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[6450-01-P]

**DEPARTMENT OF ENERGY**

**10 CFRs 429 and Part 431**

**[Docket No. EERE-2012-BT-TP-0032]**

**RIN: 1904-AD19**

**Energy Conservation Program: Test Procedures for Packaged Terminal Air Conditioners and Packaged Terminal Heat Pumps**

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

**ACTION:** Notice of proposed rulemaking.

**SUMMARY:** In this notice of proposed rulemaking (NOPR), the U.S. Department of Energy (DOE) proposes to revise its test procedures established under the Energy Policy and Conservation Act (EPCA) for packaged terminal air conditioners (PTACs) and packaged terminal heat pumps (PTHPs). The proposed amendments would specify an optional break-in period, explicitly require that wall sleeves be sealed, allow for the pre-filling of the condensate drain pan, require that ASHRAE Standard 16 be the sole method of test when measuring the cooling capacity for PTACs and PTHPs under ANSI/AHRI Standard 310/380-2004, and require testing with 14-inch deep wall sleeves and the filter option most representative of a typical installation. These updates fulfill DOE's obligation under EPCA to review its test procedures for covered equipment at least once every 7 years and either amend the applicable test procedures or

publish a determination in the Federal Register not to amend them. DOE will hold a public meeting to discuss and receive comments on the issues presented in this notice.

**DATES:** DOE will hold a public meeting on April 28, 2014, from 9 a.m. to 4 p.m., in Washington, DC. The meeting will also be broadcast as a webinar. See section V, “Public Participation,” for webinar registration information, participant instructions, and information about the capabilities available to webinar participants.

DOE will accept comments, data, and information regarding this notice of proposed rulemaking (NOPR) before and after the public meeting, but no later than **[INSERT DATE 75 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**. See section V, “Public Participation,” for details.

**ADDRESSES:** The public meeting will be held at the U.S. Department of Energy, Forrestal Building, Room 8E-089, 1000 Independence Avenue, SW., Washington, DC 20585. To attend, please notify Ms. Brenda Edwards at (202) 586-2945. For more information, refer to the Public Participation section near the end of this notice.

Any comments submitted must identify the NOPR for Test Procedures for Packaged Terminal Air Conditioners and Packaged Terminal Heat Pumps, and provide docket number EERE-2012-BT-TP-0032 and/or regulatory information number (RIN) number 1904-AD19. Comments may be submitted using any of the following methods:

1. Federal eRulemaking Portal: [www.regulations.gov](http://www.regulations.gov). Follow the instructions for submitting comments.
2. E-mail: [PTAC-2012TP0032@ee.doe.gov](mailto:PTAC-2012TP0032@ee.doe.gov). Include the docket number EERE–2012–BT–TP–0032 and/or RIN 1904-AD19 in the subject line of the message.
3. Mail: Ms. Brenda Edwards, U.S. Department of Energy, Building Technologies Office, Mailstop EE-5B, 1000 Independence Avenue, SW., Washington, DC, 20585-0121. If possible, please submit all items on a CD. It is not necessary to include printed copies.
4. Hand Delivery/Courier: Ms. Brenda Edwards, U.S. Department of Energy, Building Technologies Office, 950 L’Enfant Plaza, SW., Suite 600, Washington, DC, 20024. Telephone: (202) 586-2945. If possible, please submit all items on a CD. It is not necessary to include printed copies.

For detailed instructions on submitting comments and additional information on the rulemaking process, see section V, “Public Participation,” near the end of this document.

Docket: The docket, which includes Federal Register notices, public meeting attendee lists and transcripts, comments, and other supporting documents/materials, is available for review at [regulations.gov](http://regulations.gov). All documents in the docket are listed in the [regulations.gov](http://regulations.gov) index. However, some documents listed in the index, such as those containing information that is exempt from public disclosure, may not be publicly available.

A link to the docket web page can be found at:

<http://www.regulations.gov/#!docketDetail;D=EERE-2012-BT-TP-0032>. This web page contains

a link to the docket for this notice on the regulations.gov site. The regulations.gov web page contains instructions on how to access all documents, including public comments, in the docket. See section V for information on how to submit comments through regulations.gov.

For further information on how to submit a comment, review other public comments and the docket, or participate in the public meeting, contact Ms. Brenda Edwards at (202) 586-2945 or by email: [Brenda.Edwards@ee.doe.gov](mailto:Brenda.Edwards@ee.doe.gov).

**FOR FURTHER INFORMATION CONTACT:**

Ashley Armstrong, U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, Building Technologies Office, EE-5B, 1000 Independence Avenue, SW., Washington, DC, 20585-0121. Telephone: (202) 586-9590, or email [PTACs@ee.doe.gov](mailto:PTACs@ee.doe.gov).

Jennifer Tiedeman, U.S. Department of Energy, Office of the General Counsel, GC-71, 1000 Independence Avenue, SW., Washington, DC 20585-0121. Telephone: (202) 287-6111. E mail: [Jennifer.Tiedeman@hq.doe.gov](mailto:Jennifer.Tiedeman@hq.doe.gov).

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## **I. Authority and Background**

Title III of the Energy Policy and Conservation Act of 1975 (42 U.S.C. 6291, et seq.; “EPCA” or, “the Act”) sets forth a variety of provisions designed to improve energy efficiency. (All references to EPCA refer to the statute as amended through the American Energy Manufacturing Technical Corrections Act (AEMTCA), Pub. L. 112-210 (Dec. 18, 2012).) Part C of Title III, which for editorial reasons was redesignated as Part A-1 upon incorporation into the U.S. Code (42 U.S.C. 6311-6317, as codified), establishes the Energy Conservation Program for Certain Commercial and Industrial Equipment. This equipment includes packaged terminal air conditioners (PTACs) and packaged terminal heat pumps (PTHPs), the subjects of today’s notice. (42 U.S.C. 6311(1)(I))

Under EPCA, the energy conservation program consists essentially of four parts: (1) testing, (2) labeling, (3) Federal energy conservation standards, and (4) certification and enforcement procedures. The testing requirements consist of test procedures that manufacturers of covered equipment must use as the basis for (1) certifying to DOE that their equipment complies with applicable energy conservation standards adopted under EPCA, and (2) making representations about the efficiency of the equipment. Similarly, DOE must use these test procedures to determine whether the equipment complies with any relevant standards promulgated under EPCA.

### **General Test Procedure Rulemaking Process**

In 42 U.S.C. 6314, EPCA sets forth the general criteria and procedures DOE must follow when prescribing or amending test procedures for covered equipment. EPCA provides in relevant part that any test procedures prescribed or amended under this section shall be

reasonably designed to produce test results which measure energy efficiency, energy use or estimated annual operating cost of a covered product during a representative average use cycle or period of use and shall not be unduly burdensome to conduct. (42 U.S.C. 6314(a)(2)) In addition, if DOE determines that a test procedure amendment is warranted, it must publish proposed test procedures and offer the public an opportunity to present oral and written comments on them. (42 U.S.C. 6314(b))

DOE is also required by EPCA to conduct an evaluation of test procedures every seven years for each class of covered equipment (including PTACs and PTHPs) to determine if an amended test procedure would more accurately or fully comply with the requirement to be reasonably designed to produce test results that reflect the energy efficiency, energy use, and operating costs during a representative average use cycle. DOE must either prescribe amended test procedures or publish a notice in the Federal Register regarding its determination not to amend test procedures. (42 U.S.C. 6314(a)(1)-(2))

### Background

DOE's test procedure for PTACs and PTHPs is codified at Title 10 of the Code of Federal Regulations (CFR) section 431.96. The test procedure was established on December 8, 2006, in a final rule that incorporated by reference the American National Standards Institute's (ANSI) and Air-Conditioning, Heating, and Refrigeration Institute's (AHRI) Standard 310/380-2004, "Standard for Packaged Terminal Air-Conditioners and Heat Pumps" (ANSI/AHRI Standard 310/380). 71 FR 71340, 71371. ANSI/AHRI Standard 310/380-2004 is incorporated by reference at 10 CFR 431.95(a)(3) and it references (1) the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) Standard 16-1999 (RA2009),

“Method of Testing for Rating Room Air Conditioners and Packaged Terminal Air Conditioners” (ASHRAE Standard 16); (2) ASHRAE Standard 58-1986 (RA2009), “Method of Testing for Rating Room Air Conditioner and Packaged Terminal Air Conditioner Heating Capacity” (ASHRAE Standard 58); and (3) ASHRAE Standard 37-1988, “Methods of Testing for Rating Electrically Driven Unitary Air-Conditioning and Heat Pump Equipment” (ASHRAE Standard 37).

