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US Environmental Protection Agency Office of Air and Radiation
1200 Pennsylvania Avenue NW
Washington, DC 20460

March 18, 2019

Ms. Daken,

Northeast Energy Efficiency Partnerships (NEEP) appreciates the opportunity to provide comments to the ENERGY STAR program on the connected criteria for ENERGY STAR large loads. NEEP appreciates EPA's focus on those loads that have the most potential benefit from becoming connected. In reviewing the discussion guide, NEEP submits the following comments.

In general, NEEP is encouraging ENERGY STAR to incorporate and incentivize connected criteria in more specifications and amongst more products in the market. By encouraging more products to be connected, EPA could be helping better manage peak energy use on the most constrained days when a potentially dirtier, less efficient back-up generation supply may be needed for a grid to meet demand. While pollutants and carbon emissions are challenging to trace back to an individual product's energy use, we know that there are more peak days coming when energy can be at a premium; connected products offer the opportunity to help curtail some of the energy use at the most critical times. While many consumer electronics manufacturers are voluntarily adding connectivity to their suite of offerings for consumer interest, appliance and HVAC manufacturers has been much slower to embrace this trend. For those products with a potentially long shelf-life, including connectivity today gives the opportunity for control into the future.

Scope

NEEP appreciates EPA's focus on four key large load areas (water heaters, central air conditioners and air-source heat pumps (CAC/ASHP), pool pumps, and electric vehicle supply equipment (EVSE). As just about all homes have water heating and HVAC, but not all have pools or electric vehicles, NEEP would urge EPA to prioritize completing connected criteria for the water heating and CAC/ASHP products first, then moving to the EVSE and pool pumps.

CAC/ASHP

NEEP supports the addition of connected criteria for CAC and ASHPs. ASHP manufacturers have been slower to transition to including connected functionality in many of their products, and while their units have advanced modulation circuitry to maximize their performance, even basic connectivity signals could not only allow them to become grid assets, but could also improve the performance of a



system, particularly if it could anticipate outdoor weather conditions and ride out and/or pre-heat or cool to ensure smarter use of systems. As manufacturers are working to understand the benefits of incorporating connected functionality, we strongly urge EPA to be flexible in meeting this objective; if a smart thermostat could appropriately connect to an CAC/ASHP to ensure variable capacity systems are not compromised, having a controller or thermostat meet the connected criteria may be just as good a solution as housing the controls within the unit itself.

Water Heating

NEEP Strongly encourages EPA to include connected criteria in the water heating specification as soon as possible. As established in their 2019 report¹, the Regulatory Assistance Project found that heat pump water heaters were hugely beneficial but that they can also be built with connected functionality to optimize their performance for the homeowner and the grid.

EVSE and Pool Pumps

Both the charging behavior for electric vehicles and the motor operation time for pool pumps can significantly contribute to peak demand limitation; when those loads are connected and controlled, both EVSE and smart pool pumps can help shape use of electricity very well. NEEP encourages EPA to continue to work to expand connected criteria to these products after water heating and CAC/ASHP have been established.

Conclusion

Finally, we'll note that NEEP recently released a report that touches on many of the specific questions within the discussion guide. [The Smart Energy Home: Driving Residential Building Decarbonization](#). ENERGY STAR is and must continue to serve in a leading role in recognition of high performing products, and NEEP looks forward to continuing to support ENERGY STAR's efforts into the future. Please don't hesitate to contact us with any follow up questions or clarifications.

Sincerely,

A handwritten signature in black ink, appearing to read 'Claire Miziolek'.

Claire Miziolek
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¹ RAP, 1/30/2019, <https://www.raonline.org/knowledge-center/beneficial-electrification-of-water-heating/>