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September 29, 2016

Ms. Ashley Armstrong
U.S. Department of Energy
Building Technologies Office, Mailstop EE-5B
1000 Independence Avenue, SW
Washington, DC, 20585- 0121

Re: Docket number EERE-2015-BT-TP-0007; SNOPR for Test Procedures for the Conversion Factor for Consumer and Certain Commercial Water Heaters

Dear Ms. Armstrong,

The Air-Conditioning, Heating, and Refrigeration Institute (AHRI) is the trade association representing manufacturers of air conditioning, space heating, water heating and commercial refrigeration equipment. The AHRI member companies that manufacture water heating equipment account for the large majority of all gas, oil and electric water heating equipment that is sold and installed in the U.S. AHRI submits the following comments in response to the Department of Energy's (DOE) supplemental notice of proposed rulemaking (SNOPR) regarding the conversion factor for consumer and certain commercial water heaters issued in the August 30, 2016 *Federal Register*.

AHRI and its members take this rulemaking very seriously; in order to analyze the significant amount of data and the methodology used in the SNOPR AHRI determined it was necessary to hire a consultant. The consultant reviewed the methodology used to convert the existing ratings to ratings developed using the Uniform Efficiency Descriptor (UED) test procedure and set minimum efficiency standards based on Uniform Energy Factor (UEF). The consultant compared DOE's methodology to a straight regression analysis of the tested data.

The following are several issues related to the use and implementation of the conversion factors on which we have comments.

Proposed Minimums

AHRI recognizes and appreciates the work DOE has done to develop the proposed conversion factors. The corrections made for the electric and gas-fired storage water heaters in the medium usage bin have led to improved conversion equations and proposed minimum UEF standards. AHRI acknowledges that this task was highly complex and appreciates DOE efforts to enhance the accuracy of the conversion factors for these categories.

AHRI has been testing units in our Residential Water Heater Certification Program to both test procedures. We appreciate that DOE has incorporated the data we have provided from that testing into the

revised analysis. However, based on analysis of the results of the tests conducted in our program, AHRI has concerns about the SNO PR proposals for high usage storage gas, low usage storage electric, all instantaneous gas, and high usage oil storage. Recognizing DOE's desire to finalize this rulemaking, AHRI is not asking DOE to change the conversion factor equations for these products, but simply to make slight adjustments to the proposed minimums based on the results of AHRI's analysis.

For the gas storage models in the high usage bin, AHRI reviewed 62 basic models tested to both procedures. Of those tests, 16 had measured UEF values below the proposed minimums for UEF. In this analysis, the rated volumes were used to calculate the minimum, so the actual minimums may be slightly higher. Therefore, AHRI requests that DOE lower the proposed minimums for gas storage high usage water heaters by 0.02.

For the electric storage models in the low usage bin, AHRI reviewed 11 basic models tested to both procedures. For all tests the measured UEF values are below the proposed UEF minimums. AHRI requests that DOE lower the minimums for low usage electric water heaters by 0.01.

For instantaneous gas products, the NOPR included a proposed minimum UEF of 0.80 for all products. In the SNO PR the proposed minimum has been raised to 0.81. AHRI requests that DOE return to the NOPR proposal and set the converted minimum UEF standard at 0.80. The NOPR analysis concluded that the converted minimum was 0.804 and the SNO PR concluded that the converted minimum was 0.807. Therefore, this modification as a result of rounding. This 0.003 difference in the result should not be used to increase the minimum by a whole point. As mentioned, AHRI has worked with a consultant to complete a pure regression analysis on some of the type/usage bin/fuel combinations, including the gas instantaneous medium usage bin. That pure regression analysis supports a minimum efficiency standard for the medium gas instantaneous usage bin of 0.80. Furthermore, when applying the conversion factor to the ratings in the AHRI Directory, it was found that 20 (13 high usage and 7 medium usage) of the 96 basic models do not comply with a minimum of 0.81 when the conversion factor is applied. AHRI requests that DOE adjust the minimum UEF to 0.80, as proposed in the NOPR, for all gas instantaneous models.

For oil storage models in the high usage bin, AHRI has identified errors in the proposed minimum. A small sample of two oil units were tested for the SNO PR. An AHRI member has a model that is similar to CS-27 which is currently rated at 0.63 EF, slightly above the minimum of 0.62 EF. Using the SNO PR conversion factor, the converted UEF rating is slightly over the proposed minimum. However, two tests of the similar model using the UEF procedure result in an average measured UEF of 0.642, which is below the proposed min of 0.649. Furthermore, DOE measured UEF for CS-27 at 0.641, which is also below the proposed minimum. For oil storage high usage models, AHRI requests that DOE lower the minimum by 0.02.

