

**DEPARTMENT OF ENERGY****Office of Energy Efficiency and Renewable Energy****10 CFR Part 431****Energy Conservation Program for Certain Industrial Equipment: Granting of the Application for Interim Waiver and Publishing of the Petition for Waiver of A.O. Smith Water Products Company from the DOE Uniform Federal Test Procedure for Measuring Efficiency of Commercial Water Heaters (Case No. WH-019)**

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

**ACTION:** Notice of petition for waiver and solicitation of comments; grant of interim waiver.

**SUMMARY:** Today's notice grants an Interim Waiver to A.O. Smith Water Products Company (AOS) and publishes AOS's Petition for Waiver from the existing Department of Energy (the Department or DOE) test procedure for commercial water heaters. AOS claims that it cannot demonstrate compliance with the new energy efficiency requirements for commercial water heating products that became effective October 29, 2003, for some of its water heater models, using the current test procedure. The test procedure for measuring compliance with the new standards was published as a proposed rule on August 9, 2000, and has not yet been finalized. As part of today's action, the Department is also soliciting comments, data, and information with respect to the Petition for Waiver.

**DATES:** The Department will accept comments, data, and information with respect to this Petition for Waiver on or before June 28, 2004.

**ADDRESSES:** You may submit comments, identified by Case No. WH-019, by any of the following methods:

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

- E-mail: [commercialwaterheaterwaiver@ee.doe.gov](mailto:commercialwaterheaterwaiver@ee.doe.gov). Include Case No. WH-019 in the subject line of the message.

- Mail: Ms. Brenda Edwards-Jones, U.S. Department of Energy, Building Technologies Program, Mailstop EE-2J, Commercial Water Heater Waiver, Case No. WH-019, 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.

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, U.S. Department of Energy, Building Technologies Program, Mail Stop EE-2J, Forrestal Building, 1000 Independence Avenue, SW., Washington, DC 20585-0121, (202) 586-7892; e-mail:

[Mohammed.Khan@ee.doe.gov](mailto:Mohammed.Khan@ee.doe.gov); or Francine Pinto, Esq., or Thomas DePriest, Esq., U.S. Department of Energy, Office of General Counsel, Mail Stop GC-72, Forrestal Building, 1000 Independence Avenue, SW., Washington, DC 20585-0193, (202) 586-9507; e-mail:

[Francine.Pinto@hq.doe.gov](mailto:Francine.Pinto@hq.doe.gov), or [Thomas.DePriest@hq.doe.gov](mailto:Thomas.DePriest@hq.doe.gov).

**SUPPLEMENTARY INFORMATION:** Title III of the Energy Policy and Conservation Act (EPCA) sets forth a variety of provisions concerning 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 entitled, "Certain Industrial Equipment," which is similar to the program in Part B, and which includes commercial air conditioning equipment, packaged boilers, water heaters, and other types of commercial equipment.

Today's notice involves commercial equipment under Part C, which specifically provides for definitions, test procedures, labeling requirements, energy conservation standards, and information and reports from manufacturers. With respect to test procedures, Part C generally authorizes the Secretary of Energy to prescribe test procedures that are reasonably designed to produce results that reflect energy efficiency, energy use and estimated annual operating costs, and that are not unduly burdensome to conduct. (42 U.S.C. 6314)

For commercial water heaters, EPCA provides that DOE's test procedure shall be that generally accepted industry test procedure developed or recognized by the Air-Conditioning and Refrigeration Institute (ARI) or by the American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE), as referenced in ASHRAE/Illuminating Engineers Society (IES) Standard 90.1 and in effect on June 30, 1992. (42 U.S.C. 6314(a)(4)(A)) This statute also provides that if this industry test procedure is amended, the Secretary of Energy shall amend DOE's test procedure to be consistent with the amended industry test procedure, unless the Secretary determines that such a modified test procedure does not meet the statutory criteria. (42 U.S.C. 6314(a)(4)(B))

The current DOE test procedure that is applicable to this equipment is the one referenced in the version of ASHRAE/IES 90.1 in effect in 1992, the American National Standards Institute (ANSI)/Canadian Standards Association (CSA) Standard Z21.10.3-1990. In response to ASHRAE's amendment to this standard, the Department issued a Notice of Proposed Rulemaking to adopt an updated test procedure for commercial water heaters, ANSI/CSA Standard Z21.10.3-1998, which is referenced in ASHRAE/IES Standard 90.1-1999. (65 FR 48852, August 9, 2000) The Department however, has not taken final action with respect to the proposed rule. Thus, the Standard Z21.10.3-1990 remains the applicable test procedure.

