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DEPARTMENT OF ENERGY

Office of Energy Efficiency and Renewable Energy

10 CFR Part 431

[Docket No. EE–RM/TP–99–480]

RIN 1904–AA95

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

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

ACTION: Direct final rule.

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

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

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

- Federal eRulemaking Portal: *http://www.regulations.gov*. Follow the instructions for submitting comments.
- E-mail: *CommWaterHeatersDirectFinalRuleComments@ee.doe.gov*. Include EE–RM/TP–99–460 and/or RIN 1904–AA9, in the subject line of the message.
- Mail: Ms. Brenda Edwards-Jones, U.S. Department of Energy, Building Technologies Program, Mailstop EE–2J, Direct Final Rule for Test Procedures and Efficiency Standards For Commercial Water Heaters, Hot Water Supply Boilers and UnFired Hot Water Storage Tanks; EE–RM/TP–99–480 and/or RIN 1904–AA95, 1000 Independence Avenue, SW., Washington, DC 20585–0121. Telephone: (202) 586–2945. Please submit one signed paper original.
- Hand Delivery/Courier: Ms. Brenda Edwards-Jones, U.S. Department of Energy, Building Technologies Program, Room 1J–018, 1000 Independence Avenue, SW., Washington, DC 20585.

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

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

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

SUPPLEMENTARY INFORMATION: This direct final rule incorporates, by reference, into subpart G of part 431, test methods contained in an industry test standard referenced by the American Society of Heating, Refrigerating, and Air-Conditioning Engineers, Inc. (ASHRAE) and the Illuminating Engineering Society of North America (IES) Standard 90.1 (''ASHRAE/IES Standard 90.1'') for commercial water heaters and hot water supply boilers. The industry test standard is American National Standards Institute Standard Z21.10.3–1998 (ANSI Z21.10.3–1998), ''Gas Water Heaters Volume III Storage Water Heaters, with Input Ratings Above 75,000 Btu per Hour, Circulating and Instantaneous, ANSI 21.10.3–1998, CSA 4.3–M98, and its Addenda, ANSI Z21.103a–2000, CSA 4.3a–M00.'' DOE is incorporating by reference the ''Method of Test'' subsections of sections 2.9 and 2.10 in ANSI Z21.10.3–1998, CSA 4.3–M98 and the sections referenced there, including sections 2.1.7, 2.3.3, 2.3.4, 2.30 and Figure 3.

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

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

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 of various products and equipment. 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 direct 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 under EPCA section 342, including water heating products, section 343(a)(4)(A) provides: ''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 covered commercial equipment, such as water heaters, 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 equipment to submit information and reports for a variety of purposes, including ensuring compliance with requirements. (*See* 42 U.S.C. 6316(b))

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 direct final rule, the Department convened public workshops on April 14 and 15, 1998, and October 18, 1998, to solicit views and information from interested parties 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 commercial water heating products specifically:

(1) The test procedure to incorporate by reference for testing commercial water heaters;

(2) Proposed test procedures for testing unfired hot water storage tanks;

(3) Definition and coverage of hot water supply boilers;

(4) Coverage of instantaneous water heaters;

(5) Coverage and test procedures for heat pump water heaters; and

(6) Coverage of waste heat recovery water heaters.

After considering both oral and written comments the Department published a Notice of Proposed Rulemaking and Public Hearing (''proposed rule'' or ''NOPR'') to implement the energy efficiency standards and test procedures mandated by EPCA for commercial water heaters, hot water supply boilers and unfired hot water storage tanks. 65 FR 48852 (August 9, 2000) The NOPR requested data, comments, and information regarding the proposed regulations. The Department held a public workshop/hearing (the ''public hearing'') on September 20, 2000, to receive oral comments. The Department accepted written comments until October 23, 2000.

In formulating today's direct final rule, the Department considered the comments received, and has incorporated recommendations where appropriate. The Department received comments with respect to the Department's position as presented in the NOPR only as to (1) The definition and coverage of instantaneous water heaters and hot water supply boilers, (2) a test procedure for booster water heaters, (3) certain details of the test procedures for other water heaters and (4) unfired storage tank test procedures. These comments are discussed in Section II.

For water heaters and unfired hot water storage tanks, 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 the standard levels that had been established in section 342(a) of EPCA for this equipment. For hot water supply boilers, in the NOPR the Department stated its intent to adopt the standard levels in Addendum n to ASHRAE/IES Standard 90.1–1989, which differ from the levels applicable to this equipment under section 342(a) of EPCA. Subsequent to issuance of the NOPR, in a separate proceeding, the Department promulgated a regulation (10 CFR 431 subpart Q) to adopt as Federal standards some of the efficiency levels contained in amendments to ASHRAE/IES Standard 90.1 for this water heating equipment. (66 FR 3336, 3356 (January 12, 2001)). These Federal standards became effective on October 29, 2003, replacing corresponding standards in EPCA.

C. Summary of the Direct Final Rule

Today's rule incorporates the following for commercial water heating equipment: (1) Definitions, including some clarifications of EPCA's coverage, (2) energy efficiency test procedures, and (3) energy conservation standards.

The definitions largely incorporate language from EPCA. In addition, the

rule specifically provides that instantaneous water heaters that heat water to 180°F or higher are covered as commercial equipment. And ''hot water supply boiler'' is defined as proposed in the NOPR, in terms of its physical features and how the manufacturer intends the equipment to be used.

The rule prescribes the sections of ANSI Standard Z21.10.3–1998 set forth above, with some minor modifications, as the prescribed testing methodologies for water heaters (including booster water heaters) and hot water supply boilers. (Until one year from the publication of this rule, however, manufacturers of hot water supply boilers with capacities of less than 10 gallons may use either this test procedure, or, if they comply with the efficiency standards for commercial packaged boilers as described below, the test procedure for such boilers.) Because a new Federal energy conservation standard, which is a design rather than a performance standard, recently went into effect for unfired hot water storage tanks, the Department has not adopted a test procedure for this equipment.

