

transcript shall be kept of any such hearing.

#### § 431.217 Disposition of petitions.

(a) After the submission of public comments under § 431.213(a), the Secretary shall prescribe a final rule or deny the petition within 6 months after the date the petition is filed.

(b) The final rule issued by the Secretary or a determination by the Secretary to deny the petition shall include a written statement setting forth his findings and conclusions, and the reasons and basis therefor. A copy of the Secretary's decision shall be sent to the petitioner and the affected State agency. The Secretary shall publish in the **Federal Register** a notice of the final rule granting or denying the petition and the reasons and basis therefor.

(c) If the Secretary finds that he cannot issue a final rule within the 6-month period pursuant to paragraph (a) of this section, he shall publish a notice in the **Federal Register** extending such period to a date certain, but no longer than one year after the date on which the petition was filed. Such notice shall include the reasons for the delay.

#### § 431.218 Effective dates of final rules.

(a) A final rule exempting a State standard from Federal preemption will be effective:

(1) Upon publication in the **Federal Register** if the Secretary determines that such rule is needed to meet an "energy emergency condition" within the State;

(2) Three years after such rule is published in the **Federal Register**; or

(3) Five years after such rule is published in the **Federal Register** if the Secretary determines that such additional time is necessary due to the burdens of retooling, redesign or distribution.

(b) A final rule withdrawing a rule exempting a State standard will be effective upon publication in the **Federal Register**.

#### § 431.219 Request for reconsideration.

(a) Any petitioner whose petition for a rule has been denied may request reconsideration within 30 days of denial. The request shall contain a statement of facts and reasons supporting reconsideration and shall be submitted in writing to the Secretary.

(b) The denial of a petition will be reconsidered only where it is alleged and demonstrated that the denial was based on error in law or fact and that evidence of the error is found in the record of the proceedings.

(c) If the Secretary fails to take action on the request for reconsideration within 30 days, the request is deemed

denied, and the petitioner may seek such judicial review as may be appropriate and available.

(d) A petitioner has not exhausted other administrative remedies until a request for reconsideration has been filed and acted upon or deemed denied.

#### § 431.220 Finality of decision.

(a) A decision to prescribe a rule that a State energy conservation standard or other requirement not be preempted is final on the date the rule is issued, *i.e.*, signed by the Secretary. A decision to prescribe such a rule has no effect on other regulations of covered equipment of any other State.

(b) A decision to prescribe a rule withdrawing a rule exempting a State standard or other requirement is final on the date the rule is issued, *i.e.*, signed by the Secretary. A decision to deny such a petition is final on the day a denial of a request for reconsideration is issued, *i.e.*, signed by the Secretary.

#### Subpart Q—[Removed]

■ 13. Subpart Q is removed.

[FR Doc. 04-17729 Filed 10-20-04; 8:45 am]

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## DEPARTMENT OF ENERGY

### Office of Energy Efficiency and Renewable Energy

#### 10 CFR Part 431

[Docket No. EE-RM/TP-99-470]

RIN 1904-AB02

### Energy Efficiency Program for Certain Commercial and Industrial Equipment: Test Procedures and Efficiency Standards for Commercial Packaged Boilers

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

**ACTION:** 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 packaged boilers and definitions relevant to this equipment. The rule also recodifies energy conservation standards prescribed by EPCA for commercial packaged boilers so that they are located contiguous with the test procedures that DOE promulgates today.

**DATES:** This rule is effective November 22, 2004. The incorporation by reference

of certain publications listed in this rule is approved by the Director of the Federal Register as of November 22, 2004.

#### FOR FURTHER INFORMATION CONTACT:

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**SUPPLEMENTARY INFORMATION:** This final rule incorporates, by reference, into Subpart E of Part 431, two test procedures 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) Standard 90.1 ("ASHRAE/IES Standard 90.1") for commercial packaged boilers. Those industry standards are: the Hydronics Institute (HI) Division of the Gas Appliance Manufacturer's Association (GAMA) Boiler Testing Standard BTS-2000, "Method to Determine Efficiency of Commercial Space Heating Boilers" (which supersedes the ASHRAE Standard 90.1 referenced 1989 HI Standard, "Testing and Rating Standard for Heating Boilers," 6th Edition, 1989); and American Society of Mechanical Engineers (ASME) PTC 4.1-1964/RA-1991, "Power Test Codes for Steam Generating Units."

You can view copies of these standards 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 HI Standard BTS-2000 from Hydronics Institute Division of GAMA, P.O. Box 218, Berkeley Heights, NJ 07922, <http://www.gamanet.org/publist/hydroordr.htm>; and Standards ANSI Z21.47-1998 and UL 727-1994 from Global Engineering Documents, 15 Inverness Way East, Englewood, CO 80112, <http://global.ihs.com/> respectively.

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## I. Introduction

### A. Authority

Title III of the Energy Policy and Conservation Act (EPCA) sets forth a variety of provisions designed to improve energy efficiency. Part B of title III (42 U.S.C. 6291–6309) provides for the “Energy Conservation Program for Consumer Products other than Automobiles.” Part C of Title III (42 U.S.C. 6311–6317) provides for a program similar to Part B which is entitled “Certain Industrial Equipment” and which includes commercial air conditioning equipment, packaged boilers, water heaters, and other types of commercial equipment.

DOE publishes today’s final rule pursuant to Part C which specifically provides for definitions, test procedures, labeling provisions, energy conservation standards, and authority to require information and reports from

manufacturers. *See* 42 U.S.C. 6311–6317. With regard to test procedures, Part C generally 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 packaged boilers, this statute provides that “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, DOE must revise its test procedures 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 packaged boiler, 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 equipment, 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, under the terms of Part C of title III of EPCA, the Secretary is authorized to require manufacturers of covered commercial products 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

DOE began implementation of Part C of title III of EPCA by establishing 10 CFR part 431. Part 431 is entitled “Energy Efficiency Program for Certain Commercial and Industrial Equipment.” Eventually, part 431 will include

commercial heating, air conditioning and water heating products. It will consist of: Test procedures, Federal energy conservation standards, labeling, and certification and enforcement procedures. Today DOE proposes amendments to part 431 in order further to implement Part C of title III of EPCA.

As a first step in the process that led to today’s final rule, DOE convened public workshops on April 14 and 15, 1998, and October 18, 1998, to solicit views and information from interested persons to aid in developing proposed rules that would address test procedures, certification and enforcement procedures, and EPCA’s coverage for this equipment. The workshop discussions and comments focused on the following issues for packaged boilers specifically:

- (1) The definition of commercial packaged boiler;
- (2) Whether the efficiency standards and test procedures prescribed by EPCA apply only to boilers used in certain applications, to boilers below a certain capacity, and to low pressure boilers;
- (3) The test procedures to be adopted;
- (4) Adoption of separate testing provisions for condensing boilers, modular boilers, multiple boilers, or boilers designed for low temperature applications; and
- (5) Testing and rating of a boiler designed for both steam and hot water applications.

After considering both oral and written comments, on August 9, 2000, DOE published a Notice of Proposed Rulemaking and Public Hearing (“proposed rule” or “NOPR”) (65 FR 48838) to implement the energy efficiency standards and test procedures mandated by EPCA for commercial packaged boilers. 65 FR 48838. The NOPR requested data, comments, and information regarding the proposed regulations. DOE conducted a public workshop/hearing (the public hearing) on September 20, 2000, to receive oral comments, and DOE also accepted written comments. In formulating today’s final rule, DOE considered these comments and have incorporated recommendations where appropriate. Section II below discusses the comments that questioned or disagreed with the Department’s positions as presented in the NOPR.

Energy conservation standard levels were not at issue in these proceedings. The NOPR merely proposed to recodify into the Department’s regulations on efficiency requirements for commercial packaged boilers the energy conservation standard levels that had been established in 42 U.S.C. 6313(a) of EPCA for this equipment.

