May 16, 2024

VIA ELECTRONIC MAIL

Ann Bailey, Director
ENERGY STAR Labeling Branch
United States Environmental Protection Agency
1200 Pennsylvania Avenue NW
Washington, DC 20004
HVAC@energystar.gov

RE: ENERGY STAR Program – Version 5.0 Furnace Specification Comments of New Jersey Natural Gas

Dear Director Bailey:

New Jersey Natural Gas Company ("NJNG") appreciates the opportunity to comment in response to the U.S. Environmental Protection Agency's ("EPA") April 16, 2024 first draft of Version 5.0 ENERGY STAR furnace specifications with a target effective date of 2026 ("April 2024 Proposal"). As outlined below, NJNG requests that EPA reevaluate the proposed specifications to preserve customer choice, extend and align ENERGY STAR timelines with other industry standards, incorporate dual fuel system applications, and develop new specifications for natural gas heat pumps to effectively enter the market.

On May 18, 2023, the EPA circulated a notice stating that it was proposing to phase out the ENERGY STAR labeling and promotion of residential natural gas furnaces. Subsequently, on April 16, 2024, EPA circulated a second notice related to natural gas furnaces proposing to increase the efficiency level to 97% Annual Fuel Utilization Efficiency ("AFUE") nationally, beginning in 2026. NJNG strongly supports the EPA's direction not to eliminate efficient natural gas furnaces from the ENERGY STAR program. NJNG appreciates the EPA's consideration of our and other stakeholders' comments in June 2023 regarding the importance of the ENERGY STAR label and the effect it has on customer choice and long-term benefits. NJNG believes the new program requirements and product specifications for furnaces should be amended to increase energy efficiency by achieving more energy savings, reduce greenhouse gas ("GHG") emissions, eliminate market gaps with streamline program criteria, and increase customer participation and equity.

Furnace Specifications Should Preserve Customer Choice

NJNG has been actively promoting the ENERGY STAR label to our customers for decades. We currently run programs that include rebates and/or on-bill repayment programs to encourage customers to pursue ENERGY STAR labeled appliances, equipment, and even comprehensive upgrades through Home Performance with ENERGY STAR. NJNG has provided customer incentives for more than 31,000 ENERGY STAR products, recognizing customers are interested in the best equipment, and are trained to look for the label as well as contractors who want to provide superior advice and service promote it as well. Many customers still prefer natural gas as the primary source for heating their home, especially in markets where it is the most cost-effective option.

The variation in prices for electricity and natural gas, the annual heating load, and the expected performance of either a new natural gas furnace or an electric heat pump, are critical considerations for estimating the annual cost to run the system for heating load. In many of the Northern climate markets, as well as our own market in New Jersey, natural gas is still the lowest cost option for home heating based upon the differential in fuel prices and the likely heat pump performance in the field. Based on our annual interactions with thousands of customers and contractors each year, we know many customers still consider installing equipment that meets the minimum efficiency levels because of the low upfront cost.

Align ENERGY STAR Specifications With Other Industry Standards

Within the 2024 Furnace Proposal, EPA notes that it is proposing certain steps to align its actions with DOE's efficiency standards. However, the 2024 Furnace Proposal's 97% AFUE requirement is higher than DOE's recently issued minimum efficiency standard for natural gas furnaces of 95% AFUE starting December 18, 2028,[1] and is currently the subject of a pending appeal. It would be prudent for DOE to delay action on changes to the ENERGY STAR program until the court proceeding on DOE's Consumer Furnace Rule is fully resolved by the court, by DOE after a remand, or by further proceedings. In the event this is resolved in the near future, NJNG respectfully suggests that the timing for a higher ENERGY STAR minimum shift to align with the implementation of the new efficiency standard.

Update ENERGY STAR Furnace Specifications for Dual-Fuel Systems

In the 2024 Furnace Proposal, EPA states that it is "interested in the potential for dual-fuel HVAC systems to serve as a lower cost option in cold climates." NJNG welcomes the EPA's consideration of dual fuel, or "hybrid heating," systems, which install a new heat pump with an existing furnace and would welcome future participation with EPA and other stakeholders in developing formal criteria and specifications to complement its April 2024 Proposal. NJNG strongly supports diverse stakeholder input, especially those with technical and operational expertise—such as contractors and operating equipment manufacturers ("OEMs")—to create meaningful and effective specifications for dual fuel applications. NJNG believes in providing our customers with economic benefits and comfort by optimizing both electric and gas equipment—electric heat pumps meeting heating needs during milder temperatures, or shoulder season, when they can maximize performance and efficiency benefits, with high efficiency gas heating equipment operating in colder temperatures when it is more cost-effective for the homeowner to operate and achieve comfort.

It is also critical to perform an accurate Air Conditioning Contractors of America ("ACCA") Manual J load calculation of the home to achieve optimal comfort and efficiency when installing new or replacement equipment. DOE has issued strategic guidelines on equipment sizing, and only after the loads are understood should the new equipment—furnace and heat pump—be selected utilizing the ACCA Manual S equipment selection process. The New Jersey Air Conditioning Contractors Association ("NJACCA") has also publicly expressed these concerns.[2]

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[1] *Energy Conservation Program: Energy Conservation Standards for Consumer Furnaces*, 88 Fed. Reg. 87,502 (Dec. 18, 2023) ("Consumer Furnace Rule").