Today's rule includes energy conservation standards so that they and the test procedures for commercial water heating equipment will be located contiguous to one another in DOE's regulations. The standards are as follows: (1) For electric storage water heaters and gas instantaneous water heaters with capacities of less than 10 gallons the currently applicable minimum energy efficiency levels prescribed by section 342(a) of EPCA; (2) for hot water supply boilers with capacities of less than 10 gallons, the efficiency levels set forth in the NOPR; and (3) for the remaining commercial instantaneous water heaters and hot water supply boilers, for storage water heaters and for unfired hot water storage tanks, the new levels that became effective on October 29, 2003.[1] Until one year from publication of this rule, hot water supply boilers with capacities of less than 10 gallons may comply with either the efficiency standards prescribed for them in this rule or with the standards prescribed for commercial packaged boilers.

Finally, because the Department believes that EPCA neither prescribes nor mandates efficiency standards or test procedures for waste heat recovery water heaters, today's direct final rule does not cover this equipment. This rule also does not provide a test procedure for commercial heat pump water heaters. The Department understands that ASHRAE has published a new standard (ANSI/ASHRAE 118.1–2003) which prescribes a method of test for commercial heat pump water heaters. The Department will evaluate whether to adopt it in the future.

II. Discussion

A. General

Representatives of eight organizations, comprising trade associations (the American Gas Association and the Gas Appliance Manufacturers Association (GAMA)), manufacturers (A.O. Smith Water Products Co. (A.O. Smith) and Bock Water Heaters), private research/consulting entities (the Gas Technology Institute, Arthur D. Little, Inc., and BR Laboratories, Inc.), 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, and GAMA submitted written comments after the hearing.

The following discusses issues on which comments were presented during and after the public hearing.

B. Commercial Instantaneous Water Heaters and Hot Water Supply Boilers—Definitions and Scope of Coverage

1. Instantaneous Water Heaters

In the DOE test procedure for residential water heaters, Appendix E to Subpart B of 10 CFR Part 430, the definition of gas fired instantaneous water heaters excludes equipment designed to heat water to 180 °F or higher, or with storage volumes of two gallons or more. During the workshops held prior to the issuance of the NOPR, GAMA stated that such products are not designed or marketed for consumer/residential applications, regardless of their input ratings, and that they should be subject to the energy efficiency standards that apply to commercial water heaters. 65 FR 48854.

The Department stated in the preamble to the NOPR that the Department concurs that these products are generally distributed for commercial or industrial use, and rarely if ever for use by individual consumers. 65 FR 48855. In addition, the NOPR's proposed definition of ''instantaneous water heater'' stated that this product must be ''a commercial HVAC & WH product.'' 65 FR 48864. DOE defined the latter term, in a related NOPR, 64 FR 69598, 69610 (December 13, 1999), by reference to section 340(1) of EPCA, which in essence provides that a product is covered as a commercial product under the statute if it is distributed for commercial or industrial use, and not to any significant extent for personal or individual use. Thus, the NOPR's proposed test procedures and energy conservation standards for ''instantaneous water heaters,'' 65 FR 48864 and 48866, would implicitly apply to all instantaneous water heaters that heat water to temperatures of 180 °F and higher.

During the public hearing, however, GAMA claimed that the NOPR addressed this issue inadequately. (GAMA, Tr. 118–119[2])GAMA indicated that given the exclusion of these products from DOE's test procedure for consumer products, the Department should specifically include this product in its definitions for commercial equipment.

As indicated above, the Department intends to cover all commercial instantaneous water heaters in today's direct final rule. DOE clarifies this point in the direct final rule by adding to the definition of instantaneous water heater language that specifically includes products that raise water temperature to 180 °F or higher, and by substituting for ''commercial HVAC & WH product'' the term ''industrial equipment.'' This term is defined in section 340(2) of EPCA as including only equipment distributed to a significant extent for commercial or industrial use, and not for personal or individual use. *See* 42 U.S.C. 6311(2). The Department is also incorporating EPCA's definition of ''industrial equipment'' elsewhere into 10 CFR 431 so that it is more readily available to users of the rule.

[1] Subpart Q includes no amendments to the minimum efficiency levels prescribed in EPCA for electric storage water heaters and for gas-fired instantaneous water heaters with capacities less than 10 gallons, and prescribed in Addendum n to ASHRAE/IES Standard 90.1–1989 for hot water supply boilers with such capacities. Hence, today's rule incorporates these efficiency levels. The Department has under review the minimum levels for the latter two products, and previously decided not to adopt an amended level for electric storage water heaters. *See* 66 FR at 3350, 3352, and 3356. Furthermore, today's rule includes no standby loss standards for electric instantaneous water heaters that have storage capacity. EPCA appears to prescribe no standards for this product, and hence the Department proposed none in the NOPR. Nevertheless, ASHRAE/IES Standard 90.1–1999 contained amended standard levels for electric resistance water heaters greater than 12 kW, which apply to both electric storage and electric instantaneous water heaters, and the Department is obligated to consider and will consider whether to adopt those levels for the instantaneous products.

[2] ''Tr.'' followed by a number or numbers, refers to a page or pages in the transcript of the September 20, 2000, public hearing in this matter.

2. Hot Water Supply Boilers

The Department explained in detail in the preamble of the NOPR its intention to adopt amendments to ASHRAE/IES Standard 90.1–1989 (contained in Addendum n to the Standard) with respect to hot water supply boilers, a type of packaged boiler that is used for service water heating. These amendments prescribed for hot water supply boilers the energy efficiency standards and test procedures that applied to commercial instantaneous water heaters under both ASHRAE/IES Standard 90.1–1989 and EPCA. The Department proposed to adopt these amendments with limited modifications necessary to adapt them for use under EPCA. Such modifications consist primarily of defining ''hot water supply boiler'' in terms of the intrinsic characteristics of such a boiler, as well as the way the manufacturer markets the product. Further, the Department stated in the preamble to the NOPR that if a boiler is manufactured so that it can be used as either a hot water supply boiler or a hydronic heating boiler, it would have to meet the energy efficiency standards for, and be tested as, both types of products. Finally, the Department proposed that these requirements would become effective 60 days after the direct final rule is promulgated.

