

[6450-01-P]

**DEPARTMENT OF ENERGY**

**10 CFR Part 430**

[Docket No. EERE-2012-BT-STD-0022]

**RIN 1904-AC78**

**Energy Conservation Program for Consumer Products and Certain Commercial and Industrial Equipment: Energy Conservation Standards for Residential Water Heaters**

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

**ACTION:** Request for information.

**SUMMARY:** The U.S. Department of Energy (DOE) is requesting data and information about the impact of its recently amended energy conservation standards for residential electric water heaters on utility programs that use high-storage-volume (above 55 gallons) electric storage water heaters to reduce peak electricity demand. DOE amended its standards for residential water heaters on April 16, 2010, and compliance with the amended standards is required beginning on April 16, 2015. Of particular relevance, the amended standards for residential water heaters raised the minimum requirements for electric storage water heaters with storage volumes above 55 gallons to levels that are currently achieved through the use of heat pump water heater technology. Utilities have expressed concerns that the amended levels will negatively impact programs designed to reduce peak energy demand by heating water only during off-peak times

and storing the water for use during peak demand periods. This request for information solicits feedback on the effects of the amended energy conservation standards for electric storage water heaters on such utility programs.

**DATES:** DOE will accept written comments, data, and information on this notice until [INSERT DATE 30 DAYS AFTER PUBLICATION IN FEDERAL REGISTER].

**ADDRESSES:** Interested persons are encouraged to submit comments using the Federal eRulemaking Portal at [www.regulations.gov](http://www.regulations.gov). Follow the instructions for submitting comments. Alternatively, interested persons may submit comments, identified by docket number EERE-2012-BT-0022 and/or RIN 1904-AC78, by any of the following methods:

- **E-mail:** [ResWaterHtrsRFI-2012-STD-0022@ee.doe.gov](mailto:ResWaterHtrsRFI-2012-STD-0022@ee.doe.gov). Include EERE-2012-BT-0022 and/or RIN 1904-AC78 in the subject line of the message. Submit electronic comments in WordPerfect, Microsoft Word, PDF, or ASCII file format, and avoid the use of special characters or any form of encryption.
- **Postal Mail:** Ms. Brenda Edwards, U.S. Department of Energy, Building Technologies Program, Mailstop EE-2J, 1000 Independence Avenue, SW., Washington, DC 20585-0121. Telephone: (202) 586-2945. If possible, please submit all items on a compact disc (CD), in which case it is not necessary to include printed copies.
- **Hand Delivery/Courier:** Ms. Brenda Edwards, U.S. Department of Energy, Building Technologies Program, 950 L'Enfant Plaza, SW., 6<sup>th</sup> Floor, Washington, DC 20024.

Telephone: (202) 586–2945. If possible, please submit all items on a CD, in which case it is not necessary to include printed copies.

All submissions received must include the agency name and docket number and/or RIN for this rulemaking. No telefacsimilies (faxes) will be accepted. For detailed instructions on submitting comments and additional information on the rulemaking process, see section III of this document (Public Participation).

Docket: The docket for this rulemaking is available for review at [www.regulations.gov](http://www.regulations.gov), including Federal Register notices, comments, and other supporting documents/materials. All documents in the docket are listed in the [www.regulations.gov](http://www.regulations.gov) index. However, not all documents listed in the index may be publicly available, such as information that is exempt from public disclosure.

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

<http://www.regulations.gov/#!docketDetail;dct=FR+PR+N+O+SR+PS;rpp=50;so=DESC;sb=postedDate;po=0;D=EERE-2012-BT-STD-0022>. The [www.regulations.gov](http://www.regulations.gov) web page will contain simple instructions on how to access all documents, including public comments, in the docket.

For further information on how to review the docket, contact Ms. Brenda Edwards at (202) 586-2945 or by email: [Brenda.Edwards@ee.doe.gov](mailto:Brenda.Edwards@ee.doe.gov).

