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October 18, 2013

Ms. Brenda Edwards  
U.S. Department of Energy  
Building Technologies Program, MS EE-2J  
1000 Independence Avenue, S.W.  
Washington, D.C. 20585-0121

Re: Framework Document on Commercial Packaged Boilers

Docket No. EERE-2013-BT-STD-0030

Dear Ms. Edwards,

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 commercial boilers (gas and oil fired) account for the large majority, at least 75%, of all commercial gas and oil boilers with input ratings of 5 million Btu/h or less that are sold and installed in the U.S. These members also manufacture commercial packaged boilers with higher input ratings. We submit the following comments in response to the notice of availability of the Framework Document issued in the September 3, 2013 Federal Register. This notice initiated the rulemaking to amend the energy efficiency standards for commercial packaged boilers and identified issues related to the rulemaking analysis on which DOE is seeking comments. Our comments include both general comments and comments on the issues listed in the Framework document.

#### General Comments

The scope of the analysis for this rulemaking is too broad and unnecessarily complicated. Additionally, the inclusion of a concurrent rulemaking to revise the efficiency test procedures for commercial packaged boilers will hamper our ability to comment on the analysis as it proceeds.

The scope of the analysis is too broad in that it intends to address the entire range of commercial packaged boilers that goes from models with input rates of 300,000 Btu/h to models with input rates of 30,000,000 Btu/h and higher. Except for the fact that these models may fit the same definition, there is no commonality between these models. Many of the factors that will be considered in the analysis, as described in the Framework document, will be entirely different for a boiler with an input rate of several hundred thousand Btu/h as compared to a boiler with an input rate in the tens of millions of Btu/h. Whatever information is developed on the design, manufacturing, distribution, marketing, installation and use of a small commercial packaged boiler will have little relevance to the same aspects for a very large commercial packaged boiler and vice versa.

The Framework document is unnecessarily complicated in that it introduces factors that have little or no effect on the efficiency of the boiler as measured by the current efficiency test procedure. One such example is the consideration of specific installations that will not influence the ultimate conclusions of the analysis. In the context of the analysis, it does not matter if a commercial boiler is installed in a residential building to provide space heating. The boiler is still performing the function it was designed to do and operating to meet a heating load appropriate for its heating capacity. Another example is the consideration of boilers that, as installed, are providing space heating and water heating. The efficiency standard applies to commercial packaged boilers that are space heating boilers. If a specific unit is installed also to provide potable hot water, that function has no relevance to the standard that specifies how efficiently the boiler must operate in providing space heating function.

At the October 1, 2013 public meeting, DOE provided a preliminary schedule for the rulemakings on the efficiency standard and test procedures. The preliminary analysis is projected to be available in July 2014. This is several months before the issuance of the Notice of Proposed Rulemaking (NOPR) for the efficiency test procedures; projected for September 2014. According to this schedule the preliminary analysis will have to be based on the current test procedures. But then within months a revised test procedure will be issued that may significantly change the efficiency ratings of commercial packaged boilers. Depending on how different the proposed test procedure is, much of the preliminary analysis may be rendered useless. More importantly, it will be an unnecessary expenditure of time and resources to develop comments on the preliminary analysis. This becomes particularly evident when it is recognized that those comments likely will be due before the test procedure NOPR is issued. The subsequent release of the NOPR will require us to evaluate the effect of the proposed efficiency test procedure on the ratings of commercial boilers and force us to review the preliminary analysis a second time to assess the effect of the changes on the analysis. The interjection of a test procedure rulemaking within the schedule for the efficiency standard rulemaking creates a moving target factor in this rulemaking that undoubtedly will require us and all others involved to conduct iterative analyses and comments. This is an unnecessary regulatory burden.

DOE is projecting the final rule for the efficiency standard to be issued in July 2016. There is sufficient time between now and then to conduct the test procedures and efficiency standards rulemakings in an orderly, logical and consecutive process. We recommend that DOE reorganize its priorities and work on the rulemaking to revise the efficiency test procedures first. We believe that rulemaking could be completed several months before July 2015, possibly sometime in 2014. Then, after the revised test procedure is final, DOE can conduct the analysis and rulemaking on the revised efficiency standards. Such a schedule will result in a less complicated analysis for the revised standards. Furthermore, it will minimize as much as possible the burden involved in responding to the DOE rulemakings.

#### Comments on Items

Item 2-1 DOE welcomes comment on the proposed scope of coverage and on whether there are any additional types of commercial packaged boilers that should or should not be included in the scope of this rulemaking.

