercial equipment, such as a commercial air conditioner and heat pump, is prescribed, no manufacturer, distributor, retailer or private labeler may make any representation in writing or in broadcast advertisement respecting the energy consumption or cost of energy consumed by such product, unless it has been tested in accordance with the prescribed procedure and such representation fairly discloses the results of the testing. (42 U.S.C. 6314(d)) Finally, EPACT extends certain powers, originally granted to the Secretary under NAECA, to require manufacturers of equipment covered by today’s rule to submit information and reports for a variety of purposes, including ensuring compliance with requirements. See 42 U.S.C. 6316(b)(1).

B. Background

The Department has an energy conservation program for consumer products, and certain commercial equipment, conducted under Part B of Title III of EPCA, 42 U.S.C. 6291-6309. Under EPCA, this program essentially consists of four parts: Test procedures, Federal energy conservation standards, labeling, and certification and

¹ “EPCA” or the “Act,” as used in this notice of final rulemaking, refers to the Energy Policy and Conservation Act of 1975 as amended by all of the statutes mentioned in this paragraph.

enforcement procedures. Except for labeling, for which the Federal Trade Commission (FTC) is responsible, the Department implements this program in Title 10 of the Code of Federal Regulations (CFR), Part 430, entitled "Energy Conservation Program for Consumer Products."

Part 431 (10 CFR Part 431), entitled "Certain Industrial Equipment," implements our program for most commercial and industrial equipment covered under EPCA. These will include commercial heating, air conditioning and water heating equipment. Part 431 will consist of: Test procedures, Federal energy conservation standards, labeling, and certification and enforcement procedures. EPCA directs the Department, rather than the FTC, to administer the statute's efficiency labeling provisions for this commercial equipment.

In preparing proposed rules that would address test procedures, certification and enforcement procedures, and issues of EPCA's coverage for this equipment, the Department convened public workshops on April 14 and 15, 1998, and on October 19, 1998. As to commercial air conditioners and heat pumps specifically, workshop discussions and comments dealt with the following six issues:

- (1) Coverage of heating-only heat pumps;
- (2) Coverage of computer room air conditioners;
- (3) Coverage of equipment with a variable-speed drive;
- (4) Test procedures to be adopted;
- (5) Minimum external static pressure; and
- (6) Test procedure for water-source heat pumps.

The Department considered both oral and written comments, and incorporated recommendations where appropriate, in the Notice of Proposed Rulemaking (NOPR) of August 9, 2000. 65 FR 48828. The discussion section of the NOPR presented our position and explained the reasons for incorporating or not incorporating any significant recommendations. The NOPR was followed by a public hearing on September 21, 2000, and an opportunity for submission of written comments. The Department received oral or written comments from interested persons. They questioned or disagreed with the Department's position as presented in the NOPR only as to computer room air conditioners, variable speed equipment, and the test procedure for water source heat pumps. These comments are discussed in Section II.

Energy conservation standard levels were not at issue in these proceedings. The NOPR merely proposed to

incorporate into the Department's regulations on efficiency requirements for small and large commercial package air conditioning and heating equipment the standard levels that had been established in Section 342(a) of EPCA for these products. Subsequent to issuance of the NOPR, in a separate proceeding, the Department promulgated a regulation (10 CFR part 431, Subpart Q) to replace some of these levels by adopting as Federal standards some of the efficiency levels contained in amendments to ASHRAE/IES Standard 90.1. 66 FR 3336, 3354-55 (January 12, 2001). These new Federal standards became effective on October 29, 2003.

C. Summary of the Direct Final Rule

Today's rule for commercial air conditioners and heat pumps includes: (1) Energy efficiency test procedures, (2) energy conservation standards, and (3) clarifications regarding EPCA's coverage.

The four test procedures incorporated in the rule—three ARI Standards and one ISO Standard—are listed at the beginning of this **SUPPLEMENTARY INFORMATION**. In particular, for water-source heat pumps ISO Standard 13256-1 is the prescribed testing methodology. (Incorporated by reference, see § 431.95). Furthermore, today's direct final rule adopts ARI Standard 340/360-2000 both without change as the test procedure for equipment with cooling capacities from 135,000 to 240,000 Btu per hour, and also with modifications (taken from ARI Standard 210/240-2003) as the test procedure for equipment at or above 65,000 but less than 135,000 Btu per hour. These modifications will ensure the proper testing of equipment: (1) With desuperheater/water heating devices, (2) manufactured without indoor air-circulating fans, (3) with indoor fans, and not made for use with field-installed duct systems (free discharge), or (4) that is water-cooled. Section II. discusses the modifications in detail.

As described in the Discussion section below, this rule will adopt the most recent versions of the ARI test standards as referenced above. These revisions occurred subsequent to the publication of the NOPR on August 9, 2000. By adopting the revised ARI test standards, with certain modifications, this rule will be current with industry test standards and it will ensure that the equipment covered by this rule is tested properly. However, because there has not been prior opportunity for comment on these revisions, stakeholders will be

given such an opportunity as described at the beginning of this notice.

The Department has included the conservation standards so that they and the test procedures for commercial air conditioners and heat pumps will be in the same place in our regulations. The standards are the currently applicable minimum energy efficiency levels prescribed by Section 342(a) of EPCA, as well as the amendments to certain of these levels, referred to above. The amendments are being transferred from 10 CFR part 431 Subpart Q.²

Because the Department believes that EPCA neither prescribes nor mandates efficiency standards or test procedures for computer room air conditioners, today's direct final rule does not cover this product. Nor does the rule include efficiency standards that account for partial load performance for commercial air conditioning equipment, except to restate those Seasonal Energy Efficiency Ratio (SEER) and Heating Seasonal Performance Factor (HSPF) standards already prescribed by EPCA for certain equipment less than 65,000 Btu per hour, since as to efficiency standards the purpose of today's rule is merely to incorporate existing requirements.

Finally, today's rule provides neither methods for manufacturers to certify to us the efficiency of commercial central air conditioners and heat pumps, nor enforcement and other administrative provisions for this equipment. The Department proposed regulations on these subjects, for air conditioning and certain other commercial equipment, in a notice of proposed rulemaking on December 13, 1999. 64 FR 69597. Until the Department adopts such regulations, the provisions of EPCA will govern directly the enforcement and administration of efficiency requirements for commercial air conditioning equipment. The provisions currently in Part 431 will not apply to these products.

II. Discussion

The following discussion is divided into two sections: (1) Section II.A discusses the test procedures, which ARI revised following publication of the NOPR, for equipment other than water-source heat pumps; and (2) section II.B discusses the issues raised by oral or written comments received in response to the NOPR.