**FOR FURTHER INFORMATION CONTACT:** Ms. Ashley Armstrong, U.S. Department of

Energy, Office of Energy Efficiency and Renewable Energy, Building Technologies Program, EE-2J, 1000 Independence Avenue SW., Washington, DC 20585-0121. Telephone: (202) 586-6590. Email: [Ashley.Armstrong@ee.doe.gov](mailto:Ashley.Armstrong@ee.doe.gov).

Mr. Ari Altman, U.S. Department of Energy, Office of the General Counsel, Mailstop GC-71, 1000 Independence Avenue, SW., Washington, DC 20585-0121. Telephone: (202) 287-6307. E-mail: [Ari.Altman@hq.doe.gov](mailto:Ari.Altman@hq.doe.gov).

## **SUPPLEMENTARY INFORMATION:**

### **Table of Contents**

- I. Introduction
  - A. Statutory Authority
  - B. Background
- II. Discussion
  - A. Description of Utility Electric Thermal Storage Programs for Water Heaters
  - B. Discussion of Utility Company Concerns with April 2010 Water Heater Standards
- III. Public Participation
  - A. Submission of Comments
  - B. Issues on Which DOE Seeks Comment

### **I. Introduction**

The following section briefly discusses the statutory authority underlying the U.S. Department of Energy's (DOE's) standards for residential water heaters, as well as some of the relevant historical background related to the establishment of standards for residential water heaters.

## A. Statutory Authority

Title III, Part B<sup>1</sup> of the Energy Policy and Conservation Act of 1975 (“EPCA” or “the Act”), Pub. L. 94-163 (42 U.S.C. 6291-6309, as codified) sets forth a variety of provisions designed to improve energy efficiency and establishes the Energy Conservation Program for Consumer Products Other Than Automobiles,<sup>2</sup> a program covering most major household appliances (collectively referred to as “covered products”), which includes the types of residential water heaters that are the subject of today’s notice. (42 U.S.C. 6292(a)(4)) EPCA prescribed energy conservation standards for these products (42 U.S.C. 6295(e)(1)) and directed DOE to conduct two cycles of rulemakings to determine whether to amend standards. (42 U.S.C. 6295(e)(4)) Furthermore, under 42 U.S.C. 6295(m), the agency must periodically review its already established energy conservation standards for a covered product. Under this requirement, the next review that DOE would need to conduct must occur no later than six years from the issuance of a final rule establishing or amending a standard for a covered product.

Under EPCA, this program generally consists of four parts: (1) testing; (2) labeling; (3) establishing Federal energy conservation standards; and (4) certification and enforcement procedures. The Federal Trade Commission (FTC) is primarily responsible for labeling consumer products, and DOE implements the remainder of the program. Subject to certain criteria and conditions, DOE is required to develop test procedures to measure the energy efficiency, energy use, or estimated annual operating cost of each covered product. (42 U.S.C.

---

<sup>1</sup> For editorial reasons, upon codification in the U.S. Code, Part B was redesignated as Part A.

<sup>2</sup> All references to EPCA in this document refer to the statute as amended through the Energy Independence and Security Act of 2007, Pub. L. 110-140 (Dec. 19, 2007).

6293) Manufacturers of covered products must use the prescribed DOE test procedure as the basis for certifying to DOE that their products comply with the applicable energy conservation standards adopted under EPCA and when making representations to the public regarding the energy use or efficiency of those products. (42 U.S.C. 6293(c) and 6295(s)) Similarly, DOE must use these test procedures to determine whether the products comply with standards adopted pursuant to EPCA. Id. The DOE test procedures for residential water heaters currently appear at title 10 of the Code of Federal Regulations (CFR) part 430, subpart B, appendix E.