The following discussion addresses the issues commenters raised as to the requirements for hot water supply boilers, relating to which equipment is covered and to the effective date of the requirements.

a. Definition—Use and Nature of the Equipment

Pursuant to Addendum n, ASHRAE/IES Standard 90.1 states that a hot water supply boiler is ''a boiler used to heat water for purposes other than space heating,'' and applies the energy efficiency requirements specified for commercial instantaneous water heaters to hot water supply boilers used solely for heating potable water. The limited modifications the Department proposed in the NOPR for purposes of adopting Addendum n as a Federal requirement included defining certain equipment as a hot water supply boiler based on the equipment's features and how it is marketed, not how it is used. GAMA commented that DOE should limit its requirements for hot water supply boilers based on how products are actually used. The Department should adopt language identical to that in Addendum n to ASHRAE/IES Standard 90.1–1989. (GAMA, No. 4 and No. 5 at p. 2)[3]

The Department explained in the NOPR that it did not intend to adopt the provisions of Addendum n exactly as written because they apply to equipment, indeed to a unit of equipment, based on how it is used. EPCA imposes requirements on equipment as manufactured. The Department pointed out that basing requirements for boilers on how they will be used would be untenable for manufacturers, and unenforceable, because manufacturers cannot know how a purchaser will use a particular unit of equipment. The Department stated, and continues to believe, that the proposed definition of hot water supply boiler in terms of physical features that are a necessary part of the equipment, and of how the manufacturer intends that the equipment be used, implements the intent of Addendum n to apply requirements for commercial water heaters to boilers that provide service water heating. GAMA's comments address neither the reasons the Department set forth in the NOPR for declining to adopt the language of Addendum n nor the specific provisions the Department proposed in an effort to adhere to Addendum n as closely as possible. Thus, the Department is not adopting GAMA's suggestion that the direct final rule contain language identical to Addendum n.

Accordingly, DOE adopts in today's direct final rule the approach proposed in the NOPR.

b. Definition—Maximum Input Rating

In the NOPR the Department proposed to define hot water supply boiler, in part, as a packaged boiler with an input rating from 300,000 Btu/hr to 12,500,000 Btu/hr. CEC commented that this rule should not exclude from coverage hot water supply boilers with inputs greater than 12,500,000 Btu/hr. (CEC, No. 2FF at p. 2) This element of the proposed definition is taken verbatim from the delineation of this equipment in ASHRAE/IES Standard 90.1 and does not mean that equipment with inputs greater than 12,500,000 Btu/hr are excluded from coverage under EPCA. Rather, any packaged boiler having an input greater than 12,500,000 Btu/hr, and otherwise having the characteristics of a ''hot water supply boiler,'' is covered by the provisions for packaged boilers.

c. Effective Date of Requirements

The Department proposed that Addendum n's test procedures (ANSI Z21.10.3) and efficiency standards for hot water supply boilers would become effective as Federal requirements 60 days after publication of this rule, because the Department believed that manufacturers were already following the provisions of Addendum n (65 FR 48858). GAMA pointed out, however, that ''manufacturers have not had their hot water supply boilers tested for compliance with the requirements of Addendum n because * * * to our knowledge, there are few, if any * * * jurisdictions * * * that have adopted and are enforcing Addendum n.'' GAMA further stated that ''manufacturers could not be certain that DOE would adopt the Addendum n requirements as Federal standards because (1) it was not clear that hot water supply boilers would be deemed a Federally-covered product, since there is no mention of hot water supply boilers in EPACT; and (2) Addendum n is a requirement applicable to a specific application rather than to all products of a given type.'' (GAMA, No. 5 at pp. 1–2) Consequently, GAMA advocated that our adoption of the Addendum n requirements for hot water supply boilers become effective two years, rather than 60 days, after publication of this rule.

Since publication of the NOPR, this issue has narrowed somewhat. In another rulemaking, the Department adopted as Federal standards for hot water supply boilers with capacities equal to or greater than 10 gallons the efficiency levels prescribed in amendments to ASHRAE/IES Standard 90.1 for instantaneous water heaters. 66 FR at 3356. The Department adopted these standards in January 2001, and they apply to products manufactured on or after October, 29, 2003. For these products, therefore, no issue currently exists as to the effective date of efficiency standards. Still at issue, however, are the effective dates for (1) the test procedures that Addendum n prescribes for these larger capacity hot water supply boilers, and (2) both the test procedures and standards that Addendum n prescribes for hot water supply boilers with a capacity of less than 10 gallons.

As to the test procedures for the larger capacity hot water supply boilers, the Department will adhere to the approach proposed in the NOPR. Effective 60 days after publication of today's rule, the

[3] A notation in the form ''GAMA, No. 5 at p. 2'' identifies a written comment the Department received in this rulemaking subsequent to issuance of the NOPR. This notation refers to a comment (1) by GAMA, (2) in document number 5 in the docket in this matter, and (3) appearing at page 2 of document number 5. A notation without a page reference means that the comment appeared on the only page of a one page document.

mandatory test procedure under EPCA for these products will become ANSI Z21.10.3, the test procedure prescribed for instantaneous water heaters. As just indicated, since October 29, 2003, these larger capacity hot water supply boilers have been subject to the same standards as water heaters, a requirement the Department adopted in January 2001. To assure compliance with these standards, DOE would expect manufacturers to have already begun determining the thermal efficiency and standby losses of these hot water supply boilers, using the ANSI test procedures or similar methods. And whether or not manufacturers are already using such testing methods, they have had over two years to prepare to use them. Moreover, a prescribed test procedure should be in place as soon as possible to permit uniform, accurate assessments of compliance with these standards. Therefore, the Department believes it is reasonable and necessary to provide that the new test procedure for hot water supply boilers with capacities equal to or greater than 10 gallons will become effective 60 days after publication of this rule.

As to hot water supply boilers with capacities of less than 10 gallons, the Department will not adhere to its proposed 60-day effective date. Instead, today's direct final rule provides that the new standards and test procedures applicable to these hot water supply boilers will become mandatory one year after publication of this rule. The Department believes this amount of lead time is warranted in light of the information GAMA provided as to the lack of compliance with Addendum n, and the time manufacturers may need to design and manufacture these smaller capacity hot water supply boilers to comply with the thermal efficiency standard that these products will now be required to meet. The Department recognizes that this is less than the two-year effective date requested by GAMA from publication of today's rule. But DOE believes the one-year effective date is reasonable for both manufacturers and purchasers for three reasons. First, the larger capacity hot water supply boilers are already subject to standards that use the thermal efficiency descriptor, and manufacturers either have begun or will shortly begin using the ANSI Z21.10.3 test procedure to measure compliance with these standards. Therefore, manufacturers will have experience in using the new descriptor and test procedure for hot water supply boilers and, for the smaller products, will need less lead time than advocated by GAMA. Second, from the standpoint of purchasers, and even manufacturers, a single approach should become mandatory for all hot water supply boilers as soon as possible so as to eliminate any confusion and inefficiency that might result from using different metrics to rate similar products. And third, as recognized by GAMA, manufacturers have been on notice since publication of the NOPR that the Department intended to apply to hot water supply boilers the efficiency requirements for instantaneous water heaters.