On May 16, 2012, DOE published a final rule for commercial heating, air-conditioning, and water-heating equipment (ASHRAE equipment), which included amendments to the test procedure for PTACs and PTHPs. These amendments incorporated a number of sections of ANSI/AHRI Standard 310/380 by reference. 77 FR 28928, 28990. In today’s rulemaking, DOE is evaluating test procedures for PTACs and PTHPs as required by 42 U.S.C. 6314(a)(1).

On February 22, 2013, DOE published a notice of public meeting and availability of framework document to consider energy conservations standards rulemaking for PTACs and PTHPs. 78 FR 12252. In the framework document, DOE sought comments on issues pertaining to the test procedure for PTACs and PTHPs, including equipment break-in, wall sleeve sealing, pre-filling the condensate drain pan, barometric pressure correction, and differences between the test methods of ASHRAE Standard 16 and ASHRAE Standard 37. Comments received on these topics are discussed in section III.

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 heating, ventilation, and air

conditioning (HVAC) equipment (10 CFR part 431, subparts D, E and F), water heating (WH) equipment (10 CFR part 431, subpart G), and refrigeration equipment (10 CFR part 431, subpart C) (Working Group). A notice of intent to form the Commercial Certification Working Group was published in the Federal Register on March 12, 2013, following 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 nominated individuals 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. Following the meeting, the Working Group published a set of recommendations, and DOE issued the Certification of Commercial HVAC, WH, and Refrigeration Equipment NOPR (Certification of Commercial Equipment NOPR) on February 7, 2014, summarizing the Working Group's recommendations. 79 FR 8886. The group proposed a number of test procedure items for PTACs and PTHPs, including proposals for (1) a standardized wall sleeve to be used during testing and (2) a standardized filter to be used during testing, both of which are discussed in today's NOPR.

DOE considers the activity initiated by this proposed rule sufficient to satisfy the statutory requirement that DOE must review its test procedures for all covered equipment, including PTACs and PTHPs, at least once every 7 years and either amend the applicable test procedures or publish a determination in the Federal Register not to amend them. (42 U.S.C. 6314(a)(1))

## **II. Summary of the Notice of Proposed Rulemaking**

In this NOPR, DOE proposes to amend the test procedures for PTACs and PTHPs in 10 CFR 431, Subpart F, to specify an optional break-in period, explicitly require that wall sleeves be sealed, allow for the pre-filling of the condensate drain pan, require that the cooling capacity for PTACs and PTHPs be determined by testing pursuant to ASHRAE Standard 16, and require testing with 14-inch deep wall sleeves and the filter option most representative of a typical installation.

The proposed amendments would explicitly allow PTAC and PTHP manufacturers the option of using a break-in period (up to 20 hours) before conducting the test procedure. In this regard, DOE proposes adding ANSI/AHRI Standard 310/380-2004 to the list of commercial air-conditioner standards at 10 CFR 431.96(c), which currently provides an optional break-in period of up to 20 hours for other commercial air-conditioner equipment types. The proposal would also require any PTAC or PTHP manufacturer that elects to use a break-in period to certify the duration of the break-in period it used for each basic model. DOE proposes that, as part of the set-up for testing, testers seal gaps between wall sleeves and the test facility dividing wall. This would require the PTAC or PTHP wall sleeve to be sealed per manufacturer specifications or a standard sealing method.

DOE proposes to allow the pre-filling of the condensate drain pan with water before running the DOE test procedure. This proposed amendment would allow the unit to reach steady state more quickly, which would decrease the burden and cost of testing.

DOE proposes to modify the test procedure to require ASHRAE Standard 16 as the test method for measuring the cooling capacity of PTACs and PTHPs. DOE would remove all references to ASHRAE Standard 37 as an allowable method of test.

DOE proposes to require testing using a 14-inch deep wall sleeve and only one filter option, which would be the most typical filter option that is shipped with the tested unit. These proposed amendments would remove testing variability resulting from the use of non-standard equipment.

DOE does not believe that these proposed changes to the PTAC and PTHP test procedure would result in any additional burden to manufacturers or result in any changes to the energy efficiency of current equipment. Rather, the proposed changes would provide additional clarification regarding how the DOE test procedure should be conducted.

### **III. Discussion**

#### **A. Break-In Duration**

Break-in, also called run-in, refers to the operation of equipment prior to testing to cause preliminary wear, which may improve measured performance. DOE understands that many labs commonly incorporate a break-in period before the start of efficiency tests for air conditioning equipment. DOE's May 16, 2012 final rule for Small, Large, and Very Large Commercial Package Air Conditioners and Heat Pumps (ASHRAE equipment), 77 FR 28928, 28991, added a specification in the test procedure that allows an optional break-in period of up to 20 hours for many types of commercial air conditioning and heating equipment and requires that manufacturers record the duration of the break-in period. However, these amendments do not apply to PTACs or PTHPs.

DOE is aware that the time required to achieve sufficient break-in (for stabilizing equipment performance) may depend on ambient temperature. Generally, the break-in process is conducted outside the test chamber at room temperature conditions (i.e., 65-85 °F). However, conducting break-in in the test chamber at elevated ambient temperatures (i.e., 95 °F outdoor/80 °F indoor) may reduce the time required to achieve break-in. Using the test chamber for break-in would likely increase the expense of testing significantly because it would increase the amount of time that a test unit is in the test chamber. DOE asked for comment on this issue in the framework document published on February 22, 2013. 78 FR 12252.

In response, AHRI and Goodman stated that DOE should allow for an optional break-in period at non-specified ambient conditions for PTAC and PTHP testing, but did not specify a

maximum duration. (AHRI, No. 11 at p. 2; Goodman, No. 13 at p. 1)<sup>1</sup> The California Investor-Owned Utilities (CA IOUs, which consists of the Pacific Gas and Electric Company (PG&E), the Southern California Gas Company (SCGC), the San Diego Gas and Electric (SDG&E), and Southern California Edison (SCE)) stated that DOE should allow an optional break-in period with a maximum duration of 20 hours, as allowed in the ASHRAE equipment final rule. (CA IOUs, No. 12 at p. 1-2) AHRI and Goodman stated that they do not have any data to show how the length of break-in time specifically affects PTAC or PTHP performance; however, Goodman did state that it has test data for residential air conditioning systems that indicate that system performance can improve by “several percentage points over a 72 hour period.” AHRI and Goodman further stated that any manufacturer that elects to use the optional break-in period for AHRI’s certification testing must cover the cost of the break-in period. (AHRI, No. 11 at p. 2; Goodman, No. 13 at p. 1) AHRI also stated that breaking-in the equipment in the testing lab may cost around \$1500 per 8-hr shift, whereas the only cost of break-in outside the test lab is the labor required for set-up and the electricity needed to operate the equipment. ((AHRI, No. 11 at p. 2)

DOE has concluded that allowing for an optional break-in period will provide manufacturers more flexibility to produce test results that more accurately reflect energy efficiency of basic models in a manner that is representative of their performance without adding significant testing costs and burdens on the manufacturers. DOE understands that using a break-in period will generally improve the measured efficiency of a product by allowing moving parts

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<sup>1</sup> A notation in this form provides a reference for information that is in the docket of DOE’s “Energy Conservation Program for Certain Commercial and Industrial Packaged Terminal Air Conditioners and Packaged Terminal Heat Pumps” (Docket No. EERE-2012-BT-STD-0029), which is maintained at [www.regulations.gov](http://www.regulations.gov). This notation (AHRI, No. 11 at p. 2) indicates that the statement preceding the reference is found in document number 11 in the docket for the packaged terminal air conditioner and packaged terminal heat pump test procedure rulemaking, and appears at page 2 of that document.

(such as compressor mating surfaces) to wear-in to improve efficiency. DOE also concludes that the use of a break-in period should be at the manufacturer's discretion. Therefore, DOE proposes adding ANSI/AHRI Standard 310/380 to the list of commercial air-conditioner standards at 10 CFR 431.96(c), which would provide an optional break-in period of up to 20 hours. DOE already allows manufacturers of other commercial air-conditioner equipment the option of a break-in period not to exceed 20 hours, and this change would extend this allowance to manufacturers of PTACs and PTHPs. DOE has not found evidence that break-in periods exceeding 20 hours provide additional efficiency improvements for a PTAC or PTHP.