### C. Summary of the Final Rule

Today's final rule incorporates the following for commercial packaged boilers: (1) Clarification of EPCA's definition and coverage, (2) energy efficiency test procedures, and (3) energy conservation standards. The commercial packaged boilers covered under today's final rule: (1) Are low pressure steam and hot water heating boilers (steam boilers with a pressure of 15 psi gauge (psig) or less and hot water boilers with a pressure of 160 psig or less and water temperature of 250° F or less), (2) having a rated maximum input capacity of 300,000 Btu per hour (Btu/hr) or more, and (3) that are, "to any significant extent," distributed in commerce for the heating, space conditioning or service water heating in buildings. High pressure steam and high temperature water boilers (steam boilers with a pressure higher than 15 psig, and water boilers with a pressure above 160 psig or a water temperature exceeding 250° F, or both) are not covered by the test procedures and standards in today's rule. This final rule also provides, in essence, that the person or entity that specifies the major component parts used in an assembled boiler is responsible for the boiler's compliance with EPCA efficiency requirements.

Today's final rule incorporates the test procedures contained in the commercial boiler testing standard HI BTS-2000 from the Hydronics Institute Division of GAMA (Incorporated by reference, see § 431.85) (including its provisions for testing condensing boilers) to determine the energy efficiency of commercial packaged boilers under EPCA. And the rule allows, as an alternative during a two year transition period, the use of ASME PTC 4.1-1964 (R1991) to test steel boilers under EPCA, since many manufacturers have traditionally used that procedure to test such boilers.

Finally, so that the efficiency test procedures and standards for commercial packaged boilers will be in the same place in our regulations, this rule recodifies elsewhere in part 431 the minimum energy efficiency levels prescribed in 42 U.S.C. 6313(a) of EPCA.<sup>1</sup> Also, because DOE is combining in 10 CFR part 431 the existing requirements for electric motors with the new requirements for commercial equipment such as packaged boilers,

DOE is placing today's new rules in Subpart E rather than in Subpart K as proposed in the NOPR, using different section numbers than it proposed.

## II. Discussion

### A. General

Representatives of eight organizations, comprising trade associations (the American Gas Association and GAMA), manufacturers (A.O. Smith Water Products Co. and Bock Water Heaters), private research/consulting entities (the Gas Technology Institute (GTI), Arthur D. Little Inc. (ADL), and BR Laboratories, Inc. (BR Labs)), and a state government energy agency (the California Energy Commission (CEC)), attended the public hearing on September 20, 2000. The American Society of Testing and Materials (ASTM) did not attend the public hearing but submitted written comments. GAMA and CEC also submitted written statements in advance of the hearing.

The following summarizes the issues addressed in the preamble of the NOPR and discusses in detail the points on which significant comments were presented during and after the public hearing.

### B. Commercial Packaged Boilers: Definitions and Scope of Coverage

#### 1. Definition—General

##### a. Background

EPCA defines "packaged boiler" as "a boiler that is shipped complete with heating equipment, mechanical draft equipment, and automatic controls; usually shipped in one or more sections." (42 U.S.C. 6311(11)(B)) As discussed in the NOPR and as further discussed below, ASHRAE/IES Standard 90.1-1989, refers to five test standards for commercial heating boilers. The definitions for packaged boiler or boiler assembly in three of the four standards are essentially the same as, but not identical to, EPCA's definition with respect to the heating equipment and controls. The fourth standard defines only the type of low-pressure boilers that it covers and the fifth does not define packaged boilers.

The NOPR discussed in detail whether EPCA's efficiency requirements for commercial packaged boilers apply only to certain types of boilers based on their method of shipment and assembly, application (e.g., space heating/conditioning, service water heating, industrial processing, and utility applications), capacity (size), and operating characteristics (e.g., low pressure steam and hot water heating

boilers, high temperature hot water boilers, and high pressure steam boilers). The Department's proposed resolution of these issues was reflected in the NOPR's proposed definitions of "commercial packaged boiler" and "packaged boiler." The issues were further addressed in comments on the NOPR, which are discussed below in the following subsections: method of shipment and assembly; application; capacity; and high pressure steam and high temperature water boilers. But first the Department addresses comments that raised questions as to the meaning of terms used in the NOPR's definition of "commercial packaged boiler."

#### b. Meaning of Terms Used

GAMA suggested that in the NOPR's definition for "commercial packaged boiler" (proposed § 431.352), the phrase "capacity of 300,000 Btu/hr or more" should be replaced with "input rating of 300,000 Btu/hr or more." GAMA stated that the word "capacity" is imprecise because it specifies neither input nor output. (GAMA, No. 2EE at p. 1). At the public hearing, GAMA explained that "capacity" in this context has more than one meaning. It means the output capacity to most people, but could mean input to a minor segment of the industry. GAMA stated that, as used in the definition, however, the 300,000 Btu/hr value should be the input rating of the boiler. Otherwise commercial boilers with input ratings of approximately 300,000 to 375,000 Btu/hr would not be covered by the proposed Federal regulations, since those boilers would have an output capacity of less than 300,000 Btu/hr. (GAMA, Tr. 35-38). CEC supported GAMA's suggestion, stating in part that the rated input has always been: (1) Used to define the size of gas appliances in the ANSI Z21 series of standards, (2) intended as the basis for defining capacity in ASHRAE/IES Standard 90.1, and (3) what the State of California believes is the basis for preemption of state efficiency requirements. (CEC, Tr. 35, 39). BR Laboratories, Inc. supported GAMA's position. (BR Labs., Tr. 39).

For a number of reasons, the Department agrees with the above comments that it should define "capacity" in terms of input rating. First, we accept the representations that rated input has been the capacity measure for differentiating efficiency requirements in voluntary standards. Particularly relevant here is that ASHRAE/IES Standard 90.1-1989 delineated categories of boilers (and prescribed efficiency requirements) by reference to the 300,000 Btu/hr value, without mentioning input or output,

<sup>1</sup> These efficiency levels are under review by the Department as discussed in the notice of final rulemaking for commercial equipment, entitled, "Energy Efficiency Program for Commercial and Industrial Equipment: Efficiency Standards for Commercial Heating, Air Conditioning and Water Heating Equipment," 66 FR 3336, 3349-3352 (January 12, 2001).

whereas the corresponding portion of Standard 90.1–1999 explicitly states that such size categories are based on “input.” We believe this change was designed to clarify rather than alter the scope of the applicable efficiency requirements. Because EPCA’s efficiency requirements for commercial boilers are based on these same provisions in ASHRAE 90.1, and also use the 300,000 Btu/hr level as a cut-off for differentiating efficiency requirements, ASHRAE’s categorization of commercial boiler sizes by reference to input strongly suggests that boiler “capacity” in EPCA means input capacity. Second, the Department believes that, because EPCA provides efficiency standards for boilers that are consumer (residential) products if they have an “input rate” of less than 300,000 Btu/hr, (42 U.S.C. 6291–6292), the “capacity” of commercial boilers to which Section 342(a)(4) of EPCA refers is also the input rate. To begin with, the most reasonable construction of EPCA is that the capacities of residential and commercial boilers must be measured in a uniform manner under the statute. If the term “capacity” in EPCA were construed as providing standards for commercial boilers with an output rate of 300,000 BTU/hr or more, there would be a gap between the capacities of the largest consumer boiler and the smallest commercial boiler for which EPCA prescribes standards. We do not believe Congress intended such a result.

For these reasons, we construe the term “capacity,” as applied to commercial packaged boilers in section 42 U.S.C. 6313(a)(4)(C)–(D) of EPCA, to mean the rated input not the output capacity. To clarify this point, we are including in our definition of “commercial packaged boiler,” in 10 CFR 431.82, the parenthetical “(rated maximum input)” to modify the term “capacity.”

CEC suggested that we delete the phrases “HVAC & WH product” and “to any significant extent” from the proposed definition of “commercial packaged boiler.” (CEC, No. 6 at pp. 3 and 5). DOE believes that it should not simply delete the term “HVAC & WH product” from this definition, but should instead replace it in the final rule. The Department proposed to include “HVAC & WH product” in the definition of “commercial packaged boiler” in order to incorporate by reference the qualifications set forth in EPCA’s definition of “industrial equipment.” (42 U.S.C. 6311(2)(A)) Therefore, to clarify the regulatory language and respond to CEC’s comments the definition of “commercial packaged boiler” in today’s final rule

includes the term “industrial equipment,” in place of “HVAC & WH product,” and we will incorporate the EPCA definition of “industrial equipment” elsewhere in 10 CFR Part 431. We address use of the term “to any significant extent” in Section II–B–3 below.