The relatively small changes set forth above will have a significant impact on the number of products certified prior to July 13, 2015 that will be deemed compliant upon UED testing, and substantially promote the statutory requirement that the conversion factor "not affect the minimum efficiency requirements" for covered water heaters. 42 U.S.C. § 6295(e)(5)(E)(iii).

Grid-Enabled Water Heaters

Minimums have been set for grid-enabled water heaters; however, it is unclear how to test grid-enabled water heaters. A key part of the UED test procedure is the determination of the first hour rating (FHR) which then indicates the daily hot water usage and pattern that will be used to test the water heater. The UED test procedure does not clearly specify how the FHR will be measured for a grid-enabled water heater. AHRI suggests that a first hour rating test first be conducted with the water heater in the locked condition to confirm that the water heater meets the criterion in the definition that this FHR is less than 50% of the unlocked FHR. This can be done by comparing the “locked” FHR value to the FHR of a comparable model of the same volume and input which is not a grid-enabled model. If the FHR in the locked condition meets the requirement, then the first hour rating test is conducted with the heater unlocked in the same manner as for all other electric storage water heaters for the UED test procedure.

However, it is not clear how to establish the starting test condition to conduct the FHR test in the locked position. In this position where one of the heating elements will be disabled, it is not possible to follow the procedure for setting the thermostat to achieve the specified outlet water temperature. AHRI will be following up these comments with a separate communication seeking clarification on this issue from DOE.

Derivation of Converted Minimum Standards

Although the SNOPR explains the process used to derive the proposed converted minimum UEF standards, AHRI request that DOE release the actual derivations with the values used by DOE. We believe that there is an error in the process based upon DOE’s use of average values. After identifying each distinct rated volume DOE determined average values of conversion factor inputs and calculated equivalent UEFs for minimally complying models. For this process DOE should be using the highest input rating from all the minimum compliant models at each discrete rated volume. That is because for models with equal efficiency characteristics, a higher input will lower the measured EF or UEF. Therefore, for a set of minimum compliant models of the same volume, the model with the highest input rating is the true “minimum” compliant model in terms of having the lowest efficiency characteristics that drive the EF or UEF rating. It is that model that should be used to establish the equivalent minimum UEF requirements in order to meet the statutory requirement that the conversion factor, which is the basis for the calculated UEF, not affect the minimum efficiency requirements of covered water heaters.

Redefinition of Rated Volume

While AHRI appreciates DOE’s intent to address our concerns regarding the new definition of rated volume, DOE’s proposal in the SNOPR for models initially certified before July 13, 2015 to postpone the requirements that the rated volume to be the mean of the measured volumes of all units within the test sample until one year after the date on which this proposed rule is finalized does not address the fundamental position presented in our petition to rescind Sections 429.17 and 429.134. Rated volume is neither an efficiency measure nor a measure of energy consumption. Also, as used in the federal efficiency regulations, volume is not a measure of “capacity.” Capacity is the ability to perform the products intended function; which in this case is to provided, not store, heated water. Simply put, the

rated volume does not represent a water heater's ability to provide heated water. AHRI submitted its petition because DOE's revised definition of rated volume imposes an unnecessary burden on the industry and is unnecessary for the purpose of regulating the efficiency of covered products.

The fact that the rated volume is used in the minimum efficiency standards for water heaters is not an indication that the energy efficiency rating is dependent on the rated volume. Rather, it is the recognition that a test procedure which applies a constant daily hot water usage to all models gives different results for models that have the same recovery efficiency and essentially equivalent standby loss characteristics but different volumes. Because of this, it is illogical to use a single value for the minimum efficiency rating standard for residential water heaters. Depending on how rated volume is defined, different formulas can be developed to specify the same minimum efficiency standard. The SNOPR acknowledges this in the discussion of the development of the proposed minimum UEF standards.