We support the current scope of coverage in terms of the types of boilers addressed by this rule, i.e., gas-fired and oil-fired packaged low pressure boilers. However, we recommend that the scope be modified to cover only packaged low pressure boilers below a specified input rating. During the discussion of a related rulemaking on the certification and enforcement requirements for commercial boilers, a number of significant issues have been identified regarding the difficulty of testing boilers with very large input ratings (e.g. around 10 million Btu/h and up) to measure their efficiency. DOE's NOPR on alternative efficiency determination methods (AEDMs) creates the possibility that the efficiency rating of some of these higher input models may be determined without testing the model. Furthermore, the test procedure rulemaking will likely introduce some practical input rate limit, above which the test will not apply. All these factors will lead to a result that some currently covered commercial boilers will no longer be required to be tested. If the model is no longer tested for efficiency, it can no longer logically be required to meet a minimum efficiency standard. A minimum efficiency standard cannot be established for models for which there is no efficiency measurement.

We recommend that the scope of the efficiency test procedure be limited to a maximum input rating of 5,000,000 Btu/h. A corresponding limit to the scope of the efficiency standard also should be established.

Item 2-2 DOE welcomes comments regarding the need to include electric commercial packaged boilers in this rulemaking.

We agree with the preliminary decision to not include electric boilers in the scope of coverage.

Item 2-3 DOE requests comment on pursuing standby mode and off mode energy conservation standards for commercial packaged boilers.

We recommend that DOE not pursue the development of standby and off mode energy conservation standards. Federal Law does not require DOE to include standby and off mode standards in this rulemaking. Furthermore, it is not clear that DOE has authority to specify multiple efficiency standards for commercial boilers.

The space heating systems that use a commercial boiler(s) as the source of heat are widely diverse in design, size and complexity. The electrical consumption of those systems during standby is considerably larger than any electrical consumption of the boiler. Also, commercial boiler heating systems are more likely to be shut down during the non-heating season because building owners and boiler operators are more aware of the energy used to operate the heating system.

Any attempt to establish standby and off-mode energy standards for commercial boilers is focusing on the components of the system that contributes the least to the overall consumption of the heating system and imposes increased cost for minimal energy savings. The objective of lower standby and off mode consumption can be best achieved by considering the system and not the boiler. Any reduction in the standby or off mode consumption of just the boiler will not be significant relative to the overall consumption of the heating system in those same operational modes. Consider a 1,000,000 Btu/h boiler with 30 watt standby power consumption. Assume that the boiler is in standby mode 85% of the time and firing only 15% of the time. The standby

electrical power consumption of this example would account for about only 0.05% of the power consumed by this product.

Item 2-4 DOE welcomes comment as to whether there are any size-related issues with conducting testing under the DOE test procedure which the agency should consider addressing in its test procedure rulemaking. DOE is also interested in any comments regarding whether there is a capacity limit beyond which amended energy conservation standards would not be technologically feasible and economically justified.

See comment on Items 2-1 and 2.

Item 3-1 DOE welcomes comment on all aspects of the current DOE test procedure for commercial packaged boilers and on whether the test procedure is in need of updates or revisions.

We are deferring our comments on efficiency test procedures. The large number of items and the complexity of the proposed analysis described in the Framework document precluded us from developing comments on test procedure issues at this time.

Item 3-2 DOE requests feedback on issues or problems with the current test procedure that may make it burdensome or infeasible for manufacturers to conduct testing on some or all models of commercial packaged boilers. Specifically, DOE requests comment whether the operating pressures required by BTS-2000 are not achievable for any commercial packaged boilers within the scope of this rulemaking.

See comment on Item 3-1.

Item 3-3 DOE requests feedback on testing conditions within the current test procedure that may need to be refined to ensure fair comparison of efficiencies across commercial packaged boiler models.

See comment on Item 3-1.

Item 3-4 DOE welcomes comment on alternative industry test methods for determining the efficiency for commercial packaged boilers, particularly with regards to how an alternative standard would improve or not improve upon the current test procedure based on BTS-2000, and on the comparability of efficiency ratings determined using the alternative standards to those from a BTS-2000 test.

See comment on Item 3-1.

Item 5-1 DOE welcomes data that would contribute to the market assessment, including but not limited to information on national historical shipments, distribution channels, and manufacturer market shares of commercial packaged boilers.

At this time we are unable to provide any statistical data on shipments. We will be consulting with our members that manufacture commercial boilers to determine what information we can provide to DOE.