## 2. Method of Shipment and Assembly

As discussed in the NOPR, steel and copper boilers are usually shipped as completely assembled units. Cast iron boilers, however, are occasionally shipped from the boiler manufacturer’s factory completely assembled and wired, or in separate sections for assembly at the job site, but are usually sold through boiler distributors who either ship all the necessary sections out of their inventories, or have manufacturers ship some or all of the components, directly to the customer for assembly at the customer’s site. Such boilers typically conform to a predefined design, which consists of sections specified by the manufacturer of the cast iron boiler section, *i.e.*, the boiler manufacturer, and may include a burner, for example, that has been produced by another manufacturer. The boiler manufacturer will test and guarantee the efficiency of such a boiler. Sometimes, however, a vendor or installer will sell a commercial boiler that consists of a combination of sections that has not been specified by a boiler manufacturer. 65 FR 48841–42. In summary, boilers are shipped in the following three ways: (1) As completely assembled units; (2) in sections that conform to a design specified by the manufacturer; and (3) in a combination of sections not specified by the manufacturer.

In the NOPR, DOE stated that it believes boilers distributed in these three ways whether directly by manufacturers or by distributors, fit within EPCA’s definition of packaged boiler. Accordingly, DOE proposed to adopt EPCA’s definition of packaged boiler, but with added language to clarify that if a commercial packaged boiler is shipped in more than one section, it will be covered even if the sections are produced by more than one manufacturer or originated or shipped at different times and from more than one location. DOE also indicated in the preamble of the NOPR that it does not believe EPCA’s requirements for “packaged boilers” apply to custom-designed, field-constructed boiler systems which generally require alteration, cutting, drilling, threading, welding or similar tasks by the installer. DOE received no comments on these points. Therefore, the definition of

“packaged boiler” in the final rule contains the language proposed in the NOPR. But to make the rule more explicit, DOE has added language to provide that field constructed, custom designed boilers are not included.

At the public hearing, GAMA again addressed the issue of who would be responsible for the testing and the efficiency rating of a commercial packaged boiler does not consist of manufacturer specified sections. DOE had stated, in essence, in the NOPR that if a vendor sells a commercial packaged boiler with components that are not specified and approved by a boiler manufacturer, DOE would consider the vendor to be the manufacturer of the boiler. GAMA stated at the hearing that it may be necessary to create, in the regulation, a special definition of a manufacturer. (GAMA, Tr. 45). CEC stated that in California a distributor or contractor on occasion will change the burner in a commercial packaged boiler shipped by the boiler manufacturer. CEC believes that such distributor or contractor should be responsible for the boiler’s efficiency rating and supports GAMA’s suggestion of having a definition of manufacturer that would make the regulation self-contained on this point. (CEC, Tr. 28, 43, 46–47).

The Department agrees that the regulations should define the term “manufacturer” with respect to commercial packaged boilers so as to clarify that any vendor or installer who sells a commercial packaged boiler that has components not specified by the boiler manufacturer is responsible for the testing and efficiency rating of that equipment. In such circumstances, the vendor or installer will be treated as a manufacturer for purposes of applying EPCA’s requirements because it would be performing a manufacturing function. The Department will not treat such a firm merely as a distributor, retailer, or installer of such equipment. In addition, this definition of “manufacturer” in the final rule makes clear that the boiler manufacturer is responsible for complying with EPCA’s requirements where the boiler consists of the components that the manufacturer has specified. Therefore, DOE is prescribing in § 431.82 of today’s final rule a definition of “manufacturer for commercial packaged boilers” that incorporates EPCA’s definition of this term and clarifies it as just described.

## 3. Application

As explained in detail in the NOPR, we believe that the intent of EPCA is to apply the term “packaged boiler” to commercial boilers used in buildings for space conditioning and service water

heating. 65 FR 48842. Accordingly, the proposed definition for commercial packaged boilers included only boilers distributed "to any significant extent" for these purposes.

The Department received no comment on the portion of the NOPR that directly addressed this issue. The CEC, however, suggested deletion of the phrase "to any significant extent" from the proposed definition of "commercial packaged boiler" (CEC, Tr. 66) because it believes the definition would be complete without it. As indicated in the NOPR, 65 FR 48842, inclusion of this phrase in the definition makes clear that the types of boilers used almost exclusively for industrial process heating or utility applications, and rarely sold for heating, space conditioning, or service water heating in buildings, are not covered by the standards and test procedures prescribed by EPCA for a "packaged boiler." Accordingly we are not altering the proposed definition in this respect.

#### 4. Capacity

At the April 1998 workshop, participants discussed whether the DOE test procedure should apply only to packaged boilers that had a rated capacity below some upper limit. In the NOPR, we included no upper limit on capacity in the proposed definition of "commercial packaged boiler," stating that we had no grounds to conclude that EPCA covers only boilers below a certain size. Nevertheless, given the limited quantities of high-capacity boilers used for space heating, and their large size, we solicited comments on whether there is an upper limit on capacity above which the proposed testing procedure would be unduly burdensome to conduct.

At the public hearing, GAMA stated that it still believed that the DOE testing and certification requirements should be limited to low pressure steam and hot water boilers having inputs of eight million Btu/hr or less. (GAMA, No. 2EE at pp. 1–2, and Tr. 49–56). GAMA stated that an upper limit of eight million Btu/hr would cover the vast majority of boilers sold in the U.S. for use in space heating of commercial buildings, and covered under ASHRAE standard 90.1, and that those boilers could be tested according to the test procedure in the HI–1989 standard under a controlled laboratory setting, as in the current industry certification programs. GAMA stated that for large buildings with a large heating load, it is more reasonable to use a modular boiler system or a multiple boiler system (consisting of several smaller boilers) than a single large boiler. Also, GAMA stated its view that low pressure boilers above eight

million Btu/hr are usually custom designed for specific applications and constructed on site from a variety of separately supplied components in accordance with detailed engineering requirements. These boilers cannot be tested for efficiency until after they are constructed and made operational at the site, and such field tests are different from the testing of a completed packaged boiler unit under controlled laboratory conditions.

GAMA agreed that the I=B=R Directory (GAMA's directory of ratings for boilers and other heating equipment) does show a few boilers with sizes over eight million Btu/hr. GAMA stated that a manufacturer lists such boilers in the Directory to indicate its capability of building one at that large size, and usually will build only a few each year. GAMA stated that the testing of those large boilers at a manufacturer's facility in accordance with the HI standard is extremely difficult, and that is the reason that all manufacturers of cast iron steam and hot water boilers obtain those boilers' ratings based on the steam test only. GAMA stated that the larger size cast iron boilers usually are part of a family series of boilers with the same design and construction. According to GAMA, in the HI certification program it typically obtains the efficiency rating of those large size boilers by extrapolating or interpolating the tested efficiency ratings of two boilers in the same family series, picked near the extreme ends (in size, one at the small end, the other at the large end) of the family. GAMA stated this type of projection of the efficiency of a boiler in a family series is based on the boiler industry's long experience. GAMA stated that the manufacturer offers, in essence, a given model in a variety of inputs, where not every input is tested for the efficiency rating.

BR Labs stated that a boiler assembled in the field is normally tested there, and suggested that field testing might be warranted to obtain the efficiency rating of large size boilers. BR Labs also stated that it is common to make steel (fire tube or water tube) boilers having an input greater than 8 million Btu/hr for use by institutions, and that those boilers are designed in part for space heating. Furthermore, according to BR Labs, boilers larger than five to six million Btu/hr are commonly tested at the manufacturer's facility. (BR Labs, Tr. 44–45 and 57–58). CEC asserted that the statute clearly applies to all packaged boilers without any limitation with respect to size, but that DOE has the authority to make the test requirements for large boilers different from those for the small ones. (CEC, Tr. 61).

The foregoing discussion essentially raises two issues. One is the extent to which EPCA's definition of "packaged boiler," and its efficiency requirements for that product, cover low pressure boilers with inputs greater than eight million Btu/hr. The second is whether, assuming such products are covered, DOE's test procedure should make special provision for them.

