DEPARTMENT OF ENERGY

10 CFR Part 430

[EERE-2021-BT-STD-0035]

RIN 1904-AF46

Energy Conservation Program: Energy Conservation Standards for Air Cleaners

AGENCY: Office of Energy Efficiency and Renewable Energy, Department of Energy.

ACTION: Direct final rule; confirmation of effective and compliance dates.

SUMMARY: The U.S. Department of Energy ("DOE") published a direct final rule to establish new energy conservation standards for air cleaners in the *Federal Register* on April 11, 2023. DOE has determined that the comments received in response to the direct final rule do not provide a reasonable basis for withdrawing the direct final rule. Therefore, DOE provides this document confirming adoption of the energy conservation standards established in the direct final rule and announcing the effective date of those standards.

DATES: The effective date of August 9, 2023, for the direct final rule published April 11, 2023 (88 FR 21752) is confirmed. Compliance with the new standards established in the direct final rule will be required on December 31, 2023.

ADDRESSES: The docket for this rulemaking, which includes *Federal Register* notices, public meeting attendee lists and transcripts, comments, and other supporting documents/materials, is available for review at *www.regulations.gov*. All documents in the docket are listed in the *www.regulations.gov* index. However, not all documents listed in the index may be publicly available, such as information that is exempt from public disclosure.

The docket webpage can be found at *www.regulations.gov/docket/EERE-2021-BT-STD-0035*. The docket webpage contains instructions on how to access all documents, including public comments, in the docket.

For further information on how to submit a comment or review other public comments and the docket, contact the Appliance and Equipment Standards Program staff at (202) 287-1445 or by email: *ApplianceStandardsQuestions@ee.doe.gov*.

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SUPPLEMENTARY INFORMATION:

I. Authority

The Energy Policy and Conservation Act, Pub. L. 94-163, as amended ("EPCA"),[1] authorizes DOE to issue a direct final rule establishing an energy conservation standard for a product on receipt of a statement submitted jointly by interested persons that are fairly representative of relevant points of view (including representatives of manufacturers of covered products, States, and efficiency advocates), as determined by the Secretary, that contains recommendations with respect to an energy or water conservation standard that are in accordance with the provisions of 42 U.S.C. 6295(o) or 42 U.S.C. 6316, as applicable. (42 U.S.C. 6295(p)(4))

[1] All references to EPCA in this document refer to the statute as amended through the Energy Act of 2020, Pub. L. 116-260 (Dec. 27, 2020), which reflect the last statutory amendments that impact Parts A and A-1 of EPCA.

The direct final rule must be published simultaneously with a notice of proposed rulemaking ("NOPR") that proposes an energy or water conservation standard that is identical to the standard established in the direct final rule, and DOE must provide a public comment period of at least 110 days on this proposal. (42 U.S.C. 6295(p)(4)(A)–(B)) Not later than 120 days after issuance of the direct final rule, DOE shall withdraw the direct final rule if (1) DOE receives one or more adverse public comments relating to the direct final rule or any alternative joint recommendation; and (2) based on the rulemaking record relating to the direct final rule, DOE determines that such adverse public comments or alternative joint recommendation may provide a reasonable basis for withdrawing the direct final rule. (42 U.S.C. 6295(p)(4)(C)) If DOE makes such a determination, DOE must proceed with the NOPR published simultaneously with the direct final rule and publish in the *Federal Register* the reasons why the direct final rule was withdrawn. *Id.*

DOE determined that it did not receive any adverse comments providing a basis for withdrawal described above for the direct final rule that is the subject of this document – air cleaners. As such, DOE did not withdraw this direct final rule and allowed it to become effective. Although not required under EPCA, DOE customarily publishes a summary of the comments received during the 110-day comment period and its responses to those comments. This document contains such a summary, as well as DOE's responses, for air cleaners.

II. Air Cleaners Direct Final Rule

Air cleaners are not currently subject to Federal energy conservation standards. On January 25, 2022, DOE published a request for information ("January 2022 RFI"), seeking comments on potential test procedure and energy conservation standards for air cleaners. 87 FR 3702. In the January 2022 RFI, DOE requested information to aid in the

development of the technical and economic analyses to support energy conservation standards for air cleaners, should they be warranted. *Id.*

In a final determination published on July 15, 2022 ("July 2022 Final Determination"), DOE determined that coverage of air cleaners is necessary or appropriate to carry out the purposes of EPCA; the average U.S. household energy use for air cleaners is likely to exceed 100 kilowatt-hours per year ("kWh/yr"); and thus, air cleaners qualify as a "covered product" under EPCA. 87 FR 42297.

