ENERGY STAR® Program Requirements for Boilers

Eligibility Criteria

Below is the product specification (Version 2.0) for ENERGY STAR qualified boilers. A product must meet all of the identified criteria if it is to be labeled as ENERGY STAR by its manufacturer.

1) Definitions: Below is a brief description of a boiler and other terms as relevant to ENERGY STAR.

   A. Residential Boiler: A self contained fuel burning appliance of less than 300,000 Btu per hour energy input, for supplying low pressure steam or hot water for space heating applications. A heating unit that meets this definition and also provides hot water for domestic or other use is considered a boiler for purposes of this agreement (see Combination Space-Heating and Water Heating Appliance below).

   B. Combination Space-Heating and Water Heating Appliance: Appliance that provides both space conditioning (boiler) and hot water heating with one appliance or energy source. The combination appliance circulates hot water from the water heater through a heat exchanger in the air handler. A blower will move the heated air through a standard duct system. In the summer, an air conditioner is connected to the exchanger and the system functions similarly, with cool air being pushed through the ductwork.

   C. AFUE: The Annual Fuel Utilization Efficiency ("AFUE") measures the amount of fuel converted to space heat in proportion to the amount of fuel entering the boiler. This is commonly expressed as a percentage. For purposes of this agreement, the efficiency of a boiler shall be measured using AFUE. Test procedures have been developed to test AFUE by the Department of Energy (DOE). These procedures are specified in 10 CFR part 430.

   D. CAafue: The Combined Appliance Annual Fuel Utilization Efficiency (“CAafue”) is the effective efficiency of the combined appliance in performing the function of space heating. When the primary heating source of the combined appliance is a residential boiler, the CAafue is the same as the AFUE of the boiler as determined by DOE test procedures specified in 10 CFR 430.

   E. Manual J Calculation: A calculation performed to determine the heating load for a residence or small commercial building. The calculation includes site-specific characteristics such as regional weather data, building framing materials, building insulation levels, building air infiltration levels and window area. The calculation follows procedures and protocols developed by the Air Conditioning Contractors of America.

2) Qualifying Products: Any boiler that meets the definition in Section 1A is eligible for the ENERGY STAR label.

3) Energy-Efficiency Specifications for Qualifying Products: Only those products listed in Section 2 that meet or exceed 85% AFUE (CAafue) energy-efficiency ratings may qualify as ENERGY STAR.

4) Test Criteria: Manufacturers are required to perform tests and self-certify those product models that meet the ENERGY STAR guidelines. Partner agrees to measure a boiler model's energy efficiency using the AFUE for space heating as determined by DOE using test procedures specified in 10 CFR part 430. Partner agrees to measure combination space-heater and water heater appliances based on ASHRAE Standard ANSI/ASHRAE 124-1991 “Methods of Testing for Rating Combination Space-

Heating and Water-Heating Appliances."

5) Effective Date: The date that manufacturers may begin to qualify products as ENERGY STAR will be defined as the *effective date* of the agreement. The ENERGY STAR Boiler specification is effective immediately.

6) Future Specification Revisions: ENERGY STAR reserves the right to change the specification should technological and/or market changes affect its usefulness to consumers, industry, or the environment. In keeping with current policy, revisions to the specification are arrived at through industry discussions.