DOE has reduced the tolerance for the tested volume to be within 2 percent of rated volume rather than 5 percent. This decision was made based on the measured volumes of 10 unique models with 24 total storage volume tests. This is nowhere near enough data to justify a tolerance of two percent, particularly because it is unclear if a variety of models were used. Furthermore, the rated volume must be represented as a whole number in gallons, which effectively lowers the proposed 2% tolerance. As an example a model that tested with an average measured volume of 27.5 gallons is certified as a 28 gallon model. The .5 gallon added by the required rounding of the measured value increases that actual average measured value by 1.8%. This simple act of rounding practically eliminates the 2% test tolerance being proposed by DOE. AHRI requests that DOE continue to use a five percent tolerance when comparing measured and rated volume.

Up to this point, AHRI has not received a formal response to its petition which was filed in October 2014. AHRI's petitions received overwhelming support from a diverse group of stakeholders. DOE has an obligation to separately address the petition that the revisions in the SNOPR do not fulfill. The changes DOE has implemented regarding rated volume through what is already a complicated, protracted and complex change to UEF ratings will further confuse consumers and provide no energy savings or beneficial information. Existing water heater safety standards define rated volume differently and have done so since the beginning of water heater standards. Furthermore, the storage capacity of a water heater is not the metric a purchaser should be used to compare storage water heaters, the correct metric is First Hour Ratings (FHR).

AHRI and its water heater manufacturers have worked with DOE to develop a more accurate test procedure that groups water heaters into usage bins based on the first hour rating to ensure consumers are using a useful and appropriate comparison when selecting the water heater that will meet their needs. Storage capacity is irrelevant in that comparison (which is why AHRI recommended that the metric be left off the FTC Energyguide label). Consumers will be confused when attempting to understand the difference between a 38 and 39 gallon water heaters, and may arbitrarily select largest of the two thinking that they will be getting an extra gallon of hot water when the 38 gallon may have the same or a higher FHR and could be more efficient.

Instead of clarifying information, DOE's suggested revision will create industry and consumer confusion. Upon the labeling of products, literature, and websites with the UEF metric, consumers will struggle to understand the change in metric and what the addition of usage bins means, especially when it comes to comparing products in different usage bins. This change in rated volume will further confuse consumers, as the DOE ratings and FTC label will not match the safety ratings, and a higher rated volume will not mean higher capacity under EPCA definitions. DOE has not shown any savings or increase in the accuracy of the test procedure that could justify and outweigh the negative impact of such confusion. This change saves no energy, resolves no consumer complaints, and eliminates no loophole to circumvent compliance with the minimum efficiency standards for water heaters. AHRI reaffirms our petition requesting that Sections 429.17 and 429.134 be rescinded.

If our petition is denied, the rated volume reported for certification and shown on the FTC Energyguide label will be the DOE rated volume. The rated volume that is marked on shipping cartons, marketing materials and rating plate bearing safety certification information will continue to display the rated volume determined in accordance with the applicable safety standard.

It is also unclear if there are further consequences if the measured volume during an enforcement test is more than 2 percent beyond the newly defined DOE rated volume. It is understood that the measured volume will be used for the test and to determine the minimum efficiency level. AHRI requests that DOE clarify the exact consequences of testing a rated volume that is beyond 2 percent of the value measured during a test with a passing measured UEF, particularly if the measured volume places the water heater into a different product category such as not a grid-enabled or above 55 gallons.

Certification and Implementation

We have previously expressed concern about when compliance with the provision that advertising of efficiency or energy consumption claims must be based on testing conducted in accordance with the DOE test procedure, will be required and had suggested that the compliance date be the same as the date on which revised FTC Energyguide labels will be required on residential water heaters. At present that date is June 12, 2017. Our water heater manufacturers need at least 6 months to manage and implement the changes to display UED-based ratings and energy consumption information in all the various formats and media that are used to provide such information to the market. If the final rule is delayed past December 12, 2016, AHRI requests that DOE and FTC coordinate actions to delay the effective date of the revised label to maintain this 6 month period after the date of the conversion factor final rule.

As noted in the SNO PR, DOE proposed that manufacturers not be required to submit certification reports for previously certified models until the next annual certification date, in this case May 1, 2017. We recommend that DOE delay the annual submission until the effective date of the FTC Energyguide label. The certification reports will include models for which the UED-based ratings are converted values. It is unavoidable that the tested UED-based ratings for some of those models will be less than the converted values. The use of the DOE specified conversion factors should not put any of these models at risk of enforcement testing. Therefore, we request that DOE establish that enforcement testing will be conducted using the test procedure which was used to establish the model's ratings. So if a model's UED ratings are converted values, then the EF test procedure will be used for enforcement testing for that model. Since

the new basic models introduced into commerce since July 13, 2015 have been tested to the UED test procedure, this policy would not apply to them.