DOE must follow specific statutory criteria for prescribing amended standards for covered products. As indicated above, any amended standard for a covered product must be designed to achieve the maximum improvement in energy efficiency that is technologically feasible and economically justified. (42 U.S.C. 6295(o)(2)(A)) Furthermore, DOE may not adopt any standard that would not result in the significant conservation of energy. (42 U.S.C. 6295(o)(3)) Moreover, DOE may not prescribe a standard: (1) for certain products, including residential water heaters, if no test procedure has been established for the product, or (2) if DOE determines by rule that the proposed standard is not technologically feasible or economically justified. (42 U.S.C. 6295(o)(3)(A)-(B)) In deciding whether a proposed standard is economically justified, DOE must determine whether the benefits of the standard exceed its burdens. (42 U.S.C. 6295(o)(2)(B)(i)) DOE must make this determination after receiving comments on the proposed standard, and by considering, to the greatest extent practicable, the following seven factors:

1. The economic impact of the standard on manufacturers and consumers of the products subject to the standard;
2. The savings in operating costs throughout the estimated average life of the covered products in the type (or class) compared to any increase in the price, initial charges, or maintenance expenses for the covered products that are likely to result from the imposition of the standard;
3. The total projected amount of energy, or as applicable, water, savings likely to result directly from the imposition of the standard;
4. Any lessening of the utility or the performance of the covered products likely to result from the imposition of the standard;
5. The impact of any lessening of competition, as determined in writing by the Attorney General, that is likely to result from the imposition of the standard;
6. The need for national energy and water conservation; and
7. Other factors the Secretary of Energy (Secretary) considers relevant. (42 U.S.C. 6295(o)(2)(B)(i)(I)–(VII))

EPCA, as codified, also contains what is known as an “anti-backsliding” provision, which prevents the Secretary from prescribing any amended standard that either increases the maximum allowable energy use or decreases the minimum required energy efficiency of a covered product. (42 U.S.C. 6295(o)(1)) Also, the Secretary may not prescribe an amended or new standard if interested persons have established by a preponderance of the evidence that the standard is likely to result in the unavailability in the United States of any covered product type (or class) of performance characteristics (including reliability), features, sizes, capacities, and

volumes that are substantially the same as those generally available in the United States. (42 U.S.C. 6295(o)(4))

Further, EPCA, as codified, establishes a rebuttable presumption that a standard is economically justified if the Secretary finds that the additional cost to the consumer of purchasing a product complying with an energy conservation standard level will be less than three times the value of the energy savings during the first year that the consumer will receive as a result of the standard, as calculated under the applicable test procedure. See 42 U.S.C. 6295(o)(2)(B)(iii).

Additionally, 42 U.S.C. 6295(q)(1) specifies requirements when promulgating a standard for a type or class of covered product that has two or more subcategories. DOE must specify a different standard level than that which applies generally to such type or class of products for any group of covered products that have the same function or intended use if DOE determines that products within such group (A) consume a different kind of energy from that consumed by other covered products within such type (or class); or (B) have a capacity or other performance-related feature which other products within such type (or class) do not have and such feature justifies a higher or lower standard. (42 U.S.C. 6295(q)(1)). A rule prescribing an energy conservation standard for a type (or class) of covered products shall specify a level of energy use or efficiency higher or lower than that which applies (or would apply) for such type (or class) for any group of covered products that have the same function or intended use, if the Secretary determines that covered products within such group consume a different kind of energy from that consumed by other covered products within such type (or class); or have a capacity or other performance-



related feature that other products within such type (or class) do not have and such feature justifies a higher or lower standard from that which applies (or will apply) to other products within such type (or class). Any rule prescribing such a standard must include an explanation of the basis on which such higher or lower level was established. (42 U.S.C. 6295(q)(2))

Federal energy conservation requirements generally supersede State laws or regulations concerning energy conservation testing, labeling, and standards. (42 U.S.C. 6297(a)–(c)) DOE may, however, grant waivers of Federal preemption for particular State laws or regulations, in accordance with the procedures and other provisions set forth under 42 U.S.C. 6297(d).