In January 2001, the Department adopted the AHSRAE 90.1-1999 energy efficiency standards for commercial gas-fired and oil-fired water heaters as new Federal efficiency standards effective October 29, 2003. (66 FR 3335, January 12, 2001) Because the Department has not yet issued a final rule on its proposal for an updated test procedure for commercial water heaters, commercial water heater manufacturers must demonstrate compliance with the new energy efficiency standards using the existing DOE test procedure.

The Department is required to make adjustments to its regulations, as necessary, to prevent special hardship, inequity or unfair distribution of burdens. (42 U.S.C. 7194) Currently, the Department has regulatory provisions in 10 CFR 430.27 and 10 CFR 431.29 allowing a waiver from test procedure requirements for covered consumer products and electric motors. There are no specific waiver provisions for other covered commercial equipment. However, the Department proposed waiver provisions for covered

commercial equipment on December 13, 1999 (64 FR 69597), as part of the commercial furnace test procedure rule, and the Department expects to publish a final rule codifying this process in 10 CFR 431.201. Until that occurs, DOE will use the waiver provisions for consumer products and electric motors for waivers involving other covered commercial equipment. These waiver provisions are substantively identical.

The waiver provisions allow the Assistant Secretary for Energy Efficiency and Renewable Energy to waive temporarily the test procedures for a particular basic model when a petitioner shows that the basic model contains one or more design characteristics that prevent testing according to the prescribed test procedures, or when the prescribed test procedures may evaluate the basic model in a manner so unrepresentative of its true energy consumption as to provide materially inaccurate comparative data. (See 10 CFR 430.27(a)(1), 10 CFR 431.29(a)(1).) Waivers generally remain in effect until final test procedure amendments become effective, thereby resolving the problem that is the subject of the waiver.

DOE will grant an Interim Waiver if it determines that the applicant will experience economic hardship if the Application for Interim Waiver is denied, if it appears likely that the Petition for Waiver will be granted, and/or the Assistant Secretary determines that it would be desirable for public policy reasons to grant immediate relief pending a determination on the Petition for Waiver. (See 10 CFR 430.27(g).) An Interim Waiver remains in effect for a period of 180 days or until DOE issues its determination on the Petition for Waiver, whichever is sooner, and may be extended for an additional 180 days, if necessary.

On August 6, 2003, AOS filed a Petition for Waiver and Application for Interim Waiver from the "DOE Uniform Federal Test Procedure for Measuring Efficiency of Commercial Water Heaters," referenced in the version of ASHRAE 90.1 in effect in 1992, ANSI/CSA Z21.10.3-1990. It requested permission to use ASHRAE Standard 118.1-2003 as an alternate test procedure for its water heating products having the following model numbers: BTF-75, BT-80, BT-100, BTI-80, BTI-100, BTN-80, BTN-100, BTP-140-140, BTP-140-199, BTP-140-255, BTH-300-970, COF-199, COF245, COF-315, COF-455, BTI-120-10075, BTI-154-10075, BTI-180-10075, BTI-199-10075, BTI-200-10075, BTI-250-10075, BTI-275-10075, BTI-310-10075, BTI-366-

10075, BTI-400-10075, BTN-180-10475, BTN-310-10075, BTR-15475, BTR-18075, BTR-19775, BTR-19875, BTR-19975, and BTR-20075.

In its petition, AOS seeks a waiver from the applicable test procedure because AOS asserts that the current DOE test procedure is incompatible with the new DOE energy efficiency standards, which became effective on October 29, 2003. AOS also states that the above-specified models of water heating products do not meet the new energy efficiency requirements using the current test procedure.

Due to the fact that DOE has experienced delays in publishing a final rule for the test procedure for commercial water heating products, and also recognizes that certain basic models of commercial water heaters are allegedly not compliant with the new energy efficiency standards absent a waiver from the current DOE test procedure, the Department has decided to grant this interim waiver to ensure that such models do not become noncompliant. However, the Department believes the appropriate alternate is the test procedure published in the August 9, 2000, proposed rule, which incorporates by reference ANSI/CSA Standard Z21.10.3-1998, the applicable industry standard referenced by ASHRAE/IES Standard 90.1-1999. EPCA requires the Department, for certain commercial equipment, to amend its test procedures consistent with amended ASHRAE or ARI industry test procedures. (42 U.S.C. 6314(4)(B)) Because ASHRAE Standard 118.1-2003 is not referenced in the amended ASHRAE Standard 90.1-1999, it would be inconsistent with the statutory language of EPCA to use it as an alternate test procedure as AOS requests.

