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This section of the FEDERAL REGISTER contains notices to the public of the proposed issuance of rules and regulations. The purpose of these notices is to give interested persons an opportunity to participate in the rule making prior to the adoption of the final rules.

DEPARTMENT OF ENERGY

Office of Energy Efficiency and Renewable Energy

10 CFR Part 430

[Docket No. EE–RM–94–230]

RIN 1904–AA–52

Energy Conservation Program for Consumer Products: Test Procedure for Water Heaters

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

ACTION: Proposed rule; limited reopening of the comment period.

SUMMARY: The Department of Energy (DOE or the Department) is amending its test procedure for water heaters. The purpose of this notice is to solicit comments on three amendments to the proposed test for rating of instantaneous water heaters, the installation requirement for heat pump water heaters supplied without tanks, and the definition of heat pump water heater.

DATES: Written comments in response to this notice must be received by December 1, 1997.

ADDRESSES: Ten copies of written comments may be submitted to: U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, EE–43, Room 1J–018, MS EE–43, ''Test Procedure for Water Heaters,'' Docket No. EE–RM–94–230, Forrestal Building, 1000 Independence Avenue, SW, Washington, DC 20585, (202) 586–7574.

Copies of the comments and transcripts from the public hearing and workshop may be viewed at the Department of Energy, Freedom of Information Public Reading Room, U.S. Department of Energy, Room 1E–190, 1000 Independence Avenue, SW, Washington, DC 20585, (202) 586–3142, between the hours of 9:00 a.m. and 4:00 p.m., Monday through Friday, except Federal holidays.

FOR FURTHER INFORMATION CONTACT:

Terry Logee, U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, Mail Station EE–43, 1000 Independence Avenue, SW, Washington, DC 20585–0121, (202) 586–1689, FAX (202) 586–4617, terry.logee@hq.doe.gov

Eugene Margolis, Esq., U.S. Department of Energy, Office of General Counsel, Mail Station GC–72, 1000 Independence Avenue, SW, Washington, DC 20585–0103, (202) 586–9507, FAX (202) 586–4116, eugene.margolis@hq.doe.gov

SUPPLEMENTARY INFORMATION:

I. Introduction

On March 23, 1995, the Department published a notice of proposed rulemaking (NOPR) to make several revisions to its test procedure for water heaters. 60 FR 15330. On July 12, 1995, a hearing was held on the NOPR, and on February 12, 1997, a workshop was held. The proposed amendments to the water heater test procedure included, among other things, revisions to make the water heater test procedure applicable to electric and oil-fired instantaneous water heaters, and definitions for a heat pump water heater storage tank, an integral heat pump water heater, and an add-on heat pump water heater. In response to the NOPR, several commenters submitted proposals for alternatives to these amendments. DOE is reopening the comment period to provide an opportunity for public review and comment.

II. Discussion

A. Rating Instantaneous Water Heaters

In the NOPR, DOE proposed to extend coverage to include electric and oil-fired instantaneous water heaters in addition to the gas-fired instantaneous water heaters by amending the definitions and test procedures. DOE proposed to use the first hour rating test (already used for testing storage-type water heaters) for these instantaneous water heaters.

The Department received comments from Bock, Edison Electrical Institute (EEI), the Gas Appliance Manufacturers Association (GAMA), and the Oregon State Energy Office stating that no oil-fired instantaneous water heaters are manufactured for residential use. Furthermore, the Federal Trade Commission does not receive labeling data on oil fired instantaneous water heaters. (GAMA, No. 1 at 2; Testimony from February 12, 1997, GAMA at 119, EEI at 119, Bock at 120, FTC at 120; Oregon, No. 51 at 3.) DOE agrees and will withdraw coverage for oil-fired instantaneous water heaters.

GAMA, the Electric Power Research Institute (EPRI), the Oregon State Energy Office, and several utilities suggested that DOE's proposed test for rating instantaneous water heaters be changed from a first hour rating to a maximum flow rate in gallons per minute. These commenters claimed the maximum gpm rating better represents the capabilities of an instantaneous water heaters. Such a test would involve measuring the inlet water temperature, establishing a required outlet temperature based on a prescribed temperature rise, and determining the amount of water per minute the water heater could dispense at the required temperature. (Testimony from February 12, 1997, GAMA at 127–8; EPRI, No. 56 at 8; Oregon, No. 51 at 3; Hawaiian Electric Co., No. 23 at 2; East Kentucky Power Cooperative, No. 34 at 1.) Nevada Power Company claimed that applying the first hour rating to instantaneous water heaters ''is inappropriate because consumers may mistakenly compare instantaneous and storage type water heaters as being equivalent * * *'' (Nevada Power Co., No. 45 at 4.)

