

# Proposed Rules

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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/TP-99-500]

RIN 1904-AB04

#### Energy Conservation Program for Consumer Products: Test Procedure for Dishwashers

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

**ACTION:** Notice of proposed rulemaking and public hearing.

**SUMMARY:** The Department of Energy (We, DOE, or the Department) will hold a public hearing to discuss and receive comments on DOE's proposal to amend its test procedure for residential dishwashers. The proposal adds new definitions for non soil-sensing dishwashers, soil-sensing dishwashers, and standby power. It introduces a new test procedure for soil-sensing dishwashers, proposes to require that the measurement of standby power consumption be included in the estimated annual energy use and estimated annual operating cost calculations for dishwashers, and adds new specifications for instrumentation requirements. It also revises the value of one of the parameters used for calculating the estimated annual operating cost, that is, the representative average dishwasher use, based on new survey data on consumer practices.

**DATES:** The Department will hold a public hearing on Tuesday, October 22, 2002, at 9 a.m., in Washington, DC. Requests to speak at the hearing must be received by the Department no later than 4 p.m., October 8, 2002. A computer diskette or CD (WordPerfect™ 8) of statements to be given at the public hearing must be received by the Department no later than 4 p.m., October 8, 2002.

The Department will accept comments, data, and information regarding the proposed rule before or after the public hearing, but no later than November 18, 2002.

#### ADDRESSES:

##### Submission of Comments

The Department will accept comments, data, and information regarding the proposed rule before or after the public hearing, but no later than the date provided in the DATES section. All written comments should be addressed to Ms. Brenda Edwards-Jones, U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, EE-41, 1000 Independence Avenue, SW, Washington, DC, 20585-0121. DOE requests a signed original and a computer diskette or CD (WordPerfect™ 8) of the written comments. DOE will also accept electronically-mailed comments, e-mailed to *Brenda.Edwards-Jones@ee.doe.gov*, but you must also provide the Department with a signed hard copy of your comments. All envelopes and documents should be labeled, "Energy Conservation Program for Consumer Products: Test Procedures for Dishwashers, Docket No. EE-RM/TP-99-500."

Requests to make statements at the public hearing and copies of such statements should be addressed to Ms. Brenda Edwards-Jones at the following address: U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, EE-41, 1000 Independence Avenue, SW, Washington, DC 20585-0121. E-mail address: *Brenda.Edwards-Jones@ee.doe.gov*. The hearing will begin at 9 a.m. on Tuesday, October 22, 2002, in Room IE-245 at the U.S. Department of Energy, Forrestal Building, 1000 Independence Avenue, SW, Washington, DC 20585. For more information concerning public participation in this rulemaking proceeding, see section IV, "Public Comment," of this notice of proposed rulemaking.

Copies of the transcript of the public hearing, public comments received, and this notice of proposed rulemaking may be read at the Freedom of Information Reading Room (Room 1E-190) at the U.S. Department of Energy, Forrestal Building, 1000 Independence Avenue, SW, Washington, DC 20585, between

the hours of 9 a.m. and 4 p.m., Monday through Friday, except Federal holidays.

#### FOR FURTHER INFORMATION CONTACT:

Barbara Twigg, U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, EE-41, 1000 Independence Avenue, SW, Washington, DC 20585-0121, (202) 586-8714, email: *barbara.twigg@ee.doe.gov*; or Francine Pinto, Esq., U.S. Department of Energy, Office of General Counsel, GC-72, 1000 Independence Avenue, SW, Washington, DC 20585-0121, (202) 586-7432, email: *Francine.Pinto@HQMail.doe.gov*.

**SUPPLEMENTARY INFORMATION:** This notice of proposed rulemaking incorporates by reference the "American National Standard, Household Electric Dishwashers, ANSI/AHAM DW-1-1992," and the August 20, 1999 "Addendum to Appendix A of AHAM DW-1-1992" published by the Association of Home Appliance Manufacturers (AHAM). Copies of the standards to be incorporated by reference may be viewed at the Department of Energy's Freedom of Information Reading Room at the address stated above. You may also obtain copies of the referenced standard AHAM DW-1-1992, along with the 1999 Addendum, from the Association of Home Appliance Manufacturers, 1111 19th Street, NW, Suite 402, Washington, DC 20036, (202) 872-5955.

Information regarding this rulemaking is also available on the Office of Building Research and Standards Web site at the following address: [http://www.eren.doe.gov/buildings/codes\\_standards/index.htm](http://www.eren.doe.gov/buildings/codes_standards/index.htm)

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## I. Introduction

### A. Authority

Part B of Title III of the Energy Policy and Conservation Act of 1975 (EPCA or Act), Public Law 94–163, as amended by the National Energy Conservation Policy Act of 1978 (NECPA), Public Law 95–619, the National Appliance Energy Conservation Act of 1987 (NAECA), Public Law 100–12, the National Appliance Energy Conservation Amendments of 1988 (NAECA 1988), Public Law 100–357, and the Energy Policy Act of 1992 (EPACT), Public Law 102–486, established the Energy Conservation Program for Consumer Products Other Than Automobiles (Program). The products currently subject to this Program (“covered products”) include residential dishwashers, the subject of today’s notice.

Under the Act, the Program consists of three parts: testing, labeling, and the Federal energy conservation standards. Section 323 of EPCA requires the Department, in consultation with the National Institute of Standards and Technology (NIST), to establish or amend test procedures as appropriate for each of the covered products (42 U.S.C. 6293). The purpose of the test procedures is to measure energy efficiency, energy use, or estimated annual operating cost of a covered product during a representative average use cycle or period of use. The test procedure must not be unduly burdensome to conduct (42 U.S.C. 6293(b)(3)).

If a test procedure is amended, section 323(e)(1) of EPCA requires DOE to determine, in the rulemaking, to what

extent, if any, the new test procedure would change the measured energy efficiency or measured energy use of any covered product as determined under the existing test procedure (42 U.S.C. 6293(e)(1)). If DOE determines that the amended test procedure would change the measured energy efficiency or measured energy use of a covered product, DOE must amend the applicable energy conservation standard during the rulemaking that establishes the new test procedure. In setting the new energy conservation standard, section 323(e)(2) of EPCA requires DOE, with the new test procedure, to measure the energy efficiency or energy use of a representative sample of covered products that minimally comply with the existing standard. The average of such energy efficiency or energy use of these representative samples, determined under the new test procedure, shall constitute the amended energy conservation standard for the applicable covered products (42 U.S.C. 6293(e)(2)). Further, models of covered products in use the day before the new energy conservation standard becomes effective (or revisions of such models that come into use after such date and have the same energy efficiency or energy use characteristics) and which comply with the energy conservation standard applicable to such covered products on the day before the new standard becomes effective, shall be deemed to comply with the new energy conservation standard (42 U.S.C. 6293(e)(3)).

Beginning 180 days after an amended or new test procedure for a covered product is prescribed or established under EPCA section 323(b), no manufacturer, distributor, retailer, or private labeler may make any representation with respect to the energy use, efficiency, or cost of energy consumed by such product, unless such product has been tested in accordance with such amended or new DOE test procedure and such representation fairly discloses the results of such testing (42 U.S.C. 6293(c)(2)).

### B. Background

On December 18, 2001, the Department published a final rule for dishwashers that amended certain elements of the then-effective test procedure; the rule was made effective June 17, 2002 (66 FR 65091) (hereafter referred to as the “2001 final rule”). The 2001 final rule changed the definitions of compact and standard dishwasher models to use place setting capacity instead of width, reduced the representative average number of use cycles per year from 322 to 264, and

tightened testing specifications to improve testing repeatability. Although a new test procedure for soil-sensing dishwashers had been proposed in the Notice of Proposed Rulemaking (NOPR) published on September 28, 1999 (64 FR 52248), the 2001 final rule deferred action on finalizing a test procedure for soil-sensing or adaptive control models until additional research could be conducted in three areas. They were to: (1) Evaluate consumer behavior regarding the soil levels of typical dishwasher loads; (2) assess how consumer behavior concerning loading and rinsing could be translated into a representative soil load that could be used for repeatable and accurate testing; and (3) determine what kind of test procedure would best measure the energy and water consumption of dishwashers using a variety of soil-sensing technologies. Investigating and analyzing additional survey sources to update how often dishwashers are used was an additional goal.

Because the Department had learned that various research projects and surveys had already been conducted by manufacturers and others, we began an initiative to consolidate available information and determine whether such data were nationally significant and could be used to support the development of a new test procedure. However, because much of this information was considered proprietary by individual companies and entities and not publicly available, we hired an independent research organization, Arthur D. Little, Inc. (ADL), to collect all available surveys and studies and evaluate them for us. ADL (ADL’s Technology & Innovation Business is now known as TIAX) focused its research effort on the questions listed above, and presented its final report to DOE on December 18, 2001, entitled “Review of Survey Data to Support Revisions to DOE’s Dishwasher Test Procedure” (hereafter referred to as the ADL report). The report concluded that there was adequate, nationally significant information regarding consumer loading and pre-rinsing behavior, and presented recommendations regarding how a soil-based test procedure could be developed, using the existing consumer behavior data. On December 19, 2001, DOE posted the ADL report on the DOE Buildings Research and Standards website, along with a brief presentation of the type of soil test being considered for soil-sensing models. In the following weeks, we evaluated additional information and comments that we received as a result of our website

posting. ADL was directed to provide some additional detail on its analysis and on March 5, 2002, produced an addendum to the original report (hereafter referred to as the addendum). In formulating proposed revisions to the dishwasher test procedure, the Department has incorporated ADL's and stakeholder recommendations where appropriate. Both the ADL report and the addendum, which are the primary technical support documents for this rulemaking, have been placed in the docket and administrative record for this rulemaking.