DOE also notes that the smaller capacity hot water supply boilers would not be exempt from Federal efficiency standards during the period before the new requirements become effective for them. Rather they would still be subject to the requirements for commercial packaged boilers.

Today's direct final rule will, however, allow products manufactured before such effective date to comply with the new requirements, reflecting the approach proposed in the NOPR for products manufactured before such requirements become mandatory. (65 FR at 48866) Specifically, hot water supply boilers with capacities of less than 10 gallons, manufactured subsequent to October 28, 2003, and within one year of publication of this rule, could meet either the requirements adopted for these products in today's rule or the applicable requirements for packaged boilers.

C. Commercial Water Heaters and Hot Water Supply Boilers—Test Procedures for the Measurement of Energy Efficiency

1. Gas-Fired Water Heaters

In the NOPR DOE stated its intention to incorporate by reference certain sections of ANSI Z21.10.3–1998 as the test procedure for commercial, gas-fired water heaters. None of the comments DOE received objected to this proposal, except in certain limited respects discussed below. Therefore, in today's direct final rule DOE is adopting the proposed test procedure for gas-fired water heaters, but with a minor modification concerning standby loss testing as described in section II–C–3 below.

2. Booster Water Heaters

Booster water heaters are typically designed to take in water that is already heated by a service water heater and ''boost'' the temperature even higher, raising already hot water (110 to 140 °F) up to a 180 °F or higher. They are typically used for commercial dishwashing.[4] CEC advocated that the Department reference a recently approved ASTM test procedure for booster water heaters, indicating that this procedure is more appropriate for such equipment than ANSI Z21.10.3. (CEC, No. 2FF at p. 2, Tr. 118) Opposing this suggestion, GAMA asserted that with respect to gas water heaters the ASTM procedure would be redundant to the ANSI Z21.10.3 procedures that the Department is adopting in this rulemaking. (GAMA, Tr. 120)

The ASTM test procedure that CEC proposed for adoption is not referenced by ASHRAE/IES Standard 90.1. Nor has evidence been presented that this test procedure validly measures compliance with the applicable efficiency standards mandated by EPCA. See Tr. 125–27. Furthermore, as indicated above, there is dispute as to whether the ASTM procedure is needed to test booster water heaters, in place of the procedure referenced in Standard 90.1, ANSI Z21.10.3.

DOE has only limited authority to decline to adopt a test procedure referenced by ASHRAE/IES Standard 90.1 (42 U.S.C. 6314(a)) and the record does not clearly establish either that the ANSI test procedure is unsuitable for testing booster water heaters, or that the ASTM procedure is appropriate for use under the standard set forth in 42 U.S.C. 6314(a). Therefore, the Department is not prepared to determine that the ANSI procedure for this equipment should not be adopted, or to conclude that the ASTM procedure would meet the standards of 42 U.S.C. 6314(a)(4)(C). Accordingly, the Department is not adopting the ASTM test procedure, and the ANSI procedure will govern the testing of booster water heaters covered by EPCA. To the extent a manufacturer of a booster water heater, however, believes the product cannot be tested under ANSI Z21.10.3, or that the test procedure provides materially inaccurate comparative data, DOE's regulations will allow the manufacturer to ask DOE to waive the ANSI test procedures for one or more particular basic models and permit it to use the ASTM procedure instead.

[4] In the NOPR, the Department indicated in effect that all instantaneous water heaters with storage volumes greater than two gallons and capable of heating water to temperatures of 180 °F or higher are booster water heaters. (65 FR 48854–55). At the public hearing GAMA pointed out, however, that such instantaneous water heaters are not necessarily booster water heaters, and that the latter are a recently developed product specifically designed for use with commercial dishwashers, although in the past conventional commercial water heaters had been modified and installed to provide booster water heating. (Tr. 118–120).

The Department is aware that ANSI updated Z21.10.3–1998 by issuing ANSI Z21.10.3–2001, and that the only change to the efficiency testing portions of the test procedure is that they provide methods specifically for testing booster water heaters. DOE will evaluate this latest version and decide whether to adopt it in the future.

3. Standby Loss Test Procedure

In the NOPR the Department stated its intention to incorporate by reference section 2.10 of ANSI Z21.10.3–1998 as the standby loss test procedure for commercial water heaters and hot water supply boilers, with certain additional stipulations. DOE also pointed out that versions of ANSI Z21.10.3 prior to 1998 called for the standby loss test to terminate 48 hours after the initiation of data collection unless the water heater is in the heating mode at that time, in which case the test would continue until a ''cutout'' occurs (*i.e.*, the thermostat acts to shut off the burner). Under ANSI Z21.10.3–1998, the standby loss test continues until the first cutout occurs after 24 hours from the time that data collection is initiated.

GAMA commented that the change was made to shorten the test procedure, but after its adoption manufacturers became aware that some water heaters, particularly certain new designs, do not experience this cutout until several days beyond the end of the 24 hours, well beyond the end of the 48 hour time period. According to GAMA, this can make the test quite long and burdensome. It suggested that DOE adopt the referenced test procedure with a modification that limits the duration of the standby loss test to the earlier of the first cutout that occurs after 24 hours from the time of initiation of data collection or the end of 48 hours from the initiation of data collection, as described above. (GAMA, No. 2EE at p. 4, Tr. 131–36, 137) CEC agreed with GAMA's proposal, characterizing it as a minor modification. (CEC, Tr. 136,138)

The Department concurs in the need for the modification suggested by GAMA and CEC. The Department believes that the evidence in the record is clear and convincing that without the 48 hour termination provision, the standby loss test procedure in ANSI Z21.10.3–1998 can pose an undue burden on manufacturers, and therefore this modification meets the applicable EPCA requirements for test procedures. Consequently, this rule will incorporate section 2.10 of ANSI Z21.10.3–1998 with the added requirement that the standby loss test will continue until the earlier of either, (1) the first cutout following 24 hours from the initiation of data collection, or (2) 48 hours from the initiation of data collection if the water heater is not in the heating mode at that time.

