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[EERE–2017–BT–STD–0017]

RIN 1904–AD92

Energy Conservation Program: Energy Conservation Standards for Direct Expansion-Dedicated Outdoor Air Systems

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

ACTION: Final rule.

SUMMARY: In this final rule, DOE is establishing energy conservation standards for direct expansion-dedicated outdoor air systems (''DX–DOASes'') that are of equivalent stringency as the minimum levels specified in the most recent publication of the American Society of Heating, Refrigerating and Air-Conditioning Engineers (''ASHRAE'') Standard 90.1 ''Energy Standard for Buildings Except Low-Rise Residential Buildings'' (''ASHRAE 90.1–2019'') when tested pursuant to the DOE test procedure for DX–DOASes—which incorporates by reference the most recent applicable industry standard for this equipment. DOE has determined that it lacks clear and convincing evidence to adopt standards more stringent than the levels specified in ASHRAE 90.1–2019.

DATES: The effective date of this rule is January 3, 2023. Compliance with the standards established for DX–DOASes in this final rule is required on and after May 1, 2024.

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 web page can be found at *www.regulations.gov/docket/EERE-2017-BT-STD-0017.* The docket web page contains instructions on how to access all documents, including public comments, in the docket.

For further information on how to review 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:

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I. Synopsis of the Final Rule

The Energy Policy and Conservation Act, Public Law 94–163, as amended (''EPCA''),[1] authorizes DOE to regulate the energy efficiency of a number of consumer products and certain industrial equipment. (42 U.S.C. 6291–6317) Title III, Part C of the EPCA [2] established the Energy Conservation Program for Certain Industrial Equipment. (42 U.S.C. 6311–6317). Such equipment includes DX–DOASes, the subject of this rulemaking.

Pursuant to EPCA, DOE is to consider amending the energy efficiency standards for certain types of commercial and industrial equipment, including the equipment at issue in this document, whenever ASHRAE amends the standard levels or design requirements prescribed in ASHRAE/IES Standard 90.1, and at a minimum, every six 6 years. (42 U.S.C. 6313(a)(6)(A)–(C)) More specifically, for each type of equipment, which includes small, large, and very large commercial package air conditioning and heating equipment (of which DX–DOASes are a category), EPCA directs that if ASHRAE 90.1 is amended, DOE must adopt amended energy conservation standards at the updated efficiency level in ASHRAE 90.1, unless clear and

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

[2] For editorial reasons, upon codification in the U.S. Code, Part C was re-designated Part A–1.

convincing evidence supports a determination that adoption of a more stringent efficiency level as a national standard would produce significant additional energy savings and be technologically feasible and economically justified. (42 U.S.C. 6313(a)(6)(A)(ii))

If DOE adopts as a uniform national standard the efficiency levels specified in the amended ASHRAE 90.1, DOE must establish such standard not later than 18 months after publication of the amended industry standard. (42 U.S.C. 6313(a)(6)(A)(ii)(I)) If DOE determines that a more-stringent standard is appropriate under the statutory criteria, DOE must establish such more-stringent standard not later than 30 months after publication of the revised ASHRAE 90.1. (42 U.S.C. 6313(a)(6)(B))

ASHRAE officially released the 2016 edition of ASHRAE 90.1 (''ASHRAE 90.1–2016'') on October 26, 2016, which for the first time created separate equipment classes for DX–DOASes with corresponding standards, thereby triggering DOE's above referenced obligations pursuant to EPCA to either: (1) establish uniform national standards for DX–DOASes at the minimum levels specified in the amended ASHRAE 90.1; or (2) adopt more stringent standards based on clear and convincing evidence that adoption of such standards would produce significant additional energy savings and be technologically feasible and economically justified. ASHRAE 90.1–2016 set minimum efficiency levels using the integrated seasonal moisture removal efficiency (''ISMRE'') metric for all DOAS classes and the integrated seasonal coefficient of performance (''ISCOP'') metric for air-source heat pump and water-source heat pump DX–DOAS classes. ASHRAE 90.1–2016 specifies that both metrics are measured in accordance with Air-conditioning, Heating, and Refrigeration Institute (''AHRI'') Standard 920–2015, ''Performance Rating of DX-Dedicated Outdoor Air System Units'' (''ANSI/AHRI 920–2015'').

In October 2019, ASHRAE officially released the 2019 edition of ASHRAE Standard 90.1 (''ASHRAE 90.1–2019''). ASHRAE 90.1 did not update the energy efficiency levels for DX–DOASes established in ASHRAE 90.1–2016. On February 4, 2020 AHRI officially released the 2020 edition of AHRI 920 (''AHRI 920–2020''), which addresses a number of issues with the prior test procedure and provides an updated ISMRE metric (*i.e.,* ISMRE2) and an updated ISCOP metric (*i.e.,* ISCOP2). DOE has recently established a test procedure for DX–DOASes which incorporates by reference AHRI 920–2020, and includes provisions for determining DX–DOAS performance in terms of ISMRE2 and ISCOP2. 87 FR 45164.