On August 23, 2022, DOE received a proposal jointly submitted by groups representing manufacturers, energy and environmental advocates, and consumer groups, hereinafter referred to as "the Joint Stakeholders."[2] This proposal, titled "Joint Statement of Joint Stakeholder Proposal On Recommended Energy Conservation Standards And Test Procedure For Consumer Room Air Cleaners" (hereafter, the "Joint Proposal"[3]), recommended specific energy conservation standards for air cleaners that, in the commenters' view, would satisfy the EPCA requirements in 42 U.S.C. 6295(o). The Joint Proposal urged DOE to publish final rules adopting the consumer room air cleaner test procedure and standards and compliance dates contained in the Joint Proposal, as soon as possible, but not later than December 31, 2022. (Joint Stakeholders, No. 16 at p. 1) The Joint Proposal also recommended that DOE adopt industry standard AHAM AC-

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[2] The Joint Stakeholders include the Association of Home Appliance Manufacturers ("AHAM"), Appliance Standards Awareness Project ("ASAP"), American Council for an Energy-Efficient Economy ("ACEEE"), Consumer Federation of America ("CFA"), Natural Resources Defense Council ("NRDC"), the New York State Energy Research and Development Authority ("NYSERDA"), and the Pacific Gas and Electric Company ("PG&E"). AHAM is representing the companies who manufacture consumer room air cleaners and are members of the Portable Appliance Division (DOE has included names of all manufacturers listed in the footnote on page 1 of the Joint Proposal and the signatories listed on pages 13–14): 3M Co.; Access Business Group, LLC; ACCO Brands Corporation; Air King, Air King Ventilation Products; Airgle Corporation; Alticor, Inc.; Beijing Smartmi Electronic Technology Co., Ltd.; BISSELL Inc.; Blueair Inc.; BSH Home Appliances Corporation; De'Longhi America, Inc.; Dyson Limited; Essick Air Products; Fellowes Inc.; Field Controls; Foxconn Technology Group; GE Appliances, a Haier company; Gree Electric Appliances Inc.; Groupe SEB; Guardian Technologies, LLC; Haier Smart Home Co., Ltd.; Helen of Troy-Health & Home; iRobot; Lasko Products, Inc.; Molekule Inc.; Newell Brands Inc.; Oransi LLC; Phillips Domestic Appliances NA Corporation; SharkNinja Operating, LLC; Sharp Electronics Corporation; Sharp Electronics of Canada Ltd.; Sunbeam Products, Inc.; Trovac Industries Ltd; Vornado Air LLC; Whirlpool Corporation; Winix Inc.; and Zojirushi America Corporation.

[3] The Joint Proposal is available in the docket for this rulemaking at *www.regulations.gov/comment/EERE-2021-BT-STD-0035-0016*.

7-2022[4] as the DOE test procedure. (*Id*. at p. 6) In regard to energy conservation standards, the Joint Proposal specified two-tiered (*i.e.*, Tier 1 and Tier 2) standard levels, as shown in Table II.1, for conventional room air cleaners with proposed compliance dates of December 31, 2023, and December 31, 2025, respectively. (*Id.* at p. 9).

Table II.1 Tier 1 and Tier 2 Standards Proposed by the Joint Stakeholders in the Joint Proposal

Product Description	IEF ($PM_{2.5}$ CADR/W) Tier 1*	IEF ($PM_{2.5}$ CADR/W) Tier 2**
$10 \leq PM_{2.5}$ CADR < 100	1.69	1.89
$100 \leq PM_{2.5}$ CADR < 150	1.90	2.39
$PM_{2.5}$ CADR ≥ 150	2.01	2.91

* Tier 1 standards would have a compliance date of December 31, 2023.
** Tier 2 standards would have a compliance date of December 31, 2025.

After carefully considering the consensus recommendations for establishing energy conservation standards for air cleaners submitted by the Joint Stakeholders, DOE determined that these recommendations were in accordance with the statutory requirements of 42 U.S.C. 6295(p)(4) for the issuance of a direct final rule and published a direct final rule on April 11, 2023 ("April 2023 Direct Final Rule"). 88 FR 21752, 21760. DOE also evaluated whether the recommendation satisfies 42 U.S.C. 6295(o), as applicable, and found that the Joint Proposal recommended standard levels would result in significant energy savings and are technologically feasible and economically justified. 88 FR 21752, 21753. Accordingly, the consensus-recommended efficiency levels for air cleaners were adopted as the new standard levels in the April 2023 Direct Final Rule.[5] 88 FR 21752, 21807–21810.

