



Pacific Gas and
Electric Company®



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U.S. Environmental Protection Agency (EPA) Office of Air and Radiation
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Topic: Version 3.0 Draft 1 Room Air Cleaners Specification

Dear Mr. Leybourn:

This letter comprises the comments of the Pacific Gas and Electric Company (PG&E), San Diego Gas and Electric (SDG&E), and Southern California Edison (SCE), collectively referred to herein as the California Investor-Owned Utilities (CA IOUs), in response to the United States (U.S.) Environmental Protection Agency (EPA) Draft 1 on the Version 3.0 Room Air Cleaners Specification.

The CA IOUs comprise some of the largest utility companies in the nation, serving over 32 million customers in the Western U.S. We are committed to helping customers reduce energy costs and consumption while striving to meet their evolving needs and expectations. Therefore, we advocate for standards that accurately reflect the climate and conditions of our respective service areas.

We respectfully submit the following comments to EPA:

1. The CA IOUs recommend that EPA align the product scope of eligibility with the current U.S. Department of Energy (DOE) standard for room air cleaners.

As outlined in the Version 3.0 cover memo, Draft 1 proposes using the DOE's test procedure for room air cleaners as described in Appendix FF.¹ The proposed criteria set "an upper limit value of 600 for smoke CADR [Clean Air Delivery Rate] and dust CADR," aligning with the DOE standard.² However, the Version 3.0 criteria maintain a lower limit of 30 CADR cfm (cubic feet per minute) for ENERGY STAR® eligibility, which is higher than the 10 CADR cfm specified in the DOE standard. Lowering the limit to 10 CADR cfm would ensure that all federally compliant models have an equal opportunity to qualify for ENERGY STAR certification.

¹ Office of Air and Radiation, "ENERGY STAR Version 3.0 Draft 1 Room Air Cleaners Specification Cover Memo," ENERGY STAR, September 11, 2024, https://www.energystar.gov/sites/default/files/2024-09/ENERGY%20STAR%20Version%203.0%20Draft%201%20Room%20Air%20Cleaners%20Specification%20Cover%20Memo_0.pd.

² Office of Air and Radiation, "Draft 1 ENERGY STAR Room Air Cleaners Version 3.0 Specification," ENERGY STAR, <https://www.energystar.gov/sites/default/files/2024-09/ENERGY%20STAR%20Draft%201%20Version%203.0%20Room%20Air%20Cleaners%20Specification.pdf>.

After reviewing the archived specification development for room air cleaners, the CA IOUs recognize that EPA may have retained the lower limit of 30 CADR cfm to meet the reporting requirements, which include the “rated and measured CADR for pollen, dust, and smoke.”³ Although testing for dust and cigarette smoke is required to comply with the PM_{2.5}-based integrated energy factor (IEF) metric, testing for pollen is only necessary for reporting purposes. The DOE and EPA referenced test standard AHAM AC-7, which in turn references AC-1—AC-1 sets different CADR cfm limits for which the standards are not expected to produce accurate results for various particulates. Testing with dust and cigarette smoke particulates, which together comprise the PM_{2.5} metric, is accurate for products with a CADR rating above 10 cfm. In contrast, pollen testing is only sufficiently accurate at or above 25 cfm.⁴

The CA IOUs support the data collection for all three tested particulates but request that the EPA avoid limiting equipment eligibility based on the largest and most restrictive of the three particulates, pollen, for which testing is only a reporting requirement. The two smaller and less restrictive particulates, dust and cigarette smoke, are required to be tested to demonstrate compliance with the IEF. Therefore, we recommend that EPA expand the scope of the ENERGY STAR eligibility to include products rated at 10 PM_{2.5} CADR cfm and higher while amending the reporting requirements to make pollen CADR mandatory only for models with 25 pollen CADR cfm and above.

2. The CA IOUs recommend that EPA require manufacturers to report whether a model has an automatic mode.

In the 2022 DOE standards and test procedure process, a diverse group of stakeholders—composed of manufacturers, state agencies, and energy-efficiency organizations—recommended that DOE consider including “measurement of automatic mode” (presuming it would improve the test procedure’s representativeness) when amending the test procedure and energy conservation standards.⁵ This recommendation is significant because the current test procedure evaluates models only at their highest speed setting, and not under any other operating modes. Collecting data on automatic mode through a reporting requirement will assist DOE and stakeholders in the ongoing development of an automatic mode test standard for air cleaners through the AHAM AC-7 test standard, which is the referenced test standard in DOE’s Appendix FF.⁵ The information will also enable consumers to make more informed decisions when selecting products. Therefore, we request that EPA include a mandatory reporting requirement on whether a model has an automatic mode.

Although AHAM AC-7 defines “auto cleaning mode,” this definition is too broad. The CA IOUs recommend refining and clarifying it.

We propose that EPA adopt a slightly modified version of the AHAM AC-7 definition:

Auto cleaning mode means a mode in which the consumer room air cleaner is activated and automatically performs any of the functions listed in section 2.4.1.1 (cleaning mode) in response to sensor input without user operation.