Although all these commenters supported testing for maximum flow rate, there was some disagreement about temperature rise. GAMA proposed that the temperature rise should be 77 °F, because, assuming an average inlet water temperature of 58 °F, this is consistent with testing for storage-type water heaters, which are tested at 135 °F. EPRI and the Hawaiian Electric Co. preferred a temperature rise of 50 °F for instantaneous water heaters because, they claimed, it reflects the water temperature that people use. (GAMA, No. 35 at 2, Testimony from July 21, 1995, GAMA at 11; Testimony from July 21, 1995, GAMA at 127, 138; Hawaiian Electric Co., No. 23 at 2; EPRI, No. 56 at 8.)

Based on the comments, DOE believes that the current first-hour rating for instantaneous water heaters may mislead consumers because those instantaneous water heaters with larger heat input rates can only provide about

one gallon per minute at a 77 °F temperature rise versus the three gallons per minute DOE requires from storage-type water heaters in its first hour rating. DOE agrees with GAMA, EEI, EPRI, and other commenters that a test for a maximum flow rate (gal/min.) over a specific temperature rise (77 °F or 50 °F) is a better way to compare instantaneous water heaters than a test that determines the total volume flow over one hour. The heat input rate in BTU per hour or kilowatts and a specific temperature rise will determine the maximum flow rate in gallons per minute. The maximum flow rate measures the ability of instantaneous water heaters to deliver the largest possible amount of hot water to the user at a specific temperature rise occurring at any single moment.

DOE agrees with GAMA that the temperature rise should be 77 °F. DOE believes this temperature rise is required to ensure that the instantaneous water heater can deliver water at 135 °F for dishwashers and laundry or can provide hot water at a minimum acceptable temperature in places like Maine or Michigan, where the source water temperature may be much lower than the 58 °F used in the test procedure.

Based on the above reasons, the Department proposes to revise the test for rating of instantaneous water heaters from the first hour rating to the maximum flow rate in gallons per minute (gpm) at a 77 °F temperature rise. This temperature rise will ensure consumers that instantaneous water heaters can provide hot water for laundry and dishwasher use and can dispense water at an acceptable temperature in cold regions of the country. DOE proposes to call this rating criterion the maximum gpm rating.

The Department proposes to insert the following text at the appropriate sections in the proposed test procedure:

1.9 Maximum GPM (LPM) Rating means the maximum gallons per minute (liters per minute) of hot water that can be supplied by an instantaneous water heater while maintaining a nominal temperature rise of 77 °F (42.8 °C) during steady state operation at its maximum rate of input energy.

5.2.3 Maximum GPM (LPM) Rating Test for Instantaneous Water Heaters. Establish normal water heater operation at the maximum input rate with the discharge water temperature set in accordance with Section 5.2.1 (procedure for setting the outlet discharge temperature). During the 10-minute test, with no interruption to the electricity or fossil fuel supplied to the water heater, either collect the withdrawn water for later measurement of the total mass removed or, alternatively, use a water meter to directly measure the volume of water removed.

Begin with the water flow temporarily discontinued. Record the scale or water meter reading as appropriate. Turn on the hot water and record the corresponding time. Record the inlet and outlet water temperatures beginning 15 seconds after the hot water is turned on and at every subsequent 5-second interval throughout the duration of the test. At the end of 10 minutes, turn off the hot water. Determine the mass of water collected, M_{10M}, in pounds (kilograms), or the volume of water, V_{10M}, in gallons (liters), with an error no greater than 2 percent.

6.2.1 Maximum GPM (LPM) Rating Computation. Compute the maximum gpm (lpm) rating as:

$$F_{\max} = \frac{M_{10m}\left(\overline{T}_{del} - \overline{T}_{in}\right)}{10(\rho)(77°F)}$$

$$or\ F_{\max} = \frac{M_{10m}\left(\overline{T}_{del} - \overline{T}_{in}\right)}{10(\rho)(42.8°C)}$$

Where:

M_{10m} = the mass of water collected during the 10-minute test, lb (kg).

$\overline{T}_{del}$ = the average delivery temperature, °F (°C).

$\overline{T}_{in}$ = the average inlet temperature, °F (°C).