[4] AHAM AC-7-2022 Energy Test Method for Consumer Room Air Cleaners. Available for purchase at: *https://www.aham.org/ItemDetail?iProductCode=37002&Category=PADSTD&WebsiteKey=c0a5e5a1-ea1c-42f1-9b84-d62256c16ea2*.
[5] The standard levels enacted by the April 2023 Direct Final Rule were rounded to the nearest tenth decimal consistent with the sampling plan requirements in 10 CFR 429.68. The rounding has no functional impact on the standards as compared to the levels proposed in the Joint Proposal.

These standards, which are expressed as an integrated energy factor ("IEF") in terms of $PM_{2.5}$[6] clean air delivery rate per watt ("$PM_{2.5}$ CADR/W"), based on the product's measured $PM_{2.5}$ CADR. These standards apply to all products listed in Table II.2 and manufactured in, or imported into, the United States starting on December 31, 2023, for Tier 1 standards and on December 31, 2025, for Tier 2 standards. The April 2023 Direct Final Rule provides a detailed discussion of DOE's analysis of the benefits and burdens of the new standards pursuant to the criteria set forth in EPCA. 88 FR 21752.

Table II.2 Energy Conservation Standards for Air Cleaners (Tier 1 Compliance Starting December 31, 2023; Tier 2 Compliance Starting December 31, 2025)

Product Class	IEF ($PM_{2.5}$ CADR/W)[7]	
	Tier 1 December 31, 2023	**Tier 2** December 31, 2025
PC1: $10 \leq PM_{2.5}$ CADR < 100	1.7	1.9
PC2: $100 \leq PM_{2.5}$ CADR < 150	1.9	2.4
PC3: $PM_{2.5}$ CADR ≥ 150	2.0	2.9

As required by EPCA, DOE also simultaneously published a NOPR proposing the identical standard levels contained in the April 2023 Direct Final Rule. 88 FR 21512. DOE considered whether any comment received during the 110-day comment period following the direct final rule was sufficiently "adverse" as to provide a reasonable basis for withdrawal of the direct final rule and continuation of this rulemaking under the NOPR. When making a determination whether to withdraw a direct final rule, it is the substance, rather than the quantity, of comments that will ultimately determine whether a direct final rule will be withdrawn. To this end, DOE weighs the substance of any

[6] Section 2.8 of the industry standard AHAM AC-7-2022 defines $PM_{2.5}$ as particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers as measured by a reference method based on 40 CFR part 50 Annex I and designated in accordance with 40 CFR part 53 or by an equivalent method designated in accordance with 40 CFR part 53.

[7] These values from the Joint Proposal are rounded according to the sampling plan in 10 CFR 429.68. The rounding has no functional impact on the standards as compared to the levels in the Joint Proposal.

adverse comment(s) received against the anticipated benefits of the consensus recommendations and the likelihood that further consideration of the comment(s) would change the results of the rulemaking. DOE notes that to the extent an adverse comment had been previously raised and addressed in the rulemaking proceeding, such a submission will not typically provide a basis for withdrawal of a direct final rule.

III. Comments on the Direct Final Rule

As discussed in section I of this document, not later than 120 days after publication of a direct final rule, DOE shall withdraw the direct final rule if (1) DOE receives one or more adverse public comments relating to the direct final rule or any alternative joint recommendation; and (2) based on the rulemaking record relating to the direct final rule, DOE determines that such adverse public comments or alternative joint recommendation may provide a reasonable basis for withdrawing the direct final rule. (42 U.S.C. 6295(p)(4)(C)(i))

DOE received comments in response to the April 2023 Direct Final Rule from the interested parties listed in Table III.1.

Table III.1 List of Commenters with Written Submissions in Response to the April 2023 Direct Final Rule

Commenter(s)	Abbreviation	Comment No. in the Docket	Commenter Type
SENSIRON AG	SENSIRON AG	27	Component Manufacturer
IQAir North America	IQAir	28	Manufacturer
Slaughter	Slaughter	29	Individual
Association of Home Appliance Manufacturers	AHAM	30	Trade Association
ACEEE, ASAP, AHAM, CFA, NRDC	Joint Stakeholders	31	Individual Efficiency Organizations, Consumer Organization, and Trade Association

A parenthetical reference at the end of a comment quotation or paraphrase provides the location of the item in the public record.[8] The following sections discuss the substantive comments DOE received on the April 2023 Direct Final Rule as well as DOE's responses.