² Efficiency levels prescribed by EPCA for which amendments are not included in Subpart Q, and in today's rule, are either under review by the Department or were not revised in ASHRAE/IES Standard 90.1.

A. Test Procedures for All Commercial Air-Conditioning Equipment Other Than Water-Source Heat Pumps

1. Adoption of Current Versions of ARI Test Procedures

In the NOPR published on August 9, 2000, the Department proposed to adopt ARI Standard 210/240-94 and ARI Standard 340/360-93 for commercial and industrial unitary air conditioning and heat pump equipment, and ARI Standard 310/380-93 for packaged terminal air-conditioners and heat pumps. ARI Standard 210/240-94 covers equipment with cooling capacities under 135,000 Btu per hour while ARI Standard 340/360-93 covers equipment with cooling capacities greater than or equal to 135,000 Btu per hour.

Since publication of the NOPR, ARI has issued new versions of these test standards. ARI Standard 210/240-2003 has superceded ARI Standard 210/240-94, ARI Standard 340/360-2000 has superceded ARI Standard 340/360-93, and ARI Standard 310/380-2004 has superceded ARI Standard 310/380-93. The changes ARI made to its test standards are primarily editorial in nature, and alter neither efficiency test methods, nor calculation procedures, nor measured efficiencies for the equipment being tested, with one notable exception: Equipment with cooling capacities from 65,000 to 135,000 Btu per hour which were covered by ARI Standard 210/240 are now covered by ARI Standard 340/360.

For all other equipment, the Department is adopting the most recent versions of the ARI test standards in today's direct final rule, without change. These new versions are more readily available than the older versions and are included in the rule for the convenience of the affected parties. Also, to the extent the current versions are considered amendments to the ARI test procedures, their adoption will render the DOE test procedure "consistent with the amended industry test procedure," in accordance with 42 U.S.C. 6314(a)(4)(B). As detailed below (section II.A.2.), the Department is adopting ARI Standard 340/360-2000, but with certain modifications, for equipment with a cooling capacity from 65,000 to 135,000 Btu per hour, to ensure that the test procedure in today's direct final rule allows for the proper testing of such equipment.

2. Test Procedure for Commercial and Industrial Unitary Air-Conditioning and Heat Pump Equipment With Cooling Capacities From 65,000 to 135,000 Btu Per Hour

The most significant outcome of ARI's revisions of its test standards has been to amend the test procedure for equipment with cooling capacities from 65,000 to 135,000 Btu per hour, by replacing ARI Standard 210/240 with ARI Standard 340/360. Under 42 U.S.C. 6314(a)(4)(B), the Department must adopt the industry's amended test procedure unless there is "clear and convincing" evidence that to do so would result in a test procedure which produces results that do not reflect the energy efficiency of the equipment or which would be unduly burdensome to conduct.

Although the organization and language of ARI Standards 340/360-2000 and 210/240-94 differ substantially, for the most part the substance of the efficiency test method and calculation procedures in the two standards is the same. In addition, the test method in Standard 340/360-2000 improves upon the method in 210/240-94 in that Standard 340/360-2000 provides a clarification of the test conditions used to rate air conditioning equipment with optional outdoor air cooling coils. ARI Standard 340/360, however, lacks certain provisions that are in ARI Standard 210/240, and for certain types of equipment with cooling capacities from 65,000 to 135,000 Btu per hour, these omissions represent a substantial change in the test procedure. The Department has determined that, due to these omissions, ARI Standard 340/360-2000 clearly would not produce test results that would accurately reflect the equipment's measured efficiency. As a result, for equipment with cooling capacities from 65,000 to 135,000 Btu per hour, the Department is adopting ARI Standard 340/360-2000, as modified, by adding concepts and language from ARI Standard 210/240-2003 to ensure that the test procedure in today's direct final rule accurately measures the efficiency of all such equipment.

The following sets forth the reasons why ARI Standard 340/360-2000 is inadequate to test this equipment, and the modifications which the Department is incorporating into its test procedure to correct these deficiencies:

- Equipment with a Desuperheater/Water Heating Device: ARI Standard 340/360-2000 does not address the rating of equipment with desuperheater/water heating devices. The energy efficiency test results for such

equipment will vary depending on whether the desuperheater/water heating device is left in operation. To ensure consistent and accurate test results for units equipped with a desuperheater/water heating device, today's test procedure provides that such equipment must be rated while the device is inoperative, consistent with Section 2.2.5 of ARI Standard 210/240-2003. To provide clarity, the rule language characterizes a desuperheater/water heating device as a refrigerant-to-water heat exchanger to heat domestic water.

- Models Manufactured Without Indoor Air-Circulating Fans: ARI Standard 340/360-2000 fails to include provisions to account for the input power of the indoor air-circulating fan for units which do not have such fans furnished as part of the model. Because these units are always installed and operated with such fans, by not providing for the input power of the indoor fan, the test procedure would underestimate the overall input power of the unit, thereby resulting in an energy efficiency rating which would be higher than it otherwise would be if the indoor fan input power were included. To ensure that the effects of air-circulating fans on equipment capacity and input power are accounted for in units which do not have indoor air-circulating fans furnished as part of the model, the Department is incorporating with minor editorial modifications a portion of Section 6.1 and the full text of Section 6.1.3.3c. of ARI Standard 210/240-2003 into its test procedure for equipment with cooling capacities from 65,000 to 135,000 Btu per hour.

The following is the language being incorporated from Section 6.1: "Standard Ratings of units which do not have indoor air-circulating fans furnished as part of the model, *i.e.*, split systems with indoor coil alone, shall be established by subtracting for the total cooling capacity 1,250 Btu/h per 1,000 cfm [775 W/m³/s], and by adding the same amount to the heating capacity. Total power input for both heating and cooling shall be increased by 365 W per 1,000 cfm [226 W/m³/s] of indoor air circulated."

The full text of section 6.1.3.3c., modified to reference the appropriate section in ARI Standard 340/360-2000, states: "Equipment which does not incorporate an indoor fan, but is rated in combination with a device employing a fan shall be rated as described in 6.1.3.2a of 340/360-2000. For equipment of this class which is rated for general use to be applied to a variety of heating units, the indoor-coil airflow rate shall be specified by the

manufacturer in Standard Ratings, not to exceed 37.5 SCFM/1,000 Btu/h [0.06 m³/s per 1,000 W] of rated capacity or the airflow rate obtained through the indoor coil assembly when the pressure drop across the indoor coil assembly and the recommended enclosures and attachment means is not greater than 0.30 inch of water [75 Pa], whichever is less.”