### C. The Proposed Rule

Today's proposed rule contains several major revisions to the current dishwasher test procedure. Section II contains discussion concerning each of the proposed revisions. The major revisions are as follows:

1. Update the test procedure to reflect the decline in dishwasher use by reducing the representative average dishwasher use from 264 cycles per year to 215 cycles per year, based on more recent survey results.

2. Add new definitions:

- Non soil-sensing dishwashers
- Soil-sensing dishwashers
- Standby mode
- Sensor Heavy Cycle
- Sensor Light Cycle
- Sensor Medium Cycle
- Truncated Sensor Heavy Cycle
- Truncated Sensor Light Cycle
- Truncated Sensor Medium Cycle

3. Create a separate section in the test procedure for soil-sensing dishwashers, adopting a three-level soil test based on the American National Standard, Household Electric Dishwashers, ANSI/AHAM DW-1-1992 and the August 20, 1999 Addendum to Appendix A of AHAM DW-1-1992, collectively referred to in this notice as AHAM DW-1.

4. Require the measurement of the standby power consumption for both non soil-sensing and soil-sensing models, and incorporate this value in calculations for the estimated annual energy use and estimated annual energy cost. Add new instrumentation requirements and update existing requirements.

5. Require that both current and future soil-sensing models be tested using the soil-based test procedure.

## II. Discussion

### A. General Discussion

As appliance technology evolves, the Department must make sure that the applicable test procedures keep pace and provide reliable measures of energy

consumption. In the case of dishwashers, the introduction of soil-sensing models, which adjust the duration and number of fills of a wash cycle according to the amount of soil in the dish load, challenged the structure of the existing test procedure. That test procedure, which uses only clean dishes, was developed at a time when the thermal mass of the dish load and the cycle type were the only factors that influenced the energy consumption results of the test. However, with the introduction of soil-sensing machines, the clean test load no longer served to test the machines accurately because soil-sensing machines used more energy if soiled dishes were used than if clean dishes were used. The questions arose: How could soil-sensing machines be accurately tested? How could a "normal" cycle be defined?

DOE's first attempt at designing a more accurate test procedure focused on developing a formula to weight and average the highest and lowest levels of energy consumption that a soil-sensing dishwasher was capable of providing using the minimum and maximum sensor normal cycles, but without requiring that soiled dishes be used when testing the machines (presented in the September 28, 1999 NOPR). This possible test procedure, however, proved problematic in a number of ways, and discussion gradually moved toward the necessity of having a soil-based test, whereby the soil sensor would set the cycle based on a more realistic representation of consumer use. But a test procedure that actually used soiled dishes presented the difficult questions of how many soiled dishes should be used in the test and to what degree should the dishes be soiled? What kind of test load could represent the typical load of soiled dishes being placed into soil-sensing dishwashers by American consumers?

To determine the nature of this soil load, the Department contracted with ADL to evaluate available survey and technical information. Much of that information is proprietary and confidential, and was reported by ADL to the Department only in summary or aggregated form.<sup>1</sup> As a result, and while

<sup>1</sup> We recognize and support the goal of full disclosure of all information used in our rulemaking process. However, in order for DOE to effectively carry out its statutory and regulatory responsibilities, it sometimes is necessary or advisable for DOE to review and/or use information that is proprietary or otherwise confidential. In those cases, it is essential that DOE respect the proprietary needs of those who are willing to share their own data for limited use. Without such assurances of confidentiality, organizations often would not make their research or information available to us, ultimately adding to the expense

ADL's report to DOE will be fully disclosed and will be a part of the public administrative record for this NOPR, DOE neither has possession of nor has any ability to identify in this NOPR the particular proprietary and confidential information used by ADL to complete its report.

DOE tasked ADL to compile all available public and private studies of consumer dishwasher use and determine whether ADL believed that information was of sufficient quality and national significance to use in developing a new test procedure for soil-sensing dishwashers. ADL did find significant sources of data, and produced for DOE a report outlining a possible three-level test procedure based on three levels of soil. The energy consumption for each soil-sensing dishwasher at those three levels would be weighted according to the distribution of dishwasher soil levels obtained from consumer survey data. The resulting energy factors would reflect a weighted average of consumer use in the U.S. ADL also surveyed and evaluated available studies of frequency of use in order to produce information so that DOE can update the average number of use cycles per year and provide a more current representation of annual energy use and cost.

This notice defines the two types of dishwashers now in the marketplace, non soil-sensing and soil-sensing. It retains the original test procedure using clean dishes for non soil-sensing models, and presents a new test procedure for soil-sensing models, using soiled dishes, based on the ADL report. It also adds a procedure for measuring standby power consumption for both non soil-sensing and soil-sensing models, and reduces the number of use cycles per year to 215. The Department is especially interested in receiving comments regarding whether the proposed soil levels provide a realistic representation of consumer use.

### B. Changes in Consumer Practices—Representative Average Dishwasher Use

On December 18, 2001, the Department issued a final rule for dishwashers that reduced the representative average number of use cycles per year to 264, down from 322. In that final rule, the Department stated

and time needed for acquiring rulemaking data, as well as adversely impacting the quality of the rule eventually issued. In contracting with ADL, we asked ADL to use the best available expertise in appliance technology in order to evaluate, objectively and confidentially, all available data regarding the soil loads of dishwashers and their frequency of use.

it would consider any new data on dishwasher use in the future.

In its study, ADL evaluated six surveys that contained consumer usage information. ADL identified five as nationally representative of U.S. demographics (e.g., age, household size, income, location). Several surveys used bands to categorize dishwasher use per week (e.g., 4–6 times per week), indicating a range in the cycle numbers and contributing some uncertainty in the results. In its assessment, ADL points out that one of the surveys, the Energy Information Administration's Residential Energy Consumption Survey entitled, "A Look at Residential Energy Consumption in 1997," indicates that more than half of the U.S. households with a dishwasher use it less than four times per week (208 cycles per year). This extensive and nationally representative survey gives a good indication of the frequency of dishwasher use. Although the four remaining nationally representative surveys show a range of results for consumer use, they also support the overall trend that consumer dishwasher use is, on average, significantly lower than 264 cycles per year.

The ADL report states that "a revised number for the representative average-use cycles per year should be substantially less than the 264 in the interim rulemaking, but not less than 200 cycles per year." It goes on to recommend "reducing the average-use cycles per year for dishwashers into the range of 200 to 233 cycles per year." In the addendum to its report, ADL provided clarification on its methodology as to how it determined this range. ADL's recommendation of 200 to 233 cycles per year combined three approaches to analyzing the available data from five nationally representative surveys. The details of this approach can be found on page 13 of the addendum which is posted on our website and is available in the docket for this rulemaking. The Department reviewed the analysis and believes that because of the type of data available, the way that the surveys were conducted and the data presented, and the inherent variability of the consumer conduct at issue (i.e., dishwasher use by individual consumers), the range ADL recommends is appropriate. Because this range is appropriate but no definitive number within that range appears to be better than any other, the Department proposes to set the average use cycles, (factor "N" in the test procedure formula set forth in this NOPR), at 215 cycles per year. This number represents roughly the midpoint between the estimated range of the average use cycle

data presented in the ADL report. We believe it is appropriate to set the number of average use cycles at the midpoint in this range because there is no reason for DOE to believe, based on the data presented to it, that any one point in the range represents a more accurate estimate of average dishwasher use than any other.

#### C. New Definitions

This NOPR introduces a new test procedure for soil-sensing dishwashers. As a result, we have developed new definitions to differentiate between two types of dishwashers (non soil-sensing and soil-sensing), the conditions of the standby operation, and the conditions for the light, medium, and heavy tests of a soil-sensing dishwasher. These definitions are as follows:

- "*Non soil-sensing dishwasher*" means a dishwasher that does not have the ability to adjust automatically any energy consuming aspect of a wash cycle based on the soil load of the dishes.
- "*Soil-sensing dishwasher*" means a dishwasher that has the ability to adjust automatically any energy consuming aspect of a wash cycle based on the soil load of the dishes.
- "*Standby mode*" means the power consumption condition when the dishwasher is connected to the main electricity supply and the door lock is unlatched.
- "*Sensor heavy cycle*" means, for standard dishwashers, the set of operations in a soil-sensing dishwasher that constitutes the response for completely washing a load of dishes, four place settings of which are soiled. For compact dishwashers, this definition is the same, except that two soiled place settings are used instead of four.
- "*Sensor light cycle*" means, for both standard and compact dishwashers, the set of operations in a soil-sensing dishwasher that constitutes the response for completely washing a load of dishes, one place setting of which is soiled with half of the gram weight of soils for each item specified in a single place setting according to AHAM DW-1.
- "*Sensor medium cycle*" means, for standard dishwashers, the set of operations in a soil-sensing dishwasher that constitutes the response for completely washing a load of dishes, two place settings of which are soiled. For compact dishwashers, this definition is the same, except that one soiled place setting is used instead of two.
- "*Truncated sensor heavy cycle*" means the sensor heavy cycle interrupted to eliminate the power-dry

feature after the termination of the last rinse operation.

- "*Truncated sensor light cycle*" means the sensor light cycle interrupted to eliminate the power-dry feature after the termination of the last rinse operation.