In addition, DOE is proposing a reporting requirement so that manufacturers would certify the duration of the break-in period used during that testing conducted to support the development of the certified ratings. As such, DOE is proposing to modify the certification requirements for PTACs and PTHPs that were proposed on February 14, 2014, 79 FR 8886, 8900, to require the manufacturer to include the break-in period in the certification report. DOE seeks comment on this proposal. Please note that a manufacturer must maintain records underlying its certified rating, which would reflect this optional break-in period duration pursuant to 10 CFR 429.71. DOE also notes that ratings derived from an alternative efficiency determination method (AEDM) would include a break-in period only if the test data underlying the AEDM also included a run-in period. As background, AEDMs are computer modeling or mathematical tools that predict the performance of non-tested basic models. They are derived from mathematical models and engineering principles that govern the energy efficiency and energy consumption characteristics of a type of covered equipment.

If commenters support longer break-in times, DOE requests data demonstrating that break-in periods longer than 20 hours make a significant impact on efficiency measurements for this equipment type. This is identified as issue 1 in section V.E, “Issues on Which DOE Seeks Comment.”

#### B. Wall Sleeve Sealing

PTACs and PTHPs are tested in a testing facility incorporating rooms, simulating indoor and outdoor ambient test conditions, that are separated by a dividing wall with an opening in which the test sample is mounted. In most cases, the test sample is placed in the opening, and any remaining gaps between the dividing wall and the wall sleeve around the unit are filled with insulating material. The gap between the test sample and the insulating material may also be sealed with duct tape.

ASHRAE Standard 16 states, “The air conditioner shall be installed in a manner similar to its normal installation” (Section 4.2.2). In normal practice, PTACs and PTHPs are installed within wall sleeves that are permanently installed and sealed to the external wall of a building. However, the set-up of the DOE test procedure does not allow for the permanent installation of the wall sleeves in the partition cavity. Thus, during testing, the wall sleeve is not necessarily air-sealed to the wall as it would be in a normal installation in the field. Air leakage between the outdoor and indoor rooms through gaps between the wall sleeve and the dividing wall can reduce the measured capacity and efficiency, which would contribute to test results unrepresentative of field operation. DOE asked for comment on this issue in the framework document. 78 FR 12252 (Feb. 22, 2013).

Goodman responded that it will always be a proponent of anything that is done to the test procedure to minimize the variability of testing among laboratories, including sealing the wall sleeve. (Goodman, Framework Public Meeting Transcript at p. 24)<sup>2</sup> Goodman noted that adding wall sleeve sealing requirements to the test procedure would reduce the variability of measured performance from one lab to another. (Goodman, No. 13 at p. 2) Goodman added that sealing the wall sleeve leaks would not add a significant amount of time to the total testing to be done. (Goodman, Framework Public Meeting Transcript at p. 24) The CA IOUs pointed to section 4.2.2 of ASHRAE Standard 16 (mentioned above), which they believe can be interpreted as a requirement for wall sleeves to be sealed with the test facility dividing wall. They also pointed out that guidance as to the level of sealing necessary for the wall sleeve can be found in section 7.7.4 of ANSI/AHRI Standard 310/380, which states, “During the entire test, the measured air flow rate, L/s (ft<sup>3</sup>/min), leaking into the indoor portion shall be considered to be the infiltration rate through the equipment and shall not exceed 3.1 L/(s•m) (2 ft<sup>3</sup>/(min•ft)) at the perimeter of the wall sleeve where it normally projects through the wall.” (CA IOUs, No. 12 at p. 2)

DOE agrees with Goodman’s comments that sealing the wall sleeve would reduce the variability of testing among laboratories and would help produce test results that more accurately reflect the energy efficiency of PTACs and PTHPs. DOE notes that section 4.2.2 of ASHRAE Standard 16 does not specifically require the wall sleeve to be sealed to the wall. Section 7.7.4 of ANSI/AHRI Standard 310/380, as the CA IOUs pointed out, deals with air infiltration testing, both through the unit and around the unit (i.e., between the wall sleeve and the opening).

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<sup>2</sup> A notation in the form “Scotsman, Public Meeting Transcript at p. 26” identifies a comment that DOE has received during a public meeting and has included in the docket of this rulemaking. This particular notation refers to a comment: (1) submitted by Scotsman; (2) transcribed from the public meeting, and (3) appearing on page 26 of that document.

Although this air flow is generally measured during tests, the DOE test procedure for PTACs and PTHPs does not require its measurement and reporting. Furthermore, this air flow includes infiltration both through the unit and between the wall sleeve and the test facility dividing wall opening, so it is not necessarily a good indicator of whether the wall sleeve seal is tight.

To improve the repeatability of PTAC and PTHP testing, DOE proposes to require that test facilities, when installing PTACs and PTHPs in the test chamber, seal all potential leakage gaps between the wall sleeve and the dividing wall. DOE seeks comments on the sealing of PTAC and PTHP wall sleeves to the test facility dividing wall, including whether the type or method of sealing (e.g., duct tape) should be specified, and whether a test could be developed that, with reasonably low test burden, could be performed to verify an adequate seal. This is identified as issue 2 in section V.E, “Issues on Which DOE Seeks Comment.”

### C. Pre-filling Condensate Drain Pan

Most PTACs and PTHPs transfer the condensate that forms on the evaporator to a condensate pan in the unit’s outdoor-side where the outdoor fan distributes the water over the air-inlet side of the condenser. This process results in evaporative cooling that enhances the cooling of the outdoor coil in air-conditioning mode. At the beginning of a test, there may be no water in the condensate pan. As the test progresses and the unit approaches an equilibrium state of operation, the condensate level in the drip pan will fill and stabilize at a constant level. It can take several hours to reach this steady state.

To accelerate the testing process, test facilities typically add water to the condensate pan at the beginning of the test rather than waiting for the unit to generate sufficient condensate to stabilize. The current test procedure does not indicate whether this practice is allowed during efficiency testing. DOE sought comment on this issue in the framework document. 78 FR 12252 (Feb. 22, 2013).

AHRI and Goodman recommended that the condensate pan be pre-filled with water prior to testing, and stated that any type of water would be acceptable for pre-filling. (AHRI, No. 11 at p. 3; Goodman, No. 13 at p. 2) AHRI stated that achieving steady state conditions with a pre-filled pan takes 2-4 hours, with actual testing taking an additional 2 hours. If the pan is not pre-filled, then the set-up and stabilization period will take approximately twice as long. (AHRI, No. 11 at p. 3) Goodman estimated that roughly 1 to 2 hours would be saved from pre-filling the condensate pan. Goodman added that the lab should document how much water was added to the pan, the water-source, and its temperature. Goodman also suggested that the water added be approximately 50°F to optimize the time to reach equilibrium. (Goodman, No. 13 at p. 2)

The CA IOUs stated that distilled water should be used (as opposed to city water) because distilled water is similar in mineral content to the condensate that would normally fill the drain pan. (CA IOUs, No. 12 at p.3) They also indicated that section 7.6.3 of ANSI/AHRI Standard 310/380 (condensate disposal test section) provides guidance for pre-filling the condensate drain pan: “After establishment of the specified temperature conditions, the equipment shall be started with its condensate collection pan filled to the overflowing point and shall be operated continuously for 4 h after the condensate level has reached equilibrium.” (CA IOUs, No. 12 at p. 2)

DOE agrees that pre-filling the condensate pan would not alter the measured results as compared with not pre-filling the condensate pan. DOE also recognizes that pre-filling the condensate pan may reduce the time for the unit to achieve steady-state by approximately 1-4 hours, which would reduce test lab expenses because the PTAC or PTHP would spend less time in the test chamber. While DOE understands that regular tap water may have minerals and dissolved solids that could affect the thermodynamic properties of the condensate, which could then affect the steady-state behavior of the PTAC or PTHP, DOE does not have information to indicate whether use of non-distilled water will have a measurable impact on the performance of the PTAC or PTHP during testing. Therefore, DOE's proposal does not include requirements that a specific water type be used to fill the pan.

Additionally, DOE does not have information to indicate whether the temperature of the water used to prefill the pan will impact the test result, but acknowledges that the condensate water temperature of the test will stabilize due to the equilibrium tolerance requirements in section 6.1.5 of ASHRAE Standard 16. Therefore, DOE's proposal does not include requirements that water at a specific temperature be used to fill the pan.

Section 7.6.3 of ANSI/AHRI Standard 310/380, which the CA IOUs cited as providing guidance for pre-filling the condensate pan, is part of the procedure for the condensate disposal test designed to ensure that condensate does not overflow the drain pan. This section is not part of the general cooling capacity test for PTACs and PTHPs, and does not contain guidance for condensate temperatures or water types.