- Equipment with Indoor Fans, Not Made for Use With Field Installed Duct Systems: ARI Standard 340/360–2000 does not provide external pressure specifications for units with indoor fans not intended for use with field-installed duct systems (free discharge). Without explicit provisions, these units would be tested with an external pressure greater than 0 inches of water. The resultant power input for the indoor fan would be greater than it otherwise should be, thereby resulting in a measured energy efficiency lower than it otherwise should be. To ensure that equipment with indoor fans not intended for use with field-installed duct systems (free discharge) are tested with the appropriate external pressure, the Department is incorporating with minor editorial modifications the full text of Section 6.1.3.3b and a portion of Section 6.1.3.6 of ARI Standard 210/240–2003 into its test procedure for equipment with cooling capacities from 65,000 to 135,000 Btu per hour.

The full text of section 6.1.3.3b states: “Equipment with indoor fans not intended for use with field installed duct systems (free discharge) shall be rated at the indoor-coil airflow rate delivered when operating at 0 in [sic] H₂O [0 Pa] external pressure as specified by the manufacturer.”

The language incorporated from Section 6.1.3.6 states: “Indoor air-moving equipment not intended for use with field installed duct systems (free discharge) shall be tested at 0 in [sic] H₂O [0 Pa] external pressure.”

- Water-Cooled Equipment: ARI Standard 340/360–2003 does not include an allowance for the power inputs for the cooling tower fan and circulating water pump motors for water-cooled units. By not including the input power of the fan and pump, the overall input power of the unit would be underestimated, thereby resulting in an energy efficiency rating which would be higher than it otherwise should be if the power inputs of the fan and pump were included. To ensure that water-cooled units include a total allowance for cooling tower fan and circulating water pump motor power inputs, the Department is incorporating with minor editorial modifications the following portion of Section 6.1 of ARI Standard

210/240–2003 into its test procedure: “Standard Ratings of water-cooled units shall include a total allowance for cooling tower fan motor and circulating water pump power inputs to be added in the amount of 10.0 W per 1,000 Btu/h [34.1 W per 1,000 W] cooling capacity.”

3. Effect of Amended Test Procedures on Measured Energy Efficiency

In accordance with 42 U.S.C. 6293(e), the Department has determined that none of the test procedure changes specified in the foregoing section alter the measured efficiency of equipment with cooling capacities from 65,000 to 135,000 Btu per hour.

B. Test Procedure for Water-Source Heat Pumps

1. Background

At the time the NOPR was published, ASHRAE/IES Standard 90.1 specified ARI Standard 320, “Water-Source Heat Pumps,” as the test procedure for water-source heat pumps. Standard 90.1 also provided that, effective October 29, 2001, efficiency levels would increase for this equipment, and ISO Standard 13256–1, “Water-Source Heat Pumps—Testing and Rating for Performance—Part 1: Water-to-Air and Brine-to-Air Heat Pumps,” would replace ARI Standard 320 as the applicable test procedure. In the NOPR, the Department expressed its intention to prescribe ARI Standard 320–98 as the Department test procedure for water-source heat pumps, and to consider adopting the ISO standard to replace the ARI standard in a subsequent proceeding. The Department also solicited comments, however, on the possibility of adopting the ISO standard, instead of the ARI standard, in the final rule in this proceeding.

ARI provided oral comments during the Public Hearing on September 21, 2000, and written comments dated September 14, 2000, and October 25, 2000. The September 14 comments provided an overview of the differences between ARI Standard 320 and ISO Standard 13256–1. (ARI, No. 2EE, at 2–4)³ In its October 25 comments, ARI urged adoption of the ISO standard in the direct final rule. (ARI, No. 5, at 1–3) ARI cited international acceptance of the standard, ASHRAE’s intention to adopt it through an addendum process in ASHRAE Standard 90.1 with an

immediate effective date, and the use of the ISO standard in the ARI certification program. ARI provided test data on 15 water-source heat pumps tested under the two test procedures. The data showed that the EERs for a unit derived from the two test procedures are on average about the same, while the heating coefficient of performance (COP) is on average about 2.2% higher with the ISO test procedure.

Subsequently, in a final rule published on January 12, 2001, the Department amended EPCA’s minimum efficiency levels for water-source heat pumps, adopting the new minimum efficiency levels stipulated by ASHRAE/IES Standard 90.1. 66 FR at 3354–55. These new efficiency levels apply as Federal requirements to all equipment manufactured after October 29, 2003. As mentioned above, ASHRAE/IES Standard 90.1 had been amended effective October 29, 2001, to specify ISO Standard 13256–1 (in place of ARI Standard 320) as the test procedure for water-source heat pumps, to provide a new method for determining compliance with these new efficiency levels under Standard 90.1. Because these levels are now also Federal requirements, the Department decided to address in today’s direct final rule whether it will adopt the ISO test procedure for water source heat pumps.

EPCA in essence directs the Department to revise its test procedure to be consistent with an amendment to an industry testing or rating procedure, unless the Department determines that the new procedure is “unduly burdensome to conduct” or is not “reasonably designed to produce test results which reflect energy efficiency, energy use and estimated operating costs.” (42 U.S.C. 6314(a)(2) and (4)(B)) Additionally, the Department must determine “to what extent, if any, the proposed [amended] test procedure would alter the measured energy efficiency * * * as determined under the existing test procedure.” (42 U.S.C. 6293(e) and 6314(a)(4)(C))

2. Discussion

The Department’s examination of the ISO test procedure indicates that ISO Standard 13256–1 requires laboratory facilities and instrumentation and a level of effort similar to what ARI Standard 320 requires. In addition, ARI’s comments urging DOE to adopt ISO Standard 13256–1 demonstrate that DOE’s adoption of that standard has substantial support from industry. In addition, DOE did not receive any other comments concerning the adoption of ISO Standard 13256–1. Thus, the Department has determined that the ISO

³ A notation in this form identifies a written comment the Department received in this rulemaking subsequent to issuance of the NOPR. This notation refers to a comment (1) by ARI, (2) in document number 2EE in the docket in this matter, and (3) appearing at pages 2–4 of document number 2EE.

standard apparently is not unduly burdensome to use. Considering the data provided in the ARI comments, which indicate that results obtained from tests under ISO Standard 13256–1 are comparable to those obtained under ARI Standard 320, the Department also concludes that the ISO standard meets the statutory requirement that a test procedure be “reasonably designed to produce test results which reflect energy efficiency.”