- "*Truncated sensor medium cycle*" means the sensor medium cycle interrupted to eliminate the power-dry feature after the termination of the last rinse operation.

#### D. New Test Procedure for Soil-Sensing Dishwashers

The introduction of dishwashers using soil-sensing technology prompted the need to revise the current test procedure which does not accurately measure the energy consumption of models with variable cycles. Currently, there are several approaches to soil-sensing which include optical turbidity sensors, pressure-based sensors, and a new generation of laser-based sensors that is in development. The responses of these technologies vary, but in all cases, the soil-sensing dishwashers adjust the length and/or the severity of the washing cycle according to the amount of soil detected in the water. For example, if little or no soil is detected, a less severe wash cycle will be triggered; if a heavier soil load is detected, a more severe wash cycle will be triggered. The intent of the design is to use information to improve wash performance and reduce energy consumption when appropriate.

However, when soil-sensing dishwashers are tested with the current test procedure, which uses only clean dishes, the absence of soil invariably triggers a less severe cycle. Thus, the energy factors obtained are very high and do not reflect a dishwasher's performance (and thus its energy usage) when a soiled load of dishes is present. This leads to confusion for consumers seeking accurate measures of energy efficiency under normal use patterns; in fact, it leads to consumer decisions that are made based on demonstrably inaccurate information.

The test procedure for soil-sensing machines must provide reliable data which reflect performance with a typical load of dishes, while at the same time not unduly increasing the test burden for manufacturers. Establishing parameters for a typical load of dishes and for normal use is difficult because of the complex algorithms designed by manufacturers to respond to different soil levels. These algorithms for wash sequences are based on sensor data. The test procedure which we proposed in the September 1999 NOPR, based on a concept developed by AHAM,

attempted to average the energy consumed during both minimum and maximum wash cycles. However, manufacturers have since claimed that because of the different ways that varying sensor technologies perform, their machines cannot be adequately tested and compared using that procedure. As a result, DOE, NIST, and numerous stakeholders turned their attention to obtaining soiling and loading information useful for revising the dishwasher test procedure. Because of the flexibility of wash patterns from model to model, soil-based tests presented the most viable solution for representative energy testing.

AHAM DW-1 seemed a logical starting point for soil-based testing because these soil-based procedures were already used by industry. These procedures were originally developed as dishwasher performance evaluating tools to provide a repeatable test that could be reproduced in different laboratories. The procedures use a challenging soil load of specified foods to assess the washing and drying ability of dishwashers.

The AHAM performance testing procedures require the use of a standard test load of dishes, detergent, and rinse agent. Standard conditions for ambient temperature, water temperature, water pressure, and water hardness are all specified. The performance evaluation is based on a minimum of three runs on a dishwasher with a soiled load, set on the normal cycle. The quantity, brand, instruction for preparation, and order and location for the application of each soil used in the procedures are specified to maintain repeatability. A total of 13 different soils are applied within a one-hour period, followed by a two-hour drying period.

Because the AHAM performance test was developed to be a heavy soil test that challenged dishwasher cleaning performance, it is not representative of soil loads introduced under typical household use. Therefore, while the AHAM performance test was a logical starting point for developing a test procedure for soil-sensing dishwashers, the AHAM performance test was not itself suitable for a final test procedure. Instead, and recognizing the difficulty in developing a test procedure that is repeatable and realistic, DOE sought to extract elements from this AHAM performance test.

Before a test procedure could be drafted, it was necessary to gain an understanding of the different system responses of various soil-sensor models under soiled conditions, as well as research what amount of soil represents a "normal" soil level on dishes placed

in a dishwasher. DOE directed ADL to study consumer soiling and loading practices to determine what portion of the AHAM DW-1 soil load could be used to represent light, medium, and heavy soil levels. ADL analyzed the results of three available surveys, one of which, survey C, provided significantly more comprehensive data than the other two. The initial result of this analysis was based on weighted averages of the results of the three surveys. That approach led ADL to recommend that a greater mass of soil on dishes be selected to represent the light, medium, and heavy soil levels than if survey C were used alone. This recommendation was published in ADL's December 18, 2001 report and was posted on our website.

Following industry review and commentary on the method of the analysis, ADL produced for DOE an addendum to its earlier report on March 5, 2002. The addendum provides more detail on the initial analysis, demonstrates the comprehensiveness of survey C, analyzes additional data from survey C, and focuses on survey C as the primary basis for determining the portions of the AHAM DW-1 soil load that could be used to represent light, medium, and heavy soil levels.

The addendum provides additional data and methodology from survey C. It states that survey C collected and analyzed an extensive set of photographs of actual soiled dish loads from participating households. The photographs of each soiled dish load were compared against a Likert scale<sup>2</sup> and received Likert scale ratings that ranged from 2 to 10. The range of Likert scale ratings was divided into three soil levels—light, medium, and heavy. Likert scale ratings of 3, 6, and 10 were selected as representative of the light, medium, and heavy soil levels, respectively. The distribution of the Likert scale ratings showed that each of the selections—3, 6, and 10—represented more than half of the data within each of the three soil levels. The selection of 10 as representative of the heavy soil level was shown to be particularly conservative given that for

<sup>2</sup> Likert scale: a response scale developed by Rensis Likert for assessing opinions and usually consisting of five or more categories; used here as an analysis tool to assess the following issue: "How soiled are the dishes in the consumers' dishwasher loads?" From the large set of photographic data, the bottom of the scale was defined by assigning one of the photos showing the lowest level of soil as the comparison point for a score of 1. Conversely, the top of the scale was defined by assigning one of the photos showing the highest level of soil as the comparison point for a score of 5. The scores in between—2, 3, and 4—were defined similarly and represent increasing levels of soil.

the heavy soil level, the Likert scale rating of 8 represented over 75 percent of the data.

In the next step of the methodology from survey C, a minimum of 10 sets of photographs from each of the Likert scale ratings of 3, 6, and 10 were analyzed by a professional home economist. The professional home economist recreated the dish loads in the photographs using AHAM DW-1 soils and then weighed the amount of AHAM DW-1 soils on the recreated dish loads.

Using this information, the mass of food soils was translated into the corresponding number of soiled place settings for each level, according to AHAM DW-1. This translation was based on the fact that the AHAM DW-1 soiling procedure specifies approximately 31.3 grams of food soils per place setting. The result of this analysis, as listed in the ADL addendum, showed that a light soil level for standard dishwashers could be approximated by one-half of a single soiled AHAM DW-1 place setting; a medium soil level could be approximated by two soiled AHAM DW-1 place settings; and a heavy soil level could be approximated by four soiled AHAM DW-1 place settings.

DOE believes that this analysis of soil levels is based on the best available information and therefore proposes that the energy test procedure load of dishes for standard soil-sensing dishwashers be defined according to AHAM DW-1 with eight place settings of dishes, serving pieces, and flatware, soiled per the light, medium, and heavy cycle definitions proposed in this notice. It is noted that the reference to the AHAM DW-1 place settings refers to the ANSI/AHAM DW-1-1992 standard as well as the August 20, 1999 "Addendum to Appendix A of AHAM DW-1-1992" which provides more details regarding a source of acceptable dishware for testing. Both the standard and the addendum will be incorporated by reference in this proposed new test procedure rule.

For compact dishwashers, the typical loading capacity is half of the loading capacity of standard dishwashers. Therefore, the Department proposes to base the test load for compact soil-sensing dishwashers on a total of four AHAM DW-1 place settings. In addition, the soil load for the medium and heavy soil levels are reduced to half that of the soil load for standard dishwashers, proportional to its smaller capacity. However, the Department proposes to maintain the one-half place setting soil load to represent the light soil level because of the small amount of soil involved. Therefore, the soil load

for the light soil level for compact dishwashers is approximated by one-half of a single soiled AHAM DW-1 place setting, achieved by applying half of the gram weight of soils to each dishware item; a medium soil level is approximated by one soiled AHAM DW-1 place setting; and a heavy soil level is approximated by two soiled AHAM DW-1 place settings. Thus, the energy test load is defined according to AHAM DW-1 with four place settings of dishes, serving pieces, and flatware, soiled per the light, medium, and heavy definitions.

The new test procedure requires that the machine wash cycle responses under each of these soil levels are then multiplied by weighting factors representing the frequency of use for each soil level to calculate an energy factor for the dishwasher model that would represent its normal energy efficiency. The energy consumption for each of the three tests (*i.e.*, sensor heavy, sensor light, and sensor medium for soil-sensing dishwashers) would be measured and calculated in the same way as the existing test procedure. However, the machine energy and water energy components for a soil-sensing dishwasher would be based on a weighted average of the three energy consumption tests, according to the frequency with which light, medium, and heavy loads are washed.