Item 5-2 DOE welcomes comment on the listed national trade associations for commercial packaged boilers. Specifically, are there trade associations not listed here that should be included?

We have no comment.

Item 5-3 DOE welcomes comments on its considered equipment classes. Are there any other performance-related features that should be considered for commercial packaged boilers equipment classes?

The current equipment classes are appropriate. An upper input rate limit should be established for “Large” commercial boilers.

Item 5-4 DOE welcomes comments on the technologies identified, as well as any additional technology options which have not been identified.

The list of technology options to improve combustion or thermal efficiency is smaller than that noted in the Framework document.

The establishment of a federal minimum thermal efficiency requirement for small hot water commercial boilers has already caused manufacturers to improve jacket insulation. Any additional or improved insulation will provide minimal or no improvement in the boiler’s thermal efficiency.

Burner derating was one of the first options manufacturers utilized when the first minimum efficiency standards were established. Most of the boilers available today are either older designs that have been derated along with other changes to increase the model’s efficiency; new designs which operate at a single firing rate which is optimized for the heat exchanger; or new designs which have burners that operate at multiple firing rates. The result is that in 2013, burner derating is no longer a significant option to increase efficiency on commercial boilers.

Improved burner technology, of itself, does not directly result in increased efficiency. A pulse combustion burner is just a specific way to achieve a condensing boiler design. Pre-mix burners may use less excess air to achieve complete combustion but not all pre-mix burners provide the same capability to control and match the combustion air to the fuel input rate.

The use of a combustion pre-heater will provide minor improvement in the measured combustion efficiency of a commercial boiler. The test procedure specifies that commercial boilers are tested indoors with the ambient temperature at normal indoor conditions. However, the cost of implementing this design is significant. This disproportionate cost to benefit ratio indicates that this is not a design option that should be considered.

Economizers may be more beneficial on large commercial boilers on condensing boilers. However, as described in the Framework document, an economizer that is heating feed water will have no benefit to the thermal efficiency of a small commercial boiler that is recirculating water in a heating system that is essentially a closed system.

All of the technology options to reduce standby and off mode energy consumption of a boiler are means to reduce electrical consumption. None of these options should be considered further as

the potential energy savings relative to the overall consumption of the boiler is negligible. Also, as noted in our comment on Item 2-3, the boiler's electrical consumption is insignificant compared to the larger electrical standby consumption of the heating system. Since many commercial boiler heating systems are shut down during the non-heating season, any design changes to reduce off mode consumption will not provide any savings in actual use of the boiler.

The technology options to reduce seasonal boiler energy consumptions provide no measurable efficiency improvement using the current efficiency test procedures. Therefore, these options should not be included in this Framework document at this time. Until a revised efficiency test procedure has been developed, any consideration of these options is just an unnecessary intellectual exercise. Even after the revised test procedure is finalized, the significance of these options will be only in the context to which their benefit, if any, is measured by the test procedure. This is one more reason why DOE should conduct and complete the test procedure rulemaking first and then proceed with the efficiency standard rulemaking.

Item 6-1 Of the technologies listed in section 5.4, are there any that should be screened out based on the four screening criteria? If so, which criteria apply and why?

See comment on Item 5-4

Item 7-1 DOE seeks input regarding the range of efficiency levels and any key efficiency levels that should be examined as part of its analysis.

We have no comments on efficiency levels. However, in considering key efficiency levels DOE should recognized the vent categorization coverage that has been established for gas-fired equipment. In particular, that coverage establishes a combustion efficiency of 83% as a general line of demarcation between models that are not designed to condense in the vent and those models that are designed to condense. Furthermore, models with efficiency ratings above that line require vent systems that are different from the common type B vent systems used on many existing installations.

Item 7-2 DOE seeks comment on the appropriate max-tech levels for commercial packaged boilers.

Hot water boilers identified as "max tech" for the purposes of this analysis should only be those models which are commercially available and for which there is significant field experience in North America. Market forces are already driving manufacturers to develop higher efficiency products in this class and it is therefore unlikely that DOE will identify a technology not already in commercial use that is safe, reliable, and cost effective.

The current AHRI Commercial Boiler Efficiency Rating Directory does include gas and oil hot water models that are condensing designs. This is the technology currently being utilized to manufacture the highest efficiency models. In considering the max-tech levels for these types of boilers, DOE must factor in the variability of the test procedure. Although models may have efficiency ratings that differ by several tenths of a percent, the higher efficiency rating should not automatically be considered the max-tech efficiency level. Models that have efficiency rating near, but less than that specific rating, are employing the same technology. The variation in

efficiency ratings may be due to models having different input ratings or to the variability that is inherent in the test procedure.