On the first issue, as stated above, the Department said in the NOPR that it had no grounds to conclude that EPCA covers only boilers below a certain size. There is nothing in the record that would justify DOE changing this position, or concluding that its earlier interpretation of EPCA was incorrect. Accordingly today's final rule contains no upper limit on the size of commercial packaged boilers that are covered by the rule. GAMA, however, in arguing that the DOE test procedure should not cover boilers with rated inputs above eight million Btu/hr, asserted that such boilers are rarely used for space heating and comfort conditioning, and are usually custom-designed and field-constructed. Pursuant to the definitions of "packaged boiler" and "commercial packaged boiler," in section 431.82, today's final rule covers only boilers that are distributed "to any significant extent" for heating, space conditioning or service water heating in buildings, and excludes from coverage boilers that are custom-designed and field-constructed. These limitations on coverage exclude from the scope of the DOE test procedure all or most of the boilers GAMA asserts should be excluded.

As to the feasibility of testing boilers with rated inputs over eight million Btu/hr that would remain subject to the test procedure, ANSI Standard Z21.13 covers low pressure steam and hot water boilers with up to 12,500,000 Btu/hr rated input. That standard has been used by gas boiler manufacturers for several decades, indicating that testing of gas boilers for efficiency at rated inputs of eight to 12.5 million Btu/hr has been conducted without major difficulty. Most of the boilers listed in the directory of the HI 1998 I=B=R Ratings for Heating Boilers, which includes cast iron, steel, and copper boilers made by 21 commercial boiler manufacturers, had a nameplate input of under seven million Btu/hr. This substantiates GAMA's statement that most boilers certified by the HI are under eight million Btu/hr. However, one manufacturer listed models of its cast iron gas boilers at inputs of up to 9.5 million Btu/hr, and a major cast iron boiler manufacturer listed models of oil and gas fired boilers at inputs of up to

approximately 16 to 17.6 million Btu/hr. According to Section 5.2.1 of the 1989 HI Standard, the overall efficiency tests "shall be conducted on at least the smallest and largest assembly of a series to be catalogued, where a consistent geometry exists throughout the series." In addition, the combustion efficiency test can always be conducted during an overall efficiency test. This indicates that the two manufacturers of boilers larger than eight million Btu/hr obtained the efficiency ratings for each boiler series that contained one or more of these larger boilers through interpolating data from tests that included the actual testing of at least one of these large boilers. Therefore, it appears that the eight million Btu/hr value suggested by GAMA is not the limiting value above which the laboratory test cannot be conducted under the HI-1989 test standard. The Department notes also the BR Labs comment that steel boilers with capacities above eight million Btu/hr can be tested at the manufacturer's facility.

Based on the foregoing, the DOE test procedure in today's rule is not limited to packaged boilers below a specified upper limit in capacity, and contains no special provision for boilers over 8 million Btu/hr rated input. DOE notes, however, that the rules for commercial products allow a firm to determine a product's efficiency through use of calculation methods rather than testing, and to seek a waiver of the test procedure for a particular basic model. These provisions should give sufficient alternatives to firms that believe they cannot test these large boilers under the DOE test procedure.

#### 5. High Pressure Steam and High Temperature Water Boilers

Participants in the April and October 1998 workshops expressed differing opinions on the coverage of high pressure steam and high temperature water boilers, referred to here as "high pressure boilers." In the NOPR, DOE stated that since no language in EPCA excludes packaged high pressure boilers from coverage under the statute, and since DOE believed high pressure packaged boilers are sometimes used for heating buildings, under the proposed rule EPCA's efficiency requirements would apply to packaged high pressure boilers which, "to any significant extent," are distributed for use for space conditioning in buildings. However, DOE stated that there may not be clear-cut criteria for distinguishing a packaged high pressure boiler that can be used for space conditioning, and the limited quantities and large sizes of

packaged high pressure boilers employed in space heating may make testing under the proposed DOE procedure unduly burdensome. Therefore, DOE solicited comments on the options of limiting application of EPCA efficiency requirements to those packaged high pressure boilers that are principally designed for heating buildings, or limiting coverage of packaged high pressure boilers to a specific maximum working pressure, such as 150 psig, above which one is unlikely to use it for commercial space heating. 65 FR 48843.

In comments on the NOPR, GAMA again stated its belief that high pressure boilers should be excluded from DOE testing requirements, because they are typically utilized for industrial process or power applications, not for commercial space heating applications. (GAMA, No. 2EE at p. 3).

The Department has further reviewed this issue, considering the statements from GAMA at the public hearing together with the comments from the participants at the earlier workshops. First, the Department again consulted the ASHRAE Handbook for HVAC Systems and Equipment. As stated in Chapter 10, Steam Systems, of the 2000 ASHRAE HVAC System and Equipment Handbook (Handbook), one of the most important decisions in the selection of a steam system is the design pressure. The Handbook states that on the basis of investment and operating cost considerations, energy efficiency, and control stability, the pressure should be held to the minimum values above the atmospheric pressure that accomplishes the required heating task, and that space heating and domestic water heating can best be accomplished, directly or indirectly, with low pressure steam less than 15 psig or hot water temperature less than 250 °F. High pressure steam is required only for loads such as dryers, presses, molding dies, power drives, and other processing, manufacturing, and power requirements, and there are significant increases in investment and operating cost associated with a high pressure system.

The Department also reviewed the definition of "boiler" in ASHRAE/IES Standard 90.1-1999. In the 1989 version of the Standard, "boiler" was defined as a "self-contained appliance for supplying steam or hot water." In the 1999 version of the standard, the definition was revised to "a self-contained low-pressure appliance for supplying steam or hot water." The Department believes the revised definition indicates that the consensus of the subcommittee on mechanical equipment of the ASHRAE Standard

Project Committee 90.1R, whose members represent a wide range of interests in the HVAC industry, is that low pressure boilers are the boilers used for space heating in most commercial buildings, and that use of high pressure boilers for this purpose is not common.

Finally, representatives of the relevant industries (GAMA, the Council of Industrial Boiler Owners and the American Boiler Manufacturers Association) uniformly stated that high pressure boilers are not commonly used in space heating applications in commercial buildings.

On the basis of the above comments and information, the Department has decided upon further review of this issue that high pressure boilers are not currently covered by the standards and test procedures prescribed in EPCA. For reasons indicated in the NOPR and elsewhere in this notice, these requirements apply only to packaged boilers that are distributed to any significant extent for heating, space conditioning, or service water heating in buildings. The Department has now concluded that the information in the record demonstrates that high pressure boilers are not distributed to a significant extent for these purposes. Accordingly, the efficiency standards in today's final rule do not apply to these boilers, nor does the rule include a test procedure for high pressure steam and high temperature hot water boilers, as proposed in the NOPR. Instead, the rule prescribes only a test procedure for commercial packaged low pressure steam and hot water boilers, commonly referred to as ASME Section IV Heating Boilers. The Department may revisit the issue of EPCA's coverage of packaged high pressure boilers at a future date if some of the circumstances discussed above were to change—if, for example, ASHRAE/IES Standard 90.1 were to incorporate efficiency standards and test procedures for this equipment or additional information indicates that a significant number of these boilers are sold for use in heating and space conditioning in commercial buildings.

#### *C. Commercial Packaged Boiler Test Procedures for the Measurement of Energy Efficiency*

EPCA requires that the test procedures for measuring the efficiency of commercial packaged boilers be those generally accepted industry testing or rating procedures that were developed or are recognized by the American Society of Heating, Refrigerating and Air Conditioning Engineers, Inc., as referenced in ASHRAE/IES Standard 90.1 and in effect on June 30, 1992. (42 U.S.C. 6314(a)(4)(A)). Also, if such an

industry test procedure or rating procedure for commercial packaged boilers is amended, DOE must adopt such revisions unless it determines that to do so would not produce test results which are reasonably designed to reflect energy efficiency, energy use, and estimated operating costs, or that the revised procedures would be unduly burdensome to conduct. (42 U.S.C. 6314(a)(4)(B))

The version of ASHRAE Standard 90.1 in effect on June 30, 1992, referenced five industry test standards that apply to gas-fired boilers or oil-fired boilers or both. These are the ANSI Standard Z21.13–1987 for gas-fired boilers (revised as ANSI Z21.13–1991 with Addendum ANSI Z21.13–1993a); the HI Testing and Rating Standard for Heating Boilers, sixth edition, 1989, for gas and oil-fired boilers (HI 1989); ASME Power Test Codes (PTC) 4.1–1964 (reaffirmed R1991) for Steam Generating Units for fossil fuel boilers (revised in 1998 as ASME PTC 4–1998, Fired Steam Generators, issued on December 31, 1999); the Underwriters Laboratory Standard 795–1973 for gas heating equipment (UL 795, revised in 1994 as UL 795–94); and the Underwriters Laboratory Standard UL Standard 726–1990 for oil-fired boilers (UL 726).