Also, there is a difficult situation that is likely to occur once the use of converted ratings expires. Some models that have converted UEF and FHR ratings will have a lower FHR when the model is tested to the current UED test procedure. In some cases, the tested FHR will move the model into a lower daily hot water usage bin. In AHRI's previously mentioned analysis of the 62 gas storage high usage models tested, 12 of the measured FHR identified a high usage while the converted FHR placed these models into the medium usage bin. For electric storage medium usage, 29 tested models were reviewed with tested FHR identifying a medium usage while the converted FHR places and 6 of the samples into the low usage bin. This has a major ramification in that the model tested in a lower usage bin will have a lower UEF rating and it will have to comply with a different minimum UEF standard. It must be recognized that the model was initially certified as complying with the DOE minimum EF standard; the manufacturer used the conversion factors as allowed by DOE's regulations and then, within the time period specified, tested sample units to the UED test procedure to determine the model's UEF and FHR ratings. The manufacturer fully complied with DOE's regulations. There should be no risk of a false-positive enforcement action based on converted ratings. Accordingly, models that fall into this unfortunate situation should only be subject to potential enforcement testing based on tested UED-based ratings.

In order to ensure enforcement testing is not conducted based on converted ratings, AHRI requests that DOE not request converted data unless it has been flagged as such in the reporting template so DOE is aware that the rating is not based on testing. AHRI request that DOE include details on the timeline for reporting in the Conversion Factor Final Rule. We also request that DOE work with AHRI and our members to assist with the educational effort that will be necessary moving forward to minimize the confusion which the transitions to the UED test procedure, its associated changes, and related metrics will cause among consumers.

Grandfathering

The following outlines the understanding among our members regarding the treatment of grandfathered models. These are models that were initially certified to be in compliance with the EF minimums before the implementation date of the UED test procedure (July 13, 2015), but have a tested UEF below the applicable proposed UEF minimum.

For one year after the conversion factor final rule, grandfathered models can be rated using the conversion factor. However, after that year, grandfathered basic models that have not been redesigned in any way to change the efficiency, can still be manufactured and would be rated at the minimum UEF, although when tested using the UED test procedure, the grandfathered models do not meet the converted minimum UEF standard.

If DOE selects one of these models for enforcement testing, the manufacturer will be required to show that the selected, grandfathered model met the minimum efficiency standard using the EF test procedure prior to July 13, 2015 and has not been redesigned since that time.

These models will continue to be grandfathered as described above until the next federal minimum efficiency standards become effective. AHRI requests that DOE acknowledge this understanding and confirm it is correct in the Conversion Factor Final Rule.

Introduction of New Minimums

In the SNO PR, DOE introduces minimum efficiency requirements for categories of products that have never before been subject to federal regulation including: Gas-fired Storage Water Heaters with a rated storage volume > 120 gallons and Electric Storage Water Heaters with a rated storage volume >2 gallons and < 20 gallons. Due to the reasons set forth in detail below, AHRI requests that DOE return to the original proposal in the NOPR and exclude these products from consideration in the conversion factor rulemaking.

Until the publication of the SNO PR 30 days ago, DOE has been consistent that there are no standards required for these products. It is well-established that prior to the introduction of the UED test procedure in 2014, no test procedure applied to products with these capacities, and therefore in the history of EPCA there has been no requirement to comply with any efficiency standards for these products.

- **1977** – An EF-based Water Heater Test procedure adopted for storage-type residential water heaters greater than 20-gallons and less than 120 gallons (42 Fed. Reg. 54110, September 27, 1977).
- **1987** - EPCA is adopted, and pre-existing EF water heater test procedure is codified into law (42 USC 6293(a)); minimums for water heaters are set by Congress based on the pre-existing EF test procedure (42 USC 6295(e)).
- **1990** - DOE amends the EF test procedure for electric water heaters and adjusts the statutory standards in accordance with 42 USC 6293(e), but no changes are made to the definition of water heater regarding the rated volume criterion.
- **1995** - At the request of industry, DOE proposed a rule for test procedure applicable to “less than 20-gallon” electric storage water heaters. (60 Fed. Reg. 15,330. (March 23, 1995)). In that NOPR DOE specifically noted that this action was “extending coverage of the existing minimum energy efficiency standards to storage-type water heaters of less than 20 gallons.” (Page 15332).
- **1998** - Because of information and test data provided by GAMA which showed that the proposed test procedure was inappropriate for models less than 20 gallons and that the resultant EF values were completely inconsistent with the EF ratings for electric residential water heaters greater than 20-gallons and less than 120 gallons, the final test procedure rule withdrew the proposal as applied to less than 20-gallon storage water heaters (63 Fed. Reg. 25,996 (May 11, 1998)). DOE withdrew that proposal for the specific reasons of 1) an absence of data to determine an appropriate daily hot water use and 2) the need to develop and evaluate a stand-by loss procedure in lieu of a simulated use test. (Page 26000 May 11, 1998 FR)
- **2012** - AEMTCA is passed by Congress.
- **2014** - DOE finalizes the UED test procedure and applies the new test procedure to electric storage water heaters with rated volume between 2-20 gallons and gas-fired storage water heaters with rated volume greater than 120 gallons.