The existing installations of gas and oil steam boilers are more likely than hot water boilers to present the situation where there are no practical alternatives to natural draft venting, particularly in urban areas. Therefore, the practical “max tech” level for this class should be limited to an efficiency appropriate for traditional natural draft venting systems.

Item 7-3 DOE seeks input on the representative capacity and other representative characteristics for each commercial packaged boiler equipment class.

This item illustrates the complexity of the analysis proposed in the Framework document. Given the unlimited range of commercial boilers covered by the efficiency standard and factoring in the very diverse applications in which commercial space heating boilers are used, there is no single representative capacity or set of characteristics that can serve as a reasonable “baseline” model.

Item 7-4 DOE seeks input on characteristics which may require multiple representative equipment types within a single equipment class.

DOE should consider the following characteristics in each equipment class:

- (1) Heat exchanger material: Stainless steel, steel, copper, aluminum, cast iron.
- (2) Heat exchanger construction: Single piece, sectional, water tube, fire tube.
- (3) Burner type: Atmospheric, induced, premix, power

Item 8-1 DOE seeks interested party input on whether the distribution channels described above are appropriate for commercial packaged boilers.

The distribution channels described in the Framework document are appropriate. However, there are other distribution channels in which the wholesaler sells the boiler to a general contractor who hires a mechanical contractor to make the installation. For larger boilers, there is a version of the channel described in Figure 8.1 in which the wholesaler is replaced by either a manufacturer’s representative or a service agency which offers commercial boiler sales and installation.

DOE should also recognize that the distribution channels which are most often used for commercial boilers that are built-to-stock will be different than the distribution channels most often used for commercial boilers that are built-to-order.

Item 8-2 DOE seeks input on the percentage of equipment being distributed through the different distribution channels, and whether the share of equipment through each channel varies based on equipment class or equipment capacity.

We have no comment.

Item 8-3 DOE welcomes suggestions and comments concerning its proposed approach to developing estimates of future commercial packaged boiler retail prices.

The approach may be valid, but given the complexities of the commercial boiler market, it is unlikely to provide a reasonable estimate of price. The mark-up that occurs at various stages include additional components for the heating system or additional services which make it difficult to discern the price increase actually attributable to boiler design changes made to increase efficiency.

Item 8-4 DOE seeks recent data to establish the markups for the parties involved with the distribution of the equipment.

We have no data to provide.

Item 9-1 DOE seeks input on the planned approach for determining the energy consumption of commercial packaged boilers in commercial buildings.

We have not had sufficient time to review the referenced sources that will be used to determine the energy consumption of commercial boilers in various types of commercial building

There is a potential major flaw in this approach. If it is assumed that the heating load of the commercial building is being met by a single boiler that is sized to meet the maximum anticipated heating load, the analysis will mischaracterize the consumption of the boilers being used in the field. In certain commercial buildings it has been a common practice to install multiple boilers, one of which is an emergency backup boiler used only when the primary boiler breaks down or requires service. In more recent years, commercial boiler installations are being made with multiple boilers that are controlled to operate sequentially as the heating load increases or some of the installed boilers are sized to meet the heating load during the more typical, rather than most severe, winter day, and an additional boiler is installed only to operate on the coldest days of the year when the heating load is at its highest. In the latter case, the boilers that operate during the typical days tend to be higher efficiency models and the boiler that operates infrequently may be a minimum efficiency model. The significant point is that the operation of the installed boilers is less than would be estimated based on an assumption that one boiler is providing all the heat for the building.

Item 9-2 DOE seeks historical shipment-weighted commercial packaged boiler efficiency data or shipment data by efficiency bins. DOE is primarily interested in obtaining this data during the last 10 years to capture the impact of the most current technologies on the boilers market.

See comment on Item 5-1.

Item 9-3 DOE seeks input on data sources that it can use to characterize the variability in annual energy consumption for commercial packaged boilers. DOE is particularly interested in field monitoring studies and data.

We have no data to provide.

Item 9-4 DOE requests comment on what other energy use by commercial packaged boilers should be included in the energy use analysis.

The analysis should not consider any energy used by the commercial boiler other than the fuel supplied to fire the boiler.

