

**Stakeholder Comment Response Summary**  
**Boilers Draft 1 Version 3.0**

Topic	Stakeholder	Comment	EPA/DOE Response
Sunset Gas Boiler Spec	Crown Boilers	Crown believes that EPA would be better advised to eliminate the Energy Star program for gas boilers entirely than raise the specification to 90% as proposed. The increased costs associated with the purchase, installation, and shorter average life expectancy of condensing boilers are not justified by the resulting fuel savings. In support of this position, we are sending an analysis which is similar to one we shared with EPA in late 2011. This analysis shows payback periods that are negative for both condensing boilers considered. We agree with the 87% AFUE proposed for oil boilers	Many consumers already install condensing boilers, which supports EPA's judgment that, there are cost effective condensing boilers.  Regarding life expectancy, see response below.
Lifespan	Allied Engineering Company	European and East Asian manufacturers typically estimate the service life of their residential condensing boiler at 10-15 years. Many atmospheric boilers, in particular the steel fin tube type, have a service life in excess of 30 years.	Through numerous discussions with manufacturers and technical experts, EPA thoroughly explored this concern. In the absence of data showing otherwise, EPA continues to believe that if condensing boilers are properly installed and maintained, the life expectancy should be similar to non-condensing boilers and thus has maintained the ENERGY STAR level for gas boilers at the condensing performance level.
AFUE	Allied Engineering Company	AFUE - Using a single metric as a measurement and decision making tool focuses consumers on only one of many factors in heating appliance selection and forces them to make decisions based on limited information. As has been seen with the recent changes to AHRI's testing procedure, this metric has its limitations and the repercussions are significant. The change has impacted not only consumers but a myriad of government and utility programs that use AFUE as their benchmark.	EPA is aware that there may be technologies that result in energy savings from boilers when installed in the field that are not currently reflected in the AFUE-metric. DOE is currently reviewing the test procedure for residential boilers and welcomes all feedback on the existing test procedure. In addition, DOE will be investigating a metric which captures idle loss in cooling season for combination appliances. As DOE completes this work, EPA will fold those changes into future revisions.
Criteria	Allied Engineering Company	High efficiency atmospheric boilers operate as efficiently as modulating condensing boilers in many installation types including radiant panels, fan coils, indirect tanks and other common high return temperature installations. One of the unintended consequences of promoting condensing technology through both demand and supply management has been the uptake of electric boilers.	EPA recognizes that condensing boilers will deliver considerably more savings in some configurations than others, and advises consumers to rely on the advice of a qualified contractor for their particular situation. Since there will continue to be a place in the market for non-ES gas boilers, and since there is no possibility of an ENERGY STAR label for electric boilers, EPA does not see how this leads to electric boiler sales.
Cost	Allied Engineering Company	The initial cost for a condensing boiler will continue to be higher than an atmospheric when rebates are excluded.	Higher efficiency products can have higher cost; the ENERGY STAR label helps consumers identify those for which the higher initial cost is recouped in lower energy bills within a reasonable period.
Test Method	Lochinvar	It is important that a single agency, the DOE, establish test methods for all types of boilers to maintain consistency of communication in the marketplace and to impose the minimum test burden necessary to ensure accurate representation of product performance. Any promise or discussion of an idle loss requirement when there is no test method identified by the DOE is premature. At this time, we oppose any consideration of idle loss.	EPA will consider idle loss further once DOE establishes a test method for it.
Definitions	AHRI, Lochinvar	The input limit of "300,000 Btu" in the definition of residential boiler should be "300,000 Btu/h."	Change noted
Criteria	AHRI, Lochinvar	We note that EPA is considering this only for combination appliances. We agree that is the appropriate context for any consideration of the idle loss concept. Idle loss should not be considered as an additional criterion for residential boilers. AFUE is the metric specified by the DOE test procedures and the losses of the boiler as a heating appliance are addressed in that test procedure.	EPA will consider idle loss further once DOE establishes a test method for it.

## Stakeholder Comment Response Summary

Topic	Stakeholder	Comment	EPA/DOE Response
Rounding	AHRI, Lochinvar	Last month we submitted a comment to DOE recommending that the residential furnace/boiler test procedure should specify the rounding of the AFUE to the nearest tenth of a percent. The CFR section referenced in Section 3) B.b. of the draft specification does not clearly state that the AFUE is rounded to the nearest whole number. The AFUE listings in our certification programs are rounded to the nearest tenth of a percent and have been so for many years. We encourage EPA to modify this specification to reflect the industry's practice.	EPA will continue to follow DOE rounding requirements for AFUE.
Criteria	Energy Kinetics	Properly applied use of idle loss metrics and calculations across heat only boilers and combined heat and hot water systems will create a win-win-win for manufacturers, the environment, and consumers. If idle loss is not applied to both heat only and combined heat and hot water systems, the new metric may cause market confusion.	EPA will consider idle loss further once DOE establishes a test method for it.
Criteria	Energy Kinetics	EPA should adopt a Most Efficient qualification for any heat only or combined heat and hot water system with an 87% or greater AFUE and an idle loss of 0.5% or less.	EPA will consider idle loss further once DOE establishes a test method for it.
Criteria	Energy Kinetics	The lowest idle loss factors for top performing systems, specifically values less than 0.5% for low mass thermal purge systems and condensing boilers, identify very significant savings over products with less efficient physical characteristics. An appropriate idle loss default value below 0.5% may be accurate enough to limit optional manufacturer equipment test burden.	EPA will consider idle loss further once DOE establishes a test method for it.