- Industry supports the broad application of the new UED test procedure so long as performance standards did not automatically apply.
- DOE formally agreed with industry's concerns stating: "Currently, there are no minimum energy conservation standards applicable to water heater products with storage volume between 2 and 20 gallons, which will be the case until DOE conducts a rulemaking to establish such standards." (79 Fed. Reg. 40,548 (July 11, 2014)).
- **2015** - DOE proposes a conversion factor for existing applicable energy efficiency standards. DOE specifically excludes gas-fired and electric water heaters with a storage volume between 2 and 20 gallons and gas-fired water, reiterating that no standards exist for these products: "DOE has tentatively excluded the consumer water heater products listed in Table III.1 from consideration for the mathematical conversion factor due to the lack of an existing Federal test procedure and rating to be converted." (80 Fed. Reg. 20122 (April 14, 2015)).
- **August 30, 2016** - DOE for the first time proposes that energy efficiency performance standards are applicable for electric storage water heaters with rated volumes between 2 and 20 gallons and gas-fired storage water heaters with rated volumes more than 120 gallons in the instant Supplemental Notice of Proposed Rulemaking.

As is obvious from the above timeline, since the inception of federal regulation of water heaters, there has never been an energy efficiency standard applicable to the "less than 20" gallon category of storage water heater products. It is contrary to common sense and fundamental fairness to suddenly impose efficiency standards via an SNOPR for a conversion factor test procedure rulemaking to four categories of products that have never been tested or assessed for federal regulations, to which industry has no more than 30 days to respond. This is also directly contrary to the provisions of EPCA which mandate that the UED test procedure and conversion factor not change the compliance of existing products.

DOE appears to argue that DOE's 1990 adjustment of the EF standards codified in 1987 apply to these products. However, this assessment is incorrect on many levels: (1) EPCA requires the existence of an applicable test procedure prior to the promulgation of a performance standard (42 U.S.C. 6295(r)). (2) EPCA specifically incorporated the EF test procedure as it existed in 1987 to apply to the codified minimum set forth in 42 USC 6295(e)—this pre-existing test procedure did not apply to the relevant products. (3) Prior to 2014, no test procedure had ever existed for the "less than 20 gallon storage" water heater products, and therefore no standard has ever applied—this was made clear by the DOE in 1995 and 1998. (4) If such standards were to apply, DOE would be required to do an assessment of minimally compliant standards when it changed the test procedure in 2014 to amend the applicable standards accordingly—but because no EF test procedure previously existed for these products, DOE cannot even meet its statutory obligations under 42 USC 6293(e). (5) DOE has not provided its analysis or testing results to show that the test procedure, as now applied to this equipment and converted by the conversion factor, is reasonably designed to product test results measuring the energy efficiency of these products, as is required by 42 USC 6293(b)(3). Instead, DOE is relying on an alleged statutory adjustment that was made in the 1990s, but such adjustment is likewise impossible because no minimally-compliant products of these sizes could be tested in accordance with the standard. Therefore, legally, DOE must undergo appropriate processes to promulgate standards for these products. These legal procedures require a full and fair analysis of existing products tested via the applicable test procedure, and an assessment of economically justified and technologically feasible standards.