Item 9-5 DOE welcomes comment on whether the rated thermal efficiencies for all commercial packaged boiler equipment should be adjusted to reflect return-water conditions (previously done for condensing boilers only).

The analysis should not attempt to adjust rated thermal efficiencies to reflect return-water conditions. DOE does not have the data needed to determine what typical return water temperatures are in the field. So any adjustment would be an unsupported estimate. Furthermore, many installations today employ an outdoor reset which adjusts the boiler operation base on the heating load. With the use of this control, the typical return water temperature becomes more difficult to characterize.

Item 9-6 DOE seeks input on what fractions of hot-water commercial packaged boilers are used both for space heating and hot water.

We have no data to provide.

Item 9-7 DOE seeks input on the fraction of commercial packaged boilers used in residential applications. Is this market large enough that DOE should take it into account?

We have not date to provide. We do not believe this factor needs to be considered. A commercial boiler installed in a residential application is there because that is what was needed to meet the heating load. From that perspective, it is still a commercial boiler application even though the building in which it is installed is a residence.

Item 9-8 DOE seeks comments on the rebound effect that may be associated with more-efficient commercial packaged boilers.

The rebound effect is not a significant factor in commercial boiler installations.

Item 10-1 DOE seeks interested party input on its proposed approach of using probability distributions and Monte Carlo simulation to conduct the LCC and PBP analysis.

We have no comment.

Item 10-2 DOE requests data from interested parties to characterize the current mix of commercial packaged boiler efficiencies in the market.

A review of the listings in AHRI's Directory of Commercial Boiler Efficiency Ratings will provide some information on the mix of commercial boiler efficiencies in the market. However, it must be recognized that the listing information does not represent the actual mix of efficiencies of commercial boiler being sold and installed. Also, that AHRI directory does not include all models of commercial boilers in the market. In particular, there are few models with input ratings in the 6 to 8 million Btu/h range and no gas-fired models with input rates higher than 9.5 million Btu/h and no oil-fired models with input rates higher than 8.5 million Btu/h.

Item 10-3 DOE seeks input on the planned approach for estimating future energy prices.

We have no comment.

Item 10-4 DOE seeks interested party input on the maintenance and repair costs approach. Specifically, DOE requests comment on frequency and cost of maintenance, major repair issues, repair frequency, and repair costs for commercial packaged boilers that meet the minimum efficiency standards, as well as for higher-efficiency boilers.

We have no comment at this time. We are not familiar with the MARS 8 Facility Cost Forecast System database and have not had adequate time to review it. We request that DOE provide details on the scope and applicability of this database relative to the range of buildings in which commercial packaged boilers are installed.

Item 10-5 DOE seeks interested party input on its proposed installation cost approach. Specifically, DOE requests data on the fractions of installations that would entail significant additional installation expenses.

The Framework document does not provide enough information on the details of estimating installation costs to allow us to address this item. We do note that the proposed analysis does not consider possible changes that may be required to the heating systems radiators to achieve the lower return water temperatures that are specified for condensing commercial boilers.

Item 10-6 DOE seeks comments on the methodology used to determine equipment lifetimes for commercial packaged boilers.

There are two distinct classes of gas commercial packaged boilers on the market today; models that are non-condensing and condensing models. DOE should address the estimated lifetime of each class separately. The greater part of the installed base of commercial boilers is models that do not utilize condensing technologies. These boiler models have a decades-long history of use that allows for an acceptable estimate of product lifetime. Condensing gas commercial boilers are relatively new to the market. These models have become a significant part of the commercial boiler installations in the past 15 years or so. As such, condensing gas commercial boilers have a comparatively short history of field use from which to try to estimate a product lifetime. The estimated lifetime for these models in the analysis must be determined differently because of this limited history.

As a corollary to this comment, a single Weibull distribution will not properly characterize the lifetimes of all gas commercial packaged boilers.

Item 10-7 DOE seeks interested party input on its planned approach for estimating discount rates for commercial customers.

We have no comment.

Item 10-8 DOE requests data on the efficiency distribution and welcomes comment on the likelihood and degree of improvement in efficiency of commercial packaged boilers in the next 5 to 10 years as a result of market forces or industry trends (in the absence of amended energy conservation standards).

We have no data on the specific efficiency distribution of commercial boilers being sold and installed today. However, there are some trends that should be considered in addressing this item. Most new models that are being developed and introduced into the U.S. market are high

efficiency designs. This is particularly true of models with input ratings of 5 million Btu/h or less. Also, there are incentive programs offered in many locales that promote the installation of high efficiency boilers. The continued existence of these programs will continue to increase the percentage of higher efficiency boilers in the field.

