Appliance Standards Awareness Project
Natural Resources Defense Council
Rewiring America
RMI

March 3, 2022

Abigail Daken
EPA Manager, ENERGY STAR HVAC Program
U.S. Environmental Protection Agency
William Jefferson Clinton Building
1200 Pennsylvania Avenue, NW
Washington, DC 20460

RE: ENERGY STAR® Light Commercial HVAC Version 4.0 Final Draft Specification

Dear Ms. Daken,

This letter constitutes the comments of the Appliance Standards Awareness Project (ASAP), the Natural Resources Defense Council (NRDC), Rewiring America, and RMI on the Light Commercial HVAC Version 4.0 Final Draft Specification released on February 10, 2022. We appreciate the opportunity to comment.

We support the IEER levels for commercial unitary air conditioners (CUACs) and commercial unitary heat pumps (CUHPs) in the final draft. In ASAP et. al's comments on Draft 1 of the specification, we supported higher levels than those presented in the draft. While we prefer the higher levels we earlier recommended, we understand that EPA amended the IEER levels in the Final Draft in an attempt to strike a balance among model availability, product costs, and savings. While EPA has lowered the IEER criteria for CUACs and CUHPs, we believe that these new levels will still provide meaningful differentiation of products in the marketplace and result in significant energy savings relative to the DOE standards (effective January 1, 2023).

We support EPA's work on this specification to recognize cold climate performance for "very small" CUHPs and encourage the agency to adopt similar criteria for "small" and "large" CUHPs as soon as possible. In particular, we support the inclusion of capacity maintenance for unitary systems at the 5°F heating condition, which will likely help avoid the use of an inefficient electric or fossil fuel based backup heat source. We also support the introduction of the controls verification procedure (CVP) to verify that the unit's capacity and efficiency at 5° F are achievable when operating under the unit's native controls. The CVP is an important step to help ensure that heat pumps that are ENERGY STAR certified will perform well at cold temperatures when operating in the field.

The Final Draft Specification notes that EPA plans to adopt cold climate criteria for small and large CUHPs within a year, and we encourage the agency to do so as soon as possible. The adoption of efficient CUHPs that maintain capacity at low temperatures is a critical component of decarbonization, and this

segment of the CUHP market should not go unrecognized by ENERGY STAR for a significant length of time.

We encourage EPA to include reporting of capacity maintenance as part of the cold climate requirements criteria for VRF heat pumps. In the Comment Response Document, EPA states that it has elected to emphasize COP for VRF units and emphasize capacity maintenance for CUHPs. We understand that VRFs are more likely to be designed to carry the full heating load at design temperatures, which are likely below 17 °F, and therefore support the removal of capacity maintenance criteria.

Nonetheless, we think that the ability of VRFs to maintain capacity at low temperatures should be measured. We therefore encourage EPA to include reporting of capacity maintenance for VRFs. This information could help provide a better understanding of the low temperature performance of VRFs and could also serve to inform the establishment of criteria relating to capacity maintenance in the future, should the agency determine it was appropriate.

We encourage EPA to consider revising the scope of the specification in the next version to add criteria for water-source VRFs and to only allow heat pumps to qualify. We encourage EPA to expand the scope of the light commercial HVAC specification to include water-source VRFs. Water-source VRFs can be installed indoors (and some are stackable). This design feature is important for dense urban environments where many buildings (especially high rises) have limited roof space that cannot accommodate the footprint required for air-cooled VRF outdoor units. By including water-source VRFs in the ENERGY STAR scope, EPA can encourage the adoption of efficient VRFs in more installations.

Furthermore, we believe that EPA can play an important role in encouraging the adoption of electric heating and cooling equipment, which is key to decreasing the market share of heating equipment that burns fossil fuels and supporting national decarbonization goals. While EPA declined to limit the scope of the v4.0 specification to include only heat pumps, we encourage the agency to promote the targeted adoption of heat pumps over CUACs by excluding CUACs from future ENERGY STAR recognition.

Thank you for considering these comments.

Sincerely,

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