From available survey data, ADL determined the following weighting factors, drawn from the distribution of U.S. households in the three soil level categories—62% light level of soil, 33% medium, and 5% heavy. The resulting equation for the machine energy,  $M$ , for soil-sensing dishwashers is:

$$M = (M_{hc} \times F_{hc}) + (M_{mc} \times F_{mc}) + (M_{lc} \times F_{lc})$$

The resulting equation for the amount of water used,  $V$ , for soil-sensing dishwashers is:

$$V = (V_{hc} \times F_{hc}) + (V_{mc} \times F_{mc}) + (V_{lc} \times F_{lc})$$

Based on the ADL report and addendum, and the available relevant and reliable data, DOE believes that the percentages used in the proposed rule represent the best possible estimate of how consumers currently use dishwashers, weighting the equation toward light loads that are significantly pre-rinsed. However, because all dishwashers are designed to wash heavy loads successfully without pre-rinsing, it is possible that in coming years, as consumers learn that pre-rinsing generally is unnecessary, dishwashers will encounter a higher percentage of heavy loads. Consumers Union stressed this point in a comment which emphasized the water and energy lost to

pre-rinsing, and the need for public information to reduce this wasteful practice. If educational campaigns successfully decrease the preponderance of pre-rinsing, and the Department becomes aware of reliable data documenting that change in behavior, the Department will consider reevaluating consumer usage patterns and making appropriate adjustments to the weighting factors or any other elements of the proposed test procedure. But for now, our test procedure must be based on the best approximation of how dishwashers are currently used.

The proposed test procedure requires the use of both the type and quantity of detergent and rinse agent specified in AHAM DW-1. This requirement can be found in section 2.7 of the test procedure. The test procedure also specifies the order of the tests, requiring the test of the heavy cycle to be conducted first, followed by the test of the medium cycle, and finally the test of the light cycle. This order was chosen because the Department is aware that for some models, the cycle response may be influenced by the previous wash cycle used. For those machines, this order selection would capture any additional energy use.

#### *E. New Test Procedure for Standby Power*

The existing test procedure for dishwashers was designed to measure energy consumption only during the normal wash cycle. However, many dishwasher manufacturers have shifted from electro-mechanical controls to controls using transformers and microprocessors to provide more advanced features in their high end dishwasher models (*e.g.*, innovative soil-sensing control schemes and displays). Thus, the market is seeing an increased percentage of models which consume standby power.

The energy consumption of standby power has gained additional attention through Executive Order 13221, "Energy Efficient Standby Power Devices," issued July 31, 2001 (66 FR 40571), which added standby power usage to Federal purchasing criteria for commercially available products. Since EPCA defines the estimated annual operating cost (EAOC) of a covered product as "the aggregate retail cost of the energy which is likely to be consumed annually \* \* \* in representative use of a consumer product," EPCA section 321(7), 42 U.S.C. 6291(7), the Department proposes to require that the measurement of standby power consumption for dishwashers be included in the EAOC. Additionally, standby power would be

included in the estimated annual energy use (EAEU) calculations, a reporting value used in calculating the EAOC. It would not at this time, however, be included in the energy factor, since the energy factor has traditionally measured only the amount of energy consumed during the running of the test wash cycle(s). From the data that we have initially seen, we believe the amount of standby power use to be a small percentage of overall dishwasher energy use (probably between one and five percent). However, we will collect data on dishwasher standby power consumption in order to evaluate it further, for possible incorporation into the energy factor in the future.

The standby energy measurement procedure requires that the dishwasher be connected to a high resolution watt meter and the dishwasher set to the standby mode. The standby energy consumption must be measured over an interval of at least five minutes. The resulting value for average power in watts in the standby mode,  $S_m$ , is then multiplied by the nominal number of standby hours and divided by 1000 to obtain the units of kilowatt-hours. The nominal value for the number of standby hours was obtained as follows:

First calculate the total number of hours per year,  $H$ , taking into account leap years.

$$H = (365.25 \text{ days/year} \times 24 \text{ hours/day}) = 8766 \text{ hours/year}$$

Then calculate the number of standby hours per year, based on the normal/sensor medium cycle duration where  $L$  is defined as the duration of the normal cycle in hours or fractions of an hour for tests of non soil-sensing dishwashers or the duration of the sensor medium cycle for tests of soil-sensing dishwashers.

$$H_s = H - (215 \text{ cycles/year} \times L)$$

With these inputs, the calculation for annual standby power use,  $S$ , is completed using

$$S = S_m \times ((H_s)/1000).$$

Once the value,  $S$ , is known, the calculation for the estimated annual operating cost (EAOC) can be completed as follows:

$$EAOC + (D_e \times S) + (D_e \times N \times M)$$

where,

$N$  is the annual dishwasher use = 215 cycles per year as discussed in section B of this notice, and  $D_e$  is the price of electricity in dollars per kWh.

This modification will give consumers a more complete estimate of their annual energy costs.

#### *F. Instrumentation Requirements*

As a result of the proposed changes set forth in this NOPR, there would be

requirements for additional instrumentation used in the test procedure. These new requirements would include an additional watt or watt-hour meter for measuring standby power and a timer for measuring the duration of the cycle. The specifications for each of these instruments are listed below.

**3.2 Timer.** Time measurements for each monitoring period shall be accurate to within 2 seconds.

**3.5 Standby power meter.** The watt/watt-hour meter must have a resolution of 0.1 watt or less at 1.0 watt actual power consumption and accumulate into watt-hours at a minimum power level of 20 milliwatts. The watt/watt-hour meter must be capable of operating within the stated tolerances for input voltages at up to five percent total harmonic distortion and shall be capable of operating at frequencies from 47 hertz through 63 hertz. Power measurement instruments shall have a crest factor of not less than five at RMS currents of two amps or less.

In addition, we propose modifying the wording of the electrical energy supply requirements. We propose changing the supply requirement from "115 volts" to "120 volts  $\pm$  2%" and from "240 volts" to "240 volts  $\pm$  2%." This change to 120 volts will better approximate most manufacturers' installation instructions and also adds a range to the voltage specification. DOE requests comment on whether these ranges are appropriate as testing requirements. The proposed new test is as follows:

**2.2.1 Dishwashers that operate with an electrical supply of 120 volts.** Maintain the electrical supply to the dishwasher at no less than 120 volts  $\pm$  2% and within one percent of the nameplate frequency as specified by the manufacturer.

**2.2.2 Dishwashers that operate with an electrical supply of 240 volts.** Maintain the electrical supply to the dishwasher at 240 volts  $\pm$  2% and within one percent of its nameplate frequency as specified by the manufacturer.

### G. Impact of Test Procedure Revisions

Section 323(e) of EPCA requires that the Department, in a rulemaking, determine to what extent, if any, a proposed test procedure will alter the energy efficiency or energy use of any covered product as measured under the existing test procedure. If DOE determines that an amended test procedure would alter the energy efficiency or energy use of a covered product as measured, DOE is required to measure the energy efficiency or energy use of representative samples of covered products which minimally comply with the existing standard. The average efficiency of these representative samples, tested using the amended test

procedure, will constitute the amended standard (42 U.S.C. 6293(e)(2)). This statutory provision is designed to prevent alteration of an existing Federal energy conservation standard through a change in a test procedure. It seeks to ensure that products in compliance with the applicable energy conservation standard under the existing test procedure will not be out of compliance because the test procedure has been amended.

In this NOPR, the primary revisions to the dishwasher test procedure are the inclusion of new measurements of standby power, the reduction in annual cycles of use, and the addition of a new soil-based test method for soil-sensing dishwashers. The addition of standby power measurements will not affect the compliance of any dishwashers with existing energy conservation standards because the Department does not propose requiring that standby power consumption be added into the calculation for a dishwasher's energy factor. The energy factor is the energy descriptor that measures the energy efficiency for dishwashers in tests of the normal cycle. Instead, standby power consumption is only included in the EAOC and in the EAEU. These two values do not have an impact on model compliance with the currently-effective minimum energy standard for either non soil-sensing or soil-sensing models. Similarly, annual cycles of use are used to calculate EAOC and EAEU and are not included in energy factor.

Accordingly, these two changes in the proposed test procedure do not alter either the energy efficiency or energy use as measured for all dishwashers and therefore no amendment to the energy conservation standard is required under section 323(e) based on these proposed changes.

The third change, the new soil-based test method, will only be used for testing soil-sensing machines. Because non soil-sensing machines will still be tested using clean dishes, their energy factors will not change, and their compliance with the standard will not be affected. Soil testing, however, is expected to alter the energy factors of soil-sensing models. We understand that models using soil-sensing technology are generally more efficient than non soil-sensing models. Hence, at this time, under the existing test procedure, many soil-sensing dishwashers have been labeled Energy Star products and we expect that they will continue to be in compliance with the current standard when tested under the proposed test procedure.

However, stakeholders have agreed that the existing test procedure cannot

accurately test dishwasher models with the soil-sensing technology. In fact, under the existing test procedure, soil-sensing models show results that are overrated, that is, they inaccurately show higher energy factors than they would if tested with a soil load. For this reason, the parties have diligently worked together to design a new test procedure that can specifically measure the results of dishwashers with this particular technology.

Under section 323(e) of EPCA, the Department is required to amend the applicable energy conservation standard in certain circumstances. As set forth in section 323(e) of EPCA, DOE will use the amended test procedure set forth in this NOPR to test a representative sample of soil-sensing models that are identified as minimally compliant with the existing energy conservation standard. Subsequent to the testing, the Department will make such test results available for comment. If the results of such testing demonstrate that certain models will become noncompliant due to the amended test procedure, the average efficiency of the representative sample tested using the amended test procedure will constitute the amended standard for those models. In order to perform this analysis, the Department requests that manufacturers provide the Department with information properly identifying soil-sensing dishwasher models that minimally comply with energy conservation standards when tested with the currently-effective test procedure.

### H. Representation Requirements

Consistent with Section 323(c)(2) of EPCA (42 U.S.C. 6293(c)(2)), all manufacturers, distributors, retailers, or private labelers have 180 days from the date a new or amended test procedure is prescribed or established to ensure that any representation with respect to energy use or efficiency or cost of energy consumed by a covered product fairly discloses the results from testing under the new or amended test procedure. This 180-day period may be extended for up to an additional 180 days if the Secretary determines that the requirements of section 323(c)(2) of EPCA would impose undue hardship.