DOE evaluated the five referenced standards and presented those analyses in the April and October 1998 workshops. On the basis of this evaluation and the comments from the workshop attendees, in the NOPR we proposed the adoption of specific test procedures. DOE received comments on these proposals during the September 2000 public hearing and in writing.

As discussed above, the Department has determined that high pressure steam and high temperature water boilers are not covered at present by EPCA's requirements for test procedures and standards for packaged boilers. Therefore, today's rule does not contain test procedures or standards for these products, nor does DOE discuss below any comments it received as to the test procedures DOE should adopt for them. Also, DOE received no comments on our statement in the NOPR that DOE would not provide special test provisions for boilers designed for low temperature application. Therefore, DOE adheres to this rationale and position in the final rule and does not further discuss this issue. Finally, in the NOPR, the Department proposed an approach for testing, rating and reporting on boilers capable of supplying either hot water or steam. DOE received no comments on this approach and therefore it is implementing it in today's final rule.

#### 1. Test Procedure and Test Conditions for Low Pressure Steam and Hot Water Boilers

On the basis of discussions during the two earlier workshops, in the NOPR DOE proposed to adopt, in large part, the HI–1989 standard as the uniform test standard for both gas and oil fired low pressure heating boilers. And because gas fired boilers have commonly been tested under ANSI Z21.13, DOE proposed to adopt certain test conditions specified in the ANSI standard as modifications to the HI–1989 standard. In addition to this, DOE proposed in the NOPR to allow manufacturers the alternative of using the Simplified Efficiency Test (Short Form) of ASME PTC 4.1, with some modifications that would ensure comparability between the two test procedures.

No commenter objected to adoption of HI–1989, with modifications, as the DOE test procedure, and none suggested that this test procedure would affect the efficiencies of boilers as measured using any other test procedure referenced in ASHRAE 90.1 in 1992. At the September 2000 public hearing however, GAMA stated that HI had developed a revised test standard, BTS–2000, “Method to Determine Efficiency of Commercial Space Heating Boilers,” which is based on the 1989 HI standard, and will replace that standard. Moreover, GAMA stated that the draft BTS–2000 standard adopts the DOE provisions as described in the NOPR, and recommended that DOE reference the new industry standard in place of the HI–1989 standard. GAMA agreed that it would submit the final version of the standard in the near future for review by DOE and by other stakeholders as requested by CEC. (GAMA, No. 2EE at pp. 2–3, and Tr. 71–80; CEC, Tr. 76–80). Also, GAMA stated that, in referencing the HI–1989 standard in the proposed rule, DOE had ignored certain sections in the standard that are important and needed to establish tolerances for the test data and duration of each test, and should be included in the referencing language. Those sections are Section 5.2.5 on derating the gas power burner rating based on the oil efficiency test, Section 9.1 on input range and definition of equilibrium conditions, and Section 9.2 on length of test. (GAMA, No. 2EE at pp. 2–3).

GAMA provided the Department with a draft version of the BTS–2000 standard in October 2000 (GAMA, No. 3), and a final version, dated January 2001, in April 2001. A comparison of the final version of BTS–2000 to the HI–

1989 standard with respect to the test procedure for commercial heating boilers showed close agreement between the two documents. In addition, BTS–2000: (1) Incorporated the modifications to the HI–1989 standard proposed in the NOPR on the inlet and outlet boiler water temperatures for hot water boilers; (2) included a test procedure for condensing boilers that follows the test method prescribed in the ASHRAE standard 103–1993, as proposed in the NOPR (except the specification on boiler water inlet temperature); and (3) revised the test setup with respect to the test stack and the location for the measurement of flue gas temperature and flue gas sampling for gas-fired boilers for indoor installation to agree with the provisions in the ANSI Z21.13 and the ANSI Z21.13a–1993 addendum. Specifically, with respect to the latter, BTS–2000 (a) differentiates the setup for the test flue stack depending on whether the boiler input rate is below or above 400,000 Btu/hr, and (b) changes the flue gas measurement plane from the location inside the insulated flue pipe section 12 inches downstream of the flue collar or outlet from the boiler (requirement in HI–1989), to “immediately before the flue gases’ discharge from the boiler” (specification in ANSI Z21.13). (The latter change eliminates the need for the HI–1989 requirement to insulate 12 inches of the test flue pipe of gas fired boilers, contained in the NOPR by virtue of the proposal to incorporate HI–1989 as the DOE test procedure.)

Pursuant to the statute, 42 U.S.C. 6314(a)(4)(B), the Department reviewed the amendments to the HI–1989 standard as contained in the BTS–2000 standard. The Department determined that the revisions to the HI–1989 standard in BTS–2000 are substantively the same as what was proposed in the NOPR. We have no basis to conclude that the test procedure in BTS–2000 either is not reasonably designed to produce results that reflect energy efficiency, energy use and estimated operating costs, or is unduly burdensome to conduct. Moreover, because BTS–2000 is essentially the same as the test procedure proposed in the NOPR, it would not alter the measured efficiencies that would have resulted from the proposed test procedure and would have little or no effect on efficiencies measured using the existing test procedures. See 65 FR at 48843–45. Nor has any evidence been presented that use of BTS–2000 or the proposed test procedure would render non-compliant a commercial boiler previously measured as minimally



complying with the applicable EPCA standard. For all of these reasons, the Department is referencing the BTS-2000 standard in today's final rule instead of the HI-1989 standard as was proposed in the NOPR.

As described above, GAMA also stated that the rule language should include several sections (5.2.5, 9.1, and 9.2) of the HI-1989 standard. The proposed rule language on test procedures did not reference Section 5.2.5 since it is part of Section 5.2 of HI-1989 on the approval procedure of a boiler's rating, which does not concern the test method. Also, sections 9.1 and 9.2 were already explicitly specified as part of the proposed rule language in Section 431.362(d)(1)(i), Test Measurements for Packaged Low Pressure Steam and Hot Water Boilers. See 65 FR 48851. In prescribing the use of BTS-2000 in today's final rule, DOE has retained the references to sections 9.1 and 9.2.

In its comments, GAMA also asserted that the proposed optional test standard, the ASME PTC 4.1, has the following problems: (1) It lacks "tolerances for input, pressure, number of tests required, and when the boiler has achieved steady state conditions;" (2) the test duration of four hours is too long for a combustion test, and the locations "of temperature, pressure, flue sampling, and stack configuration are not specified;" (3) it is a test standard for the acceptance test of a boiler after it is installed in the field where the test conditions are less controllable than a laboratory test; and (4) it has been replaced by the standard ASME PTC 4-1998 (issued on December 31, 1999), which is vastly different from the original ASME PTC 4.1. For these reasons, GAMA claimed that test results based on the ASME PTC 4.1 standard would be less accurate than results based on the HI-1989 standard. It also asserted that boilers in the same category should all be tested using a consistent procedure. GAMA therefore recommended that Section 431.362(c)(v) of the proposed rule, Alternative Test Procedure for Testing Low Pressure Steam and Hot Water boilers, which allows the use of PTC 4.1, be deleted. However, GAMA also suggested that for large boilers or boilers that are assembled in the field, field testing as per ASME PTC 4.1 might be allowed as an option. (GAMA, No. 2EE at p. 3 and Tr. 81-89). CEC stated that it generally opposes the inclusion of alternate test procedures since there is always confusion as to who has the option of choosing the test procedure—the manufacturer or the enforcing agency—but in this case it has no objection. CEC

also suggested that DOE require one test method for testing certain types of boilers, and another method for other types, rather than allowing all products to use either method. (CEC, No. 2FF at p. 2 and Tr. 87-89).