## B. Background

Before being amended by the National Appliance Energy Conservation Act of 1987 (NAECA; Pub. L. 100-12), Title III of EPCA included water heaters equipment as covered products. NAECA's amendments to EPCA established energy conservation standards for residential water heaters, and required that DOE determine whether these standards should be amended. (42 U.S.C. 6295(e)(1); 42 U.S.C. 6295(e)(4)) DOE initially amended the statutorily-prescribed standards for water heaters in 2001 (66 FR 4474 (Jan. 17, 2001)) and amended standards for water heaters for a second time in 2010 (75 FR 20112 (April 16, 2010)) (April 2010 Final Rule).

The energy conservation standards for residential water heaters in the April 2010 Final Rule will apply to products manufactured on or after April 16, 2015. 75 FR 20112. This final

rule completed the second amended standards rulemaking for water heaters required under 42 U.S.C. 6295(e)(4)(B). The standards consist of minimum energy factors (EF) that vary based on the storage volume of the water heater, the type of energy it uses (i.e., gas, oil, or electricity), and whether it is a storage, instantaneous, or tabletop model. 10 CFR 430.32(d). The currently applicable water heater energy conservation standards, as well as those that will be applicable starting April 16, 2015, are set forth in Table I.1 below.

**Table I.1 Energy Conservation Standards for Residential Water Heaters**

<b>Product class</b>	<b>Energy factor as of January 20, 2004</b>	<b>Energy factor as of April 16, 2015</b>
Gas-fired Water Heater	$0.67 - (0.0019 \times \text{Rated Storage Volume in gallons})$	For tanks with a Rated Storage Volume at or below 55 gallons: $EF = 0.675 - (0.0015 \times \text{Rated Storage Volume in gallons})$ . For tanks with a Rated Storage Volume above 55 gallons: $EF = 0.8012 - (0.00078 \times \text{Rated Storage Volume in gallons})$ .
Oil-fired Water Heater	$0.59 - (0.0019 \times \text{Rated Storage Volume in gallons})$	$EF = 0.68 - (0.0019 \times \text{Rated Storage Volume in gallons})$ .
Electric Water Heater	$0.97 - (0.00132 \times \text{Rated Storage Volume in gallons})$	For tanks with a Rated Storage Volume at or below 55 gallons: $EF = 0.960 - (0.0003 \times \text{Rated Storage Volume in gallons})$ . For tanks with a Rated Storage Volume above 55 gallons: $EF = 2.057 - (0.00113 \times \text{Rated Storage Volume in gallons})$ .
Tabletop Water Heater	$0.93 - (0.00132 \times \text{Rated Storage Volume in gallons})$	$EF = 0.93 - (0.00132 \times \text{Rated Storage Volume in gallons})$ .
Instantaneous Gas-fired Water Heater	$0.62 - (0.0019 \times \text{Rated Storage Volume in gallons})$	$EF = 0.82 - (0.0019 \times \text{Rated Storage Volume in gallons})$ .
Instantaneous Electric Water Heater	$0.93 - (0.00132 \times \text{Rated Storage Volume in gallons})$	$EF = 0.93 - (0.00132 \times \text{Rated Storage Volume in gallons})$ .