Finally, the Department believes GAMA is correct in stating that this modification would not alter the test results that would otherwise be produced under ANSI Z21.10.3–1998. (GAMA, Tr. at 135–36) To the extent, however, that a change in the test results is caused by limiting the duration of the standby loss test procedure to 48 hours, such change would simply tend to provide the same results as would have been obtained using previous versions of the ANSI Z21.10.3. This would realize DOE's original intent that adoption of the 1998 version of the test procedure not alter standby loss measurements. 65 FR 48859.

The Department also notes that the measured standby loss using ANSI Z21.10.3 (percent standby loss per hour) must be converted to a quantity (Btu/hour) that is consistent with the energy efficiency standards listed in Section 431.110, so that manufacturers can determine whether their products comply with the applicable standard. Therefore, to provide a uniform method for determining compliance, the Department is stipulating the following standard conversion formula as part of today's rule:

SL (Btu per hour) = S (% per hour) × 8.25 (Btu/gal-F) × Measured Volume (gal) × 70 (degrees F)

The term ''S (% per hour)'' in this formula represents the standby loss as measured using ANSI Z21.10.3–1998. Since DOE has not previously proposed a conversion formula, DOE is publishing today's direct final rule to provide stakeholders an opportunity to comment on this issue.

4. Oil-Fired Water Heaters

In the NOPR, the Department set forth its intention to adopt ANSI Z21.10.3–1998, with the adaptations specified for testing oil-fired water heaters in footnote e to Table 11.1 of ASHRAE/IES Standard 90.1–1989 Addendum n, as the EPCA test procedure for this product. A.O. Smith asserted, however, that one of the adaptations—that the burner rate be adjusted so that fuel pump pressure would lie within +/−1 percent of the manufacturer's specification—is unrealistic. (A.O. Smith, No. 3 at p. 1, Tr. 145–146) It recommended that instead the Department require the pump pressure to be within +/−10 percent of the manufacturer's specification.

Just as the fuel pump establishes the pressure at which fuel is delivered to the burner of an oil-fired water heater, the gas pressure regulator serves that function on a gas-fired water heater. ANSI Z21.10.3–1998 requires that, during the test of a gas-fired water heater, the outlet pressure for the gas pressure regulator must be within +/−10 percent of that recommended by the manufacturer. Requiring that the pump pressure be within this range during the test of an oil-fired appliance, as recommended by A.O. Smith, would appropriately allow the same magnitude of tolerance for the fuel pressure in this type of equipment as the test procedure already specifies for a gas-fired appliance. DOE believes that this requirement would not affect the test results. Furthermore, DOE agrees with A.O. Smith that the +/−1 percent tolerance would be very difficult to achieve.

In sum, DOE believes the evidence in the record is clear and convincing that maintaining this tolerance for the fuel pump pressure in testing the efficiency of oil-fired water heaters would pose an undue burden on manufacturers. Therefore, today's direct final rule requires instead that the pressure be at a level of +/−10 percent of the manufacturer's specification for the equipment. DOE has determined that this tolerance level meets the requirements of 42 U.S.C. 6314(a)(2).

5. Electric Water Heaters

In the NOPR, DOE set forth its intent to adopt ANSI Z21.10.3–1998, with the adaptations specified for testing electric water heaters in footnote e to Table 11.1 of ASHRAE/IES Standard 90.1–1989 Addendum n, as the EPCA test procedure for this equipment. A.O. Smith asserted, however, that one of the adaptations—that the electrical supply voltage be maintained within +/−1 percent of the center of the voltage range specified on the water heater nameplate—is unnecessary and would require costly equipment. (A.O. Smith, No. 3 at p. 1, Tr. 140) A.O. Smith recommended that instead the Department require the electrical supply voltage to be maintained within +/−5 percent of the nameplate specification.

This change would affect maintenance of the electrical supply but not the tolerance for measurement of electric energy consumed, since the test procedure would continue to require that such measurement be within a 1 percent tolerance. Thus, the change would not detract from the rigor of the test procedure. DOE also agrees with A.O. Smith that acceptance of its recommendation would not affect the test results and would ease the burden of testing this equipment.

For these reasons, DOE believes the evidence in the record is clear and convincing that maintaining this +/−1 percent supply voltage tolerance in the test procedure for electric water heaters would pose an undue burden on manufacturers. Therefore, today's direct final rule requires instead that the supply voltage be maintained at a level of +/−5 percent of the center of the voltage range specified on the nameplate. DOE has determined that this tolerance level meets the requirements of 42 U.S.C. 6314(a)(2).

D. Commercial Unfired Hot Water Storage Tanks

Since ASHRAE/IES Standard 90.1 referenced no test procedure for hot water storage tanks as of the time EPACT was enacted, none was prescribed by statute. (42 U.S.C. 6314(a)(4)(A)) The Department proposed in the NOPR, therefore, to require that unfired hot water storage tanks having a storage capacity of 140 gallons or less be tested for heat loss according to a test procedure presented in the NOPR.

Commenters expressed many concerns about the proposed test procedure. (*e.g.,* A.O. Smith, No. 3 at p. 2, Tr. 149, 157–160; CEC, Tr. 156, 163) However, this issue, and the concerns expressed in the comments, are now moot. The Department subsequently adopted, in another rulemaking, a requirement that unfired hot water storage tanks be insulated to at least R12.5, and it went into effect as a Federal standard on October 29, 2003, replacing the 6.5 Btu/hr per ft^2 maximum heat loss requirement. 66 FR at 3356. Certain of the commenters had recommended that the Department adopt this requirement instead of its proposed test procedure. (GAMA, No. 2EE at p. 2, Tr. 151; AO Smith, No. 3 at p. 2) Given the adoption of this new standard, and the fact that a heat loss requirement is no longer in place for unfired hot water storage tanks, no need exists for a DOE test procedure to measure heat loss for this product. Moreover, ASHRAE/IES Standard 90.1–1999 prescribes no test procedure for determining compliance with the new R12.5 insulation requirement, which is a design rather than a performance standard, and DOE believes none is necessary.