The Department has the responsibility to ensure that these covered products are accurately rated and that manufacturers are in compliance with the energy conservation standard. Due to the unusual circumstances concerning the testing of dishwashers, DOE plans at some future time to require manufacturers to produce reports concerning the testing of soil-sensing models pursuant to the

amended test procedure. The Department has the authority to request such reports pursuant to EPCA section 326(d)(1). We will request such reports in a manner designed to minimize unnecessary burdens on manufacturers (42 U.S.C. 6296(d)(2)). We request comment from stakeholders concerning the appropriate timing of DOE's future request and how DOE can minimize the burden on manufacturers.

The Secretary of Energy has approved issuance of this NOPR.

### III. Procedural Requirements

#### A. Review Under the National Environmental Policy Act of 1969

In this proposed rule, the Department proposes amendments to test procedures that may be used to implement future energy conservation standards for dishwashers. The Department has reviewed the proposed rule under the National Environmental Policy Act of 1969 (NEPA), 42 U.S.C. 4321 *et seq.*, the regulations of the Council on Environmental Quality, 40 CFR parts 1500–1508, the Department's regulations for compliance with NEPA, 10 CFR part 1021, and the Secretarial Policy on the National Environmental Policy Act (June 1994). The Department has determined that this rule falls into a class of actions that are categorically excluded from review under NEPA. This rule will not affect the quality or distribution of energy usage and, therefore, will not result in any environmental impacts. The Department has therefore determined that the proposed rule is covered by Categorical Exclusion A5, for rulemakings that interpret or amend an existing rule without changing the environmental effect, as set forth in the Department's NEPA regulations in Appendix A to Subpart D, 10 CFR part 1021. Accordingly, neither an environmental impact statement nor an environmental assessment is required.

#### B. Review Under Executive Order 12866, "Regulatory Planning and Review"

This regulatory proposal is not a "significant regulatory action" as defined in section 3(f) of Executive Order 12866, "Regulatory Planning and Review" 58 FR 51735 (October 4, 1993). Accordingly, the proposed action is not subject to review under the Executive Order by the Office of Information and Regulatory Affairs (OIRA), Office of Management and Budget.

#### C. Review Under Executive Order 13211, "Action Concerning Regulations That Significantly Affect Energy Supply, Distribution or Use"

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 OIRA a Statement of Energy Effects for any proposed significant energy action. A "significant energy action" is defined as any action by an agency that promulgates or is expected to lead to the 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 proposed rule will 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.

#### D. Review Under the Regulatory Flexibility Act

The Regulatory Flexibility Act, 5 U.S.C. 601–612, requires that an agency prepare an initial regulatory flexibility analysis for any rule, for which a general notice of proposed rulemaking is required, that would have a significant economic effect on small entities unless the agency certifies that the proposed rule, if promulgated, will not have a significant economic impact on a substantial number of small entities. 5 U.S.C. 605.

This proposed rule prescribes test procedures that will be used to test compliance with energy conservation standards and labeling. The proposed rule affects dishwasher test procedures and would not have a significant economic impact, but rather would provide common testing methods. Therefore DOE certifies that the proposed rule would not have a "significant economic impact on a substantial number of small entities," and the preparation of a regulatory flexibility analysis is not warranted.

#### E. Review Under Executive Order 13132, "Federalism"

Executive Order 13132, "Federalism," (64 FR 43255, August 4, 1999), requires that regulations, rules, legislation, and any other policy actions be reviewed for any substantial direct effects on States, on the relationship between the Federal Government and the States, or in the distribution of power and responsibilities among various levels of government. If there are substantial direct effects, then this Executive Order requires preparation of a Federalism assessment to be used in all decisions involved in promulgating and implementing a policy action.

The proposed rule published today would not regulate or otherwise affect the States. Accordingly, DOE has determined that preparation of a Federalism assessment is unnecessary.

#### F. Review Under Executive Order 12630, "Governmental Actions and Interference With Constitutionally Protected Property Rights"

DOE has determined pursuant to Executive Order 12630, "Governmental Actions and Interference with Constitutionally Protected Property Rights," (52 FR 8859, March 18, 1988), that this regulatory proposal would not result in any takings which might require compensation under the Fifth Amendment to the United States Constitution.

#### G. Review Under the Paperwork Reduction Act

No new information or record keeping requirements are imposed by this rulemaking. Accordingly, no OMB clearance is required under the Paperwork Reduction Act, 44 U.S.C. 3501 *et seq.*

#### H. Review Under Executive Order 12988, "Civil Justice Reform"

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 Executive 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. With regard to the review required by sections 3(a) and 3(b) of the Executive Order, Executive agencies must 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 the Executive Order requires agencies to review regulations in light of applicable standards in sections 3(a) and 3(b) to determine whether they are met or it is unreasonable to meet one or more of them.

DOE reviewed today's proposed rule under the standards of section 3 of the Executive Order and determined that, to the extent permitted by law, the proposed regulations meet the requirements of those standards.

#### *I. 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 of Energy must comply with section 32 of the Federal Energy Administration Act of 1974, as amended by the Federal Energy Administration Authorization Act of 1977. 15 U.S.C. 788. Section 32 provides in essence that, where a proposed rule contains or involves use of commercial standards, the notice of proposed rulemaking must inform the public of the use and background of such standards.

The rule proposed in this notice incorporates one commercial standard, "ANSI/AHAM DW-1-1992, and the August 20, 1999 "Addendum to Appendix A of AHAM DW-1-1992." The standard specifies the type and quantity of foods that will be used to soil place settings of dishes in this test procedure. The addendum provides more details regarding a source of acceptable dishware for testing. The Department has evaluated this standard and is unable to conclude whether it fully complies with the requirements of section 32(b) of the Federal Energy Administration Act, *i.e.*, that the standard was developed in a manner that fully provides for public participation, comment and review.

As required by section 32(c) of the Federal Energy Administration Act, the Department will consult with the Attorney General and the Chairman of the Federal Trade Commission concerning the impact of this standard on competition, prior to prescribing a final rule.

#### *J. Review Under the Unfunded Mandates Reform Act of 1995*

Section 202 of the Unfunded Mandates Reform Act of 1995 ("Unfunded Mandates Act") requires that the Department prepare a budgetary impact statement before promulgating a rule that includes a Federal mandate that may result in expenditure by state, local, and tribal governments, in the aggregate, or by the private sector, of \$100 million or more in any one year. The budgetary impact statement must include: (i) Identification of the Federal law under which the rule is promulgated; (ii) a qualitative and quantitative assessment of anticipated costs and benefits of the Federal mandate and an analysis of the extent to which such costs to state, local, and tribal governments may be paid with Federal financial assistance; (iii) if feasible, estimates of the future compliance costs and of any disproportionate budgetary effects the mandate has on particular regions, communities, non-Federal units of government, or sectors of the economy; (iv) if feasible, estimates of the effect on the national economy; and (v) a description of the Department's prior consultation with elected representatives of state, local, and tribal governments and a summary and evaluation of the comments and concerns presented.

The Department has determined that the action proposed today does not include a Federal mandate that may result in estimated costs of \$100 million or more to State, local or to tribal governments in the aggregate or to the private sector. Therefore, the requirements of Sections 203 and 204 of the Unfunded Mandates Act do not apply to this action.

#### *K. Review Under the Treasury and General Government Appropriations Act, 1999*

Section 654 of the Treasury and General Government Appropriations Act, 1999 (Pub. L. No. 105-277) requires Federal agencies to issue a Family Policymaking Assessment for any proposed rule or policy that may affect family well-being. Today's proposed 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.

### **IV. Public Comment**

#### *A. Attendance at Public Hearing*

You will find the time and place of a public hearing listed at the beginning of

this notice of proposed rulemaking. If you would like to attend the public hearing, please notify Ms. Brenda Edwards-Jones at (202) 586-2945. Foreign nationals visiting DOE Headquarters are subject to advance security screening procedures. If you are a foreign national and wish to participate in the meeting, please inform DOE of this fact as soon as possible by contacting Ms. Brenda Edwards-Jones so that the necessary procedures can be completed.

#### *B. Procedure for Submitting Requests to Speak*

We invite any person who has an interest in today's notice, or who is a representative of a group or class of persons that has an interest in these issues, to request an opportunity to make an oral presentation. You may hand deliver requests to speak, along with a computer diskette or CD (WordPerfect™ 8), to the address indicated at the beginning of this notice of proposed rulemaking between the hours of 8 a.m. and 4 p.m., Monday through Friday, except Federal holidays. You may also send them by mail or e-mail to Brenda.Edwards-Jones@ee.doe.gov.

The person making the request should state why he or she, either individually or as a representative of a group or class of persons, is an appropriate spokesperson, briefly describe the nature of the interest in this rulemaking, and provide a telephone number for contact. We request each person selected to be heard to submit an advance copy of his or her statement no later than Tuesday, October 8, 2002. At our discretion, we may permit any person who cannot do this to participate if that person has made alternative arrangements with the Office of Building Research and Standards in advance. The request to give an oral presentation should ask for such alternative arrangements.