## **II. Discussion**

### **A. Description of Utility Electric Thermal Storage Programs for Water Heaters**

Electric thermal storage (ETS) programs, also known as load shifting or demand response programs, are potentially an effective way for utilities to manage peak demand load by limiting the times when certain appliances are operated. As part of such programs, utilities typically provide an incentive for consumers (such as reduced electricity rates, subsidized cost of a new appliance, or annual fixed payment incentives) to enroll in a program allowing the utility company to control when the appliance cycles on and off. The appliance is cycled on during off-peak hours, and the electricity consumed is stored by the appliance as thermal energy for use during peak demand times. In the case of water heaters, the utility typically offers some incentive for its customers to enroll in the ETS program, and in return the utility is allowed to control the operation of the customer's water heater (typically through using either a timed switch or a radio controlled switch) in a manner that prevents the appliance from turning on during peak load times and forces the water heating operation to occur during off-peak demand times. Several stakeholders (including the National Rural Electric Cooperative Association (NRECA), PJM Interconnection, American Public Power Association (APPA), and Steffes Corporation) have indicated to DOE that the consumer is often responsible for the purchase and installation cost of the water heater, but such cost may be offset in part by the utility, and the utility typically covers the cost of the control technology with no charge to the consumer. Since these programs allow water heating only during non-peak times, the heated water must be stored in the tank to meet consumer needs during peak demand times. Because the water heater cannot operate during peak demand times, these programs typically utilize electric storage water heaters with a larger tanks

than would otherwise be required to meet the typical demand required by the consumer. The additional tank storage capacity ensures that the consumer will have enough hot water to meet their needs without the need for power during peak-demand hours.

The Department is aware of numerous ETS load shifting programs for residential water heaters in the United States. According to Great River Energy and Arrowhead Electric Cooperative, there are more than 100 electric cooperatives nationwide that have installed more than 150,000 ETS water heaters in 20 states. Information provided by utilities indicates a similar estimate, as a recent survey showed 109 cooperatives in 22 states using such programs with more than 150,000 water heaters. Additionally, the utilities noted that the number of programs nationwide is growing, with 22 additional cooperatives in 7 other states considering adopting similar programs. As noted above, these programs typically employ large electric storage water tanks capable of heating enough water during off-peak demand times to serve consumers during peak demand times when the water heater would not be powered. These tanks are ideal because they are highly insulated and make use of the heated water as a thermal storage device, storing the energy conducted to the water from the electric resistance element for later use.

DOE believes that ETS programs offer benefits to both utilities and consumers. Because ETS programs force water heating to occur during off-peak times, the energy used for heating water is from sources that are potentially less expensive and less polluting than sources that must be used during peak demand times. The utilities indicated that a survey found that 49 cooperatives use ETS programs to store energy from wind generation and 52 cooperatives use such programs to store electricity generated from hydroelectric sources. The ability to utilize less

expensive energy sources reduces operating costs for utilities and results in savings which potentially can be passed on to consumers in the form of lower electricity rates or other financial incentives provided by utilities. The utilities noted that the benefits to consumers include rebates to offset the initial cost of the water heater, discounted utility bills, off-peak pricing, free water heater maintenance, and lower overall rates due to the reduction of the utility's costs. In addition, the utilities noted that benefits to utility companies included reduced wholesale demand charges, reduced costs of operating less efficient peaking generators, less exposure to wholesale spot market prices, reduced capacity obligations, emergency load control system regulation, storage of energy generated by renewable resources during off-peak periods, lower transmission system congestion, and improved distribution system operations. Lastly, the utilities commented that the programs provide benefits to the Nation because they mitigate environmental impacts by lowering carbon emissions from fossil fuel resources through enabling greater penetration and utilization of renewable energy assets, facilitating more efficient operation of existing base load generating plants, and delaying construction of new generating plants.

While DOE recognizes that these programs are valuable to utilities in their efforts to reduce peak demand loads, to consumers in reducing overall costs, and to the Nation in allowing for increased use of renewable energy resources and reduced emissions from fossil fuels, it is not apparent that these programs reduce energy consumption. In fact, DOE believes that the additional standby losses from storing water in a large storage tank and at an increased temperature may increase energy consumption as compared to using a smaller tank and heating the water when it is needed.

The Department is interested in receiving comment and information on utility ETS programs for residential water heaters. In particular, DOE would like to receive data and information on the penetration of such programs throughout the U.S. (i.e., what percentage of total water heaters installed are used in these programs), data on the financial benefits to consumers, and information on the energy savings (if any) or other National benefits that are achieved through the use of such programs. This is identified as issue 1 in section III.B, “Issues on Which DOE Seeks Comment.”

