



**John J. Gibbons**  
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May 22, 2019

Ms. Abigail Daken  
Manager, Energy Star® HVAC Program  
U.S. EPA  
Washington DC, 20460  
(Sent via email to: [cacashp@energystar.gov](mailto:cacashp@energystar.gov))

**RE: Energy Star® Residential Air Source Heat Pump (ASHP) and Central Air Conditioner (CAC) Equipment Version 6.0, Draft 1**

Dear Ms. Daken,

Carrier Corporation provides fire safety, security, building automation, heating, ventilation, air conditioning and refrigeration systems and services to promote integrated, high performance buildings that are safer, smarter and sustainable. Carrier is the founder of the modern HVAC industry and operates across the globe. Our range of products includes unitary residential and commercial products, including ducted and ductless, transport refrigeration products, air and water cooled chillers, and HVAC building services. Carrier is part of United Technologies Corporation, a leading provider to the aerospace and building systems industries worldwide

The comments below are in response to the April 23, 2019 Energy Star® specification for CAC/ASHP products.

General Comments

Carrier is opposed to the Draft 1 Version 6.0 Energy Star® CAC-ASHP Specification as it is currently presented in the April 23<sup>rd</sup> draft. Our primary opposition stems from three specific concerns:

1. The proposed timing of Version 6.0 of 2020 is overly burdensome on OEMs. The HVAC industry is facing major energy conservation minimum efficiency standards changes for all unitary products (residential and commercial) effective January 1, 2023. As part of these efficiency changes, Department of Energy (DOE) is also implementing new test procedures and metrics (SEER2, EER2, and HSPF2). This proposal will require the re-testing and re-certification of all our legacy heat pump products under the new metrics. This testing would consume the development resources that are already dedicated to redesigning the product to comply with the 2023 DOE efficiency standards. Additionally, California is looking to move to lower global warming potential (GWP) or non-HFC refrigerants as soon as 2023. Furthermore, industry faces



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uncertainty regarding Canadian (Natural Resources of Canada) decisions whether to harmonize standards with the U.S. DOE standards. This adds further complexity to manufacturers. These changes combined are the largest transition in HVAC industry history and will require many resources in design, development, supply chain, and manufacturing. OEMs have twice the amount of development work given the two refrigerant product lines; one separate line for each refrigerant type. Engineering resources have already been committed to these significant programs and these dates will likely not be extended. It would be unreasonable to require Carrier and other OEMs to take on the additional regulatory burdens that EPA is proposing in this draft. In this same vein, Carrier also opposes moving to a 16 SEER level at this time. Minimum standards have been in place since 2015's regional changes and Energy Star® Version 5 requirements were implemented. Efficiencies dictate that the program not be changed until new minimum standards are in place in 2023.

2. The prescriptive requirement of minimum 2-stage or more capacities is also undesirable. It is not in consumers, manufacturers' or the environment's best interest for EPA to institute a technology-based prescriptive requirement. The current performance requirement has been sufficient and is easily understood by consumers. This approach also would reduce the potential Energy Star® compliant product offerings and significantly drive up consumers' first cost.<sup>1</sup> One of the comments during the public meeting revolved around the use case examples whether a single stage product provides similar or better efficiency/comfort than a staged unit. An example of this would be in a dry climate, such as the Southwest United States, where no dehumidification is needed, and a single stage product could provide equal efficiency and comfort. Requiring this specific technology could also serve to limit innovation. Lastly, EPA asked about what can be done about the alleged oversizing problem with residential unitary products. As Carrier has stated in the past, the best solution to oversizing is to encourage contractors to utilize the *ACCA/ANSI Quality Installation Specification & Verification Protocols*. Following those protocols will solve both of EPA's concerns.
3. The crossover of M & M1 test procedure is highly problematic. Carrier opposes the proposed implementation of a cold climate performance metric as a percentage of heating at 5°F. While this M1 procedure will go into effect in 2023, the "H42 test" or "5° test" will be optional. Additionally, this hybrid approach (M being current test procedure) is not something Carrier or the certification bodies can support at this time. This proposal will require the re-testing of heat pumps which are already undergoing redesign for the 2023 efficiency compliance date mentioned above. Another concern of this hybrid test is the additional reporting burden placed upon manufacturers and certification bodies, as this metric is not currently reported. Lastly,

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<sup>1</sup> As stated in the section above, Carrier opposes a move to 16 SEER for both AC & HP products.



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capital investments may be required to make OEM and 3<sup>rd</sup> party laboratories capable of running such low ambient conditions. This capital investment will be significant and not feasible in the proposed timeframe of Version 6.0.

Carrier also opposes other Draft 1 proposed criteria such as the regional-specific label for the cold climate heat pumps and the as yet undefined connected criteria; however, these concerns are minimal compared to the previously stated concerns.

Carrier is a long-time supporter of the Energy Star<sup>®</sup> program and wishes to continue working closely with the EPA and the Energy Star<sup>®</sup> program to develop Version 6.0 in 2023 in conjunction with the impending energy efficiency conservation standards.

Carrier appreciates the opportunity to provide these comments. If you have any questions regarding this submission, or wish to discuss further, please do not hesitate to contact me.

Respectfully submitted,

A handwritten signature in black ink that reads "John J. Gibbons".

John J. Gibbons  
Executive Director, Regulatory Affairs  
Carrier

CC: Mr. Christopher Kafura, Executive Director, Carrier Residential Engineering  
CC: Mr. Matthew Thornblad, Director, Government Relations, United Technologies Corporation  
CC: Mr. Matthew Pine, President, Carrier Residential HVAC