#### *C. Conduct of Hearing*

DOE will designate a DOE official to preside at the hearing and we may also use a professional facilitator to facilitate discussion. The meeting will not be a judicial or evidentiary-type hearing, but DOE will conduct it in accordance with 5 U.S.C. 553 and Section 336 of EPCA and a court reporter will be present to record the transcript of the proceedings. We reserve the right to schedule the presentations by hearing participants, and to establish the procedures governing the conduct of the hearing. Following the hearing, we will provide an additional comment period, during which interested parties will have an

opportunity to comment on the proceedings at the hearing, as well as on any aspect of the rulemaking.

The hearing will be conducted in an informal, conference style. We will present summaries of comments received before the hearing, allow time for presentations by participants, and encourage all interested parties to share their views on issues affecting this rulemaking. DOE will permit each participant to make a prepared general statement, (with time limit as determined by DOE), prior to the discussion of specific topics. DOE will permit other participants to comment briefly on any general statements.

At the end of all prepared statements on a topic, DOE will permit each participant to clarify his or her statement briefly and comment on statements made by others. Participants should be prepared to answer questions by DOE and by other participants concerning these issues. DOE representatives may also ask questions of participants concerning other matters relevant to the hearing. The official conducting the hearing will accept additional comments or questions from those attending, as time permits. The presiding official will announce any further procedural rules, or modification of the above procedures, needed for the proper conduct of the hearing.

We will make the entire record of this proposed rulemaking, including the transcript from the hearing, available for inspection in DOE's Freedom of Information Reading Room. Any person may purchase a copy of the transcript from the transcribing reporter.

#### *D. Issues on Which Comments Are Requested*

The Department of Energy is interested in receiving comments and/or data concerning the feasibility, workability, and appropriateness of the test procedure proposed in this notice. We also welcome discussion on improvements or alternatives to this approach. We are especially interested in any data and comment regarding:

(1) The frequency with which dishwasher loads are pre-rinsed;  
 (2) The amount and type of soil representing typical dish loads;  
 (3) Improving the repeatability of soil tests and minimizing test burden;  
 (4) The average number of dishwasher cycles consumers run each year;  
 (5) Any soil-sensing dishwashers adversely affected by the new test procedure and information identifying minimally compliant soil-sensing models;

(6) The method used to include standby power in the annual energy use calculations;

(7) Suggestions concerning the appropriate time frame and ways the Department can minimize the burden on manufacturers when it requests reports pursuant to EPCA section 326 (d)(1) relating to the testing of soil-sensing models under the new test procedure;

(8) Comments on whether the tolerance for the voltage specifications are attainable without undue burden, or whether they should be modified; and  
 (9) Possible alternatives to the definition of standby mode.

In addition to these test procedure issues, we are interested in hearing comment on possible future strategies to capture greater efficiency benefits with dishwashers and to maintain and update this test procedure, as dishwasher technology and consumer dishwasher use evolve. We are especially interested in comment on the following:

(1) Assessing the energy impact of pre-rinsing dishes and the energy saving opportunities of greater utilization of dishwashers, without pre-rinsing dishes.

(2) Supporting industry efforts to update and maintain the AHAM DW-1.

(3) Maintaining the correct percentages for the weighting factors in the energy consumption formulas through follow-up assessments of households' dishwasher usage habits regarding soil loads.

#### **List of Subjects in 10 CFR Part 430**

Administrative practice and procedure, Energy conservation, Household appliances, Incorporation by reference.

Issued in Washington, DC, on August 27, 2002.

**David K. Garman,**

*Assistant Secretary, Energy Efficiency and Renewable Energy.*

For the reasons set forth in the preamble, the Department proposes to amend Part 430 of Chapter II of Title 10, Code of Federal Regulations, as follows:

#### **PART 430—ENERGY CONSERVATION PROGRAM FOR CONSUMER PRODUCTS**

1. The authority citation for part 430 continues to read as follows:

**Authority:** 42 U.S.C. 6291-6309; 28 U.S.C. 2461 note.

2. Section 430.22 is amended in subpart B by revising paragraph (b)(7) to read as follows:

#### **§ 430.22 Reference Sources.**

\* \* \* \* \*

(b) \* \* \*

(7) Association of Home Appliance Manufacturers, 1111 19th Street, NW, Suite 402, Washington, DC 20036, (202)

872-5955, "American National Standard, Household Electric Dishwashers, ANSI/AHAM DW-1-1992" and the August 20, 1999 "Addendum to Appendix A of AHAM DW-1-1992," hereinafter collectively referred to as AHAM DW-1.

\* \* \* \* \*

3. Section 430.23 of subpart B is amended by revising paragraph (c) to read as follows:

§ 430.23 Test procedures for the measurement of energy and water consumption.

\* \* \* \* \*

(c) *Dishwashers.* (1) The estimated annual operating cost (EAO) for dishwashers must be rounded to the nearest dollar per year and is defined as follows:

(i) When cold water (50 °F) is used,

(A) For dishwashers having a truncated normal cycle as defined in section 1.15 of Appendix C to this subpart,

$$EAO = (D_e \times S) + (D_e \times N \times (M - (E_D / 2)))$$

(B) For dishwashers not having a truncated normal cycle,

$$EAO = (D_e \times S) + (D_e \times N \times M)$$

where,

$D_e$  = the representative average unit cost of electrical energy in dollars per kilowatt-hour as provided by the Secretary,

$S$  = the annual standby electrical energy in kilowatt-hours per year and determined according to section 5.5 of Appendix C to this subpart,

$N$  = the representative average dishwasher use of 215 cycles per year,

$M$  = the machine electrical energy consumption per-cycle for the normal cycle as defined in section 1.6 of Appendix C to this subpart, in kilowatt-hours and determined according to section 5.1 of Appendix C to this subpart,

$E_D$  = the energy consumed after the normal cycle is interrupted to eliminate the power dry feature after the termination of the last rinse option.

(ii) When electrically-heated water (120 °F or 140 °F) is used,

(A) For dishwashers having a truncated normal cycle as defined in section 1.15 of Appendix C to this subpart,

$$EAO = (D_e \times S) + (D_e \times N \times (M - (E_D / 2))) + (D_e \times N \times W)$$

(B) For dishwashers not having a truncated normal cycle,

$$E_{AOC} = (D_e \times S) + (D_e \times N \times M) + (D_e \times N \times W)$$

where,

$D_e$ ,  $S$ ,  $N$ ,  $M$ , and  $E_D$  are defined in paragraph (c)(1)(i) of this section, and

$W$  = the total water energy consumption per cycle for the normal cycle as defined in section 1.6 of Appendix C to this subpart, in kilowatt-hours per cycle and determined according to section 5.3 of Appendix C to this subpart.

(iii) When gas-heated or oil-heated water is used,

(A) For dishwashers having a truncated normal cycle as defined in section 1.15 of Appendix C to this subpart,

$$E_{AOC_g} = (D_e \times S) + (D_e \times N \times (M - (E_D/2))) + (D_g \times N \times W_g)$$

(B) For dishwashers not having a truncated normal cycle,

$$E_{AOC_g} = (D_e \times S) + (D_e \times N \times M) + (D_g \times N \times W_g)$$

where,

$D_e$ ,  $S$ ,  $N$ ,  $M$ , and  $E_D$  are defined in paragraph (c)(1)(i) of this section,  $D_g$  = the representative average unit cost in dollars per Btu for gas or oil, as appropriate, as provided by the Secretary, and

$W_g$  = the total water energy consumption per cycle for the normal cycle as defined in section 1.6 of Appendix C to this subpart, in Btu's per cycle and determined according to section 5.4 of Appendix C to this subpart.

(2) The energy factor for dishwashers,  $EF$ , expressed in kilowatt-hours per cycle is defined as follows:

(i) When cold water (50 °F) is used,

(A) For dishwashers having a truncated normal cycle as defined in section 1.15 of Appendix C to this subpart,

$$EF = 1/(M - (E_D/2))$$

(B) For dishwashers not having a truncated normal cycle,

$$EF = 1/M$$

where,

$M$ , and  $E_D$  are defined in paragraph (c)(1)(i) of this section.

(ii) When electrically-heated water (120 °F or 140 °F) is used,

(A) For dishwashers having a truncated normal cycle as defined in section 1.15 of Appendix C to this subpart,

$$EF = 1/(M - (E_D/2) + W)$$

(B) For dishwashers not having a truncated normal cycle,

$$EF = 1/(M + W)$$

where,

$M$ , and  $E_D$  are defined in paragraph (c)(1)(i) of this section, and  $W$  is

defined in paragraph (c)(1)(ii) of this section.

(3) The estimated annual energy use,  $E_{AEU}$ , expressed in kilowatt-hours per year is defined as follows:

(i) For dishwashers having a truncated normal cycle as defined in section 1.15 of Appendix C to this subpart,

$$E_{AEU} = (M - (E_D/2) + W + S)$$

where,

$M$ ,  $E_D$  and  $S$  are defined in paragraph (c)(1)(i) of this section, and  $W$  is defined in paragraph (c)(1)(ii) of this section.

(ii) For dishwashers not having a truncated normal cycle,

$$E_{AEU} = (M + W + S)$$

where

$M$  and  $S$  are defined in paragraph (c)(1)(i) of this section, and  $W$  is defined in paragraph (c)(1)(ii) of this section.

(4) Other useful measures of energy consumption for dishwashers are those which the Secretary determines are likely to assist consumers in making purchasing decisions and which are derived from the application of Appendix C to this subpart.