#### B. Discussion of Stakeholder Concerns with April 2010 Water Heater Standards

In response to the April 2010 Final Rule amending the energy conservation standards for water heaters, stakeholders (i.e., NRECA, PJM Interconnection, APPA, and Steffes Corporation) indicated concerns about the energy conservation standard established for electric storage water heaters with tanks having greater than 55 gallons of storage volume and about the impact that such standards would have on existing ETS programs. As discussed above, large electric storage water heaters (over 55 gallons of storage volume) are a key component of utility ETS programs to allow the hot water tank to store enough water to meet consumer demand during peak demand times when the water heater would not be allowed to turn on. As shown in Table I.1, the April 2010 Final Rule established an energy conservation standard that would effectively require the use of heat pump technology to meet the minimum standard for electric storage water heaters with storage volumes above 55 gallons. Although ETS programs may be able to utilize heat pump water heaters (HPWH), utility companies are concerned that the increase in the initial cost of HPWH units as compared to purchasing a smaller electric resistance unit (such as a 50 gallon

water heater, which is often adequate for typical residential use) would discourage consumers from participating in load shifting programs. Utilities may not be able to offer enough incentives to overcome the increase in first cost of a large HPWH, resulting in decreased customer participation in ETS programs. In addition, utilities believe the technological differences of heat pump water heaters are such that they may not always be able to fill the same role as large-volume electric resistance water heaters. Utilities have indicated that the ability of electric resistance water heaters to ‘super heat’ water to 170 °F is a key component in increasing the water heater capacity such that it can meet consumer demand without operating during peak times. Utilities contend that heat pump water heaters cannot provide the ‘super heating’ capabilities of electric resistance water heaters because the refrigeration cycle of commercially available heat pump water heaters limits the maximum water temperature due to efficiency and reliability issues with the compressor as the water temperature is raised. While DOE agrees this is true when the water heater operates in the heat pump mode, DOE notes that heat pump water heaters currently on the market are equipped with electric resistance backup heating. The use of the backup resistance elements would allow a heat pump water heater to heat water to a much higher temperature comparable to the temperatures that can be achieved by conventional electric resistance water heaters.

DOE recognizes that the potential elimination of utility ETS programs due to the efficiency requirements in the April 2010 Final Rule for large-volume electric water heaters would have the potential to increase peak-demand load and may impact both utilities and consumers participating in such programs. If consumers who otherwise would have purchased a large-volume electric resistance tank and participated in an ETS program instead purchase a

smaller size tank (e.g., 50-gallon) and do not participate in the ETS program, the result may be reduced cost savings to consumers (as compared to the situation before the water heater standards were amended) and increased peak loads for utilities. DOE notes that increased usage of heat pump water heaters could mitigate some of these concerns because heat pump water heaters are comparatively much more efficient than electric resistance water heaters, which will reduce electricity demand at all times, especially during peak times. In contrast, DOE believes that the use of larger storage tanks for ETS programs may use more electricity than would be consumed if ETS programs were phased out by utilities due to the unavailability of large-volume electric resistance water heaters.

As a result of the concerns with the standards promulgated in the April 2010 Final Rule, some stakeholders have requested that DOE consider the creation of a new product class of electric water heaters for “grid-interactive water heaters.” These stakeholders proposed that such products would be defined as an electric storage water heater that has: (1) a storage tank volume greater than 55 gallons; (2) a control device capable of receiving communication from a grid operator, electric utility, or other energy services company that provides real-time control of the heating element; (3) an agreement to be enrolled in a grid operator, electric utility, or other energy services company program to provide demand response or other electric grid services; and (4) a thermostatic mixing valve if the water heater is capable of heating water greater than 120 °F. DOE is considering its legal authority to promulgate such a rule. As it does so, DOE is seeking additional information regarding the potential effects of the current standard and the potential benefits of the proposals above.