The Department evaluated the new ASME PTC 4-1998 standard for possible adoption. As stated by GAMA, the new PTC 4-1998 is a completely re-written document and is vastly different from the PTC 4.1 in both style and details, even though the principles behind the test procedures remain unchanged. As stated in the Foreword to the standard, the PTC 4 committee made the decision to discourage the almost universal use of the abbreviated test procedure (The Short Form) in PTC 4.1. Therefore, the Short Form is no longer included in the new standard. After reviewing the PTC 4-1998 standard and analyzing its effect on entities that would be required to use it, the Department believes that, without the abbreviated test procedure, the new test standard is too burdensome an undertaking for testing the small (in comparison with the size of the steam boilers or generators in an utility plant) packaged low pressure steam and hot water boilers employed for commercial space heating. Therefore, the Department has decided that the new ASME PTC 4-1998 should not be adopted in today's final rule as a test procedure for commercial packaged boilers used for commercial space heating purposes.

The Department considered the comments of GAMA with respect to the accuracy of the tests under the ASME PTC 4.1 standard. DOE believes that Section 3.13 of ASME PTC 4.1, which references the relevant ASME Power Test Codes, adequately specifies the required accuracy in instruments and measurement. DOE agrees with GAMA, however, that the test run duration that ASME PTC 4.1 states as preferable, four hours, may be longer than needed for the smaller packaged steel boilers employed for space heating, and that when the test is conducted in the field after a boiler is installed, test conditions such as the room temperature and the boiler inlet water temperature may be different from the conditions in a testing laboratory. But DOE believes that with appropriate modifications to address such problems, including the modifications proposed in the NOPR, the abbreviated test procedure of ASME PTC 4.1 is sound.

Nevertheless, test results for products being rated under the same efficiency standard should be comparable, and DOE believes there would be some differences in the results obtained from the PTC 4.1 procedure and BTS-2000.

Moreover, BTS-2000 is a sound, easy to follow, and up-to-date procedure that is readily available to manufacturers. By contrast, the abbreviated test procedure is not incorporated in a currently available standard, and the Foreword to PTC 4-1998 states that the PTC 4 committee decided to discourage its use.

On the other hand, as discussed in the NOPR, the American Boiler Manufacturers Association stated that its members use PTC 4.1 more frequently to test steel boilers, and the Council of Industrial Boiler Owners (CIBO) stated that its members lack familiarity with the HI-1989 standard. To the extent these firms are concerned about steel boilers used for industrial processes but which are rarely used for space conditioning and service water—and that seems particularly true for CIBO members—such boilers are not covered by today's requirements. Some manufacturers of steel boilers, moreover, have used the HI-1989 standard, the predecessor to BTS-2000, as shown by the listing of their boilers in the Hydronics Institute I=B=R rating directory (three manufacturers in the January 2001 directory). In addition, DOE believes BTS-2000 and ASME PTC 4.1 are essentially similar, and the differences between them are not fundamental. DOE is confident that, to the extent manufacturers need to convert from use of PTC 4.1 to BTS-2000, doing so will not be difficult, and will cause only limited and certainly not undue burdens. Nevertheless, DOE believes it would be reasonable to allow a transition period during which manufacturers of steel boilers can become familiar with BTS-2000 and assure that their products will comply with EPCA standards using that procedure.

Based on all of these considerations, DOE has decided in today's final rule to prescribe BTS-2000 as the DOE test procedure for all commercial packaged boilers, but to allow the use of ASME PTC 4.1, with modifications, as an optional test procedure for steel boilers for two years after the publication of this notice. During this period, manufacturers may use either BTS-2000 or the ASME PTC 4.1 abbreviated test procedure to determine the efficiency of steel boilers under EPCA, but if they use the PTC 4.1 procedure their tests must meet the following criteria:

(1) The minimum duration of a test run after steady state operation is achieved shall be 30 minutes. (This specification is the same as in BTS-2000.)

(2) The boiler inlet water temperature shall be at 35° F to 80° F, except that when a boiler is tested in the field after



installation the temperature may be as recommended by the manufacturer, but not more than 140° F. (The 35° F to 80° F range was proposed in the NOPR as a condition of using PTC 4.1. DOE believes the additional specification will allow for field tests under conditions that cannot be controlled as they are in a test facility. In any event, DOE agrees with the participants in the workshops and the public hearing, who pointed out that variations in the boiler inlet water temperature have a very small effect on the combustion efficiency value of a non-condensing boiler.)

(3) For hot water boilers, the boiler outlet water temperature shall be at 180°F ± 2°F.

(4) For steam boilers, steam pressure must range from atmospheric (zero psig) to two psig.

(5) In the heat loss method of ASME PTC 4.1 for calculating efficiency, the radiation loss term (and other minor loss terms) shall be set to zero to obtain the combustion efficiency (of 100 percent minus percent flue loss). These modifications to the abbreviated test procedure should correct the problems we believe exist with this procedure.

## 2. Provisions for Condensing Boilers

In the NOPR, DOE stated that condensing boilers are significantly more energy efficient than non-condensing boilers and a test procedure should be readily available to allow manufacturers to rate their products accordingly. In addition, a test procedure is needed for evaluating design options underlying any future minimum efficiency standards. The Department proposed to adopt the steady state test procedure for condensing boilers as prescribed in the ASHRAE 103–1993 standard. ASHRAE/IES Standard 90.1 does not directly reference an industry test standard for the testing of condensing boilers, but it references the DOE test procedure for residential boilers with input of less than 300,000 Btu/hr, which, in turn, references the ASHRAE 103–1993 standard. DOE proposed to adopt the procedure specified in sections 7.2.2.4, 7.8, 9.2 and 11.3.7 of ASHRAE standard 103–1993 with two modifications. Of relevance here, one of these modifications was that the boiler inlet water temperature be restricted to 80°F±5°F instead of the range of 35°F to 80°F specified for non-condensing boilers, since the inlet water temperature influences the amount of condensate produced and, thus, needs to be more accurately specified.

At the September 2000 public hearing, no objection was posed to the

proposed testing method for condensing boilers. However, the revised Hydronics Institute Boiler Testing Standard BTS–2000 added a test method for condensing boilers similar to the one proposed in the NOPR, except that it does not restrict inlet water temperature to 80°F±5°F. (See sections 8.5.2, 9.1.2.1.4, 10.2.2, 10.2.3, 11.1.17, 11.1.18, 11.1.19, and 11.2.2 of BTS–2000.) Since the Department is adopting the BTS–2000 standard in today's final rule, ASHRAE Standard 103–1993 need not be referenced in order to provide a procedure for the testing of condensing boilers. But the final rule does provide that, for purposes of the DOE test procedure, in sections 8.5.2 and 9.1.2.1.4 of BTS–2000, the boiler inlet water temperature shall be at 80°F±5°F instead of the 80°F±10°F currently specified in the BTS–2000 standard.

## 3. Modular Boilers and Multiple Boilers

A modular boiler system consists of a group of identical individual boilers installed as a system. A multiple boiler system consists of a group of individual boilers, of different design or different sizes or both, installed as a system. In the preamble of the NOPR, the Department stated that the efficiency rating for a packaged modular boiler system with individual modules or boilers of identical design and construction may be based on the rating of only one boiler module in the system. For a multiple boiler system where the individual boilers are of different designs, we stated that each boiler of a different design would be considered a separate packaged boiler and be required to meet the minimum efficiency standard prescribed for that product.