ρ = the density of water at the average delivery temperature, lb/gal (kg/L).

If a water meter is used in lieu of a scale, the maximum gpm (liter/min) rating is computed as:

$$F_{\max} = \frac{V_{10m}\left(\overline{T}_{del} - \overline{T}_{in}\right)}{10(77°F)}$$

$$or\ F_{\max} = \frac{V_{10m}\left(\overline{T}_{del} - \overline{T}_{in}\right)}{10(42.8°C)}$$

Where:

V_{10m} = the volume of water measured during the 10-minute test, gal (L).

$\overline{T}_{del}$ = the average delivery temperature, °F (°C).

$\overline{T}_{in}$ = the average inlet temperature, °F (°C).

B. Heat Pump Water Heater Storage Tanks

In the NOPR, DOE proposed a definition for a heat pump water heater storage tank: ''Heat Pump Water Heater Storage Tank'' is an insulated tank designed, wired, and labeled for use exclusively with an add-on heat pump water heater or solar water heater and being unable to operate without an add-on heat pump water heater or solar water heater. The heat pump water heater storage tank may contain one or two thermostats and up to two electric resistance heating elements, and has a manufacturer's rated capacity of 120 gallons (450 liters) or less. When tested with the add-on heat pump water heater or solar water heater inoperative, the heat pump water heater storage tank shall have an energy factor that is determined in accordance with the test procedure for water heaters.

GAMA objected to the Department's proposed definition for a heat pump water heater storage tank. GAMA also proposed that a 50-gallon tank that meets the minimum DOE energy factor is adequate for testing any add-on heat pump water heater sold without a tank by the manufacturer. (Section 4.9.3 of the existing DOE test procedure specifies a 47±1 gallon tank with an Energy Factor of 0.87±.01.) Supporters for GAMA's proposal included EPRI, the Oregon Energy Office, and Virginia Power. The Oregon Energy Office suggested that DOE review the definition in the current test procedure. (Testimony from February 12, 1997, GAMA at 229, EPRI at 227; Oregon, No. 51 at 6; Virginia Power, No. 50 at 4.)

Based on the above comments, the Department is proposing to delete its proposed definition for a heat pump water heater storage tank. The Department is revising the current installation requirement in Section 4.9.3 for a heat pump water heater storage tank. The Department proposes to insert the following text at the appropriate section in the proposed test procedure:

4.10 Heat Pump Water Heater Storage Tank. The heat pump water heater storage tank to be used for testing a heat pump water heater without a tank supplied by the manufacturer shall be an electric storage-type water heater. The electric water heater shall have the following specifications: a volume of 47.0 gallons ±1.0 gallon (178.0 liters ±3.8 liters); two 4.5 kW heating elements controlled in such a manner as to prevent both elements from operating simultaneously; and an Energy Factor greater than or equal to the minimum energy conservation standard (as determined in accordance with Section 6.1.7) and less than or equal to the sum of the minimum energy conservation standard and 0.02.

C. Heat Pump Water Heater

In the NOPR, DOE proposed to amend the definition of Heat Pump Water

Heater with the following definitions of internal heat pump water heater and add-on heat pump water heater.

1.11.3.a. Integral heat pump water heater An air-to-water heat pump integral with an insulated storage tank.

1.11.3.b. Add-on heat pump water heater An air-to-water heat pump designed for use with a heat pump water heater storage tank.

EEI and EPRI claimed the definition for add-on heat pump water heater is inappropriate and should not be adopted. They stated that add-on heat pump water heaters are designed to work with any electric water heater tank and that some are designed to work with any tank. EPRI further stated that there are no storage tanks labeled and designed for use exclusively with heat pump water heaters. Therefore, EPRI believed the new definition would not allow testing of add-on heat pump water heaters because no heat pump water heater tanks are labeled for use exclusively with heat pump water heater storage tanks. EPRI claimed this new definition would increase costs of tanks used with heat pump water heaters because these tanks must be specialty tanks. Further, EEI claimed that this definition ''is ill-advised; at best, it is likely to create confusion and increase the cost of heat pump water heaters.'' (Testimony from July 12, 1995, EEI at 29; EEI, No. 2 at 7; EEI, No. 27 at 7; EPRI, No. 17 at 5.) Vaughn Manufacturing Corp. stated, ''Now DOE is proposing to add more than one category of heat pump water heaters and a solar water heater. These new units will add to the confusion unless care is taken to see that the criteria are applied to comparative models on a valid basis.'' (Vaughn, No. 31 at 4.)