\* \* \* \* \*

4. Appendix C to Subpart B of Part 430 is revised to read as follows:

#### **Appendix C to Subpart B of Part 430—Uniform Test Method for Measuring the Energy Consumption of Dishwashers**

##### **1. Definitions:**

1.1 “*AHAM*” means the Association of Home Appliance Manufacturers.

1.2 “*Compact dishwasher*” means a dishwasher that has a capacity less than eight place settings plus six serving pieces as specified in AHAM DW-1 (see § 430.22).

1.3 “*Cycle*” means a sequence of operations of a dishwasher which performs a complete dishwashing function, and may include variations or combinations of washing, rinsing, and drying.

1.4 “*Cycle type*” means any complete sequence of operations capable of being preset on the dishwasher prior to the initiation of machine operation.

1.5 “*Non soil-sensing dishwasher*” means a dishwasher that does not have the ability to adjust automatically any energy consuming aspect of a wash cycle based on the soil load of the dishes.

1.6 “*Normal cycle*” means the cycle type recommended by the manufacturer for completely washing a full load of normally soiled dishes including the power-dry feature.

1.7 “*Power-dry feature*” means the introduction of electrically generated heat into the washing chamber for the purpose of improving the drying performance of the dishwasher.

1.8 “*Preconditioning cycle*” means any cycle that includes a fill, circulation, and drain to ensure that the water lines and sump area of the pump are primed.

1.9 “*Sensor heavy cycle*” means, for standard dishwashers, the set of operations

in a soil-sensing dishwasher that constitutes the response for completely washing a load of dishes, four place settings of which are soiled. For compact dishwashers, this definition is the same, except that two soiled place settings are used instead of four.

1.10 “*Sensor light cycle*” means, for both standard and compact dishwashers, the set of operations in a soil-sensing dishwasher that constitutes the response for completely washing a load of dishes, one place setting of which is soiled with half of the gram weight of soils for each item specified in a single place setting according to AHAM DW-1.

1.11 “*Sensor medium cycle*” means, for standard dishwashers, the set of operations in a soil-sensing dishwasher that constitutes the response for completely washing a load of dishes, two place settings of which are soiled. For compact dishwashers, this definition is the same, except that one soiled place setting is used instead of two.

1.12 “*Soil-sensing dishwasher*” means a dishwasher that has the ability to adjust automatically any energy consuming aspect of a wash cycle based on the soil load of the dishes.

1.13 “*Standard dishwasher*” means a dishwasher that has a capacity equal to or greater than eight place settings plus six serving pieces as specified in AHAM DW-1 (see section 430.22).

1.14 “*Standby mode*” means the power consumption condition when the dishwasher is connected to the main electricity supply and the door lock is unlatched.

1.15 “*Truncated normal cycle*” means the normal cycle interrupted to eliminate the power-dry feature after the termination of the last rinse operation.

1.16 “*Truncated sensor heavy cycle*” means the sensor heavy cycle interrupted to eliminate the power-dry feature after the termination of the last rinse operation.

1.17 “*Truncated sensor light cycle*” means the sensor light cycle interrupted to eliminate the power-dry feature after the termination of the last rinse operation.

1.18 “*Truncated sensor medium cycle*” means the sensor medium cycle interrupted to eliminate the power-dry feature after the termination of the last rinse operation.

1.19 “*Water-heating dishwasher*” means a dishwasher which is designed for heating cold inlet water (nominal 50 °F) or a dishwasher for which the manufacturer recommends operation with a nominal inlet water temperature of 120 °F, and may operate at either of these inlet water temperatures by providing internal water heating to above 120 °F in at least one wash phase of the normal cycle.

##### **2. Testing conditions:**

2.1 *Installation Requirements.* Install the dishwasher according to the manufacturer's instructions. A standard or compact under-counter or under-sink dishwasher must be tested in a rectangular enclosure constructed of nominal 0.374 inch (9.5 mm) plywood painted black. The enclosure must consist of a top, a bottom, a back, and two sides. If the dishwasher includes a counter top as part of the appliance, omit the top of the enclosure. Bring the enclosure into the closest contact with the appliance that the configuration of the dishwasher will allow.

## 2.2 Electrical energy supply.

2.2.1 *Dishwashers that operate with an electrical supply of 120 volts.* Maintain the electrical supply to the dishwasher at 120 volts  $\pm 2\%$  and within one percent of the nameplate frequency as specified by the manufacturer.

2.2.2 *Dishwashers that operate with an electrical supply of 240 volts.* Maintain the electrical supply to the dishwasher at 240 volts  $\pm 2\%$  and within one percent of its nameplate frequency as specified by the manufacturer.

2.3 *Water temperature.* Measure the temperature of the water supplied to the dishwasher using a temperature measuring device as specified in section 3.1 of this Appendix.

2.3.1 *Dishwashers to be tested at a nominal 140 °F inlet water temperature.* Maintain the water supply temperature at  $140 \pm 5$  °F.

2.3.2 *Dishwashers to be tested at a nominal 120 °F inlet water temperature.* Maintain the water supply temperature at  $120 \pm 2$  °F.

2.3.3 *Dishwashers to be tested at a nominal 50 °F inlet water temperature.* Maintain the water supply temperature at  $50 \pm 2$  °F.

2.4 *Water pressure.* Using a water pressure gauge as specified in section 3.3 of this Appendix, maintain the pressure of the water supply at  $35 \pm 2.5$  pounds per square inch gauge (psig) when the water is flowing.

2.5 *Ambient and machine temperature.* Using a temperature measuring device as specified in section 3.1 of this Appendix, maintain the room ambient air temperature at  $75 \pm 5$  °F, and ensure that the dishwasher and the test load are at room ambient temperature at the start of each test cycle.

## 2.6 Test Cycle and Load.

2.6.1 *Non soil-sensing dishwashers to be tested at a nominal inlet temperature of 140 °F.* These units must be tested on the normal cycle without a test load if the dishwasher does not heat water in the normal cycle.

2.6.2 *Non soil-sensing dishwashers to be tested at a nominal inlet temperature of 50 °F or 120 °F.* These units must be tested on the normal cycle with a clean load of eight place settings plus six serving pieces, as specified in AHAM DW-1. If the capacity of the dishwasher, as stated by the manufacturer, is less than eight place settings, then the test load must be the stated capacity.

2.6.3 *Soil-sensing dishwashers to be tested at a nominal inlet temperature of 50 °F, 120 °F, or 140 °F.* These units must be first tested on the sensor heavy cycle, then tested on sensor medium cycle, and finally on the sensor light cycle with the following combinations of soiled and clean test loads.

2.6.3.1 For tests of the sensor heavy cycle, as defined in section 1.9:

(A) For standard dishwashers, the test unit is to be loaded with a total of eight AHAM DW-1 place settings plus six serving pieces. Four of the eight place settings must be soiled according to AHAM DW-1 while the remaining place settings, serving pieces, and all flatware are not soiled.

(B) For compact dishwashers, the test unit is to be loaded with four AHAM DW-1 place

settings plus six serving pieces. Two place settings must be soiled according to AHAM DW-1 while the remaining place settings, serving pieces, and all flatware are not soiled.

2.6.3.2 For tests of the sensor medium cycle, as defined in section 1.11:

(A) For standard dishwashers, the test unit is to be loaded with a total of eight AHAM DW-1 place settings plus six serving pieces. Two of the eight place settings must be soiled according to AHAM DW-1 while the remaining place settings, serving pieces, and all flatware are not soiled.

(B) For compact dishwashers, the test unit is to be loaded with four AHAM DW-1 place settings plus six serving pieces. One place setting must be soiled according to AHAM DW-1 while the remaining place settings, serving pieces, and all flatware are not soiled.

2.6.3.3 For tests of the sensor light cycle, as defined in section 1.10:

(A) For standard dishwashers, the test unit is to be loaded with a total of eight AHAM DW-1 place settings plus six serving pieces. One place setting must be soiled with half of the soil load specified for a single place setting according to AHAM DW-1 while the remaining place settings, serving pieces, and all flatware are not soiled.

(B) For compact dishwashers, the test unit is to be loaded with four AHAM DW-1 place settings plus six serving pieces. One place setting must be soiled with half of the soil load specified for a single place setting according to the AHAM DW-1 while the remaining place settings, serving pieces, and all flatware are not soiled.

2.7 *Detergent and rinse agent.* Use detergent and rinse agent in the types and quantities specified according to AHAM DW-1.

2.8 *Testing requirements.* Provisions in this Appendix pertaining to dishwashers that operate with a nominal inlet temperature of 50 °F or 120 °F apply only to water heating dishwashers.

2.9 *Preconditioning requirements.* Precondition the dishwasher by establishing the testing conditions set forth in sections 2.1 through 2.5 of this Appendix. Set the dishwasher to the preconditioning cycle as defined in section 1.8 of this Appendix, without using a test load, and initiate the cycle.

3. Instrumentation: Test instruments must be calibrated annually.

3.1 *Temperature measuring device.* The device must have an error no greater than  $\pm 1$  °F over the range being measured.

3.2 *Timer.* Time measurements for each monitoring period shall be accurate to within 2 seconds.

3.2.1 *Water meter.* The water meter must have a resolution of no larger than 0.1 gallons and a maximum error no greater than 1.5 percent for all water flow rates from one to five gallons per minute and for all water temperatures encountered in the test cycle.

3.3 *Water pressure gauge.* The water pressure gauge must have a resolution of one pound per square inch (psi) and must have an error no greater than 5 percent of any measured value over the range of  $35 \pm 2.5$  psig.