DOE proposes to add a provision in its test procedures at 10 CFR 431.96 to allow manufacturers the option of pre-filling the condensate drain pan before starting the efficiency test. As indicated above, the provision would not set requirements regarding the water purity or the water temperature that is to be used. DOE seeks comments on pre-filling the condensate drain pan, including whether the type and/or temperature of the water used should be specified in the test procedure and/or recorded in the test data underlying the results. This is identified as issue 3 in section V.E, “Issues on Which DOE Seeks Comment.”

#### D. ASHRAE Standard 16 vs. ASHRAE Standard 37

ANSI/AHRI Standard 310/380 indicates that either ASHRAE Standard 16-1999 (a calorimeter-based method) or ASHRAE Standard 37-1988 (a psychrometric-based method) may be used to determine cooling efficiency. The two test methods have significant differences that may influence test results, including whether outgoing evaporator air is allowed to recirculate back into the evaporator. Testing consistency of PTACs and PTHPs may be improved by requiring all efficiency tests to be conducted using only one of the two ASHRAE standards. On the other hand, such an approach may increase test burden, particularly for those manufacturers that currently use one particular test method (e.g., manufacturers who do not have access to a calorimeter test chamber needed to conduct testing according to ASHRAE Standard 16). DOE asked for comment on this issue in the framework document. 78 FR 12252 (Feb. 22, 2013).

Goodman and AHRI both stated that there is an ongoing process to revise ASHRAE Standard 16 that will incorporate aspects of ASHRAE Standard 37. (AHRI, No. 11 at p. 2; Goodman, Framework Public Meeting Transcript at p. 29) Goodman stated that it uses both psychrometric and calorimeter methods for its performance testing. (Goodman, No. 13 at p. 2)

AHRI stated that it conducts its cooling verification testing for PTACs and PTHPs only in calorimeter rooms in accordance with ASHRAE Standard 16. AHRI also stated that, despite the differences between the two test methods, the test results between the two methods correlate. (AHRI, No. 11 at p. 2) AHRI noted that ASHRAE Standard 16 is currently being revised, and the upcoming release of the standards would likely include both psychrometric and calorimeter testing methods. AHRI stated that, upon release of updated ASHRAE Standard 16, ANSI/AHRI Standard 310/380 will likely use ASHRAE Standard 16 as the sole test standard for cooling capacity. (AHRI, No. 11 at p. 2; AHRI, Framework Public Meeting Transcript at p. 28)

Goodman also encouraged DOE to adopt the future revised version of ASHRAE Standard 16 as soon as it is completed, and when this occurs, remove references to ASHRAE Standard 37 from the DOE test procedure. (Goodman, No. 13 at p. 2) AHRI recommended that DOE specify either ASHRAE Standard 16 or ASHRAE 37 as the sole method for conducting cooling capacity tests. (AHRI, No. 11 at p. 2)

To investigate potential differences in results between the ASHRAE Standard 16 and ASHRAE Standard 37 test methods, DOE conducted some experimental testing on this issue using three PTAC units, one each from three distinct manufacturers. DOE tested all three units at a third-party testing lab under both ASHRAE Standard 16 and ASHRAE Standard 37, and the results can be directly compared since both standards allow for testing of the energy efficiency ratio (EER) at peak-load conditions. The test results showed that differences in the calculated EER between ASHRAE Standard 16 and ASHRAE Standard 37 ranged from 0.4 to 1.0 Btu/h-W, depending on the unit. These results do not support a conclusion that the two methods of test generate consistent results.

DOE understands that there is an ongoing process to revise ASHRAE Standard 16 to incorporate psychrometric testing currently detailed in ASHRAE Standard 37. Upon release of the updated standard, DOE may consider updates to the DOE test procedure to reference the new standard, as recommended by AHRI and Goodman.

To standardize the testing of PTACs and PTHPs, DOE is proposing to require that only ASHRAE Standard 16 be used when conducting a cooling mode test for PTACs and PTHPs. DOE seeks comment on its proposal to designate ASHRAE Standard 16 as the sole test method for determining cooling efficiency. Specifically, DOE is interested in the test burden on manufacturers of this designation, particularly given that all AHRI certification program testing is conducted using ASHRAE Standard 16. DOE also seeks information on whether there are PTAC or PTHP manufacturers that conduct a significant number of tests using ASHRAE Standard 37. This is identified as issue 5 in section V.E, “Issues on Which DOE Seeks Comment.”

#### E. Wall Sleeve Size and Filter Requirements for Testing

##### Wall Sleeve Size

The DOE test procedure provides limited guidance on the type of wall sleeve that should be used during testing. Wall sleeves are used in PTAC and PTHP testing to provide an outer case for the main refrigeration components. In the field, the wall sleeves are often installed in the building, and the cooling/heating assembly slides into and out of this case. For standard size PTACs and PTHPs, the wall sleeve measures 42 inches wide and 16 inches high; however, there is no standardized depth.

Some manufacturers offer extended wall sleeves in a variety of depths (up to 31 inches) that can be used with any of their standard size PTACs or PTHPs. DOE believes that the use of varying test sleeve depths can affect measured test results, due to the differences in airflow and fan performance. DOE's test procedure, in section 4.3 of ANSI/AHRI Standard 310/380, provides some limited guidance about the wall sleeve that should be used during testing; it states that "standard equipment shall be in place during all tests, unless otherwise specified in the manufacturer's instructions to the user." However, there currently is no guidance for units where multiple test sleeves might be acceptable.

DOE's survey of wall sleeve sizes on the market showed that the most common wall sleeve depth is 14 inches. While DOE has no data indicating the impact of testing with a maximum-depth sleeve as opposed to a standard-depth sleeve, DOE expects that there may be an incremental reduction in efficiency associated with use of a sleeve as deep as 31 inches. The Working Group discussed the issue of varying wall sleeve sizes and voted to adopt the position that units should be tested using a standard 14 inch sleeve (Docket No. EERE-2013-BT-NOC-0023, No. 53, pg. 17). Based on this information, DOE proposes to add a provision to 10 CFR 431.96 to require testing using a wall sleeve with a depth of 14 inches (or the wall sleeve option that is closest to 14 inches in depth that is available for the basic model being tested). This is consistent with the recommendation by the Working Group.

### Filter Requirements

The DOE test procedure provides limited guidance on the type of filter that should be used during testing, and DOE has investigated the issue of testing with standard filters versus

high-efficiency filters. PTACs or PTHPs generally ship with a filter to remove particulates from the indoor airstream. There is currently no description in the DOE test procedure of the type of filter to be used during testing. While some PTACs and PTHPs only have one filter option, some PTACs and PTHPs are shipped with either a standard filter or a high efficiency filter. A high efficiency filter will impose more air flow restriction, which can incrementally decrease air flow and the capacity or efficiency of the unit.

DOE considered whether to specify a particular MERV filter efficiency for use with the test, such as MERV-2 or MERV-3 levels of filtration. However, DOE noted that the filter efficiencies offered in PTACs and PTHPs are generally not specified using a standard metric. Furthermore, some PTACs are sold with higher-efficiency “standard-option” filters than others. Moreover, verification that the filter used in the test complies with any such requirement would not be possible without implementation of standardized requirements for labeling of filters and reporting of filter efficiencies and/or adopting a filter efficiency test as part of the test procedure, all of which would impose additional burden. The Working Group was also aware of this issue, and also discussed the issue of varying air filter efficiency. The Working Group voted to adopt the position that units should be tested “as shipped” with respect to selecting a filter option (Docket No. EERE-2013-BT-NOC-0023, No. 53, pg. 16).

Consistent with the Working Group’s recommendations, DOE proposes to add a provision to 10 CFR 431.96 to require testing using the standard or default filter option that is shipped with most units. For those models that are not shipped with a filter, DOE proposes to require the use of an off-the-shelf MERV-3 (minimum efficiency reporting value) filter for testing.

DOE seeks comment on these proposals and whether there are any PTACs or PTHPs that cannot be tested using a 14 inch deep wall sleeve. DOE also seeks comment on whether a MERV-3 filter is appropriate for testing PTACs and PTHPs that do not ship with filters. These have are identified as issues 7 and 8 in section V.E, “Issues on Which DOE Seeks Comment.”