[2] New Jersey Air Conditioning Contractors Association, July 27, 2023 Public Comments, In the Matter of the Implementation of P.L. 2018, c. 17, the New Jersey Clean Energy Act of 2018, Regarding the Second Triennium of

Benefits of hybrid heat installations using high efficiency gas furnaces include that they can conservatively provide a similar emissions profile to a fully electrified building over the lifecycle of conversions initiated well beyond 2030 – while avoiding significant costs of building out the electric system. This is true even before considering the use of extremely efficient natural gas heat pumps in a hybrid heat configuration, which would lower emissions even further. Source emissions must be considered because emissions profiles of heating systems are highly dependent on how clean the electric grid is. The current PJM system average electric marginal emissions rate is 1,006 lbs. CO2 per megawatt-hour, lowering the annual emissions for hybrid heat systems as opposed to electric heat pump only systems. By stepping in to fulfill energy demand as heating energy requirements increase, a hybrid heat system helps to intelligently manage demand by shifting energy load from the electric system to the gas system, improving systemwide reliability. And as customer adoption of hybrid heat systems continues, higher efficiencies will be gained along with associated emissions reductions.

For Considerations for Future Revisions of April 2024 Proposal, it is also important to look at operational efficiencies across climates. NJNG has reviewed independent industry field studies on hybrid heat applications, and the electric heat pump efficiencies vary depending on the equipment. Residential ccASHP Building Electrification Study (April 2022) in Massachusetts analyzed whole-home electric heat pumps and mini-split configurations, to assess COP curve with seasonal efficiencies that ranged from 2.0 to 2.7, dependent on temperature.[3] Furthermore, a NYSERDA study found that manufacturer-listed COP dropped from 3.5-4.0 down to 2.5 in real world conditions. The study also evaluated the space heating load, the percent of fuel reduction achieved, and greenhouse gas emissions savings associated with each home retrofit.[4]

Commercial businesses and residential consumers must be able to maintain their right to choose efficient, affordable, and reliable direct use of natural gas as an energy source. While extreme weather events often highlight calls for taking action to reduce emissions, they also display the need for a dual energy delivery system to ensure constituents are supplied the energy they need. We have noticed customers also rely more heavily on the gas system as a backup during large-scale electric outages. Roughly 30-40% of residents across NJNG's service territory rely on portable backup generators during power outages, with many more opting for stand-by natural gas generators for home, business, and critical infrastructure back-up power.[5] NJNG believes dual fuel systems are a perfect example of the type of solution that may be better for the customer and for the entire energy system.

The ENERGY STAR Program Should Include Natural Gas Heat Pumps

Natural gas heat pumps are an emerging technology and ideal product that aligns with the EPA's ENERGY STAR mission of promoting products that have substantial benefits but need broader support for wider market acceptance. Advantages of gas heat pumps include producing more energy than used to operate--creating efficiencies up to 140% AFUE, feasible options for plug-and-play installations limiting

Energy Efficiency and Peak Demand Reduction Programs, BPU Docket No. QO23030150.
[3] Cadmus, "Residential ccASHP Building Electrification Study" (April 22, 2022).
[4] NYSERDA, Hudson Valley Heat Pump Pilot Program: Demonstrating the Emerging Technology of Cold-Climate Air Source Heat Pumps, Report Number 22-08, April 2022.
[5] "Health Indicator Report of Portable Generators: Self-Reported Ownership for Use during Power Outages", New Jersey Department of Health, 2020.

expensive retrofits, ability to operate using refrigerants with very low or no global warming potential ("GWP"), no increase in electrical load, alleviating peak demand on the electric grid, and reliable performance in all climates.

It is important to note the differences in technology, making natural gas heat pumps a separate product class from the current natural gas furnace and boiler categories. There already is an American National Standard Institute ("ANSI") standard for natural gas heat pumps, ANSI/CSA Z21.40.4. An ENERGY STAR rating for natural gas heat pumps would provide a much-needed boost for a home and business heating and cooling product that offers another choice for consumers. NJNG believes gas heat pumps should be included in the ENERGY STAR Version 5.0 specification by following the Consortium for Energy Efficiency's ("CEE") method for creating test requirements and specifications, given their high efficiency, and capability of both space and water heating. Currently there are several programs and incentives that recognize gas heat pumps:

- Consortium for Energy Efficiency offers a Residential Heating and Cooling Systems Initiative that list different efficiency Tier levels for natural gas heat pumps.
- ANSI ICC 700 National Green Building Standard® provides compliance incentives for the installation of natural gas heat pumps.
- North American Gas Heat Pump Collaborative ("NAGHP"), with member utilities representing ~40% of gas heated households in North America, accelerates adoption of innovative technologies and energy efficient products to market.

While these programs are important for promoting natural gas heat pumps, the official recognition of an ENERGY STAR label for natural gas heat pumps would be far more effective in promoting these important efficient end use gas heating and cooling products. Gas heat pumps are already available to commercial customers today and would greatly benefit from ENERGY STAR classification as they become available for residential customers later in 2024.

Conclusion

NJNG respectfully requests that the EPA consider these comments in this proceeding and not implement the first draft of the Version 5.0 ENERGY STAR specification proposed on April 16, 2024. If you have any questions regarding this submission, please do not hesitate to contact the undersigned.

Respectfully submitted,

Anne-Marie Peracchio

Anne-Marie Peracchio
Managing Director Marketing and Energy Efficiency