At the September 2000 public hearing, GAMA raised the question of why the Department proposed that a modular system would consist of individual boilers of 400,000 Btu/hr input or less. (GAMA, Tr. 90–91). DOE believes that this question results from a misunderstanding of our position. DOE had stated in the NOPR's preamble that "a modular boiler assembly \* \* \* consist[s] of \* \* \* boilers \* \* \* usually of less than 400,000 Btu/hr input each." 65 FR 48847 (emphasis added). This language was part of an explanation of how DOE intended to treat modular boilers under the regulations. DOE did not propose a definition of modular boilers, nor was it DOE's intention, either in the language just quoted or elsewhere in the preamble, to indicate that our treatment of modular boilers would depend on the size of their constituent units. Furthermore, the Department is not imposing such

criterion in today's final rule. The word "usually" does not exclude from the category of modular boiler any system consisting of units each with an input of greater than 400,000 Btu/hr.

## 4. Outdoor Boilers

In a comment submitted to the Department after the September 2000 public hearing, GAMA stated that the BTS–2000 standard specifies flue pipe and connection requirements for testing power gas and oil boilers, and for gas-fired boilers designed for indoor installations (following the ANSI Z21.13 standard), but does not specify any vent requirement for gas-fired boilers designed for outdoor installations. GAMA also stated that manufacturers currently test both indoor and outdoor gas-fired boilers in accordance with the requirements of the ANSI Z21.13 standard, which specifically states that no test vent apparatus (other than that provided by the manufacturer) is required for gas-fired outdoor boilers. The Department believes that GAMA's comment needs to be addressed in today's final rule, because the test procedure in the rule should address venting for gas fired outdoor boilers. The current industry practice for testing gas-fired outdoor boilers is the ANSI Z21.13–1991 standard, which is referenced by ASHRAE Standard 90.1. Since DOE is not referencing the ANSI Z21.13–1991 standard in this rule, DOE is including the following language from Section 2.1.5 of the ANSI Z21.13 standard in section 431.86 of today's final rule: "A gas-fired boiler for outdoor installation with a venting system provided as part of the boiler must be tested with the venting system in place."

### *D. Effect of Amended Test Procedure 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 the 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.

EPCA provides that the DOE test procedures for commercial packaged boilers shall be those industry test procedures recognized by ASHRAE and referenced in ASHRAE Standard 90.1 and in effect on June 30, 1992. 42 U.S.C. 6314(a)(4)(A). For these products, the version of ASHRAE Standard 90.1 in effect on June 30, 1992, contains five industry test standards that apply to gas-fired boilers or oil-fired boilers or both. 65 FR 48838, 48843. Until today, therefore, since DOE had not adopted a test procedure for these products under EPCA, there was no single existing test procedure that manufacturers were required to use for these products. In practice, however, particular industry test procedures were generally used for particular types of boilers. 65 FR 48844. In the rule published today, DOE is adopting, in part, a test procedure based on a combination of the existing ASHRAE standards in effect on June 30, 1992. Since 42 U.S.C. 6314(a)(4)(A) provides that the DOE test procedures for boilers shall be those referenced in ASHRAE Standard 90.1 and in effect on June 30, 1992, the statute itself sanctions the adoption of provisions of any of these referenced test procedures. Thus, adoption today of a combination of these test procedures does not represent a change or amendment to the existing "required" test procedure for purposes of 42 U.S.C. 6293(e) when that section refers to an "amended test procedure."

In addition, today's final rule provides for DOE adoption of BTS-2000, which in substance consists of the combination of ASHRAE referenced standards just referred to, but with one minor modification. For gas-fired products, BTS-2000 requires use of an equation for calculating flue loss instead of providing for use of a nomogram. This slight change has no effect on the measured energy efficiency. Thus, while this modification is a test procedure amendment within the meaning of 42 U.S.C. 6293(e), DOE need not take further action under that provision because this amendment does not alter the measured energy efficiency.

Today's final rule also contains two modifications to ASME PTC 4.1, another of the five industry test procedures in effect on June 30, 1992, and referenced in ASHRAE Standard 90.1. DOE is making both of these modifications in response to comments that it received

on the NOPR. The first, a reduction in the minimum duration of a part of the test, will not alter the measured energy efficiency. The second, a relaxation of the required inlet water temperature when a manufacturer tests a boiler after installing it, will have only a de minimus effect on the measured combustion efficiency and should not put any models that are currently in compliance out of compliance. Thus, DOE will not take further action under 42 U.S.C. 6293(e) with regard to either of these modifications to ASME PTC 4.1.

### III. 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 the procedures and policies published on February 19, 2003, and certified in the NOPR that the proposed rule would not impose a significant economic impact on a substantial number of small entities. (64 FR 69597). We received no comments on this issue, and after considering the potential small entity impact of this 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 of final rulemaking 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*

We 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, (the FEAA) does not apply to the commercial standards incorporated into the proposed rule, except for ASHRAE Standard 103-1993. We received no comments on this issue.

As we stated and discussed in the NOPR, today's rule incorporates certain commercial standards which EPCA requires to be used. These standards are referenced in ASHRAE Standard 90.1-1989 and amendments thereto. Because DOE has very limited discretion to depart from the standards referenced in ASHRAE 90.1, Section 32 of the FEAA does not apply to them.

In the NOPR, we also stated that the final rule would include ASHRAE Standard 103-1993, "Method of Testing for Annual Fuel Utilization Efficiency of Residential Central Furnaces and Boilers," a test standard which includes testing method for condensing boilers. We stated that DOE would comply with the requirements of section 32 for this particular standard since it is not referenced in the ASHRAE Standard 90.1. However, today's rule does not include ASHRAE Standard 103-1993. Instead, we are relying on the revised Hydronics Institute Boiler Testing Standard BTS-2000 which now has a method for testing condensing boilers.

This standard is referenced in ASHRAE Standard 90.1. Accordingly, there is now no reason for DOE to fulfill the consultation requirements of section 32 with respect to Standard 103–1993.

Today's rule does not contain industry standards to which Section 32 applies.

#### *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, Title 10, Part 431 of the 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 E is added to read as follows:

##### **Subpart E—Commercial Packaged Boilers**

Sec.

431.81 Purpose and scope.

431.82 Definitions concerning commercial packaged boilers.

##### **Test Procedures**

431.85 Materials incorporated by reference.

431.86 Uniform test method for the measurement of energy efficiency of commercial packaged boilers.

##### **Energy Conservation Standards**

431.87 Energy conservation standards and their effective dates.

##### **Subpart E—Commercial Packaged Boilers**

##### **§ 431.81 Purpose and scope.**

This subpart contains energy conservation requirements for certain

commercial packaged boilers, pursuant to Part C of Title III of the Energy Policy and Conservation Act. (42 U.S.C 6311–6316)

##### **§ 431.82 Definitions concerning commercial packaged boilers.**

The following definitions apply for purposes of this subpart E, and of subparts A and 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.

*Combustion efficiency* for a commercial packaged boiler means the efficiency descriptor for packaged boilers, determined using test procedures prescribed under § 431.86 and equals to 100 percent minus percent flue loss (percent flue loss is based on input fuel energy).

*Commercial packaged boiler* means a type of packaged low pressure boiler that is industrial equipment with a capacity, (rated maximum input) of 300,000 Btu per hour (Btu/hr) or more which, to any significant extent, is distributed in commerce:

(1) For heating or space conditioning applications in buildings; or

(2) For service water heating in buildings but does not meet the definition of "hot water supply boiler" in this part.

*Condensing boiler* means a commercial packaged boiler that condenses part of the water vapor in the flue gases, and that includes a means of collecting and draining this condensate from its heat exchanger section.

*Flue condensate* means liquid formed by the condensation of moisture in the flue gases.

*Manufacturer of a commercial packaged boiler* means any person who manufactures, produces, assembles or imports such a boiler, including any person who:

(1) Manufactures, produces, assembles or imports a commercial packaged boiler in its entirety;

(2) Manufactures, produces, assembles or imports a commercial packaged boiler in part, and specifies or approves the boiler's components, including burners or other components produced by others, as for example by specifying such components in a catalogue by make and model number or parts number; or

(3) Is any vendor or installer who sells a commercial packaged boiler that consists of a combination of components that is not specified or approved by a person described in paragraph (1) or (2) of this definition.

*Packaged boiler* means a boiler that is shipped complete with heating equipment, mechanical draft equipment

and automatic controls; usually shipped in one or more sections and does not include a boiler that is custom designed and field constructed. If the boiler is shipped in more than one section, the sections may be produced by more than one manufacturer, and may be originated or shipped at different times and from more than one location.