#### F. Barometric Pressure Correction

The DOE test procedure, in Section 6.1.3 of referenced ASHRAE Standard 16, allows for adjustment of the capacity measurement based on the tested barometric pressure: “The capacity may be increased 0.8% for each in. Hg below 29.92 in. Hg.” Theoretically, air is less dense at higher altitudes where the barometric pressure is lower. As a result, air mass flow generated by fans and blowers is less at higher altitudes, which may decrease the measured cooling capacity due to reduced air flow over the coils. However, there are other competing effects that may negate this decrease. DOE requested detailed test data showing the relationship of capacity to barometric pressure in the framework document. 78 FR 12252 (Feb. 22, 2013).

Goodman stated that it did not have data showing the relationship between barometric pressure and cooling capacity but mentioned that AHRI Standard 550-2011 (“Performance Rating of Water-Chilling and Heat Pump Water-Heating Packages Using the Vapor Compression Cycle”) has a normative appendix (Appendix F) that uses a barometric pressure adjustment and that the ASHRAE Standard Project Committee is considering adopting the AHRI 550 calculation in the revised ASHRAE Standard 16. Goodman also commented that barometric pressure should be used in performing capacity calculations for PTACs and PTHPs. (Goodman, No. 13 at p. 2)

Because DOE has not received any data to support the removal of the barometric pressure correction from the DOE test procedure, DOE is not proposing to amend or remove this provision. DOE seeks comments or data on the barometric pressure correction specifically used for PTACs and PTHPs. This is identified as issue 4 in section V.E, “Issues on Which DOE Seeks Comment.”

#### G. Part-Load Efficiency Metric and Varying Ambient Conditions

The current DOE test procedure for PTACs and PTHPs measures cooling and heating efficiency in terms of EER and coefficient of performance (COP), respectively. Both of these metrics measure the efficiency of the unit running steadily at the maximum cooling or heating output settings.

The Appliance Standards Awareness Project (ASAP) raised the issue that current efficiency metrics do not capture part load performance and, for that reason, do not properly reflect the benefits of technologies such as variable speed compressors that could save significant energy in the field due to improvement in part load efficiency. (ASAP, Framework Public Meeting Transcript at p. 35) ASAP and the American Council for an Energy-Efficient Economy (ACEEE) jointly encouraged DOE to develop a test procedure that captures part-load efficiency in order to better represent the energy efficiency in the field. They suggested that DOE adopt a metric similar to integrated energy efficiency ratio (IEER), which measures efficiency at different compressor load points (100%, 75%, 50%, and 25% of full capacity).<sup>3</sup> (ASAP and ACEEE, No. 14 at p. 1) AHRI commented that PTACs and PTHPs are generally operated at full

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<sup>3</sup> The IEER metric was developed by the American Society of Heating, Refrigerating, and Air Conditioning Engineers (ASHRAE) for Standard 90.1-2007. In Addenda from the 2008 Supplement to Standard 90.1-2007, ASHRAE replaced the integrated part load value (IPLV) metric for commercial unitary air conditioners and commercial unitary heat pumps with the IEER metric, effective January 1, 2010.

load most of the time and that it is not common practice in the field to operate the units at part load. (AHRI, Framework Public Meeting Transcript at p. 36)

The CA IOUs stated that the DOE test procedure should require the measurement and reporting of the performance of PTACs and PTHPs in a variety of ambient conditions to represent varying climate zones. (CA IOUs, No. 12 at p. 3) Southern Company Services (SCS) commented that if DOE starts looking into part-load efficiency metrics for PTACs and PTHPs, then DOE would need to consider climate issues in the metric, which would be a complex issue. (SCS, Framework Public Meeting Transcript at p. 37)

DOE is unaware of any data showing the time PTACs and PTHPs spend operating in part-load conditions versus full-load conditions. Likewise, DOE is unaware of any information that shows the amount of time that PTACs and/or PTHPs spend cycling their compressors when operating in conditions not requiring their full load. Likewise, DOE is not aware of any data showing the amount of time that PTHPs with defrost capabilities spend at different outdoor temperatures, specifically at 17° F compared with that at 47° F. These data would be needed to incorporate the lower temperatures into a part-load metric, as noted by the CA IOUs. Such data would be necessary as inputs to a part-load metric for PTACs and/or PTHPs.

DOE believes that the existing EER (full load) metric accurately reflects equipment efficiency during the year. However, DOE recognizes the importance of conducting the data collection outlined above to establish whether a part load metric is needed and to provide the necessary basis for developing such a metric. DOE will consider gathering relevant data to assist

in a future test procedure rulemaking. However, DOE does not have sufficient information regarding part-load operation to establish such a test procedure at this time.

The CA IOUs also stated that the heating mode test method should include defrost mode operation and testing at both 47 °F and 17 °F to capture the effects of electric resistance heat. (CA IOUs, No. 12 at p. 3)

DOE notes that ASHRAE Standard 58 includes a test of the defrost operation for units that experience defrost during the standard rating test at the specified test conditions. This test is not currently included as part of the DOE test procedure. As stated above regarding part-load metrics, DOE will consider such testing to assist in a future test procedure rulemaking.

Ice Air, LLC (Ice Air) commented that DOE's current energy conservation standards fail to account for the economic, environmental, and energy impact of using electric heat in PTACs and PTHPs. It also stated that there should be a standardized methodology for measuring the impact of alternate heat sources (e.g., hydronic or gas heat), and that the energy-efficiency impact of such heat sources should be accounted for in the DOE test procedure. (Ice Air, No. 9 at p. 1)

DOE notes that the heating coefficient of performance calculated using ANSI/AHRI Standard 310/380 does not include any energy consumed by supplementary heating sources at times when low outdoor temperatures require its use. It also does not include energy consumed by supplementary hydronic or gas heating. To incorporate the energy consumed by supplementary resistance heat would require changing the metric to a seasonal metric, which

would require knowledge of national average heating load patterns for PTHPs as a function of ambient temperature—information which DOE does not have at this time.

DOE is not proposing to adopt either a part-load or seasonal efficiency metric for the cooling mode that considers part-load performance, or a seasonal efficiency metric for the heating mode that considers electric resistance heating for PTACs or PTHPs. DOE seeks comments regarding this conclusion, including any information regarding seasonal load patterns for PTACs and PTHPs in both cooling and heating modes. This is identified as issue 6 in section V.E, “Issues on Which DOE Seeks Comment.”

#### H. Compliance Date of the Test Procedure Amendments

In amending a test procedure, EPCA directs DOE to determine to what extent, if any, the test procedure would alter the measured energy efficiency or measured energy use of a covered product. (42 U.S.C. 6314(a)(6)) If the amended test procedure alters the measured energy efficiency or measured energy use, the Secretary must amend the applicable energy conservation standard accordingly. (42 U.S.C. 6314(a)(6))

The proposed test procedure amendments for PTACs and PTHPS do not contain changes that would materially alter the measured energy efficiency of equipment. Rather, most of the proposed changes represent clarifications that would improve the uniform application of the test procedures for this equipment. Any change in the rated efficiency that might be associated with these clarifications is expected to be de minimis.

DOE's test procedure proposals being considered in this notice would be effective 30 days after publication of the final rule in the Federal Register. Consistent with 42 U.S.C. 6314(d), any representations of energy consumption of PTACs and PTHPs must be based on any final amended test procedures 360 days after the publication of the test procedure final rule.

## **IV. Procedural Issues and Regulatory Review**

### **A. Review Under Executive Order 12866**

The Office of Management and Budget (OMB) has determined that test procedure rulemakings do not constitute “significant regulatory actions” under section 3(f) of Executive Order 12866, Regulatory Planning and Review, 58 FR 51735 (Oct. 4, 1993). Accordingly, this 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.

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

DOE reviewed today’s proposed rule under the provisions of the Regulatory Flexibility Act and the procedures and policies published on February 19, 2003. This proposed rule prescribes test procedures that will be used to test compliance with energy conservation standards for the products that are the subject of this rulemaking. DOE has tentatively concluded

that the proposed rule would not have a significant impact on a substantial number of small entities.

The Small Business Administration (SBA) considers an entity to be a small business if, together with its affiliates, it employs less than a threshold number of workers specified in 13 CFR part 121, which relies on size standards and codes established by the North American Industry Classification System (NAICS). The threshold number for NAICS classification for 333415, which applies to air conditioning and warm air heating equipment and commercial and industrial refrigeration equipment, is 750. Searches of the SBA Web site<sup>4</sup> to identify manufacturers within these NAICS codes that manufacture PTACs and/or PTHPs did not identify any small entities that could be affected by this test procedure modification.