3.4 *Watt-hour meter.* The Watt-hour meter must have a resolution of 1 watt-hour

or less and a maximum error of no more than 1 percent of the measured value for any demand greater than 50 Watts.

3.5 *Standby power meter.* The watt/watt-hour meter must have a resolution of 0.1 watt or less at 1.0 watt actual power consumption and accumulate into watt-hours at a minimum power level of 20 milliwatts. The watt/watt-hour meter must be capable of operating within the stated tolerances for input voltages at up to five percent total harmonic distortion and shall be capable of operating at frequencies from 47 hertz through 63 hertz. Power measurement instruments shall have a crest factor of not less than five at RMS currents of two amps or less.

## 4. Test cycle and measurements:

4.1 *Test cycle.* Perform a test cycle by establishing the testing conditions set forth in section 2 of this Appendix, setting the dishwasher to the cycle type to be tested, initiating the cycle, and allowing the cycle to proceed to completion.

4.2 *Machine electrical energy consumption.* Measure the electrical energy consumed by the machine during the test cycle, M, expressed in kilowatt-hours per cycle, using a water supply temperature as set forth in section 2.3 of this Appendix and using a watt-hour meter as specified in section 3.4 of this Appendix.

4.3 *Water consumption.* Measure the water consumption, V, specified as the number of gallons delivered to the dishwasher during the entire test cycle, using a water meter as specified in section 3.2 of this Appendix.

4.4 *Standby power.* Connect the dishwasher to a watt/watt-hr meter as specified in section 3.5. Select the conditions necessary to achieve operation in the standby mode as defined in section 1.14 of this Appendix. Monitor the power consumption but allow the dishwasher to stabilize for not less than 5 minutes. Commence energy consumption readings for a period of not less than an additional 5 minutes, checking the power and equipment during the recording period to make sure that the dishwasher has not entered another mode. Continue measurement until the necessary measurement period is complete. Record the duration of energy measurement and the total energy consumed in watt-hours over that time period. Calculate the average standby power,  $S_m$ , expressed in watts by dividing the measured energy consumption by the duration of the measurement.

## 5. Calculation of derived results from test measurements:

### 5.1 Machine energy consumption.

5.1.1 *Machine energy consumption for non soil-sensing electric dishwashers.* Take the value recorded in section 4.2 of this Appendix as the per-cycle machine electrical energy consumption. Express the value, M, in kilowatt-hours per cycle.

5.1.2 *Machine energy consumption for soil-sensing electric dishwashers.* The machine energy consumption for the sensor normal cycle, M, is defined as:

$$M = (M_{hc} \times F_{hc}) + (M_{mc} \times F_{mc}) + (M_{lc} \times F_{lc})$$

where,

$M_{hc}$  = the value recorded in section 4.2 of this Appendix for the test of the sensor heavy

cycle, expressed in kilowatt-hours per cycle.

$M_{mc}$  = the value recorded in section 4.2 of this Appendix for the test of the sensor medium cycle, expressed in kilowatt-hours per cycle.

$M_{lc}$  = the value recorded in section 4.2 of this Appendix for the test of the sensor light cycle, expressed in kilowatt-hours per cycle.

$F_{hc}$  = the weighting factor based on consumer use of heavy cycles = 0.05.

$F_{mc}$  = the weighting factor based on consumer use of medium cycles = 0.33.

$F_{lc}$  = the weighting factor based on consumer use of light cycles = 0.62.

## 5.2 Water consumption.

5.2.1 *Water consumption for non soil-sensing dishwashers using electrically heated, gas-heated, or oil-heated water.*

Take the value recorded in section 4.3 of this Appendix as the per-cycle water energy consumption. Express the value,  $V$ , in gallons per cycle.

5.2.2 *Water consumption for soil-sensing dishwashers using electrically heated, gas-heated, or oil-heated water.*

The water consumption for the sensor normal cycle,  $V$ , is defined as:

$$V = (V_{hc} \times F_{hc}) + (V_{mc} \times F_{mc}) + (V_{lc} \times F_{lc})$$

where,

$V_{hc}$  = the value recorded in section 4.3 of this Appendix for the test of the sensor heavy cycle, expressed in gallons per cycle.

$V_{mc}$  = the value recorded in section 4.3 of this Appendix for the test of the sensor medium cycle, expressed in gallons per cycle.

$V_{lc}$  = the value recorded in section 4.3 of this Appendix for the test of the sensor light cycle, expressed in gallons per cycle.

$F_{hc}$  = the weighting factor based on consumer use of heavy cycles = 0.05.

$F_{mc}$  = the weighting factor based on consumer use of medium cycles = 0.33.

$F_{lc}$  = the weighting factor based on consumer use of light cycles = 0.62.

5.3 *Water energy consumption for non soil-sensing or soil-sensing dishwashers using electrically heated water.*

5.3.1 *Dishwashers that operate with a nominal 140 °F inlet water temperature, only.*

For the normal and truncated normal test cycle, calculate the water energy consumption,  $W$ , expressed in kilowatt-hours per cycle and defined as:

$$W = V \times T \times K$$

where,

$V$  = reported water consumption in gallons per cycle, as measured in section 4.3 of this Appendix,

$T$  = nominal water heater temperature rise = 90 °F,

$K$  = specific heat of water in kilowatt-hours per gallon per degree Fahrenheit = 0.0024.

5.3.2 *Dishwashers that operate with a nominal inlet water temperature of 120 °F.*

For the normal and truncated normal test cycle, calculate the water energy consumption,  $W$ , expressed in kilowatt-hours per cycle and defined as:

$$W = V \times T \times K$$

where,

$V$  = reported water consumption in gallons per cycle, as measured in section 4.3 of this Appendix,

$T$  = nominal water heater temperature rise = 70 °F,

$K$  = specific heat of water in kilowatt-hours per gallon per degree Fahrenheit = 0.0024.

5.4 *Water energy consumption per cycle using gas-heated or oil-heated water.*

5.4.1 *Dishwashers that operate with a nominal 140 °F inlet water temperature, only.*

For each test cycle, calculate the water energy consumption using gas-heated or oil-heated water,  $W_g$ , expressed in Btu's per cycle and defined as:

$$W_g = V \times T \times C/e$$

where,

$V$  = reported water consumption in gallons per cycle, as measured in section 4.3 of this Appendix,

$T$  = nominal water heater temperature rise = 90 °F,

$C$  = specific heat of water in btu's per gallon per degree Fahrenheit = 8.2,

$e$  = nominal gas or oil water heater recovery efficiency = 0.75.

5.4.2 *Dishwashers that operate with a nominal inlet water temperature of 120 °F.*

For each test cycle, calculate the water energy consumption using gas heated or oil heated water,  $W_g$ , expressed in Btu's per cycle and defined as:

$$W_g = V \times T \times C/e$$

where,

$V$  is measured in section 4.3 of this Appendix,

$T$  = nominal water heater temperature rise = 70 °F,

$C$  = specific heat of water in btu's per gallon per degree Fahrenheit = 8.2,

$e$  = nominal gas or oil water heater recovery efficiency = 0.75.

5.5. *Annual standby energy consumption.*

Calculate the estimated annual standby energy consumption. First determine the number of standby hours per year,  $H_s$ , defined as:

$$H_s = H - (215 \text{ cycles/year} \times L)$$

where,

$L$  = the duration of the normal cycle for tests of non soil-sensing dishwashers or the duration of the sensor medium cycle for tests of soil-sensing dishwashers, and  
 $H$  = the total number of hours per year = 8766 hours per year.

Then calculate the estimated annual standby power use,  $S$ , expressed in kilowatt-hours per year and defined as:

$$S = S_m \times ((H_s)/1000)$$

where,

$S_m$  = the average standby power in watts as measured in section 4.4 of this Appendix.

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## DEPARTMENT OF THE TREASURY

### Internal Revenue Service

#### 26 CFR Part 1

[REG-154920-01]

RIN 1545-BA33

### Guidance Regarding the Definition of Foreign Personal Holding Company Income; Hearing Cancellation

**AGENCY:** Internal Revenue Service (IRS), Treasury.

**ACTION:** Cancellation of notice of public hearing on proposed rulemaking.

**SUMMARY:** This document provides notice of cancellation of a public hearing on proposed regulations under section 954 of the Internal Revenue Code.

**DATES:** The public hearing originally scheduled for September 11, 2002, at 10 a.m., is cancelled.

**FOR FURTHER INFORMATION CONTACT:** Treena Garrett of the Regulations Unit, Associate Chief Counsel (Income Tax and Accounting), (202) 622-7180 (not a toll-free number).

**SUPPLEMENTARY INFORMATION:** A notice of proposed rulemaking and notice of public hearing that appeared in the **Federal Register** on May 13, 2002, (67 FR 31995), announced that a public hearing was scheduled for September 11, 2002, at 10 a.m., in room 4718, Internal Revenue Service Building, 1111 Constitution Avenue, NW., Washington, DC. The subject of the public hearing is proposed regulations under section 954 of the Internal Revenue Code. The public comment period for these proposed regulations expired on August 21, 2002.

The notice of proposed rulemaking and notice of public hearing, instructed those interested in testifying at the public hearing to submit a request to speak and an outline of the topics to be addressed. As of August 27, 2002, no one has requested to speak. Therefore, the public hearing scheduled for September 11, 2002, is cancelled.

**Cynthia E. Grigsby,**

*Chief, Regulations Unit, Associate Chief Counsel (Income Tax and Accounting).*

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