



ENERGY STAR® Boilers

**Draft 2 Version 3.0
Stakeholder Meeting
August 20, 2013**

Abigail Daken, U.S. EPA

Agenda



- Welcome and Introductions
- ENERGY STAR Specification Development Cycle
- Drivers for Specification Revision
- Draft 2 Document Discussion
 - Condensing boiler life expectancy
 - Revised DOE test method for AFUE
 - Rounding
- Timeline and Next Steps

Development Process

Specification Development Cycle



Drivers for Specification Revision



- Current ENERGY STAR Version 2.1 specification has been in place since April 1, 2002
- New Federal minimum efficiency standards took effect in September 2012. The new minimum efficiency levels – gas boilers at 82% AFUE and oil boilers at 84% AFUE – are close to the current ENERGY STAR requirements.
 - Federal requirements also include design standards
- High Market Penetration. In 2012, estimated market penetration of ENERGY STAR qualified boilers reached 53% (gas boilers at 57% and oil boilers at 47%).

Draft 2 proposal



- Largely unchanged from Draft 1
- No stakeholder objections to dropping the option to use CAFUE to rate units
- Proposed requirements in Draft 2 are the same: 90 AFUE gas, 87 AFUE oil
- No consideration of idle loss b/c no test method
- Some stakeholders claimed condensing boilers have shorter life expectancy

Condensing Boilers – Life Expectancy



- Shorter life expectancy would result in increased number of replacements thereby increasing costs
- In an effort to validate the condensing boiler life expectancy, EPA reached out to various stakeholders, such as
 - contractors across different regions
 - manufacturers
 - energy advocacy groups
 - NRCan

Condensing Boilers – Life Expectancy



- EPA also reviewed the European Commission market analysis reports for any data on condensing boiler life expectancy
- Opinions varied among stakeholders, and no data or studies were found to validate the shorter life expectancy claim
- Discussion with various stakeholders indicated that with current, mature product designs and proper maintenance, condensing boilers will last just as long as the non-condensing boilers

Revised DOE Test Method



- In July 2013, DOE issued a final rule on the Residential Furnaces and Boilers test procedure
- The revised test method includes additional equations to calculate AFUE for two-stage and modulating condensing furnaces and boilers when manufacturers opt to omit heat-up and cool-down tests
- Several stakeholders asked if this would affect our requirements
- This depends on how it affects ratings

Revised DOE Test Method Questions



1. With the new calculation, are there condensing boilers with ratings lowered below 90% AFUE?
2. If the revised condensing boiler AFUE has lowered to 89% AFUE, is there a risk of near-condensing boilers qualifying to the program if EPA adopts that level?

Rounding Requirements



- DOE's rounding principles require AFUE to be rounded to the nearest whole percentage point
- To align with the DOE rounding principles, EPA proposes to revise the AFUE levels as follows:

Fuel Type	AFUE
Gas	90%
Oil	87%

Specification Development Timeline



- Jul. 25, 2013 Draft 2 released
- Aug. 20, 2013 Stakeholder Webinar
- Aug. 30, 2013 Draft 2 comment period closes
- Sep. 2013 Draft Final published
- Oct. 2013 Draft Final comment period
- Oct. 2013 Final published

Contact Information



At EPA

Abigail Daken

daken.abigail@epa.gov

202-343-9375

At DOE

Ashley Armstrong

Ashley.Armstrong@ee.doe.gov

202-586-6590

At ICF International

Sarah Medepalli

Sarah.Medepalli@icfi.com

202-677-5201



Questions?



Thank You