3. Effect of Amended Test Procedures on Measured Energy Efficiency

As to rulemakings to amend test procedures, section 323(e) of EPCA, 42 U.S.C. 6293(e), provides that DOE shall determine whether the amended test procedure would alter measured energy efficiency of any covered product. If the amendment does alter measured efficiency, the Secretary must determine the average efficiency level under the new test procedure of products that minimally complied with the applicable energy conservation standard prior to the test procedure amendment, and must set the standard at that level. (42 U.S.C. 6293(e)(2)) In addition, any existing model of a product that complied with the previously applicable standard would be deemed to comply with the new standard. (42 U.S.C. 6293(e)(3)) These provisions prevent changes in a test procedure from indirectly altering the applicable Federal energy conservation standard. They also prevent products that complied with standards using the previous test procedure from being forced out of compliance by the new test procedure. The Department has determined that under the provisions of 42 U.S.C. 6293(e) that the Department's adoption here of ISO Standard 13256–1 would not alter the measured energy efficiency of water source heat pumps under the existing test procedure.

As discussed above, higher minimum efficiency levels for water source heat pumps went into effect under ASHRAE/IES Standard 90.1 on October 29, 2001, and as Federal requirements on October 29, 2003. ASHRAE adopted the ISO test procedure as of the former date, so that this test procedure would apply in determining compliance with the new standards. Further, the Department understands that the new standards were developed based on measurements using the ISO test procedure.

The new energy conservation standards that are in effect were developed using ISO Standard 13256–1, and ASHRAE clearly intended that the ISO test procedure be used to measure compliance with these standards. Thus, using ARI Standard 320 to determine

whether manufacturers are meeting the new standards would produce inaccurate results. Only ISO Standard 13256–1 can accurately implement the new standards.

Furthermore, even if today's amendments do change the energy efficiency rating of any model and would prevent it from complying with the current energy conservation standards, the standard for that model became more stringent on October 29, 2003, and today's amendments are designed to implement the new standard. This renders irrelevant the model's ability or inability to comply with the current or former standards based on efficiency determinations under the existing test procedure. Thus, a change resulting from today's amendments to the test procedure could simply mean that the product in question does not meet the new efficiency standard.

In conclusion, today's rule provides that ISO Standard 13256–1 will be the sole test procedure under EPCA for water source heat pumps. This requirement is directly set forth in new section 431.262. It is also reflected in new section 431.271, which prescribes energy conservation standards, by incorporation of 30 °C (86 °F) as the entering water temperature at which EER must be rated, in place of the 85 °F temperature that was included in Subpart Q of 10 CFR which is being eliminated in another final action published today.

C. Products Not Covered in This Rulemaking

1. Computer Room Air-Conditioners and Heat Pumps

Mr. B. Subherwal of BR Laboratories spoke in favor of covering computer room air conditioners under this rule. He advocated using ASHRAE Standard 127–88 for testing because computer room air-conditioners in field applications perform at different conditions than those specified in any ARI standard.

The Department's view remains that computer room air conditioners are not currently covered by the standards and test procedures prescribed and mandated by EPCA. The reasons supporting this view—the primary one being that Congress appears not to have intended to cover this type of equipment—were presented in detail in Section II of the NOPR. As also set forth in the NOPR, if some of the relevant circumstances were to change—if, for example, ASHRAE Standard 90.1 were to incorporate efficiency standards and test procedures for this equipment or

the equipment was to become widely used for conventional air conditioning applications—the Department might revisit this issue.

2. Equipment With a Variable-Speed Drive

Mitsubishi Electronics America, Inc., submitted a written comment dated October 20, 2000, which recommended that part load performance be considered in evaluating the efficiency of inverter-driven equipment because it rarely operates at full load (typically less than 1% of the time). (Mitsubishi, No. 4, at 1–2). The comment suggested a procedure presented in ARI Standard 550/590–1998, Appendix D, D3, to be used for evaluating an Integrated Part Load Value. Further, the letter contended that incorporating a procedure similar to that presented in ARI Standard 550/590–1998 would encourage manufacturers to incorporate this advanced technology into their product line, and this would improve National Energy Savings.

This comment essentially advocates that the Department establish efficiency standards and a performance descriptor that address part load performance of commercial air conditioning equipment. A similar comment was submitted to us earlier and is discussed in the NOPR. 65 FR 48831–3. As indicated there, with regard to efficiency standards the purpose of this rulemaking is to incorporate the requirements already imposed under EPCA (including any amendments by the Department to the standards established by EPACT). These requirements incorporate standards for part load performance only for small commercial, air-cooled package air-conditioning equipment having cooling capacity less than 65,000 Btu/h, which are included in today's rule. Therefore, Mitsubishi's suggestion that the Department prescribe efficiency standards for the part load performance of other air conditioning products is beyond the scope of this rulemaking. Nevertheless, as the Department recently stated when the Department addressed amendment of the standards established by EPACT, the Department will consider including integrated part load values in any prospective rulemaking for air conditioning equipment. 66 FR 3348.

III. Final Action

DOE is publishing this direct final rule in order to allow stakeholders an opportunity to comment on revisions to this rule that have not had prior proposal. The direct final action will be effective December 20, 2004, unless significant adverse or critical comments

are received by November 22, 2004. DOE views these revisions as noncontroversial and anticipates no significant adverse comments. However, in the event that significant adverse or critical comments are filed, DOE will withdraw the rule before the effective date. In the case of withdrawal of this action, the withdrawal will be announced by a subsequent **Federal Register** document. All public comments will then be addressed in a separate proposed rule which will be issued at a later date. Any parties interested in commenting on this rule should do so at this time. If no significant adverse comments are received, the public is advised that this rule will be effective December 20, 2004.

IV. Procedural Requirements

A. Review Under Executive Order 12866

The Office of Information and Regulatory Affairs of the Office of Management and Budget (OMB) has determined that today's regulatory action is not a "significant regulatory action" under Executive Order 12866, "Regulatory Planning and Review," 58 FR 51735 (October 4, 1993).

Accordingly, this action was not subject to review under the Executive Order.

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 for any rule that by law must be proposed for public comment, unless the agency certifies that the rule, if promulgated, will not have a significant economic impact on a substantial number of small entities. As required by Executive Order 13272, "Proper Consideration of Small Entities in Agency Rulemaking," 67 FR 53461 (August 16, 2002), DOE published procedures and policies on February 19, 2003, to ensure that the potential impacts of its rules on small entities are properly considered during the rulemaking process (68 FR 7990). DOE has made its procedures and policies available on the Office of General Counsel's Web site: <http://www.gc.doe.gov>.