³ Office of Air and Radiation, “Draft 1 ENERGY STAR Room Air Cleaners Version 3.0 Specification.”

⁴ *Method for Measuring Performance of Portable Household Electric Room Air Cleaners*, AHAM AC-1-2020 (Association of Home Appliance Manufacturers, June 2020), Section 2.

⁵ Office of Energy Efficiency and Renewable Energy, “Attachment 1 to Comment Submitted by Association of Home Appliance Manufacturers (AHAM) et al.,” Regulations.gov, Docket No. EERE-2021-BT-TP-0036, Comment No. 0004, August 23, 2022, <https://www.regulations.gov/comment/EERE-2021-BT-TP-0036-0016>.

This change would bring the definition in line with other international standards. For example, the Chinese standard GB/T 18801 which defines the term as:

“...[T]he mode of operation in which the cleaner relies on sensors and algorithms to complete automatic adjustment of the operating performance without operation by a user.”⁶

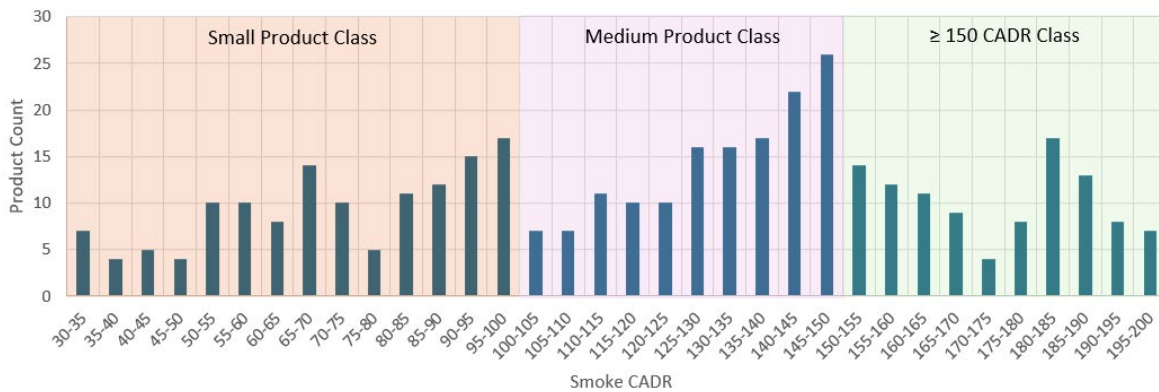
3. The CA IOUs recommend that ENERGY STAR adopt a single equation-based requirement instead of size-based product classes.

As evidenced by the DOE and EPA requirements that increase in stringency for larger CADR product classes, there is a general understanding that on average, larger CADR products can achieve higher energy efficiency levels more cost-effectively. In such a situation, capacity-based product class delineations without a clear technological or practical difference result in product availability densely populating at the higher end capacity range of each product class. Consequently, the less stringent standards of the smaller product class may still apply but are more easily achieved by a larger capacity product.

This effect is highlighted in the ENERGY STAR qualified product list as represented in Figure 1: there is a significant increase in the high-CADR models within the small- and medium-sized product classes but then a sharp decrease at the low-CADR end of the next class.⁷ The product spread of Figure 1 may not best represent the desires of consumers, but rather of manufacturers reacting to the product classes established by DOE and EPA. The CA IOUs therefore recommend that EPA adopt a single equation-based standard—similar to that deployed for each type of consumer refrigerator—that would remove any product class-based incentive for product development.

Figure 1: Qualifying Models per Smoke CADR Rating by Product Class

Source: ENERGY STAR air cleaner qualified product list. Last accessed 9/27/2024.



⁶ *Air cleaner*, GB/T 18801-2022 (State Administration for Market Regulation; Standardization Administration of the People’s Republic of China), <https://www.chinesestandard.net/PDF/English.aspx/GBT18801-2022#:~:text=The%20following%20products%20can%20be%20implemented.>

⁷ ENERGY STAR, *ENERGY STAR Certified Room Air Cleaners*, 2024, distributed by U.S. Environmental Protection Agency. Last accessed 9/27/2024. https://data.energystar.gov/Active-Specifications/ENERGY-STAR-Certified-Room-Air-Cleaners/jmck-i55n/about_data?_gl=1%2A1n74c%2A_ga%2ANjY0MTc0MjU2LjE3MTg4MTc2NzI.%2A_ga_S0KJTVVLQ6%2AMTcyODA3MTQwO-C42MC4wLjE3MjgwNzE0MDguMC4wLjA.

The CA IOUs appreciate the opportunity to provide these comments regarding the Version 3.0 Specification on room air cleaners. We thank EPA for its consideration and look forward to the next steps in the process.

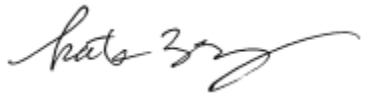
Sincerely,



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