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November 11, 2021

Ms. Abigail Daken  
Manager, ENERGY STAR HVAC Program  
United States Environmental Protection Agency  
Washington, DC 20460  
(Sent via email to [WaterHeaters@energystar.gov](mailto:WaterHeaters@energystar.gov))

**Re: Draft ENERGY STAR Version 5.0 Residential Water Heaters specification**

Dear Ms. Daken:

The Air-Conditioning, Heating, and Refrigeration Institute (AHRI) respectfully submit the following comments on the Draft ENERGY STAR Version 5.0 Residential Water Heaters specification.

AHRI represents more than 300 manufacturers of air conditioning, heating, commercial refrigeration, and water heating equipment. It is an internationally recognized advocate for the heating, ventilation, air conditioning, and refrigeration (HVACR) and water heating industries and certifies the performance of many of the products manufactured by its members. In North America, the annual economic activity resulting from the HVACR industry is approximately \$256 billion. In the United States alone, AHRI's members, along with distributors, contractors, and technicians, employ more than 1.3 million people.

AHRI supports Energy Star's mission to expand markets for more energy efficient products. Unfortunately, the proposed Energy Star specification for residential water heaters will not encourage consumers to purchase higher efficiency products. In fact, it could potentially result in increased energy consumption and greenhouse gas emissions.

The current proposal effectively makes all gas-fired storage water heaters non-compliant with the Energy Star program, as there are no gas-fired storage water heaters in the market with a UEF of 1.0.<sup>1</sup> Additionally, a UEF of .95 for instantaneous gas-fired water heaters would effectively phase out many high efficiency models currently sold in the market. AHRI recommends that

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<sup>1</sup> There are currently no gas-fired storage water heaters with a UEF of 1.0 listed in the AHRI Directory, which is a comprehensive list of all performance certified HVACR equipment that serves as a resource for consumers, contractors, and regulators. AHRI Directory, <https://www.ahridirectory.org/NewSearch?programId=24&searchTypeId=3>.

Energy Star adopt a value of 0.93 UEF, which would be a large increase over the current Energy Star Version 4.0 Specification and promote a larger adoption of energy efficient water heaters.

In addition, AHRI proposes that Energy Star update their values for Version 5.0 to include condensing equipment. The storage water heater requirements should be increased in a similar manner to instantaneous water heaters. Moving the Energy Star requirements from non-condensing technology to condensing technology, as opposed to moving requirements from non-condensing technology to a commercially unavailable class, will allow the market for condensing technology to continue to grow and increase efficiency, thereby reducing both energy consumption and greenhouse gas emissions immediately

Energy Star provides the basis for many consumer incentive programs operated by utilities and state and local governments. Accordingly, this proposal risks ending these incentive programs. The effect of this will be felt the hardest by low-income and underserved communities that cannot afford the higher initial costs of higher efficiency models and any additional installation costs associated with these products. Limiting the UEF to 1.0 would also cause consumers to bear installation costs including potential panel and electrical upgrades associated with installing an electric heat pump water heater, which would be the only existing Energy Star compliant storage water heater under the proposal.

It appears that the proposal is designed to promote gas heat pump water heaters that are not commercially available. Consumers that rely on the Energy Star label to provide “trusted guidance and online tools to help ... make smart decisions about improving the energy efficiency of their existing homes”<sup>2</sup> would no longer have that information immediately available to them when replacing existing gas-fired storage water heaters. With no other key indicator of energy efficiency and a loss of utility incentives, most consumers will use price as their key decision-making tool. Consumers are likely to select the least expensive replacement units, which are often those at the federal minimum of efficiency.

Furthermore, the entire HVACR manufacturing industry is experiencing unforeseen and unprecedented supply chain disruptions. This disruption, and specifically the shortage of specialty electronic components, makes producing controllers for emerging water heater technology extremely difficult. Given the long lead times of new HVACR equipment, as well as the additional pandemic constraints affecting the economy, development of new and emerging technologies has been greatly hampered. In light of this uncertainty, it is prudent for EPA to ensure that these technologies are fully vetted and commercially available prior to increasing the baseline of Energy Star eligible equipment classes for gas-fired storage water heaters.

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<sup>2</sup> Energy Star, About ENERGY STAR: “ENERGY STAR for the residential sector,” available at <https://www.energystar.gov/about?s=mega>.

We appreciate the opportunity to provide these comments. If you have any questions regarding this submission, please do not hesitate to contact me, [kbergeron@ahrinet.org](mailto:kbergeron@ahrinet.org).

Sincerely,

A handwritten signature in black ink, appearing to read "Kyle Bergeron", with a long horizontal flourish extending to the right.

Kyle Bergeron  
Regulatory Engineer

cc: H. Walter-Terrinoni