DOE reviewed today's rule under the provisions of the Regulatory Flexibility Act, and certified in the NOPR that the proposed rule would not impose a significant economic impact on a substantial number of small entities. (65 FR 48828, 48833 (August 9, 2000)) We received no comments on this issue, and after considering the potential small entity impact of this direct final rule,

DOE affirms the certification that this rule will not have a significant economic impact on a substantial number of small entities. Accordingly, DOE has not prepared a regulatory flexibility analysis for this rulemaking. DOE will transmit the certification and supporting statement of factual basis to the Chief Counsel for Advocacy of the Small Business Administration for review pursuant to 5 U.S.C. 605(b).

C. Review Under the Paperwork Reduction Act

This rulemaking will impose no new information or record keeping requirements. Accordingly, OMB clearance is not required under the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*)

D. Review Under the National Environmental Policy Act

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 the Department's implementing regulations at 10 CFR part 1021. Specifically, this rule amends an existing rule without changing the environmental effect of the rule being amended, and, therefore, is covered by the Categorical Exclusion in paragraph A5 to subpart D, 10 CFR part 1021. 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 4, 1999) imposes certain requirements on agencies formulating and implementing policies or regulations that preempt State law or that have federalism implications. The Executive Order requires agencies to examine the constitutional and statutory authority supporting any action that would limit the policymaking discretion of the States and 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 today's rule and has determined that it does not preempt State law and 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. No further action is required by Executive Order 13132.

F. Review Under Executive Order 12988

With respect to the review of existing regulations and the promulgation of new regulations, section 3(a) of Executive Order 12988, "Civil Justice Reform" (61 FR 4729, February 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; and (3) provide a clear legal standard for affected conduct rather than a general standard and 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 section 3(a) and section 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 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 (Pub. L. 104-4) requires each Federal agency to assess the effects of Federal regulatory actions on State, local, and tribal governments and the private sector. With respect to a proposed regulatory action that may result in the expenditure by State, local and tribal governments, in the aggregate, or by the private sector of \$100 million or more (adjusted annually for inflation), section 202 of the Act requires a Federal agency to publish estimates of the resulting costs, benefits, and other effects on the national economy (2 U.S.C. 1532(a),(b)). The Act 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 the Act (62 FR 12820) (also available at <http://www.gc.doe.gov>). The rule published today does not contain any Federal mandate, 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 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 pursuant to 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 which might require compensation under the Fifth Amendment to the United States Constitution.

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

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 (February 22, 2002), and DOE’s guidelines were published at 67 FR 62446 (October 7, 2002). DOE has reviewed today’s notice under the OMB and DOE guidelines and has concluded that it is consistent with 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 the Office of Information and Regulatory Affairs (OIRA), Office of Management and Budget, a Statement of Energy Effects for any proposed significant energy action. A “significant energy action” is defined as any action by an agency that promulgated or is expected to lead to promulgation of a final rule, and that: (1) Is a significant regulatory action under Executive Order 12866, or any successor order; and (2) is likely to have a significant adverse effect on the supply, distribution, or use of energy, or (3) is designated by the Administrator of OIRA as a significant energy action. For any proposed significant energy action, the agency must give a detailed statement of any adverse effects on energy supply, distribution, or use should the proposal be implemented, and of reasonable alternatives to the action and their expected benefits on energy supply, distribution, and use. Today’s regulatory action would not have a significant adverse effect on the supply, distribution, or use of energy and, therefore, is not a significant energy action. Accordingly, DOE has not prepared a Statement of Energy Effects.

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

The Department stated in the NOPR the reasons why 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, does not apply to the four ARI commercial standards incorporated into the proposed rule. The Department received no comments on this issue.

The rule published today incorporates updated versions of three of these ARI standards, as well as an ISO standard referenced in Standard 90.1 in place of the fourth ARI standard. The Department continues to adhere to the view expressed in the NOPR that Section 32 of the FEAA does not apply to these four standards. However, for equipment at or above 65,000 but less than 135,000 Btu per hour, the Department is adopting one of these ARI standards with modifications drawn from another one of these ARI standards DOE is incorporating in today’s rule. These modifications consist of test methods that EPCA currently requires manufacturers to use. (42 U.S.C. 6314(a)(4)(a)) The Department believes that Section 32 of the FEAA does not apply to its decision to require manufacturers to continue to use these test methods.

M. Congressional Notification

As required by 5 U.S.C. 801, DOE will report to Congress on the promulgation of today’s rule prior to its effective date. The report will state that it has been determined that the rule is not a “major rule” as defined by 5 U.S.C. 804(2).

N. Approval of the Office of the Secretary

The Secretary of Energy has approved publication of today’s rule.

List of Subjects in 10 CFR Part 431

Administrative practice and procedure, Commercial products, Energy conservation, Incorporation by reference.

Issued in Washington, DC, on July 27, 2004.

David K. Garman,
Assistant Secretary, Energy Efficiency and Renewable Energy.

■ For the reasons set forth in the preamble, part 431 of Chapter II of title 10, Code of Federal Regulations, is amended, as set forth below:

PART 431—ENERGY EFFICIENCY PROGRAM FOR CERTAIN COMMERCIAL AND INDUSTRIAL EQUIPMENT

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

Authority: 42 U.S.C. 6311–6316.

■ 2. Subpart F is added to read as follows:

Subpart F—Commercial Air Conditioners and Heat Pumps

Sec.

431.91 Purpose and scope.

431.92 Definitions concerning commercial air conditioners and heat pumps.

Test Procedures

431.95 Materials incorporated by reference.

431.96 Uniform test method for measurement of the energy efficiency of small and large commercial package air conditioning and heating equipment, packaged terminal air conditioners, and packaged terminal heat pumps.

Energy Efficiency Standards

431.97 Energy efficiency standards and their effective dates.

Subpart F—Commercial Air Conditioners and Heat Pumps

§ 431.91 Purpose and scope.

This subpart specifies test procedures and energy conservation standards for certain commercial air conditioners and heat pumps, pursuant to Part C of Title III of the Energy Policy and Conservation Act, as amended, 42 U.S.C. 6311–6316.

§ 431.92 Definitions concerning commercial air conditioners and heat pumps.

The following definitions apply for purposes of this subpart F, and of subparts J through M of this part. Any words or terms not defined in this section or elsewhere in this part shall be defined as provided in 42 U.S.C. 6311.

Coefficient of Performance, or COP means the ratio of the produced cooling effect of an air conditioner or heat pump (or its produced heating effect, depending on the mode of operation) to its net work input, when both the cooling (or heating) effect and the net work input are expressed in identical units of measurement.

Energy Efficiency Ratio, or EER means the ratio of the produced cooling effect of an air conditioner or heat pump to its net work input, expressed in Btu/watt-hour.

Heating seasonal performance factor, or HSPF means the total heating output of a central air-conditioning heat pump during its normal annual usage period for heating, expressed in Btu's and divided by the total electric power input, expressed in watt-hours, during the same period.