A. General Comments

In comments submitted in response to the April 2023 Direct Final Rule, the Joint Stakeholders and AHAM expressed support for the standard levels specified in the April 2023 Direct Final Rule as well as the process used to develop those standards. (Joint Stakeholders, No. 31 at pp. 1–2; AHAM. No. 30 at p. 1) The Joint Stakeholders noted their appreciation for DOE's swift action in publishing the DFR and stated their belief that the standards are economically justified and technologically feasible and will achieve significant savings. (Joint Stakeholders, No. 31 at pp. 1-2) DOE appreciates the Joint Stakeholder's comments and agrees that the standards are economically justified and technologically feasible and will result in significant energy savings.

The Joint Stakeholders urged DOE to propose and finalize reporting criteria for air cleaners, especially because compliance with Tier 1 standards would be required beginning December 31, 2023. The Joint Stakeholders stated that manufacturers would need to know the reporting criteria to begin completing their compliance reporting efforts. (Joint Stakeholders, No. 31 at p. 2) DOE acknowledges that certification data will be required for air cleaners; however, DOE did not adopt certification or reporting requirements for air cleaners in the April 2023 Direct Final Rule. Instead, DOE may consider proposals to establish certification requirements and reporting for air cleaners under a separate rulemaking regarding certification for covered products and equipment.

[8] The parenthetical reference provides a reference for information located in the docket of DOE's rulemaking to develop energy conservation standards for air cleaners. (Docket No. EERE-2021-BT-STD-0035, which is maintained at *www.regulations.gov*). The references are arranged as follows: (commenter name, comment docket ID number, page of that document).

B. Vacuum Cleaners with Air Cleaning Functionality

AHAM commented that vacuum cleaners with a secondary air cleaning function should not be included in the scope of the air cleaners standards or test procedure at 10 CFR part 430, subpart B, appendix FF ("appendix FF"). AHAM noted that there are currently vacuum cleaners available on the market that clean the air as a secondary function simultaneously with the primary vacuuming function. (AHAM, No. 30 at pp. 1-2) AHAM commented that the air filter function for these products is not an independent function of the vacuum cleaner and that the product is not intended to be plugged in on an ongoing basis. For these reasons, AHAM commented that it understands that vacuum cleaners that also clean the air, while vacuuming are not under the scope of this rule or appendix FF. (AHAM, No. 30 at p. 2) AHAM commented that such vacuum cleaners would not meet the proposed standards, and asserted that the Joint Stakeholders had not considered such products in the scope when developing the standards that they presented to DOE in the Joint Proposal. AHAM also noted that it had examined these products as part of the AHAM AC-7-2022 task force and these products would not be in the scope of the AHAM AC-7-2022 standard. (*Id.*) AHAM suggested that DOE clarify that these products are not in the scope of the air cleaner standards via a guidance document. AHAM additionally stated that if these vacuum cleaners are included under the scope, then DOE could amend section 2.2.2 of appendix FF to indicate that if a product has air cleaning as a secondary function and one of the secondary listed functions is a primary function as defined by the product safety certification listing, then the test method would not apply to such products. (*Id.*)

Air cleaners are defined as a product for improving indoor air quality, other than a central air conditioner, room air conditioner, portable air conditioner, dehumidifier, and

furnace, that is an electrically-powered, self-contained, mechanically encased assembly that contains means to remove, destroy, or deactivate particulates, VOC [volatile organic compounds], and/or microorganisms from the air. It excludes products that operate solely by means of ultraviolet light without a far for air circulation. 10 CFR 430.2. In the July 2022 Final Determination, DOE noted that the reason for explicitly stating that "air cleaners are a product for improving indoor air quality" was to clarify that the term "air cleaners" does not include products that may provide some air cleaning as an ancillary function (*e.g.*, a vacuum cleaner). 87 FR 42297, 42302. Accordingly, vacuum cleaners that provide air cleaning as an ancillary function do not meet the definition of an air cleaner.