DOE is interested in receiving comment on potential solutions to mitigate the concerns of utility companies described above, including the creation of a new product class for “grid-interactive storage water heater,” as proposed by the utilities. Other possible solutions may include: (1) a waiver system that would allow manufacturers to produce small quantities of electric resistance models at storage volumes above 55 gallons and sell them directly to utilities that operate such programs; (2) using multiple smaller water heaters in place of a single large water heater to satisfy the needs of consumers who participate in these programs; or (3) using large-storage-volume heat pump water heaters to satisfy the needs of consumers who participate in these programs. DOE is interested in receiving comment on the merits and drawbacks of the potential solutions identified, as well as any other potential solutions that could address this issue. This is identified as issue 2 in section III.B, “Issues on Which DOE Seeks Comment.”

### **III. Public Participation**

#### **A. Submission of Comments**

DOE will accept comments, data, and information regarding this request for information until the date provided in the DATES section at the beginning of this proposed rule. Interested parties may submit comments, data, and other information using any of the methods described in the ADDRESSES section at the beginning of this notice.

Submitting comments via regulations.gov. The [regulations.gov](https://www.regulations.gov) web page will require you to provide your name and contact information. Your contact information will be viewable to DOE Building Technologies staff only. Your contact information will not be publicly viewable

except for your first and last names, organization name (if any), and submitter representative name (if any). If your comment is not processed properly because of technical difficulties, DOE will use this information to contact you. If DOE cannot read your comment due to technical difficulties and cannot contact you for clarification, DOE may not be able to consider your comment.

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

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

DOE processes submissions made through regulations.gov before posting. Normally, comments will be posted within a few days of being submitted. However, if large volumes of comments are being processed simultaneously, your comment may not be viewable for up to

several weeks. Please keep the comment tracking number that [regulations.gov](https://www.regulations.gov) provides after you have successfully uploaded your comment.

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

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

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

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

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

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

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

DOE considers public participation to be a very important part of the process for developing energy conservation standards. DOE actively encourages the participation and interaction of the public during the comment period in each stage of the rulemaking process. Interactions with and between members of the public provide a balanced discussion of the issues and assist DOE in the rulemaking process. Anyone who wishes to be added to the DOE mailing list to receive future notices and information about this rulemaking should contact Ms. Brenda Edwards at (202) 586-2945, or via e-mail at [Brenda.Edwards@ee.doe.gov](mailto:Brenda.Edwards@ee.doe.gov).

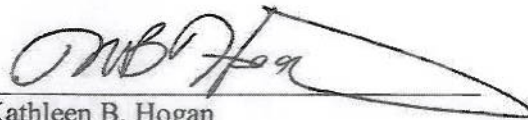
## B. Issues on Which DOE Seeks Comment

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

1. Information on the effects of utility programs designed to reduce peak energy demand by heating water only during off-peak times and storing the water for use during peak demand periods. In particular, DOE is interested in information on the penetration of residential water heater load shifting programs throughout the U.S. (i.e., what percentage of total water heaters installed are used in these programs), the economic benefits of such programs to consumers, and the energy impacts (if any) or other National benefits that are achieved through the use of such programs.
2. Information on the effects of the amended energy conservation standards for electric storage water heaters with rated storage volumes above 55 gallons on utility programs designed to reduce peak energy demand by heating water only during off-peak times and storing the water for use during peak demand periods.
3. Information on capacity or other performance-related feature(s) for residential water heaters which other water heaters do not have that are used in demand-response programs and whether such feature(s) justifies a separate standard from that which will apply to other electric water heaters with rated storage volumes above 55 gallons.

4. Information on potential solutions that would resolve the concerns of utilities that administer load shifting programs for residential water heaters that require the use of large-volume electric storage water heaters, including the potential approaches identified in this RFI.

Issued in Washington, DC, on June 6, 2012.

A handwritten signature in black ink, appearing to read "K. Hogan", written over a horizontal line.

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