Item 11-1 DOE welcomes comment on the shipments projection methodology.

We have no comment.

Item 11-2 DOE invites comments regarding the selection of appropriate economic drivers and sources of data for historical shipments and shipment breakdowns by equipment class.

We have no comment.

Item 11-3 DOE seeks historical commercial packaged boiler shipments data from interested parties, disaggregated by equipment class and efficiency level if possible.

See comment on Item 5-1

Item 11-4 DOE seeks input from interested parties on the potential impact of amended standards on commercial packaged boiler shipments.

This item is too vague to answer at this stage of the process since no proposed standard levels have been identified yet. Any standard level that significantly increases the installed cost of a commercial boiler will reduce boiler shipments because the majority of commercial boiler sales are for replacement installations and, more so than other commercial products, there is a general inclination to repair and replace parts on commercial boilers rather than install a new boiler. Efficiency standards that result in products with higher installed costs will simply reinforce that inclination. DOE must recognize that at the current minimum standards levels, there are commercial boiler models available as options for every replacement installation that will not require significant alterations to the installation of heating system.

Item 12-1 DOE seeks comments on the appropriate assumptions to use regarding long-run changes in commercial packaged boiler energy efficiency independent of amended energy conservation standards.

The analysis needs to consider the changes that have occurred in recent years in commercial hydronic heating system designs. In particular, some installations use multiple boilers that are controlled to operate sequentially as the heating demand increases. The total input of the boilers is sized to meeting the design heating load but each individual boiler has a lower input rate. Other installations use a combination of one or more high efficiency boilers and a standard efficiency boiler in which the high efficiency boilers operate the vast majority of time during the heating season when the heating load is less than the designed maximum heating load. The standard efficiency boiler only operates on the coldest days to add heat to the system so that it meets the heating load of that extreme day. Also, the installation of commercial boilers that are designed to operate at more than one firing rate has been common in the past several. Systems using these boilers generally operate more efficiently since the burner on cycle is adjusted to some degree in response to the heating load.

Item 12-2 DOE requests comment on whether it should pursue a roll-up or shift approach for the national impact analysis.

DOE should continue to use the roll-up approach as it has for other rulemakings in the past.

Item 13-1 The Department requests input as to what consumer subgroups are appropriate to evaluate for commercial packaged boilers.

We have no comment.

Item 14-1 DOE seeks comment on appropriate manufacturer subgroups, if any, that DOE should consider in a manufacturer subgroup analysis for commercial packaged boilers.

We have no comment.

Item 14-2 DOE welcomes data on the names and number of small manufacturers in the commercial packaged boilers industry.

We have no comment.

Item 14-3 DOE welcomes comments on what other existing regulations or pending regulations it should consider in its examination of cumulative regulatory burden.

In addition to the revised test procedure for commercial boilers which has been discussed in our general comments, DOE should consider the following in examining the cumulative regulatory burden:

The increased minimum efficiencies and design requirements implemented for residential boilers in 2012

Current rulemaking on revised test procedures for residential boilers.

The certification reporting requirements for residential boilers.

The testing and certification requirements of the EPA Energy Star program for residential boilers.

The revised FTC EnergyGuide labels and regulations.

The pending revised DOE regulations on certification and enforcement of efficiency standards for commercial products.

The EPA emission regulations for boilers that are major or area sources.

Item 15-1 DOE seeks input on its approach to conduct the emissions analysis for the commercial packaged boiler equipment covered by this rulemaking.

The information provided in the Framework document regarding emissions analysis seems to be focused on power plant emissions. There are insufficient details in the document for significant comment on emissions analysis relevant to commercial boilers.

Item 16-1 DOE requests comments on the approach it plans to use for estimating monetary benefits associated with emissions reductions.

We do not have any information to answer this question.

Item 17-1 DOE welcomes input from interested parties on its proposed approach to conduct the utility impact analysis.

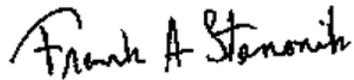
We have no comment.

Item 18-1 DOE welcomes feedback on its proposed approach to assessing national employment impacts.

We have no comment.

We appreciate this opportunity to provide comments and participate in this rulemaking.

Respectfully submitted,

A handwritten signature in black ink that reads "Frank A. Stanonik". The signature is written in a cursive, slightly slanted style.

Frank A. Stanonik  
Chief Technical Advisor