C. Air Cleaners with Gas Filtration

IQAir North America, Inc. together with Swiss affiliate IQAir AG (collectively "IQAir"), commented that the standards established in the April 2023 Direct Final Rule would have a permanent negative effect on some of its products and would eliminate an entire class of air purification products. (IQAir, No. 28 at pp. 1, 5) IQAir commented that it makes products for gaseous and odor filtration, including filtration of VOCs. (*Id.* at pp. 1–2) IQAir asserted that gas-phase filtration inherently requires greater energy than simple particulate/HEPA[9] filtration, and that due to the increased energy usage of gas-phase filtration, these products will not meet the IEF levels specified in the direct final rule and therefore will no longer be able to be sold in the United States. (*Id.* at pp. 2-3) IQAir stated that its gas-phase air cleaners have played a vital role for specific segments of the population, such as those effected by natural gas exposure, which contains toxic VOCs and odorous gases. (*Id.* at p. 4) IQAir stated that gas-phase air

[9] High efficiency particulate air ("HEPA") filter is a pleated mechanical air filter that includes a porous filtration medium typically composed of randomly arranged polypropylene or fiberglass fibers. As air passes through the porous media, particulates in the air become trapped on the filter surface, allowing clean air to be discharged by the air cleaner.

cleaners are critical to its product lineup and being unable to sell them in the United States would be devastating to its business operations there. (*Id.* at p. 5)

IQAir stated that one of the most effective ways to filter gases and odors is with granular sorbent media such as activated charcoal, and chemisorbant pellets. IQAir noted that its gas-filtration-based products include a proprietary blend of activated carbon and alumina, impregnated with potassium permanganate. (*Id*. at p. 2) IQAir noted that of the three of its products that offer this functionality, the top gas-filtration model is GCX, which includes cartridge-based granular filters containing over 20 pounds of media. IQAir noted that all three of these products meet the definition of an air cleaner as specified in the April 2023 Direct Final Rule, would be subject to the standards established in that direct final rule, and would be tested in the same way as air cleaners that do not offer gas-phase filtration. (*Id.*)

In explaining how gas-phase filtration inherently requires greater energy than simple particulate/HEPA filtration, IQAir stated that pushing air through the pre-filter and varying types and amounts of granular media requires electric motors of a certain power level. IQAir commented that its models have already achieved the best possible energy efficiency at given levels of gas-phase reductions, capacity, and price. IQAir stated that the gas-phase filtration technology contained in its products performs a valuable, sought-after function, and that standard particulate/HEPA systems are physically incapable of performing this same function. IQAir also stated that there is no feasible combination of currently available components or technology that could allow their air cleaners to meet the standards established in the April 2023 Direct Final Rule without going into a price range that is far out of reach of its customers. IQAir requested that DOE consider the importance of the entire class of gas-phase products that it believes will be effectively banned by the standards established in the April 2023 Direct Final

Rule. (*Id.* at p. 5) IQAir also asserted that the large capacity of its air cleaners enables more contaminates to be absorbed over a longer period of time before needing filter replacements. (*Id.* at p. 4)

DOE has conducted an extensive review of products that provide gaseous and odor filtration through the use of carbon filter media, including those models referenced in IQAir's comments. Based on this review, DOE has concluded that it is technologically feasible to implement design options to achieve higher levels of efficiency in air cleaners that employ the key design characteristics observed in those models referenced in IQAir's comments. Specifically, DOE observed that the HEPA-type filter included in IQAir's products is up to 6 inches thick and that the units have an inlet/outlet air flow design that restricts airflow by drawing in air over a smaller surface area (compared to the size of the unit) at the base of the model and only allows air to exit over a small surface area at the topmost section of the cabinet. Further, DOE observed that IQAir's products use a permanent split capacitor ("PSC") fan motor, rather than more efficient brushless direct current ("BLDC") fan motors that are used in other products. In chapter 5 of the technical support document ("TSD") that accompanied the April 2023 Direct Final Rule ("2023 Direct Final Rule TSD"), DOE noted that at efficiency level 1 ("EL 1"), which corresponds to the Tier 1 standards established in the April 2023 Direct Final Rule, efficiency improvements are achievable through optimizing the motor-filter relationship, typically by reducing the restriction of airflow (and therefore, the pressure drop across the filter) by increasing the filter surface area, reducing filter thickness, and/or increasing air inlet/outlet size.[10] These design options improve airflow across the unit, enabling the use of a smaller motor and thereby reducing power consumption. Based on a detailed

[10]See section 5.5.3 of the 2023 Direct Final Rule TSD for more information on technology options for improving efficiency. Available online at *www.regulations.gov/document/EERE-2021-BT-STD-0035-0024*.

examination of air cleaner models from IQAir, DOE notes that IQAir could implement these design options by altering their case design to accommodate a thinner HEPA filter, while increasing the size of the air inlet at the base of the device. These changes would allow for a reduction in the size of the motor, while maintaining a similar airflow, which would decrease the power consumption of the unit. The case design could also be improved by expanding the size of the air outlet at the top of the device, which would further improve airflow. Additionally, IQAir could change to the more efficient BLDC motor.