DOE expects the impact of the proposed rule to be minimal. The proposed rule would amend DOE's test procedures to specify an optional break-in period, explicitly require that wall sleeves be sealed to prevent air leakage, allow for the pre-filling of the condensate drain pan, require that the cooling mode be tested using only ASHRAE Standard 16, and require testing with 14-inch deep wall sleeves and the filter option most representative of a typical installation. These tests can be conducted in the same facilities used for the current energy testing of these products and do not require testing in addition to what is currently required. The break-in period is optional and may result in improved energy efficiency of the unit; the break-in is also generally conducted outside of the balanced-ambient calorimeter facility. DOE expects that manufacturers will require minimal time to plug in and run the PTACs and PTHPs, and will only

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<sup>4</sup> A searchable database of certified small businesses is available online at: [http://dsbs.sba.gov/dsbs/search/dsp\\_dsbs.cfm](http://dsbs.sba.gov/dsbs/search/dsp_dsbs.cfm)

incur the additional time for the break-in step if it is beneficial to testing. In this case, the cost will be minimal due to the nature of the testing and the fact that it is not conducted within the facility.

Material costs are expected to be negligible, as air sealing the wall sleeves can be accomplished with typically available lab materials, and there are no additional costs from specifying a particular wall sleeve and/or filter that typically comes with the unit. In addition, pre-filling of the condensate pan is expected to reduce test time by 2-4 hours, which would reduce testing costs by approximately \$375-750 per test. DOE also believes that most manufacturers are already using ASHRAE Standard 16 because all AHRI testing is conducted using this method. Thus, such requirements for equipment and time to conduct tests (if necessary to recertify using ASHRAE Standard 16) would not be expected to impose a significant economic impact.

For these reasons, DOE certifies that the proposed rule would 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 SBA for review under 5 U.S.C. 605(b).

### C. Review Under the Paperwork Reduction Act of 1995

Manufacturers of packaged terminal air conditioners and packaged terminal heat pumps must certify to DOE that their equipment complies with any applicable energy conservation standards. In certifying compliance, manufacturers must test their equipment according to the DOE test procedures for packaged terminal air conditioners and packaged terminal heat pumps, including any amendments adopted for those test procedures. DOE has established regulations for the certification and recordkeeping requirements for all covered consumer products and commercial equipment, including packaged terminal air conditioners and packaged terminal heat pumps. 76 FR 12422 (Mar. 7, 2011). The collection-of-information requirement for the certification and recordkeeping is subject to review and approval by OMB under the Paperwork Reduction Act (PRA).

In the Certification of Commercial Equipment NOPR issued on February 7, 2014, DOE proposed to revise and expand its existing regulations governing compliance certification for commercial HVAC, WH, and CRE equipment covered by EPCA. 79 FR 8886. Requirements for PTAC and PTHP manufacturers were included in the Certification of Commercial Equipment NOPR, and DOE sought comment on this proposed expansion of the existing information collection. 79 FR 8886. In today's NOPR, DOE is proposing to include the break-in period and the wall sleeve dimensions under the current certification requirements listed in 10 CFR 429.43. DOE does not believe that these additions to the certification requirements constitute a significant additional burden upon respondents, as they require the addition of two additional pieces of information on the existing certification report. DOE believes that the Certification of

Commercial Equipment NOPR provides an accurate estimate of the existing burden on respondents. 79 FR 8886.

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 of 1969

In this proposed rule, DOE proposes test procedure amendments that it expects will be used to develop and implement future energy conservation standards for packaged terminal air conditioners and packaged terminal heat pumps. 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 proposed rule would amend the existing test procedures without affecting 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 A5 under 10 CFR part 1021, subpart D, which applies to any rulemaking that interprets or amends an existing rule without changing the environmental effect of that rule. 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 to carefully assess the necessity for such actions. The Executive Order also requires agencies to have an accountable process to ensure meaningful and timely input by State and local officials in the development of regulatory policies that have Federalism implications. On March 14, 2000, DOE published a statement of policy describing the intergovernmental consultation process it will follow in the development of such regulations. 65 FR 13735. DOE has examined this proposed rule and has determined that it would not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. EPCA governs and prescribes Federal preemption of State regulations as to energy conservation for the equipment that is the subject of today's proposed rule. States can petition DOE for exemption from such preemption to the extent, and based on criteria, set forth in EPCA. (42 U.S.C. 6297(d)) No further action is required by Executive Order 13132.

#### 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, the proposed 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 proposed regulatory action likely to result in a rule that may cause the expenditure by State, local, and Tribal governments, in the aggregate, or by the private sector of \$100 million or more in any one year (adjusted annually for inflation), section 202 of UMRA requires a Federal agency to publish a written statement that estimates the resulting costs, benefits, and other effects on the national economy. (2 U.S.C. 1532(a), (b)) The UMRA also requires a Federal agency to develop an effective process to permit timely input by elected officers of State, local, and Tribal governments on a proposed “significant intergovernmental mandate,” and requires an agency plan for giving notice and opportunity for timely input to potentially affected small governments before establishing any requirements that might significantly or uniquely affect small governments. On March 18, 1997, DOE published a statement of policy on its process for intergovernmental consultation under UMRA. 62 FR 12820; also available at

<http://energy.gov/gc/office-general-counsel>. DOE examined today's proposed rule according to UMRA and its statement of policy and determined that the rule contains neither an intergovernmental mandate, nor a mandate that may result in the expenditure of \$100 million or more in any year, so these requirements do not apply.

#### 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, 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 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 today's proposed rule 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 OMB, a Statement of Energy Effects for any proposed significant energy action. A “significant energy action” is defined as any action by an agency that promulgated or is expected to lead to promulgation of a final rule, and that: (1) is a significant regulatory action under Executive Order 12866, or any successor order; and (2) is likely to have a significant adverse effect on the supply, distribution, or use of energy; or (3) is designated by the Administrator of OIRA as a significant energy action. For any proposed significant energy action, the agency must give a detailed statement of any adverse effects on energy supply, distribution, or use should the proposal be implemented, and of reasonable alternatives to the action and their expected benefits on energy supply, distribution, and use.

Today’s regulatory action to amend the test procedure for measuring the energy efficiency of packaged terminal air conditioners and packaged terminal heat pumps is not a significant regulatory action under Executive Order 12866. Moreover, it would not have a significant adverse effect on the supply, distribution, or use of energy, nor has it been designated as a significant energy action by the Administrator of OIRA. Therefore, it is not a significant energy action, and, accordingly, DOE has not prepared a Statement of Energy Effects.

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 proposed rule authorizes or requires use of commercial standards, the notice of proposed rulemaking must inform the public of the use and background of such standards. In addition, section 32(c) requires DOE to consult with the Attorney General and the Chairman of the Federal Trade Commission (FTC) concerning the impact of the commercial or industry standards on competition.

The proposed rule incorporates testing methods contained in the following commercial standards: ANSI/AHRI Standard 310/380-2004 and ASHRAE Standard 16-1983 (RA 2009). The Department has evaluated these standards and is unable to conclude whether they fully comply with the requirements of section 32(b) of the FEAA, (i.e., that they were developed in a manner that fully provides for public participation, comment, and review). DOE will consult with the Attorney General and the Chairman of the FTC concerning the impact of these test procedures on competition, prior to prescribing a final rule.

## **V. Public Participation**

### **A. Attendance at Public Meeting**

The time, date and location of the public meeting are listed in the DATES and ADDRESSES sections at the beginning of this document. If you plan to attend the public meeting, please notify Ms. Brenda Edwards at (202) 586-2945 or [Brenda.Edwards@ee.doe.gov](mailto:Brenda.Edwards@ee.doe.gov). Please note that foreign nationals visiting DOE Headquarters are subject to advance security screening procedures. Any foreign national wishing to participate in the meeting should advise DOE as soon as possible by contacting Ms. Edwards to initiate the necessary procedures. Please also note that those wishing to bring laptops into the Forrestal Building will be required to obtain a property pass. Visitors should avoid bringing laptops, or allow an extra 45 minutes.

In addition, you can attend the public meeting via webinar. Webinar registration information, participant instructions, and information about the capabilities available to webinar participants will be published on DOE's website

[http://www1.eere.energy.gov/buildings/appliance\\_standards/rulemaking.aspx?ruleid=89](http://www1.eere.energy.gov/buildings/appliance_standards/rulemaking.aspx?ruleid=89).

Participants are responsible for ensuring their systems are compatible with the webinar software.