For these reasons, today's direct final rule does not include a test procedure for unfired storage tanks.

E. 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 or measured energy use of any covered product as determined under the existing test procedure. If the amendment does alter such measured efficiency or energy use, the Secretary must determine the average efficiency or energy use 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 water heating products 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. 6341(a)(4)(A) For water heaters, the version of ASHRAE Standard 90.1 in effect on June 30, 1992, references the following: (1) For gas water heaters, ANSI Z21.10.3–1990, (2) for oil water heaters, ANSI Z21.10.3–1990, with certain modifications, and (3) for electric products, the standby loss provisions of ANSI Z21.10.3–1990 with certain modifications. From 1992 through 1998, ANSI issued six updated versions of Z21.10.3–1990, but only the 1998 version changed the energy efficiency and energy use testing provisions.[5] The direct final rule adopts the relevant provisions of Z21.10.3–98 (including its changes to the test methods) as the test procedure for these products, along with the modifications just referred to for oil and electric products, and four additional changes to these test procedures. The portions of ANSI Z21.10.3–1998 that were contained in Z21.10.3–1990, as well as the modifications for oil and electric products, were all referenced in ASHRAE 90.1–1989 and in effect on June 30, 1992. Therefore, the statute itself sanctions the adoption of these provisions, and their adoption is not 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, of the changes to the test method that were incorporated in Z21.10.3–1998, and the four additional changes that DOE is including in this direct final rule, none would affect measured efficiency and only certain of the changes to the standby loss test in Z21.10.3 might affect measured energy use as determined under the previously existing test procedure. But DOE believes that any such effect on standby loss measurements would be de minimus. Therefore, DOE will not take further action under 42 U.S.C. 6293(e) with regard to these changes.

One of the changes in Z21.10.3–1998 to the standby loss test, for example, is specification of a lower tank water temperature. This reduction in tank water temperature allows for less heat energy loss to the surroundings and thus could affect standby loss. However, the equation that is used to calculate standby loss (as a percent per hour) effectively compensates for any possible affect on standby loss that a change in tank temperature could otherwise have. The change in tank temperature does not affect the measure of standby loss, and consequently does not alter measured energy use, as determined under the previously existing test procedure. Therefore, DOE will not take further action under 42 U.S.C. 6293(e) with regard to this change.

Another test procedure amendment—one of the Department's four additional changes to the test method—relates to the duration requirement for the standby loss test. As discussed in Section II.C.3 of this Direct Final Rule, the Department is adopting the standby loss test method in ANSI Z21.10.3–1998 with an added provision limiting the duration of that test. The Department believes that this modification would not alter the standby loss test results that would otherwise be produced under ANSI Z21.10.3–1998 or the previous version of this test method. Hence, this modification also does not alter measured energy use.

With respect to hot water supply boilers, this direct final rule prescribes ANSI Z21.10.3 as the required test procedure, as DOE proposed in the NOPR. 65 FR 48865. This represents a change in the applicable test procedure for hot water supply boilers, because as

[5] The ANSI Z21.10.3 test procedure provides a method for measuring thermal efficiency and a method for measuring standby loss, and both of these metrics are included in the standards for water heaters. The Department believes that, within the meaning of section 323(e) of EPCA, the thermal efficiency test method determines the ''measured energy efficiency'' of water heaters, and the standby loss test method determines the ''measured energy use.'' DOE refers here to the former as energy efficiency testing provisions, and the latter as energy use testing provisions.

of June 30, 1992, ASHRAE 90.1 required a manufacturer to use one of the five test procedures for boilers that were referenced in 90.1. Furthermore, on January 12, 2001, DOE adopted new standards as Federal requirements for hot water supply boilers with capacities equal to or greater than 10 gallons. 66 FR 3336, 3356. In today's rule, the Department is adopting new standards for the smaller hot water supply boilers. These new standards change the metric used to measure the efficiency of this equipment from combustion efficiency to thermal efficiency. In addition, for larger equipment the new standards include a standby loss metric. Even if today's test procedure amendment does change the energy efficiency or energy use rating of any model of this equipment and would cause it not to comply with the current energy conservation standard, the standard for hot water supply boilers is now changed. As a result, the new standard will supersede the current standard and render irrelevant the ability or inability of any model to comply with the former standard based on determinations under the existing test procedure. Thus, any alteration in measured efficiency or energy use resulting from today's amendment to the test procedure would merely mean that the equipment in question does not meet the new standard.

III. Final Action

DOE is publishing this direct final rule in order to allow stakeholders an opportunity to comment on revisions to this rule that have not had prior proposal. The direct final action will be effective December 20, 2004, unless significant adverse or critical comments are received by November 22, 2004. DOE views these revisions as noncontroversial and anticipates no significant adverse comments. However, in the event that significant adverse or critical comments are filed, DOE will withdraw the rule before the effective date. In the case of withdrawal of this action, the withdrawal will be announced by a subsequent **Federal Register** document. All public comments will then be addressed in a separate proposed rule which will be issued at a later date. Any parties interested in commenting on this rule should do so at this time. If no significant adverse comments are received, the public is advised that this rule will be effective December 20, 2004.

IV. Procedural Requirements

A. Review Under Executive Order 12866

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

B. Review Under the Regulatory Flexibility Act

The Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*) requires preparation of an initial regulatory flexibility analysis for any rule that by law must be proposed for public comment, unless the agency certifies that the rule, if promulgated, will not have a significant economic impact on a substantial number of small entities. As required by Executive Order 13272, ''Proper Consideration of Small Entities in Agency Rulemaking,'' 67 FR 53461 (August 16, 2002), DOE published procedures and policies on February 19, 2003, to ensure that the potential impacts of its rules on small entities are properly considered during the rulemaking process (68 FR 7990). DOE has made its procedures and policies available on the Office of General Counsel's Web site: *http://www.gc.doe.gov.*

DOE reviewed today's rule under the provisions of the Regulatory Flexibility Act and 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) DOE received no comments on this issue, and after considering the potential small entity impact of this direct final rule, DOE affirms the certification that this rule will not have a significant economic impact on a substantial number of small entities. Accordingly, DOE has not prepared a regulatory flexibility analysis for this rulemaking. DOE will transmit the certification and supporting statement of factual basis to the Chief Counsel for Advocacy of the Small Business Administration for review pursuant to 5 U.S.C. 605(b).