IQAir expressed concern that the standards established in the April 2023 Direct Final Rule would eliminate an entire class of air cleaner products from the market. (See IQAir, No. 28 at p. 5) As discussed previously, DOE has reviewed the products using gas-filtration technology and determined that there are technology options available that would allow their products to meet the standards in the April 2023 Direct Final Rule. Given that there are technology options available for these products, DOE does not believe that this standard would cause the unavailability of air cleaner products with performance characteristics, features, sizes, capacities, or volumes that are substantially the same as those of the market at the time of the Secretary's findings. 42 U.S.C. 6295(o)(4).

Regarding cost, DOE's engineering analysis for the April 2023 Direct Final Rule considered the cost impacts of implementing the analyzed design options into air cleaners. See section 5.5.3 of the April 2023 Direct Final Rule TSD. DOE notes that EPCA does not require it to choose the standard level with the least consumer cost, or the least cost to manufacturers, but only to assess those, among other, costs and benefits (using the 7 factors articulated at 42 U.S.C. 6295(o)) and determine whether the burdens outweigh the benefits. Additionally, as discussed above, DOE has not found that this standard would result in the unavailability in air cleaners of performance characteristics, features,

size, capacities, and volumes that are substantially the same as those on the market at the time of this finding. (See 42 U.S.C. 6295(o)(4)) In this case, the recommended standards met that standard, and DOE's analysis and conclusions would not change based on the comments received. Thus, DOE does not consider these comments to provide a basis to justify a withdrawal of this direct final rule under EPCA.

IQAir asserted that gas-phase air cleaners are unfairly measured by the DOE test procedure, and that their unique benefit is unrecognized. (*Id.* at p. 5) IQAir stated that the standards established in the April 2023 Direct Final Rule encompass a broad range of devices including gas-phase air cleaners, but that they are based on a measure of only particulate performance. (*Id.*) IQAir noted that the standards are based on the measurement of CADR, which describes the initial cleaning performance of a filter and is expressed with respect to specific types of pollutants (*i.e.,* $PM_{2.5}$ CADR, pollen CADR, *etc.*). (*Id.* at p. 3) IQAir noted that while it is possible to determine CADR for gas-phase pollutants, it would still only measure initial air cleaning performance and would not account for degradation of performance over time. IQAir noted this is particularly relevant to gas-phase filtration, which relies on the capacity of granular media in order to maintain effective filtration, and without sufficient capacity, a granular filter might produce good initial gas-phase CADR and then degrade to little or no filtration. Therefore, IQAir stated, accurate measurement of gas-phase filtration must include capacity. (*Id.*)

IQAir stated that the most advanced standardized testing protocol for consumer gas-phase filtration is China's GB/T 18801-2022, titled *Air Cleaner*, which measures both initial CADR and the amount of pollutant removed from the air until CADR drops to 50 percent of the initial value. IQAir stated that this methodology effectively measures the capacity of granular filters, enabling regulators and consumers to ensure that manufacturers do not game the system by achieving high CADR or high energy

efficiency with unacceptable filter life. (*Id.*) IQAir suggested DOE include means of measuring gas-phase performance and capacity, and add a proportionate allowance in the calculation of IEF, which would recognize the value of gas-phase filtration and the practicality of implementing this technology without reducing the effectiveness of the air cleaner standards on non-gas-phase air cleaners. (*Id.* at p. 6)

The Joint Stakeholders commented that it reviewed comments on the docket and observed a comment that suggested that certain products may have difficulty meeting the standards because the test procedure does not accurately measure the efficiency of the product. The Joint Stakeholders suggested test procedure waivers as a viable pathway for such products. (Joint Stakeholders, No. 31 at p. 2)

As these comments pertain to the test procedure and not the establishment of standards, DOE does not consider these comments to provide a basis to justify a withdrawal of this direct final rule under EPCA. DOE finalized its test procedure for Air Cleaners on March 06, 2023, noting that the air cleaner test procedure at appendix FF measures the $PM_{2.5}$ CADR and power consumption of air cleaners using an established industry standard, AHAM AC-7-2022. 88 FR 14014. DOE will consider any comments pertaining to test procedures, including comments suggesting additional tests for evaluating gas-filtration of air cleaners, in a future air cleaner test procedure rulemaking. In response to the comments from Joint Stakeholders, DOE notes that any interested person may submit a petition for test procedure waiver upon the grounds that the basic model contains one or more design characteristics which either prevent testing of the basic model according to the prescribed test procedures or cause the prescribed test procedures to evaluate the basic model in a manner so unrepresentative of its true energy and/or water consumption characteristics as to provide materially inaccurate comparative data. 10 CFR 430.27(a)(1)).