The most significant differences between the protocols presented in the proposed August 9, 2000, DOE test procedure and those presented in ASHRAE Standard 118.1-2003 are the duration requirements for the Standby Loss Test; other differences are minimal. The ANSI/CSA Standard Z21.10.3-1998 test procedure specifies that the Standby Loss Test shall continue until the first cutout occurs following 24 hours from the time data collection is initiated. Because it is possible for some water heaters to not experience the cutout until days beyond the 24 hour limit, the industry test standard, ASHRAE Standard 118.1-2003, includes a 48-hour limit to preclude undue test burdens. The inclusion of a 48-hour provision in the proposed DOE test procedure was suggested by the Gas Appliance Manufacturers Association

(GAMA) and the California Energy Commission (CEC) in comments submitted in response to the August 9, 2000, proposed rule. The Department agrees with the need for the additional test duration requirement and believes that the evidence in the record is clear and convincing that without the 48-hour termination provision, the standby loss test procedure in the ANSI/CSA Standard Z21.10.3-1998 can pose undue burdens on manufacturers. Therefore, this waiver authorizes the use of ANSI/CSA Standard Z21.10.3-1998, and regarding the Standby Loss Test in section 2.10 of ANSI/CSA Standard Z21.10.3-1998, adds the requirement that the standby loss test duration shall be the shorter of either, (1) until the first cutout following 24 hours from the initiation of data collection, or (2) until 48 hours from the initiation of data collection if the water heater is not in the heating mode at that time.

After careful consideration of all the material that was submitted by AOS and others, the Department has decided to grant this interim waiver for the public policy reason that it is not desirable to make certain models of commercial water heaters noncompliant with the applicable energy efficiency standards given that the appropriate test procedure is not yet finalized. Hence, it is ordered that:

(1) The "Application for Interim Waiver" filed by AOS is hereby granted for the basic models of water heating equipment as follows:

BTF-75, BT-80, BT-100, BTP-140-140, BTP-140-199, BTP-140-255, BTH-300-970, COF-199, COF245, COF-315, COF-455, BTI-120-10075, BTI-154-10075, BTI-180-10075, BTI-199-10075, BTI-200-10075, BTI-250-10075, BTI-275-10075, BTI-310-10075, BTI-366-10075, BTI-400-10075, BTN-180-10475, BTN-310-10075, BTR-15475, BTR-18075, BTR-19775, BTR-19875, BTR-19975, and BTR-20075.

(2) AOS is permitted the use of ANSI/CSA Standard Z21.10.3-1998 to establish compliance with the efficiency standards for its water heating products manufactured after October 29, 2003. Further, regarding the Standby Loss Test, section 2.10 of ANSI/CSA Standard Z21.10.3-1998, the use of an additional test duration requirement is permitted as follows: The standby loss test duration shall be the shorter of either, (i) until the first cutout following 24 hours from the initiation of data collection, or (ii) until 48 hours from the initiation of data collection if the water heater is not in the heating mode at that time.

This Interim Waiver is based upon the presumed validity of statements and all allegations submitted by the company. This Interim Waiver may be removed or modified at any time upon a determination that the factual basis underlying the Application is incorrect.

This Interim Waiver shall remain in effect for a period of 180 days after issuance or until DOE acts on the Petition for Waiver, whichever is

sooner, and may be extended for an additional 180-day period, if necessary. DOE is hereby publishing the "Petition for Waiver" in its entirety. (See 10 CFR 430.27(b).) The Petition contains no confidential information. The Department solicits comments, data, and information respecting the Petition.

Any person submitting written comments to DOE concerning either the Petition for Waiver or Interim Waiver

must also send a copy of such comments to the petitioner. 10 CFR 430.27(b)(1)(iv) and 430.27(d).

Issued in Washington, DC, on May 21, 2004.

**David K. Garman,**

*Assistant Secretary, Energy Efficiency and Renewable Energy.*

**BILLING CODE 6450-01-P**

**A.O. SMITH**  
**WATER PRODUCTS**  
**COMPANY**  
PRODUCT ENGINEERING

August 6, 2003

Mr. David Garman  
Assistant Secretary, Energy Efficiency  
And Renewable Energy  
United States Department of Energy  
1000 Independence Avenue, SW  
Washington, DC 20585

Re: Petition for Waiver and Application for Interim Waiver

Dear Sir:

A. O. Smith Water Products Company respectfully submits this Petition for Waiver and Application for Interim Waiver pursuant to Title 10 CFR Part 431.29. Waiver is requested from the uniform federal test procedures for measuring efficiency of commercial water heaters referenced in 42 U.S.C. Section 6314(a)(4)(A). This petition affects the basic gas and oil-fired water heater models listed in Exhibit B. The COF series is oil-fired and all the others are gas-fired.