### **B. Procedure for Submitting Prepared General Statements For Distribution**

Any person who plans to present a prepared general statement may request that copies of his or her statement be made available at the public meeting. Such persons may submit requests, along with an advance electronic copy of their statement in PDF (preferred), Microsoft Word or Excel, WordPerfect, or text (ASCII) file format, to the appropriate address shown in the ADDRESSES section at the beginning of this notice. The request and advance copy of

statements must be received at least one week before the public meeting and may be emailed, hand-delivered, or sent by mail. DOE prefers to receive requests and advance copies via email. Please include a telephone number to enable DOE staff to make a follow-up contact, if needed.

### C. Conduct of Public Meeting

DOE will designate a DOE official to preside at the public meeting and may also use a professional facilitator to aid discussion. The meeting will not be a judicial or evidentiary-type public hearing, but DOE will conduct it in accordance with section 336 of EPCA (42 U.S.C. 6306). A court reporter will be present to record the proceedings and prepare a transcript. DOE reserves the right to schedule the order of presentations and to establish the procedures governing the conduct of the public meeting. After the public meeting and until the end of the comment period, interested parties may submit further comments on the proceedings and any aspect of the rulemaking.

The public meeting will be conducted in an informal, conference style. DOE will present summaries of comments received before the public meeting, allow time for prepared general statements by participants, and encourage all interested parties to share their views on issues affecting this rulemaking. Each participant will be allowed to make a general statement (within time limits determined by DOE), before the discussion of specific topics. DOE will permit, as time permits, other participants to comment briefly on any general statements.

At the end of all prepared statements on a topic, DOE will permit participants to clarify their statements briefly and comment on statements made by others. Participants should be

prepared to answer questions by DOE and by other participants concerning these issues. DOE representatives may also ask questions of participants concerning other matters relevant to this rulemaking. The official conducting the public meeting will accept additional comments or questions from those attending, as time permits. The presiding official will announce any further procedural rules or modification of the above procedures that may be needed for the proper conduct of the public meeting.

A transcript of the public meeting will be included in the docket, which can be viewed as described in the Docket section at the beginning of this notice. In addition, any person may buy a copy of the transcript from the transcribing reporter.

#### D. Submission of Comments

DOE will accept comments, data, and information regarding this proposed rule before or after the public meeting, but no later than the date provided in the DATES section at the beginning of this proposed rule. Interested parties may submit comments using any of the methods described in the ADDRESSES section at the beginning of this notice.

Submitting comments via regulations.gov. The regulations.gov web page will require you to provide your name and contact information. Your contact information will be viewable to DOE Building Technologies staff only. Your contact information will not be publicly viewable except for your first and last names, organization name (if any), and submitter representative name (if any). If your comment is not processed properly because of technical difficulties, DOE will use this information to contact you. If DOE cannot read your comment due to technical

difficulties and cannot contact you for clarification, DOE may not be able to consider your comment.

However, your contact information will be publicly viewable if you include it in the comment or in any documents attached to your comment. Any information that you do not want to be publicly viewable should not be included in your comment, nor in any document attached to your comment. Persons viewing comments will see only first and last names, organization names, correspondence containing comments, and any documents submitted with the comments.

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

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

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

Include contact information each time you submit comments, data, documents, and other information to DOE. If you submit via mail or hand delivery, please provide all items on a CD, if feasible. It is not necessary to submit printed copies. No facsimiles (faxes) will be accepted.

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

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

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

Factors of interest to DOE when evaluating requests to treat submitted information as confidential include: (1) A description of the items; (2) whether and why such items are customarily treated as confidential within the industry; (3) whether the information is generally known by or available from other sources; (4) whether the information has previously been made available to others without obligation concerning its confidentiality; (5) an explanation of the competitive injury to the submitting person which would result from public disclosure; (6) when such information might lose its confidential character due to the passage of time; and (7) why disclosure of the information would be contrary to the public interest.

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

#### E. Issues on Which DOE Seeks Comment

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

1. DOE seeks comment on its proposal to add an optional break-in period to the test procedure (up to 20 hours) for PTACs and PTHPs, and whether the duration of the proposed break-in period is appropriate. If commenters support longer break-in times, DOE also requests data showing that break-in periods longer than 20 hours make a significant impact on efficiency measurements for this equipment type.
2. DOE seeks comments on the sealing of PTAC and PTHP wall sleeves to the test facility dividing wall, including whether the type or method of sealing should be specified in the test procedure, and whether a test has been developed that could be performed to verify that adequate elimination of air leakage has been achieved.
3. DOE seeks comments on its proposal to permit the pre-filling of the condensate drain pan, including whether the mineral content of the water or temperature of the water used would affect the measurement and/or whether these data should be recorded and documented as part of the test records underlying certification.
4. DOE seeks comments on its proposal to require testing using 14-inch deep wall sleeves and standard filters. DOE is also interested in whether there are any PTACs or PTHPs that cannot be tested with a 14-inch deep wall sleeve.
5. DOE also seeks comment on its proposal to require the use of MERV-3 filter for testing PTACs and PTHPs that do not ship with filters.
6. DOE seeks comments or data on the need for a barometric pressure correction for PTACs and PTHPs.

7. DOE seeks comments on its proposal to designate ASHRAE Standard 16 as the sole test method for measuring cooling efficiency for PTACs and PTHPs. Specifically, DOE is interested in the test burden on manufacturers resulting from this proposed requirement, and whether there are PTAC or PTHP manufacturers that currently conduct a significant number of tests using ASHRAE Standard 37.
8. DOE seeks comments on its proposal not to develop seasonal efficiency metrics that would evaluate part-load operation of PTACs and PTHPs or the impact of electric resistance heating in low ambient temperatures for PTHPs. DOE also seeks any information regarding seasonal load patterns for PTACs and PTHPs in both cooling and heating modes.

## **VI. Approval of the Office of the Secretary**

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

### **10 CFR Part 429**

Confidential business information, Energy conservation, Household appliances, Imports, Reporting and recordkeeping requirements.

### **List of Subjects in 10 CFR Part 431**

Administrative practice and procedure, Confidential business information, Energy conservation, Household appliances, Imports, Incorporation by reference, Intergovernmental relations, Small businesses.

Issued in Washington, DC, on March 6, 2014.



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

For the reasons stated in the preamble, DOE is proposing to amend part 429 and part 431 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. Amend § 429.43 by:

a. Adding paragraph (a)(1)(iii);

b. Removing in paragraph (b)(2) the word “shall” and adding in its place the word “must”; and

c. Revising paragraphs (b)(2)(iii) and (iv).

The addition and revisions read as follows:

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

(a) \* \* \*

(1) \* \* \*

(iii) For packaged terminal air conditioners and packaged terminal heat pumps, the represented value of cooling capacity shall be the average of the capacities measured for the units in the sample selected as described in paragraph (ii) of this section, rounded to the nearest 100 Btu/h.

\* \* \* \* \*

(b) \* \* \*

(2) \* \* \*

(iii) 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), the wall sleeve dimensions in inches (in), and the duration of the break-in period (hours).

(iv) 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), the wall sleeve dimensions in inches (in), and the duration of the break-in period (hours).

\* \* \* \* \*

3. Add §429.134 to read as follows:

**§ 429.134 Product-specific Enforcement Provisions.**

(a) – (d) Reserved.

(e) Package terminal air conditioners and heat pumps. (1) Verification of cooling capacity. The total cooling capacity of the basic model will be measured pursuant to the test requirements of part 431 for each unit tested. The results of the measurement(s) will be averaged and compared to the value of cooling capacity certified by the manufacturer. The certified cooling capacity will be considered valid only if the measurement is within five percent of the certified cooling capacity.

(i) If the certified cooling capacity is found to be valid, that cooling capacity will be used as the basis for calculation of the EER and, if applicable, the COP energy conservation standard that applies to the given basic model.

(ii) If the certified cooling capacity is found to be invalid, the average measured cooling capacity will serve as the basis for calculation of the EER and, if applicable, COP energy conservation standard that applies to the given basic model.

(2) Reserved.

## **PART 431 – ENERGY EFFICIENCY PROGRAM FOR CERTAIN COMMERCIAL AND INDUSTRIAL EQUIPMENT**

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

**Authority:** 42 U.S.C. 6291-6317.

5. Amend §431.95 by:

a. Redesignating paragraph (c)(1) as (c)(3); and

b. Adding paragraphs (c)(1) and (2) to read as follows:

**§431.95 Materials incorporated by reference.**

\* \* \* \* \*

(c) \* \* \*

(1) ASHRAE 16-1999, “Method of Testing for Rating Room Air Conditioners and Packaged Terminal Air Conditioners,” IBR approved for §431.96.

(2) ASHRAE 58-1999, “Method of Testing for Rating Room Air Conditioner and Packaged Terminal Air Conditioner Heating Capacity,” IBR approved for §431.96.