D. Automatic Mode

SENSIRON AG commented that there is significant potential for energy savings by using air quality sensors for controlling the level of operation of the air cleaner, depending on the level of pollution in the indoor space where the device is used. SENSIRON AG requested that DOE consider the adoption of air quality sensors for operation control. SENSIRON AG also commented that to ensure sensors of appropriate quality are used, DOE should utilize sensor performance requirements as defined in existing healthy building standards (such as WELL[11] and RESET[12]). (SENSIRON AG, No. 27 at p. 1)

DOE addressed public comments received regarding the use of automatic mode in the air cleaner test procedure final rule published March 6, 2023 ("March 2023 TP Final Rule"). 88 FR 14014, 14032. DOE noted in the March 2023 TP Final Rule that industry-accepted test methods for other modes, such as automatic mode or low speed mode, do not currently exist. *Id.* at 88 FR 14032. As discussed in section 5.5.1.7 of the 2023 Direct Final Rule TSD, operation of air cleaners in automatic mode is not currently tested and, therefore, DOE determined that air quality sensors to improve automatic mode efficiency would not impact the efficiency levels analyzed for the direct final rule.

While SENSIRON AG included recommended standards, DOE notes that these standards are applicable to the sensors that monitor air quality, not to the air cleaner itself. As this comment pertains to the test procedure and not the establishment of standards, DOE does not consider this comment to provide a basis to justify a withdrawal of this direct final rule under EPCA. DOE is participating in the AHAM task force that is currently developing a test method for testing air cleaners with automatic mode. As stated

[11] *www.wellcertified.com/*
[12] *www.reset.build/*

previously, DOE would consider any updates to the test procedure in a future test procedure rulemaking.

IV. Impact of Any Lessening of Competition

EPCA directs DOE to consider any lessening of competition that is likely to result from new or amended standards. (42 U.S.C. 6295 (p)(4)(A)(i) and (C)(i)(II); 42 U.S.C. 6295(o)(2)(B)(i)(V)) It also directs the Attorney General of the United States ("Attorney General") to determine the impact, if any, of any lessening of competition likely to result from a proposed standard and to transmit such determination to the Secretary within 60 days of the publication of a proposed rule, together with an analysis of the nature and extent of the impact. (42 U.S.C. 6295(o)(2)(B)(i)(V) and (B)(ii)) To assist the Attorney General in making this determination, DOE provided the Department of Justice ("DOJ") with copies of the April 2023 Direct Final Rule, the corresponding NOPR, and the 2023 Direct Final Rule TSD for review. DOE has published DOJ's comments at the end of this document.

In its letter responding to DOE, DOJ concluded that based on its review, it does not have an evidentiary basis to conclude that the proposed energy conservation standards for air cleaners are likely to substantially lessen competition. Although the rule may limit consumers' ability to purchase non-compliant products, DOJ stated that those impacts appear to result from the rule, itself. DOJ also stated that it is not aware of likely impacts on competition or the competitive process for air cleaners that will continue to be offered. DOJ acknowledged comments expressing concerns regarding whether the proposed standard is appropriate for certain products that may have functionality beyond air cleaning (*e.g.*, vacuums) or provide air cleaning functionality that requires additional energy consumption (*e.g.*, gas phase air cleaners). DOJ stated its understanding that DOE has discretion to grant waivers from a test procedure in certain circumstances (10 CFR

430.27(f)(2)). DOJ took no positions on these comments and concerns, but encouraged DOE, should it grant waivers in other product segments, to do so in a manner that preserves competition.

In response to the April 2023 Direct Final Rule, an individual commented that the April 2023 Direct Final Rule would not allow a free market. (Slaughter, No. 29 at p. 1)

DOE considered any lessening of competition that would be likely to result from new or amended standards. Based on the DOJ review, DOE has determined it does not have an evidentiary basis to conclude that the April 2023 Direct Final Rule energy conservation standards for air cleaners are likely to substantially lessen competition.