Large commercial package air-conditioning and heating equipment means air-cooled, water-cooled, or evaporatively cooled electrically operated, unitary central air conditioners and central air-conditioning heat pumps for commercial application that are rated at or above 135,000 Btu per hour and below 240,000 Btu per hour (cooling capacity), and that are industrial equipment.

Packaged terminal air conditioner means a wall sleeve and a separate unencased combination of heating and cooling assemblies specified by the builder and intended for mounting through the wall, and that is industrial equipment. It includes a prime source of refrigeration, separable outdoor louvers, forced ventilation, and heating availability by builder's choice of hot water, steam, or electricity.

Packaged terminal heat pump means a packaged terminal air conditioner that utilizes reverse cycle refrigeration as its prime heat source, that has a supplementary heat source available, with the choice of hot water, steam, or electric resistant heat, and that is industrial equipment.

Seasonal energy efficiency ratio or SEER means the total cooling output of a central air conditioner or central air-conditioning heat pump, expressed in

Btu's, during its normal annual usage period for cooling and divided by the total electric power input, expressed in watt-hours, during the same period.

Single package unit means any central air conditioner or central air-conditioning heat pump in which all the major assemblies are enclosed in one cabinet.

Small commercial package air-conditioning and heating equipment means air-cooled, water-cooled, evaporatively cooled, or water-source (not including ground water-source) electrically operated, unitary central air conditioners and central air-conditioning heat pumps for commercial application which are rated below 135,000 Btu per hour (cooling capacity), and which are industrial equipment.

Split system means any central air conditioner or central air conditioning heat pump in which one or more of the major assemblies are separate from the others.

Test Procedures

§ 431.95 Materials incorporated by reference.

(a) The Department incorporates by reference the following test procedures into subpart F of part 431. The Director of the Federal Register has approved the material listed in paragraph (b) of this section for incorporation by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Any subsequent amendment to this material by the standard-setting organization will not affect the Department test procedures unless and until the Department amends its test procedures. The Department incorporates the material as it exists on the date of the approval and a notice of any change in the material will be published in the **Federal Register**.

(b) List of test procedures incorporated by reference.

(1) Air-Conditioning and Refrigeration Institute (ARI) Standard 210/240-2003 published in 2003, "Unitary Air-Conditioning and Air-Source Heat Pump Equipment," IBR approved for § 431.96.

(2) ARI Standard 340/360-2000 published in 2001, "Commercial and Industrial Unitary Air-Conditioning and Heat Pump Equipment," IBR approved for § 431.96.

(3) International Organization for Standardization (ISO) International Standard ISO 13256-1 published in 1998, "Water-source heat pumps—Testing and rating for performance—

Part 1: Water-to-air and brine-to-air heat pumps," IBR approved for § 431.96.

(4) ARI Standard 310/380-2004 (CSA-C744-04) published in 2004, "Standard for Packaged Terminal Air-Conditioners and Heat Pumps," IBR approved for § 431.96.

(c) Availability of references.

(1) *Inspection of test procedures.* You may inspect the test procedures incorporated by reference at:

(i) National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.

(ii) U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, Hearings and Dockets, "Test Procedures and Efficiency Standards for Commercial Air Conditioners and Heat Pumps," Docket No. EE-RM/TP-99-460, 1000 Independence Avenue, SW., Washington, DC 20585.

(2) *Obtaining copies of test procedures.* You may obtain a copy of the ARI standards from the Air-Conditioning and Refrigeration Institute, 4301 North Fairfax Drive, Suite 425, Arlington, VA 22203, <http://www.ari.org/>. You can purchase a copy of the ISO Standard 13256-1 from the International Organization for Standardization, Case Postale 56, CH-1211, Geneva 20, Switzerland. <http://www.iso.ch/> or from the American National Standards Institute, 25 West 43rd Street, New York, New York 10036.

§ 431.96 Uniform test method for the measurement of energy efficiency of small and large commercial package air conditioning and heating equipment, packaged terminal air conditioners, and packaged terminal heat pumps.

(a) *Scope.* This section contains test procedures you must follow if, pursuant to EPCA, you are measuring the energy efficiency of any small or large commercial package air-conditioning and heating equipment, packaged terminal air conditioner or packaged terminal heat pump.

(b) Testing and Calculations.

Determine the energy efficiency of each covered product by conducting the test procedure(s) listed in the rightmost column of Table 1 of this section or the two rightmost columns of Table 2 of this section, that apply to the energy efficiency descriptor for that product, category, and cooling capacity.

TABLE 1 TO § 431.96.—TEST PROCEDURES FOR CERTAIN SMALL COMMERCIAL PACKAGE AIR CONDITIONING AND HEATING EQUIPMENT (ALL WATER-SOURCE EQUIPMENT AND OTHER EQUIPMENT LESS THAN 65,000 BTU/H), FOR LARGE COMMERCIAL PACKAGE AIR CONDITIONING AND HEATING EQUIPMENT AND FOR PACKAGED TERMINAL AIR CONDITIONERS AND PACKAGED TERMINAL HEAT PUMPS

Product	Category	Cooling capacity	Energy efficiency descriptor	Use tests, conditions and procedures ¹ in
Small Commercial Packaged Air Conditioning and Heating Equipment	Air Cooled, 3 Phase, AC and HP	<65,000 Btu/h	SEER	ARI Standard 210/240–2003
			HSPF	ARI Standard 210/240–2003
	Water Cooled and Evaporatively Cooled AC	<65,000 Btu/h	EER	ARI Standard 210/240–2003
	Water-Source HP	<135,000 Btu/h	EER	ISO Standard 13256–1 (1998)
			COP	ISO Standard 13256–1 (1998)
Large Commercial Packaged Air Conditioning and Heating Equipment	Air Cooled AC and HP	≥135,000 Btu/h and <240,000 Btu/h.	EER	ARI Standard 340/360–2000
			COP	ARI Standard 340/360–2000
	Water Cooled AC	≥135,000 Btu/h and <240,000 Btu/h.	EER	ARI Standard 340/360–2000
	Evaporatively Cooled AC ..	≥135,000 Btu/h and <240,000 Btu/h.	EER	ARI Standard 340/360–2000
Packaged Terminal Air Conditioners and Heat Pumps	AC and HP	All	EER	ARI Standard 310/380–2004
	HP	All	COP	ARI Standard 310/380–2004

¹ Incorporated by reference, see § 431.95.