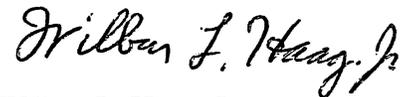
In the January 12, 2001 Federal Register, DOE published in final rule adopting ASHRAE Standard 90.1-1999 energy efficiency standards for 18 product categories of commercial heating and air conditioning equipment as uniform national standards pursuant to the Energy Policy and Conservation Act (EPCA), as amended by the Energy Policy Act of 1992 (EPACT). These new mandatory national minimum standards are applicable to commercial water heating products manufactured after October 29, 2003 (i.e. two years after the October 29, 2001 effective date specified in ASHRAE Standard 90.1-1999).

The Notices of Proposed Rules (NOPRs) to adopt new test procedures corresponding with the new efficiency standards related to boilers and water heaters were issued August 9, 2000, but the final rules have still not been issued. This delay in implementation of the new test procedures forces water heater manufacturers to continue to test products to the current federal test procedures in order to meet the new federal efficiency standards.

Due to the incompatibility of the current test procedures with the new federal efficiency standards, we are unable to meet the new efficiency requirements using the current test procedure for these products. Exhibit A demonstrates the differences between the current federal test procedures, and those contained in ASHRAE 90.1-1999, and our proposed alternate test method, ASHRAE 118.1-2003. Pursuant to 42 U.S.C. Section 6314 (a)(4)(B), DOE is required by law to adopt ASHRAE Standard 118.1-2003, *Method of Testing for Rating Commercial Gas, Electric, and Oil Service Water Heating Equipment*, as the federal test procedure for commercial water heaters unless DOE can justify by clear and convincing evidence adoption of an alternative test procedure for these products. We respectfully request that DOE allow use of ASHRAE Standard 118.1-2003 to test commercial water heaters.

We also request that the Department, upon receipt of this letter, provide an estimated date for a decision on the waiver request. Manufacturers who market similar products are being sent a copy of this petition. If any further information is required, please contact me.

Sincerely,



Wilbur L. Haag, Jr.  
Manager, Certification & Standards

Attachments: Exhibit A  
Exhibit B

CC: Mr. Tim Shelleberger  
Mr. Michael W. Gordon  
Mr. George Kusterer  
Mr. John Paisley  
Ms. Patricia H. Apperson  
Mr. Jim Smelcer  
Mr. William T. Harrigill

**EXHIBIT A – Comparison of Thermal Efficiency and Standby Loss Measurements Referenced by EPACT, ASHRAE 90.1-1999, And ASHRAE 118.1-2003**

	<b>ANSI/CSA Z21.10.3-1990 (EPACT)</b>	<b>ANSI/CSA Z21.10.3-1998 (ASHRAE 90.1- 1999)</b>	<b>ASHRAE 118.1- 2003</b>
<b>Thermal Efficiency (<math>E_T</math>)</b>			
$\Delta T$	70 F	70 F	70 F
<b>Duration</b>	30 min	30 min	30 min
<b>Standby Loss (S)</b>			
<b>Tstat (° F)</b>	160 ± 5	140 ± 5	140 ± 5
<b>Troom (° F)</b>	75 ± 10	75 ± 10	65 - 90
<b>Vary (° F)</b>	± 7	± 7	-
<b>Duration</b>	Not less than 48 hours If on at 48 hours finish cycle	24 hours + next cutout	24 hours + next cutout or 48 hours max. If on at 48 hours finish cycle
<b>Units</b>	%/hour	%/hour	%/hour
<b>Start</b>	After 1 cutout	After 2 cutouts	After 1 cutout

**Exhibit B – List of Water Heater Models Applicable to the Waiver Request**

BTF-75 and Derivatives  
BT-80 and Derivatives  
BT-100 and Derivatives  
BTI-80 and Derivatives  
BTI-100 and Derivatives  
BTN-80 and Derivatives  
BTN-100 and Derivatives  
BTP-140-140 and Derivatives  
BTP-140-199 and Derivatives  
BTP-140-255 and Derivatives  
BTH-300-970 and Derivatives  
COF-199\* and Derivatives  
COF245\* and Derivatives  
COF-315\* and Derivatives  
COF-455\* and Derivatives  
BTI-120-10075 and Derivatives  
BTI-154-10075 and Derivatives  
BTI-180-10075 and Derivatives  
BTI-199-10075 and Derivatives  
BTI-200-10075 and Derivatives  
BTI-250-10075 and Derivatives  
BTI-275-10075 and Derivatives  
BTI-310-10075 and Derivatives  
BTI-366-10075 and Derivatives  
BTI-400-10075 and Derivatives  
BTN-180-10475 and Derivatives  
BTN-310-10075 and Derivatives  
BTR-15475 and Derivatives  
BTR-18075 and Derivatives  
BTR-19775 and Derivatives  
BTR-19875 and Derivatives  
BTR-19975 and Derivatives  
BTR-20075 and Derivatives

\* Asterisk indicates Oil-Fired. All others are gas-fired  
“Derivatives” are slight variations in the fundamental model noted