C. Review Under the Paperwork Reduction Act

This rulemaking will impose no new information or recordkeeping 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 direct 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

Under Section 301 of the Department of Energy Organization Act (Pub. L. 95–91), the Department must comply with Section 32 of the Federal Energy Administration Act of 1974 (FEAA), as amended by the Federal Energy Administration Authorization Act of 1977. 15 U.S.C. 788. The Department stated in the NOPR the reasons why section 32 does not apply to the commercial standards incorporated into the proposed rule, except for its proposed test procedure for unfired hot water storage tanks. The Department received no comments on this issue.

The rule published today does not include the test procedure for unfired hot water storage tanks, although it does incorporate the other standards that the NOPR proposed for incorporation. The Department continues to adhere to the view expressed in the NOPR that section 32 of the FEAA does not apply to these standards.

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 by the Office of the Secretary

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

List of Subjects in 10 CFR Part 431

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

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

David K. Garman,

Assistant Secretary, Energy Efficiency and Renewable Energy.

■ For the reasons set forth in the preamble, part 431 of Chapter II of Title

10, Code of Federal Regulations is amended as set forth below:

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

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

Authority: 42 U.S.C. 6311–6316.

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

Subpart G—Commercial Water Heaters, Hot Water Supply Boilers and Unfired Hot Water Storage Tanks

Sec.

Subpart G—Commercial Water Heaters, Hot Water Supply Boilers and Unfired Hot Water Storage Tanks

§ 431.101 Purpose and scope.

This subpart contains energy conservation requirements for certain commercial water heaters, hot water supply boilers and unfired hot water storage tanks, pursuant to Part C of Title III of the Energy Policy and Conservation Act, as amended, 42 U.S.C. 6311–6316.

§ 431.102 Definitions concerning commercial water heaters, hot water supply boilers, and unfired hot water storage tanks.

The following definitions apply for purposes of this subpart G, and of subparts J through M of this part. Any words or terms not defined in this section or elsewhere in this part shall be defined as provided in section 340 of the Act, 42 U.S.C. 6311.

ASTM–D–2156–80 means the test standard published in 1980 by the American Society of Testing and Measurements and titled Method for Smoke Density in Flue Gases from Burning Distillate Fuels.

Hot water supply boiler means a packaged boiler that is industrial equipment and that,

(1) Has an input rating from 300,000 Btu/hr to 12,500,000 Btu/hr and of at least 4,000 Btu/hr per gallon of stored water,

(2) Is suitable for heating potable water, and

(3) Meets either or both of the following conditions:

(i) It has the temperature and pressure controls necessary for heating potable water for purposes other than space heating, or

(ii) The manufacturer's product literature, product markings, product marketing, or product installation and operation instructions indicate that the boiler's intended uses include heating potable water for purposes other than space heating.

Instantaneous water heater means a water heater that has an input rating not less than 4,000 Btu/hr per gallon of stored water, and that is industrial equipment, including products meeting this description that are designed to heat water to temperatures of 180 °F or higher.

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.

R-value means the thermal resistance of insulating material as determined based on ASTM Standard Test Method C177–97 or C518–91 and expressed in ($°F \cdot ft^2 \cdot h/Btu$).

Standby loss means the average hourly energy required to maintain the stored water temperature, expressed as applicable either (1) as a percentage (per hour) of the heat content of the stored water and determined by the formula for S given in Section 2.10 of ANSI Z21.10.3–1998, denoted by the term ''S,'' or (2) in Btu per hour based on a 70° F temperature differential between stored water and the ambient temperature, denoted by the term ''SL.''

Storage water heater means a water heater that heats and stores water within the appliance at a thermostatically controlled temperature for delivery on demand and that is industrial equipment. Such term does not include units with an input rating of 4,000 Btu/hr or more per gallon of stored water.

Tank surface area means, for the purpose of determining portions of a tank requiring insulation, those areas of a storage tank, including hand holes and manholes, in its uninsulated or pre-insulated state, that do not have pipe penetrations or tank supports attached.

Thermal efficiency for an instantaneous water heater, a storage water heater or a hot water supply boiler means the ratio of the heat transferred to the water flowing through the water heater to the amount of energy consumed by the water heater as measured during the thermal efficiency test procedure prescribed in this subpart.

Unfired hot water storage tank means a tank used to store water that is heated externally, and that is industrial equipment.

Test Procedures

§ 431.105 Materials incorporated by reference.

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

(b) *Test procedure incorporated by reference.* American National Standards Institute (ANSI) Standard: ''Gas Water Heaters, Volume III, Storage Water Heaters with Input Ratings above 75,000 Btu per Hour, Circulating and Instantaneous, Z21.10.3–1998, CSA 4.3–M98, and its Addenda, ANSI Z21.10.3a–2000, CSA 4.3a–M00,'' IBR approved for § 431.105. The Department is incorporating by reference the ''Method of Test'' subsections of sections 2.9 and 2.10 in ANSI Z21.10.3–1998, CSA 4.3–M98, and the sections referenced there, including sections 2.1.7, 2.3.3, 2.3.4, 2.30 and Figure 3.

(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.*

(ii) U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, Hearings and Dockets, ''Test Procedures and Efficiency Standards for Commercial Water Heaters, Hot Water Supply Boilers, and Unfired Hot Water Storage Tanks,'' Docket No. EE–RM/TP–99–480, Forrestal Building, 1000 Independence Avenue, SW., Washington, DC 20585.

(2) *Obtaining copies of Standards.* Anyone can purchase a copy of the standard incorporated by reference from Global Engineering Documents, 15 Inverness Way West, Englewood, CO 80112, or *http://global.ihs.com/*, or *http://webstore.ansi.org/ansidocstore/.*

(d) *Reference standards.*—(1) *General.* The standards listed in this paragraph are referred to in the Department test procedures in this subpart, but they are not incorporated by reference. These sources are given here for information and guidance.