V. Review Under the National Environmental Policy Act of 1969

Pursuant to the National Environmental Policy Act of 1969 ("NEPA"), DOE had analyzed the direct final rule in accordance with NEPA and DOE's NEPA implementing regulations (10 CFR part 1021). DOE determined that the rule qualifies for categorical exclusion under 10 CFR part 1021, subpart D, appendix B5.1 because it is a rulemaking that establishes energy conservation standards for consumer products or industrial equipment, none of the exceptions identified in B5.1(b) apply, no extraordinary circumstances exist that require further environmental analysis, and it meets the requirements for application of a categorical exclusion. *See* 10 CFR 1021.410. Therefore, DOE determined that promulgation of the direct final rule is not a major Federal action significantly affecting the quality of the human environment within the meaning of NEPA, and does not require an environmental assessment or an environmental impact statement.

VI. Conclusion

In summary, based on the previous discussion, DOE has determined that the comments received in response to the direct final rule for new energy conservation standards for air cleaners do not provide a reasonable basis for withdrawal of the direct final rule. As a result, the energy conservation standards set forth in the direct final rule became effective on August 9, 2023. Compliance with these standards is required on and after December 31, 2023.

Signing Authority

This document of the Department of Energy was signed on August 28, 2023, by Francisco Alejandro Moreno, Acting Assistant Secretary for Energy Efficiency and Renewable Energy, pursuant to delegated authority from the Secretary of Energy. That document with the original signature and date is maintained by DOE. For administrative purposes only, and in compliance with requirements of the Office of the Federal Register, the undersigned DOE Federal Register Liaison Officer has been authorized to sign and submit the document in electronic format for publication, as an official document of the Department of Energy. This administrative process in no way alters the legal effect of this document upon publication in the *Federal Register*.

Signed in Washington, DC, on August 28, 2023.

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Treena V. Garrett
Federal Register Liaison Officer,
U.S. Department of Energy

Appendix

August 9, 2023

Ami Grace-Tardy
Assistant General Counsel for

Legislation, Regulation and Energy Efficiency
U.S. Department of Energy
Washington, DC 20585
Ami.Grace-Tardy@hq.doe.gov

Re: Energy Conservation Standards for Air Cleaners, DOE Docket No. EERE-2021-BT-STD-0035

Dear Assistant General Counsel Grace-Tardy:

I am responding to your June 16, 2023 letter seeking the views of the Attorney General about the potential impact on competition of proposed energy conservation standards for air cleaners.

Your request was submitted under Section 325(o)(2)(B)(i)(V) of the Energy Policy and Conservation Act, as amended (EPCA), 42 U.S.C. 6295(o)(2)(B)(i)(V), which requires the Attorney General to determine the impact of any lessening of competition likely to result from proposed energy conservation standards. The Attorney General's responsibility for responding to requests from other departments about the effect of a program on competition has been delegated to the Assistant Attorney General for the Antitrust Division in 28 CFR § 0.40(g). The Assistant Attorney General for the Antitrust Division has authorized me, as the Policy Director for the Antitrust Division, to provide the Antitrust Division's views regarding the potential impact on competition of proposed energy conservation standards on his behalf.

In conducting its analysis, the Antitrust Division examines whether a proposed standard may lessen competition, for example, by substantially limiting consumer choice, by placing certain manufacturers at an unjustified competitive disadvantage, or by inducing avoidable inefficiencies in production or distribution of particular products. A lessening of competition could result in higher prices to manufacturers and consumers.

We have reviewed the proposed standard contained in the direct final rule (88 Fed. Reg. 21752, April 11, 2023), the companion notice of proposed rulemaking (88 Fed. Reg. 21512, April 11, 2023), and the related technical support document. We have also reviewed public comments and information provided by industry participants. No Public Meeting was held in relation to this direct final rule.

Based on this review, we do not have an evidentiary basis to conclude that the proposed energy conservation standards for air cleaners are likely to substantially lessen competition. Although the rule may limit consumers' ability to purchase non-compliant products, those impacts appear to result from the rule, itself. We are not aware of likely impacts on competition or the competitive process for air cleaners that will continue to be offered.

We are aware of comments expressing concerns regarding whether the proposed standard is appropriate for certain products that may have functionality beyond air cleaning (*e.g.*, vacuums) or provide air cleaning functionality that requires additional energy consumption (*e.g.*, gas phase air cleaners). We understand that the Department of Energy (DOE) has discretion to grant waivers from a test procedure in certain circumstances (10 CFR 430.27(f)(2)). We take no positions on these comments and concerns, but encourage DOE should it grant waivers in other product segments to do so in a manner that preserves competition.

We ask that the DOE take these concerns into account in determining its final energy conservation standards for air cleaners.

Sincerely,

David G.B. Lawrence Policy Director

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