From a fundamental fairness, administrative law and practical perspective, it is simply unreasonable to spring a new, untested performance standard on a class of products at ostensibly the 11th hour. The practical situation is that because no test procedure or performance standard has previously applied to these products, these products have not yet been tested in accordance with the new UED test procedure, or any federal test procedure. Given the thirty-day comment period and the short notice of DOE's sudden about-face on this issue, manufacturers have not had time or resources to conduct tests and analysis on this particular class of products. Moreover, industry has devoted all of its test time and resources to testing the many products to which DOE provided actual notice, over a two-year period, of performance standards that do apply. Until thirty days ago, DOE had repeatedly stated that no standards exist for the products in question and that no performance requirements will be mandated until after DOE conducts a standards rulemaking. (79 Fed. Reg. 40,548, 80 Fed. Reg. 20122). Yet in the SNO PR for the conversion factor, which is supposed to be merely a translation device of what existed before into a different metric, DOE is imposing new efficiency requirements on products that were previously not required to be compliant. Finally, standards for consumer products more than 120 gallons are not necessary, as the vast majority of products at this size are used exclusively for commercial purposes. For all of these reasons, AHRI requests that DOE return to its position as stated in the Final Test Procedure Rulemaking and the NOPR and exclude Gas-fired Storage Water Heaters with a rated storage volume >2 gallons and < 20 gallons or >100 gallons and <120 gallons and Electric Storage Water Heaters with a rated storage volume >2 gallons and < 20 gallons from consideration in the conversion factor.

In 1991, water heating manufacturers, via the Gas Appliance Manufacturers Association, were supportive of establishing a minimum efficiency standard for less-than 20-gallon electric storage heaters. A generation later, AHRI continues to support the inclusion of the above-mentioned products in the scope of the UED test procedure, as detailed in the comments submitted by AHRI, Bradford White and Rheem Manufacturing in response to the NOPR on the UED test procedure. Manufacturers will be generating efficiency data on less-than 20-gallon electric storage water heaters once the UEF metric is fully adopted and incorporated into the regulatory scheme for the greater-than 20 gallon gas and electric storage water heater products. In the coming year, manufacturers will be devoting resources to testing and analysis of less-than 20-gallon electric storage water heaters in support of a future rulemaking on these products. Importantly, AHRI anticipates working closely with DOE and other stakeholders in developing appropriate standards for these products. Thus, AHRI requests that DOE remove the converted standards for less-than 20-gallon electric storage water heaters and greater-than 120-gallon water heaters so that these products can be properly addressed in a separate, rulemaking.

Issues on Which DOE Requested Comments

Below are comments on the issues for which DOE requested comments. AHRI does not have information to provide on item 4 regarding electric instantaneous water heaters:

1. Is DOE's method of applying the regression for electric storage water heaters with storage volumes at or below 55 gallons in developing the conversion equation for grid-enabled water heaters appropriate?

AHRI agrees that the minimums are reasonable.

2. Is DOE's use of the standard and low-NOX conversion to calculate the energy conservation standard for consumer gas-fired storage water heaters less than or equal to 55 gallons, and its tentative decision not to propose separate standards for ultra-low NOX gas-fired storage water heaters appropriate?

AHRI supports the use of a single set of energy conservation standards for ultra-low NOx, low-NOx and standard gas fired storage tank water heaters less than or equal to 55 gallons. Product design parameters that affect energy efficiency metrics for the classes of water heaters previously mentioned are similar and should not necessitate the creation of another conversion method.

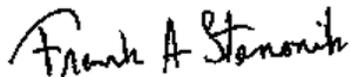
3. Are DOE's assumptions for the typical input rating and recovery efficiency of consumer gas-fired storage water heaters above 55 gallons appropriate?

A recovery efficiency of 0.90 for condensing gas-fired storage tank is reasonable as is the assumption 65 kBtu/h.

Also, on page 59787, DOE requested comment on whether standby heat loss coefficient (UA), Annual Energy Consumption (E_{annual}), Annual Electrical Energy Consumption ($E_{\text{annual,e}}$), and Annual Fossil Fuel Energy Consumption ($E_{\text{annual,f}}$) should be included in the parameters manufacturers are required to submit to DOE and further that they be available to the public in the Compliance Certification Database. AHRI agrees with DOE's decision not to add these values to the certification report. These values are not the ratings that represent the efficiency and capacity of the model and they are not necessary for establishing compliance with DOE efficiency regulations. Furthermore, this information is not necessary for consumers to be able to compare the efficiency of models in the database. Including this information would only confuse that comparison process.

AHRI appreciates the opportunity to submit comments on this rulemaking and looks forward to working with DOE through this transition in the water heater test procedure.

Respectfully submitted,



Frank A. Stanonik
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