*Packaged high pressure boiler* means a packaged boiler that is:

(1) A steam boiler designed to operate at a steam pressure higher than 15 psi gauge (psig); or

(2) A hot water boiler designed to operate at a water pressure above 160 psig or at a water temperature exceeding 250° F, or both; or

(3) A boiler that is designed to be capable of supplying either steam or hot water, and designed to operate under the conditions in paragraphs (1) and (2) of this definition.

*Packaged low pressure boiler* means a packaged boiler that is:

(1) A steam boiler designed to operate at or below a steam pressure of 15 psig; or

(2) A hot water boiler designed to operate at or below a water pressure of 160 psig and a temperature of 250 °F; or

(3) A boiler that is designed to be capable of supplying either steam or hot water, and designed to operate under the conditions in paragraphs (1) and (2) of this definition.

##### **Test Procedures**

##### **§ 431.85 Materials incorporated by reference.**

(a) The Department incorporates by reference the following test procedures into subpart E 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 DOE test procedures unless and until DOE 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) The Hydronics Institute (HI) of GAMA Boiler Testing Standard BTS–2000, "Method to Determine Efficiency of Commercial Space Heating Boilers," published January 2001 (HI BTS–2000), IBR approved for § 431.86.

(2) The American Society of Mechanical Engineers Power Test Codes for Steam Generating Units, ASME PTC

4.1–1964, Reaffirmed 1991 (Including 1968 and 1969 Addenda) (“ASME PTC 4.1”), IBR approved for § 431.86.

(c) *Availability of references.*

(1) *Inspection of test procedures.* The test procedures incorporated by reference are available for inspection 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](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 Packaged Boilers,” Docket No. EE–RM/TP–99–470, 1000 Independence Avenue, SW., Washington, DC 20585.

(2) *Obtaining copies of Standards.* Anyone can purchase a copy of HI BTS–2000 from the Hydronics Institute Division of GAMA, P.O. Box 218, Berkeley Heights, NJ 07922, or <http://www.gamanet.org/publist/hydroordr.htm>; and a copy of ASME PTC 4.1–1964/RA–1991 from Global Engineering Documents, 15 Inverness Way East, Englewood, CO 80112, 800–854–7179.

**§ 431.86 Uniform test method for the measurement of energy efficiency of commercial packaged boilers.**

(a) *Scope.* This section provides test procedures that must be followed for measuring, pursuant to EPCA, the steady state combustion efficiency of a gas-fired or oil-fired commercial packaged boiler. These test procedures apply to packaged low pressure boilers that have rated input capacities of 300,000 Btu/hr or more and are “commercial packaged boilers, but do not apply under EPCA to “packaged high pressure boilers.”

(b) *Definitions.* For purposes of this section, the Department incorporates by reference the definitions specified in Section 3.0 of the HI BTS–2000 (Incorporated by reference, see § 431.85), with the exception of the definition for the terms “packaged boiler”, “condensing boilers”, and “packaged low pressure steam” and “hot water boiler”.

(c) *Test Method for Commercial Packaged Boilers—General.* After October 23, 2006, follow the provisions in this paragraph (c) for all testing of packaged low pressure boilers that are commercial packaged boilers. Prior to that date, follow either the provisions of this paragraph (c) or of paragraph (d) of this section to test steel boilers, but

follow the provisions of this paragraph for all other commercial packaged boilers.

(1) *Test Setup.*

(i) *Classifications:* If employing boiler classification, you must classify boilers as given in Section 4.0 of the HI BTS–2000 (Incorporated by reference, see § 431.85).

(ii) *Requirements:* Conduct the combustion efficiency test as given in Section 5.2 (Combustion Efficiency Test) of the HI BTS–2000 (Incorporated by reference, see § 431.85).

(iii) *Instruments and Apparatus:*

(A) Follow the requirements for instruments and apparatus in sections 6 (Instruments) and 7 (Apparatus), of the HI BTS–2000 (Incorporated by reference, see § 431.85), with the exception of section 7.2.5 (flue connection for outdoor boilers) which is replaced with paragraph (c)(1)(iii)(B) of this section:

(B) *Flue Connection for Outdoor Boilers:* For oil-fired and power gas outdoor boilers, the integral venting means may have to be revised to permit connecting the test flue apparatus described in section 7.2.1 of BTS–2000. A gas-fired boiler for outdoor installation with a venting system provided as part of the boiler must be tested with the venting system in place.

(iv) *Test Conditions:* Use test conditions from Section 8.0 (excluding 8.5.2, 8.5.3, and 8.6.2) of HI BTS–2000 (Incorporated by reference, see § 431.85) for the combustion efficiency testing, and use paragraph (c)(1)(iv)(A) of this section when testing a condensing boiler:

(A) *Water Temperatures for Condensing Boilers—*For condensing boilers the outlet temperature shall be  $180^{\circ}\text{F} \pm 2^{\circ}\text{F}$  and the inlet temperature shall be  $80^{\circ}\text{F} \pm 5^{\circ}\text{F}$  at all times during the test. (See also paragraphs (c)(2)(i) and (ii) of this section for condensing boilers.).

(B) [Reserved]

(2) *Test Measurements.*

(i) Measure for combustion efficiency according to sections 9.1 (excluding sections 9.1.1.2.3 and 9.1.2.2.3), 9.2 and 10.2 of the HI BTS–2000 (Incorporated by reference, see § 431.85), except that for condensing boilers, replace the boiler water inlet temperature in section 9.1.2.1.4 of the HI BTS–2000 standard with the inlet temperature specified in paragraph (c)(1)(iv)(A) of this section.

(ii) *Procedure for the Measurement of Condensate for a Condensing Boiler.* Collect flue condensate as specified in Section 9.2.2 of HI BTS–2000 (Incorporated by reference, see § 431.85). Measure the condensate from the flue gas under steady state operation

for the 30 minute collection period during the 30 minute steady state combustion efficiency test. Flue condensate mass shall be measured immediately at the end of the 30 minute collection period to prevent evaporation loss from the sample. The humidity of the room shall at no time exceed 80 percent. Determine the mass of flue condensate for the steady state period by subtracting the tare container weight from the total container and flue condensate weight measured at the end of the test period.

(iii) *A Boiler That is Capable of Supplying Either Steam or Hot Water.*

(A) *Testing.* For purposes of EPCA, measure the combustion efficiency of a commercial packaged boiler capable of supplying either steam or hot water either by testing the boiler in the steam mode or by testing it in both the steam and hot water modes.

(B) *Rating.* If testing the boiler only in the steam mode, use the efficiency determined from such testing to rate the boiler for both the steam and water modes. If testing the boiler in both modes, rate the boiler's efficiency for each mode based on the testing in that mode.

(3) *Calculation of Combustion Efficiency.* Use the calculation procedure for the combustion efficiency test specified in Section 11.2 (including the specified subsections of 11.1) of the HI BTS–2000 (Incorporated by reference, see § 431.85).

(d) *Steel Commercial Packaged Boilers—Alternative Test Method.* Until October 23, 2006, follow either the provisions of this paragraph (d), or of paragraph (c) of this section, to test steel commercial packaged boilers.

(1) *Test setup.* Instead of using HI BTS–2000 as specified in paragraph (c)(1) of this section, conduct the combustion efficiency test for steel packaged low pressure boilers that are commercial packaged boilers using the Abbreviated Efficiency Test (Simplified Efficiency Test or The Short Form) as specified in ASME PTC 4.1 (Incorporated by reference, see § 431.85). If selecting the ASME PTC 4.1 procedure for conducting the required combustion efficiency test for steel boilers, conduct the test under conditions as specified in paragraphs (d)(1)(i) and (ii) of this section.

(i) Use the test procedure for the efficiency test from ASME PTC 4.1 (Incorporated by reference, see § 431.85). Conduct the combustion efficiency test with the Abbreviated Efficiency Test (Simplified Efficiency Test or The Short Form) for gas and oil fuels described in Section 1.07 of ASME

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.

[FR Doc. 04–17730 Filed 10–20–04; 8:45 am]

BILLING CODE 6450–01–U

## 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](mailto: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](mailto: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](mailto: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