\* \* \* \* \*

5. Amend §431.96 by:

a. Revising paragraphs (b) and (c); and

b. Adding paragraph (g)

The revisions and additions read as follows:

**§ 431.96 Uniform test method for the measurement of energy efficiency of commercial air conditioners and heat pumps.**

(a) Scope. This section contains test procedures for measuring, pursuant to EPCA, the energy efficiency of any small, large, or very large commercial package air-conditioning and heating equipment, packaged terminal air conditioners and packaged terminal heat pumps, computer room air conditioners, variable refrigerant flow systems, and single package vertical air conditioners and single package vertical heat pumps.

(b) Testing and calculations. Determine the energy efficiency of each type of covered equipment by conducting the test procedure(s) listed in the fifth column of Table 1 of this section along with any additional testing provisions set forth in paragraphs (c) through (g) of this section, that apply to the energy efficiency descriptor for that equipment, category, and cooling capacity. The omitted sections of the test procedures listed in the fifth column of Table 1 of this section shall not be used.

Determine the energy efficiency of each type of covered equipment by conducting the test procedure(s) listed in the rightmost column of Table 1 of this section along with any additional testing provisions set forth in this section, that apply to the energy efficiency descriptor for that equipment, category, and cooling capacity. The omitted sections of the test procedures listed in the rightmost column of Table 1 of this section shall not be used.

After [date 360 days after date of publication of the final rule in the Federal Register], any representations made with respect to the energy use or efficiency of packaged terminal air

conditioners and heat pumps (PTACs and PHTPs) must be made in accordance with the results of testing pursuant to this section. Manufacturers conducting tests of PTACs and PHTPs after [date 30 days after date of publication of the final rule in the Federal Register] and prior to [date 360 days after date of publication of the final rule in the Federal Register], must conduct such test in accordance with either this table or §431.96 as it appeared at 10 CFR part 431, subpart F, in the 10 CFR parts 200 to 499 edition revised as of January 1, 2014. Any representations made with respect to the energy use or efficiency of such packaged terminal air conditioners and heat pumps must be in accordance with whichever version is selected.

**Table 1 to §431.96—Test Procedures for Commercial Air Conditioners and Heat Pumps**

<b>Equipment type</b>	<b>Category</b>	<b>Cooling capacity</b>	<b>Energy efficiency descriptor</b>	<b>Use tests, conditions, and procedures<sup>1</sup> in</b>	<b>Additional Test Procedure Provisions as Indicated in the Listed Paragraphs of this Section</b>
Small Commercial Packaged Air-Conditioning and Heating Equipment	Air-Cooled, 3-Phase, AC and HP Air-Cooled AC and HP	<65,000 Btu/h ≥65,000 Btu/h and <135,000 Btu/h	SEER and HSPF EER and COP	AHRI 210/240-2008 (omit section 6.5). AHRI 340/360-2007 (omit section 6.3).	Paragraphs (c) and (e)
	Water-Cooled and Evaporatively-Cooled AC	<65,000 Btu/h ≥65,000 Btu/h and <135,000 Btu/h	EER EER	AHRI 210/240-2008 (omit section 6.5). AHRI 340/360-2007 (omit section 6.3).	Paragraphs (c) and (e)
	Water-Source HP	<135,000 Btu/h	EER and COP	ISO Standard 13256-1 (1998).	Paragraph (e)
Large Commercial Packaged Air-Conditioning and Heating Equipment	Air-Cooled AC and HP Water-Cooled and Evaporatively-Cooled AC	≥135,000 Btu/h and <240,000 Btu/h ≥135,000 Btu/h and <240,000 Btu/h	EER and COP EER	AHRI 340/360-2007 (omit section 6.3). AHRI 340/360-2007 (omit section 6.3).	Paragraphs (c) and (e)
Very Large Commercial Packaged Air-Conditioning and Heating Equipment	Air-Cooled AC and HP Water-Cooled and Evaporatively-Cooled AC	≥240,000 Btu/h and <760,000 Btu/h ≥240,000 Btu/h and <760,000 Btu/h	EER and COP EER	AHRI 340/360-2007 (omit section 6.3). AHRI 340/360-2007 (omit section 6.3).	Paragraphs (c) and (e)
Packaged	AC and HP	<760,000	EER and COP	See paragraph	Paragraphs (c), (e),

Terminal Air Conditioners and Heat Pumps		Btu/h		(g) of this section	and (g)
Computer Room Air Conditioners	AC	<65,000 Btu/h <65,000 Btu/h and <760,000 Btu/h	SCOP SCOP	ASHRAE 127-2007 (omit section 5.11). ASHRAE 127-2007 (omit section 5.11).	Paragraphs (c), and (e)
Variable Refrigerant Flow Multi-split Systems	AC	<760,000 Btu/h	EER and COP	AHRI 1230-2010 (omit sections 5.1.2 and 6.6).	Paragraphs (c), (e), and (f)
Variable Refrigerant Flow Multi-split Systems, Air-cooled	HP	<760,000 Btu/h	EER and COP	AHRI 1230-2010 (omit sections 5.1.2 and 6.6).	Paragraphs (c), (d), (e), and (f)
Variable Refrigerant Flow Multi-split Systems, Water-source	HP	<17,000 Btu/h	EER and COP	AHRI 1230-2010 (omit sections 5.1.2 and 6.6).	Paragraphs (c), (d), (e), and (f)
Variable Refrigerant Flow Multi-split Systems, Water-source	HP	≥17,000 Btu/h and <760,000 Btu/h	EER and COP	AHRI 1230-2010 (omit sections 5.1.2 and 6.6).	Paragraphs (c), (d), (e), and (f)
Single Package Vertical Air Conditioners and Single Package Vertical Heat Pumps	AC and HP	<760,000 Btu/h	EER and COP	AHRI 390-2003 (omit section 6.4).	Paragraphs (c) and (e)

<sup>1</sup>Incorporated by reference, see §431.95.

(c) *Optional break-in period.* Manufacturers may optionally specify a “break-in” period, not to exceed 20 hours, to operate the equipment under test prior to conducting the test method cited in Table 1.

\* \* \* \* \*

(g) *Test Procedures for Packaged Terminal Air Conditioners and Packaged Terminal Heat Pumps.* (1) The test method for testing packaged terminal air conditioners and packaged

terminal heat pumps in cooling mode shall consist of application of the methods and conditions in AHRI 310/380-2004 sections 3, 4.1, 4.2, 4.3, and 4.4 (incorporated by reference; see §431.95), and in ANSI/ASHRAE 16 (incorporated by reference; see §431.95). Where definitions provided in AHRI 310/380-2004 overlap with the definitions provided in 10 CFR 431.92, the 10 CFR 431.92 definitions shall be used.

(2) The test method for testing packaged terminal heat pumps in heating mode shall consist of application of the methods and conditions in AHRI 310/380-2004 sections 3, 4.1, 4.2, 4.3, and 4.4 (incorporated by reference; see §431.95), and in ANSI/ASHRAE 58 (incorporated by reference; see §431.95). Where definitions provided in AHRI 310/380-2004 overlap with the definitions provided in 10 CFR 431.92, the 10 CFR 431.92 definitions shall be used.

(3) *Wall sleeves.* For packaged terminal air conditioners and packaged terminal heat pumps, the unit must be installed in a wall sleeve with a 14 inch depth if available. If a 14 inch deep wall sleeve is not available, use the available wall sleeve option closest to 14 inches in depth. The area(s) between the wall sleeve and the insulated partition between the indoor and outdoor rooms must be sealed to eliminate all air leakage through this area.

(4) *Optional pre-filling of the condensate drain pan.* For packaged terminal air conditioners and packaged terminal heat pumps, test facilities may add water to the condensate drain pan of the equipment under test (until the water drains out due to overflow devices or until the pan is full) prior to conducting the test method specified by AHRI 310/380-2004 (incorporated by reference, see § 431.95). No specific level of water mineral content or water temperature is required for the water added to the condensate drain pan.

(5) *Test Method for Standard Cooling Ratings.* For packaged terminal air conditioners and packaged terminal heat pumps, the ANSI/ASHRAE test method used in tests shall be ANSI/ASHRAE 16 (incorporated by reference, see § 431.95).

(6) *Filter selection.* For packaged terminal air conditioners and packaged terminal heat pumps, the indoor filter used during testing shall be the standard or default filter option shipped with the model with the model. If a particular model is shipped without a filter, the unit must be tested with a level MERV-3 filter.