TABLE 2 TO § 431.96.—TEST PROCEDURES FOR SMALL COMMERCIAL PACKAGE AIR CONDITIONING AND HEATING EQUIPMENT ≥65,000 BTU/H AND <135,000 BTU/H (OTHER THAN WATER-SOURCE EQUIPMENT)

Category	Energy efficiency descriptor	Use tests, conditions and procedures ¹ in	With these additional stipulations ²
Air Cooled AC and HP.	EER COP	ARI Standard 340/360–2000.	<ol style="list-style-type: none"> Models with a desuperheater/water heating device: Establish Standard Ratings of units equipped with a refrigerant-to-water heat exchanger to heat domestic water (<i>i.e.</i>, a desuperheater), with the desuperheater not in operation. <i>Models Manufactured Without Indoor Air-Circulating Fans:</i> (a) Establish Standard Ratings of units which do not have indoor air circulating fans furnished as part of the model, <i>i.e.</i>, split systems with indoor coil alone, by subtracting from the total cooling capacity 1,250 Btu/h per 1,000 cfm [775 W/m³/s], and by adding the same amount to the heating capacity. Increase total power input for both heating and cooling by 365 W per 1,000 cfm [226 W/m³/s] of indoor air circulated. (b) Equipment which does not incorporate an indoor fan, but is rated in combination with a device employing a fan, shall be rated as described in 6.1.3.2a of 340/360–2000. For equipment of this class which is rated for general use to be applied to a variety of heating units, the indoor-coil airflow rate shall be (1) specified by the manufacturer in Standard Ratings, not to exceed 37.5 SCFM/1,000 Btu/h [0.06 m³/s per 1,000 W] of rated capacity, or (2) the airflow rate obtained through the indoor coil assembly when the pressure drop across the indoor coil assembly and the recommended enclosures and attachment means is not greater than 0.30 inch of water [75 Pa], whichever is less.

TABLE 2 TO § 431.96.—TEST PROCEDURES FOR SMALL COMMERCIAL PACKAGE AIR CONDITIONING AND HEATING EQUIPMENT $\geq 65,000$ BTU/H AND $< 135,000$ BTU/H (OTHER THAN WATER-SOURCE EQUIPMENT)—Continued

Category	Energy efficiency descriptor	Use tests, conditions and procedures ¹ in	With these additional stipulations ²
Water Cooled AC	EER	ARI Standard 340/360–2000.	<p>3. <i>Models with Indoor Fans, Not Made for Use With Field Installed Duct Systems:</i> (a) Equipment with indoor fans not made for use with field installed duct systems (free discharge) shall be rated at the indoor-coil airflow rate delivered when operating at 0 inches of water [0 Pa] external pressure as specified by the manufacturer.</p> <p>(b) Test indoor air-moving equipment not intended for use with field installed duct systems (free discharge) at 0 inches of water [0 Pa] external pressure.</p>
Evaporatively Cooled AC.	EER	ARI Standard 340/360–2000.	<p>4. <i>Water cooled models:</i> For Standard Ratings of water-cooled units add a total allowance for cooling tower fan motor and circulating water pump motor power inputs in the amount of 10.0 W per 1,000 Btu/h [34.1 W per 1,000 W] cooling capacity.</p>

¹ Incorporated by reference, see § 431.95.² The content of stipulations 1, 2(a), 2(b), 3(a), 3(b), and 4 is taken from Sections 2.2.5, 6.1, 6.1.3.3 (c), 6.1.3.3 (b), 6.1.3.6, and 6.1, respectively, of ARI Standard 210/240–2003.**Energy Efficiency Standards****§ 431.97 Energy efficiency standards and their effective dates.**

Each commercial air conditioner or heat pump manufactured on or after

January 1, 1994 (except for large commercial package air-conditioning and heating equipment, for which the effective date is January 1, 1995) must meet the applicable minimum energy

efficiency standard level(s) set forth in Tables 1 and 2 of this section.

TABLE 1 TO § 431.97.—MINIMUM COOLING EFFICIENCY LEVELS

Product	Category	Cooling capacity	Sub-category	Efficiency level ¹	
				Products manufactured until October 29, 2003	Products manufactured on and after October 29, 2003
Small Commercial Packaged Air Conditioning and Heating Equipment.	Air Cooled, 3 phase ..	<65,000 Btu/h	Split System	SEER = 10.0	SEER = 10.0.
			Single Package	SEER = 9.7	SEER = 9.7.
	Air Cooled	≥65,000 Btu/h and <135,000 Btu/h.	All	EER = 8.9	EER = 8.9.
			AC	EER = 9.3	EER = 12.1.
		≥17,000 Btu/h and <65,000 Btu/h.	HP	EER = 9.3	EER = 11.2.
			AC	EER = 9.3	EER = 12.1.
		≥65,000 Btu/h and <135,000 Btu/h.	HP	EER = 9.3	EER = 12.0.
			AC	EER = 10.5	EER = 11.5. ²
			HP	EER = 10.5	EER = 12.0.
Large Commercial Packaged Air Conditioning and Heating Equipment.	Air Cooled	≥135,000 Btu/h and <240,000 Btu/h.	All	EER = 8.5	EER = 8.5.
	Water-Cooled and Evaporatively Cooled.	≥135,000 and <240,000 Btu/h.	All	EER = 9.6	EER = 9.6. ³

TABLE 1 TO § 431.97.—MINIMUM COOLING EFFICIENCY LEVELS—Continued

Product	Category	Cooling capacity	Sub-category	Efficiency level 1	
				Products manufactured until October 29, 2003	Products manufactured on and after October 29, 2003
Packaged Terminal Air Conditioners and Heat Pumps.	All	<7,000 Btu/h	All	EER = 8.88	EER = 8.88.
		≥7,000 Btu/h and ≤15,000 Btu/h.		EER = 10.0 – (0.16 × capacity [in kBtu/h at 95°F outdoor dry-bulb temperature]).	EER = 10.0 – (0.16 × capacity [in kBtu/h at 95°F outdoor dry-bulb temperature]).
		>15,000 Btu/h		EER = 7.6	EER = 7.6.

¹ For equipment rated according to the ARI standards, all EER values must be rated at 95°F outdoor dry-bulb temperature for air-cooled products and evaporatively-cooled products and at 85°F entering water temperature for water-cooled products. For water-source heat pumps rated according to the ISO standard, EER must be rated at 30°C (86°F) entering water temperature.

² Deduct 0.2 from the required EER for units with heating sections other than electric resistance heat.

³ Effective 10/29/2004, the minimum value becomes EER = 11.0.