GAMA objected to the definition of ''integral heat pump water heater'' because the definition implies that the heat pump is structurally integrated with a tank, whereas, in reality, the heat pump and the tank can be physically separated, but are usually sold by the manufacturer as a packaged unit. GAMA suggested that instead of the 1995 DOE proposed definitions of ''integral heat pump water heaters'' and ''add-on heat pump water heaters,'' the respective definitions should be ''heat pump water heaters with tanks'' and ''heat pump water heaters without tanks.'' (Testimony from February 12, 1997, GAMA at 229–31.)

The Department finds that the definition of ''integral heat pump water heaters'' should be withdrawn as commenters GAMA, EPRI, Oregon Energy Office, and Virginia Power suggested. In place of the definition of ''integral heat pump water heaters,'' the Department proposes the following definition: Heat pump water heater with storage tank means an air-to-water heat pump sold by the manufacturer with an insulated storage tank as a packaged unit. The tank and heat pump can be an integral unit or they can be separated.

The Department is also withdrawing the definition for an add-on heat pump water heater and proposes the following definition.

Heat pump water heater without storage tank (also called add-on heat pump water heater) means an air-to-water heat pump designed for use with a storage-type water heater or a storage tank that is not specified or supplied by the manufacturer.

The Department welcomes comments on these three topics.

Issued in Washington, DC, on October 24, 1997.

Joseph J. Romm,

Acting Assistant Secretary, Energy Efficiency and Renewable Energy.

[FR Doc. 97–28908 Filed 10–30–97; 8:45 am]

BILLING CODE 6450–01–P

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 97–CE–69–AD]

RIN 2120–AA64

Airworthiness Directives; Twin Commander Aircraft Corporation 500, 520, 560, 680, 681, 685, 690, 695, and 720 Series Airplanes

AGENCY: Federal Aviation Administration, DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: This document proposes to supersede Airworthiness Directive (AD) 94–04–17, which currently requires the following on Twin Commander Aircraft Corporation (Twin Commander) 500, 520, 560, 680, 681, 685, 690, 695, and 720 series airplanes: inspecting (one-time) the flap system for cables with broken wires or pulleys with worn cable clips, replacing any damaged parts, and replacing the master pulley and cable with new parts of improved design. The proposed AD would require inspecting all flap system cable grooves for the correct width, inspecting all flap system pulleys for rubbing on the support brackets, inspecting all flap pulley cable assemblies for frayed wires, and reworking or replacing any parts with discrepancies. The proposed AD results from several reports of worn and frayed flap system cables attributed to flap pulley grooves that are too narrow. The actions specified by the proposed AD are intended to prevent failure of a flap system cable caused by fatigue, which could result in loss of control of the airplane.

DATES: Comments must be received on or before January 6, 1998.

ADDRESSES: Submit comments in triplicate to the Federal Aviation Administration (FAA), Central Region, Office of the Regional Counsel, Attention: Rules Docket No. 97-CE–69-AD, Room 1558, 601 E. 12th Street, Kansas City, Missouri 64106. Comments may be inspected at this location between 8 a.m. and 4 p.m., Monday through Friday, holidays excepted.

Service information that applies to the proposed AD may be obtained from the Twin Commander Aircraft Corporation, 19003 59th Drive, NE, Arlington, Washington 98223–7832; telephone (360) 435–9797. This information also may be examined at the Rules Docket at the address above.

FOR FURTHER INFORMATION CONTACT: Mr. Jeffrey Morfitt, Aerospace Engineer, FAA, Northwest Mountain Region, 1601 Lind Avenue S.W., Renton, Washington 98055–4056; telephone (425) 227–2595; facsimile (425) 227–1181.

SUPPLEMENTARY INFORMATION:

Comments Invited

Interested persons are invited to participate in the making of the proposed rule by submitting such written data, views, or arguments as they may desire. Communications should identify the Rules Docket number and be submitted in triplicate to the address specified above. All communications received on or before the closing date for comments, specified above, will be considered before taking action on the proposed rule. The proposals contained in this notice may be changed in light of the comments received.

Comments are specifically invited on the overall regulatory, economic, environmental, and energy aspects of the proposed rule. All comments submitted will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested persons. A report that summarizes each FAA-public contact concerned with the substance of this proposal will be filed in the Rules Docket.

Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this notice must submit a self-addressed, stamped postcard on which the following