(2) *List of References.* (i) ASTM Standard Test Method C518–91, ''Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus.''

(ii) ASTM Standard Test Method C177–97, ''Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Guarded-Hot-Plate Apparatus.''

(iii) ASTM Standard Test Method D2156–80, ''Method for Smoke Density in Flue Gases from Burning Distillate Fuels.''

§ 431.106 Uniform test method for the measurement of energy efficiency of commercial water heaters and hot water supply boilers (other than commercial heat pump water heaters).

(a) *Scope.* This section covers the test procedures you must follow if, pursuant to EPCA, you are measuring the thermal efficiency or standby loss, or both, of a storage or instantaneous water heater or hot water supply boiler (other than a commercial heat pump water heater).

(b) *Testing and Calculations.* Determine the energy efficiency of each covered product by conducting the test procedure(s), set forth in the two rightmost columns of the following table, that apply to the energy efficiency descriptor(s) for that product:

Product	Energy efficiency descriptor	Use test setup, equipment and procedures in subsection labeled ''Method of Test'' of	With these additional stipulations
Gas-fired Storage and Instantaneous Water Heaters and Hot Water Supply Boilers*.	Thermal Efficiency	ANSI Z21.10.3–1998, § 2.9**	A. For all products, the duration of the standby loss test shall be until whichever of the following occurs first after you begin to measure the fuel and/or electric consumption: (1) The first cutout after 24 hours or (2) 48 hours, if the water heater is not in the heating mode at that time.
	Standby Loss	ANSI Z21.10.3–1998, § 2.10**.	B. For oil and gas products, the standby loss in Btu per hour must be calculated as follows: SL (Btu per hour) = S (% per hour) × 8.25 (Btu/gal–F) × Measured Volume (gal) × 70 (degrees F). C. For oil-fired products, apply the following in conducting the thermal efficiency and standby loss tests: (1) Venting Requirements—Connect a vertical length of flue pipe to the flue gas outlet of sufficient height so as to meet the minimum draft specified by the manufacturer.
Oil-fired Storage and Instantaneous Water Heaters and Hot Water Supply Boilers*.	Thermal Efficiency	ANSI Z21.10.3–1998, § 2.9**	(2) Oil Supply—Adjust the burner rate so that: (a) The hourly Btu input rate lies within ±2 percent of the manufacturer's specified input rate, (b) the CO_2 reading shows the value specified by the manufacturer, (c) smoke in the flue does not exceed No. 1 smoke as measured by the procedure in ASTM–D–2156–80, and (d) fuel pump pressure lies within ±10 percent of manufacturer's specifications.
	Standby Loss	ANSI Z21.10.3–1998, § 2.10**.	D. For electric products, apply the following in conducting the standby loss test: (1) Assume that the thermal efficiency (Et) of electric water heaters with immersed heating elements is 98 percent. (2) Maintain the electrical supply voltage to within ±5 percent of the center of the voltage range specified on the water heater nameplate.
Electric Storage and Instantaneous Water Heaters.	Standby Loss	ANSI Z21.10.3–1998, § 2.10**.	(3) If the set up includes multiple adjustable thermostats, set the highest one first to yield a maximum water temperature in the specified range as measured by the topmost tank thermocouple. Then set the lower thermostat(s) to yield a maximum mean tank temperature within the specified range.

*As to hot water supply boilers with a capacity of less than 10 gallons, these test methods become mandatory on October 21, 2005. Prior to that time, you may use for these products either (1) these test methods if you rate the product for thermal efficiency, or (2) the test methods in Subpart E if you rate the product for combustion efficiency as a commercial packaged boiler.

**Incorporated by reference, *see* § 431.105.

§ 431.107 Uniform test method for the measurement of energy efficiency of commercial heat pump water heaters [Reserved].

Energy Conservation Standards

§ 431.110 Energy conservation standards and their effective dates.

Each commercial storage water heater, instantaneous water heater, unfired hot water storage tank and hot water supply boiler [1] must meet the applicable energy conservation standard level(s) as follows:

Product	Size	Energy conservation standard [a] (products manufactured on and after October 29, 2003) [b]	
		Minimum thermal efficiency	Maximum standby loss [c]
Electric storage water heaters	All	N/A	$0.30 + 27/V_m$ (%/hr)
Gas-fired storage water heaters	≤155,000 Btu/hr	80%	$Q/800 + 110(V_r)^{1/2}$ (Btu/hr)
	>155,000 Btu/hr	80%	$Q/800 + 110(V_r)^{1/2}$ (Btu/hr)
Oil-fired storage water heaters	≤155,000 Btu/hr	78%	$Q/800 + 110(V_r)^{1/2}$ (Btu/hr)
	>155,000 Btu/hr	78%	$Q/800 + 110(V_r)^{1/2}$ (Btu/hr)
Gas-fired instantaneous water heaters and hot water supply boilers.	<10 gal	80%	N/A
	≥10 gal	80%	$Q/800 + 110(V_r)^{1/2}$ (Btu/hr)
Oil-fired instantaneous water heaters and hot water supply boilers.	<10 gal	80%	N/A
	≥10 gal	78%	$Q/800 + 110(V_r)^{1/2}$ (Btu/hr)

Product	Size	Minimum thermal insulation
Unfired hot water storage tank	All	R–12.5

[a] V_m is the measured storage volume and V_r is the rated volume, both in gallons. Q is the nameplate input rate in Btu/hr.

[b] For hot water supply boilers with a capacity of less than 10 gallons: (1) the standards are mandatory for products manufactured on and after [Insert date one year after date the rule is published], and (2) products manufactured prior to that date, and on or after October 23, 2003, must meet either the standards listed in this table or the applicable standards in Subpart E of this Part for a ''commercial packaged boiler.''

[c] Water heaters and hot water supply boilers having more than 140 gallons of storage capacity need not meet the standby loss requirement if (1) the tank surface area is thermally insulated to R–12.5 or more, (2) a standing pilot light is not used and (3) for gas or oil-fired storage water heaters, they have a fire damper or fan assisted combustion.

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[1] Any packaged boiler that provides service water, that meets the definition of ''commercial packaged boiler'' in subpart E of this part, but does not meet the definition of ''hot water supply boiler'' in subpart G, must meet the requirements that apply to it under subpart E.