TABLE 2 TO § 431.97.—MINIMUM HEATING EFFICIENCY LEVELS

Product	Category	Cooling capacity	Sub-category	Efficiency level 1	
				Products manufactured until October 29, 2003	Products manufactured on and after October 29, 2003
Small Commercial Packaged Air Conditioning and Heating Equipment.	Air Cooled, 3 Phase ..	<65,000 Btu/h	Split System	HSPF = 6.8	HSPF = 6.8.
			Single Package	HSPF = 6.6	HSPF = 6.6.
	Water-source	<135,000 Btu/h	Split System and Single Package.	COP = 3.8	COP = 4.2.
	Air Cooled	≥65,000 Btu/h and <135,000 Btu/h.	All	COP = 3.0	COP = 3.0.
Large Commercial Packaged Air Conditioning Package and Heating Equipment.	Air Cooled	≥135,000 Btu/h and <240,000 Btu/h.	Split System and Single Package.	COP = 2.9	COP = 2.9.
Packaged Terminal Heat Pumps.	All	All	All	COP = 1.3+(0.16 × the applicable minimum cooling EER prescribed in Table 1—Minimum Cooling Efficiency Levels).	COP = 1.3+(0.16 × the applicable minimum cooling EER prescribed in Table 1—Minimum Cooling Efficiency Levels).

¹ For units tested by ARI standards, all COP values must be rated at 47 °F outdoor dry-bulb temperature for air-cooled products, and at 70 °F entering water temperature for water-source heat pumps. For heat pumps tested by the ISO Standard 13256-1, the COP values must be obtained at the rating point with 20 °C (68 °F) entering water temperature.

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DEPARTMENT OF ENERGY

Office of Energy Efficiency and Renewable Energy

10 CFR Part 431

[Docket No. EE-RM/TP-99-480]

RIN 1904-AA95

Energy Efficiency Program for Certain Commercial and Industrial Equipment: Test Procedures and Efficiency Standards for Commercial Water Heaters, Hot Water Supply Boilers and Unfired Hot Water Storage Tanks

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

ACTION: Direct final rule.

SUMMARY: Pursuant to Part C of title III of the Energy Policy and Conservation Act (EPCA), the Department of Energy (DOE or the Department) promulgates a rule prescribing test procedures to rate the energy efficiency of commercial water heaters and hot water supply boilers. For these products and unfired hot water storage tanks, the rule also prescribes relevant definitions and recodifies existing energy conservation standards, so that they are located contiguous with the test procedures that DOE promulgates today.

EFFECTIVE DATE: This direct final rule is effective December 20, 2004, unless significant adverse or critical comments are received by November 22, 2004. If the effective date is delayed, a timely notice will be published in the **Federal Register**. The incorporation by reference of certain publications listed in this rule is approved by the Director of the **Federal Register** as of December 20, 2004.

ADDRESSES: You may submit comments, identified by docket number EE-RM/TP-99-480 and/or RIN number 1904-AA95, by any of the following methods:

- Federal eRulemaking Portal: <http://www.regulations.gov>. Follow the instructions for submitting comments.
- E-mail:

CommWaterHeatersDirectFinalRuleComments@ee.doe.gov. Include EE-RM/TP-99-460 and/or RIN 1904-AA9, in the subject line of the message.

• Mail: Ms. Brenda Edwards-Jones, U.S. Department of Energy, Building Technologies Program, Mailstop EE-2J, Direct Final Rule for Test Procedures and Efficiency Standards For Commercial Water Heaters, Hot Water

Supply Boilers and UnFired Hot Water Storage Tanks; EE-RM/TP-99-480 and/or RIN 1904-AA95, 1000 Independence Avenue, SW., Washington, DC 20585-0121. Telephone: (202) 586-2945.

Please submit one signed paper original.

- Hand Delivery/Courier: Ms. Brenda Edwards-Jones, U.S. Department of Energy, Building Technologies Program, Room 1J-018, 1000 Independence Avenue, SW., Washington, DC 20585.

Instructions: All submissions received must include the agency name and docket number or Regulatory Information Number (RIN) for this rulemaking.

Docket: For access to the docket to read background documents or comments received, go to the U.S. Department of Energy, Forrestal Building, Room 1J-018 (Resource Room of the Building Technologies Program), 1000 Independence Avenue, SW., Washington, DC 20585, (202) 586-9127, between 9 a.m. and 4 p.m., Monday through Friday, except Federal holidays. Please call Ms. Brenda Edwards-Jones at the above telephone number for additional information regarding visiting the Resource Room. Please note: the Department's Freedom of Information Reading Room (formerly Room 1E-190 at the Forrestal Building) is no longer housing rulemaking materials.

FOR FURTHER INFORMATION CONTACT:

Mohammed Khan, U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, Forrestal Building, EE-2J, 1000 Independence Avenue, SW., Washington, DC 20585-0121, (202) 586-7892, FAX (202) 586-4617, e-mail: Mohammed.Khan@ee.doe.gov or Francine Pinto, Esq., U.S. Department of Energy, Office of General Counsel, Forrestal Building, GC-72, 1000 Independence Avenue, SW., Washington, DC 20585, (202) 586-7432, e-mail: Francine.Pinto@ee.doe.gov.

SUPPLEMENTARY INFORMATION: This direct final rule incorporates, by reference, into subpart G of part 431, test methods contained in an industry test standard referenced by the American Society of Heating, Refrigerating, and Air-Conditioning Engineers, Inc. (ASHRAE) and the Illuminating Engineering Society of North America (IES) Standard 90.1 ("ASHRAE/IES Standard 90.1") for commercial water heaters and hot water supply boilers. The industry test standard is American National Standards Institute Standard Z21.10.3-1998 (ANSI Z21.10.3-1998), "Gas Water Heaters Volume III Storage Water Heaters, with Input Ratings Above 75,000 Btu per Hour, Circulating and

Instantaneous, ANSI 21.10.3-1998, CSA 4.3-M98, and its Addenda, ANSI Z21.103a-2000, CSA 4.3a-M00." DOE is incorporating by reference the "Method of Test" subsections of sections 2.9 and 2.10 in ANSI Z21.10.3-1998, CSA 4.3-M98 and the sections referenced there, including sections 2.1.7, 2.3.3, 2.3.4, 2.30 and Figure 3.

Copies of these standards are available for review in the resource room of the Building Technologies Program, room 1J-018 at the U.S. Department of Energy, 1000 Independence Avenue, SW., Washington, DC 20585, between the hours of 9 a.m. and 4 p.m., Monday through Friday, except Federal holidays. Please call Ms. Brenda Edwards-Jones at (202) 586-2945, for additional information regarding visiting the resource room.

You can purchase copies of the ASHRAE Standard and the standard incorporated by reference from Global Engineering Documents, 15 Inverness Way East, Englewood, CO 80112, <http://global.ihg.com/>.

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