In accordance with the EPCA provisions previously discussed, DOE is establishing energy conservation standards for DX–DOASes in this final rule. The adopted standards, which are expressed in terms of ISMRE2 for all DX–DOAS classes in dehumidification mode, and ISCOP2 for heat pump DX–DOAS classes in heating mode, are shown in Table I.1. DOE has determined (as discussed in more detail in section III.E) that the adopted ISMRE2 and ISCOP2 standards are of equivalent stringency as the standards in ASHRAE 90.1–2016 (and ASHRAE 90.1–2019), which are expressed in terms of ISMRE and ISCOP. The standards adopted in this final rule apply to all DX–DOASes listed in Table I.1 manufactured in, or imported into, the United States starting on the date 18 months following the publication of this final rule.

TABLE I.1—ENERGY CONSERVATION STANDARDS FOR DX–DOASES

[Compliance starting 18 months following the publication of this final rule]

Equipment type	Subcategory	Efficiency level
Direct expansion-dedicated outdoor air systems.	(AC)—Air-cooled without ventilation energy recovery systems	ISMRE2 = 3.8.
	(AC w/VERS)—Air-cooled with ventilation energy recovery systems	ISMRE2 = 5.0.
	(ASHP)—Air-source heat pumps without ventilation energy recovery systems	ISMRE2 = 3.8. ISCOP2 = 2.05.
	(ASHP w/VERS)—Air-source heat pumps with ventilation energy recovery systems	ISMRE2 = 5.0. ISCOP2 = 3.20.
	(WC)—Water-cooled without ventilation energy recovery systems	ISMRE2 = 4.7.
	(WC w/VERS)—Water-cooled with ventilation energy recovery systems	ISMRE2 = 5.1.
	(WSHP)—Water-source heat pumps without ventilation energy recovery systems	ISMRE2 = 3.8. ISCOP2 = 2.13.
	(WSHP w/VERS)—Water-source heat pumps with ventilation energy recovery systems	ISMRE2 = 4.6. ISCOP2 = 4.04.

DOE has determined that, based on the information presented and its own analyses, there is not clear and convincing evidence that a more stringent efficiency level for this equipment would result in a significant additional amount of energy savings and is technologically feasible and economically justified. DOE normally performs multiple in-depth analyses to determine whether there is clear and convincing evidence to support more stringent energy conservation standards (*i.e.,* whether more stringent standards would produce significant additional conservation of energy and be technologically feasible and economically justified). However, as discussed in the sections III.E and III.F of this final rule, due to the lack of available market and performance data in terms of the recently published AHRI 920–2020 performance metrics (*i.e.,* ISMRE2 and ISCOP2), DOE is unable to conduct the analysis necessary to evaluate the potential energy savings or evaluate whether more stringent standards would be technologically feasible or economically justifiable, with sufficient certainty. As such, DOE is not establishing standards at levels more stringent than those specified in ASHRAE 90.1–2016 (and ASHRAE 90.1–2019).

II. Introduction

The following section briefly discusses the statutory authority underlying this final rule, as well as some of the relevant historical background related to the establishment of standards for DX–DOASes.

A. Authority

EPCA authorizes DOE to regulate the energy efficiency of a number of consumer products and certain industrial equipment. Title III, Part C of EPCA, added by Public Law 95–619,

Title IV, section 441(a) (42 U.S.C. 6311–6317, as codified), established the Energy Conservation Program for Certain Industrial Equipment, which sets forth a variety of provisions designed to improve energy efficiency. Small, large, and very large commercial package air conditioning and heating equipment are included in the list of ''covered equipment'' for which DOE is authorized to establish and amend energy conservation standards and test procedures. As discussed in the following section, this includes unitary DOASes and, more specifically, direct expansion DOASes, which are the subject of this final rule. (42 U.S.C. 6311(1)(B)–(D))

The energy conservation program under EPCA consists essentially of four parts: (1) testing, (2) labeling, (3) the establishment of Federal energy conservation standards, and (4) certification and enforcement procedures. Relevant provisions of EPCA specifically include definitions (42 U.S.C. 6311), test procedures (42 U.S.C. 6314), labeling provisions (42 U.S.C. 6315), energy conservation standards (42 U.S.C. 6313), and the authority to require information and reports from manufacturers (42 U.S.C. 6316).

Federal energy efficiency requirements for covered equipment established under EPCA generally supersede State laws and regulations concerning energy conservation testing, labeling, and standards. (42 U.S.C. 6316(a) and (b); 42 U.S.C. 6297) DOE may, however, grant waivers of Federal preemption for particular State laws or regulations, in accordance with the procedures and other provisions set forth under EPCA. (*See* 42 U.S.C. 6316(b)(2)(D))

Subject to certain criteria and conditions, DOE is required to develop test procedures to measure the energy efficiency, energy use, or estimated annual operating cost of each covered product. (42 U.S.C. 6314) Manufacturers of covered equipment must use the Federal test procedures as the basis for: (1) certifying to DOE that their equipment complies with the applicable energy conservation standards adopted pursuant to EPCA (42 U.S.C. 6316(b); 42 U.S.C. 6296), and (2) making representations about the efficiency of that equipment (42 U.S.C. 6314(d)). Similarly, DOE uses these test procedures to determine whether the equipment complies with relevant standards promulgated under EPCA.

ASHRAE 90.1 sets industry energy efficiency levels for small, large, and very large commercial package air-conditioning and heating equipment, packaged terminal air conditioners, packaged terminal heat pumps, warm air furnaces, packaged boilers, storage water heaters, instantaneous water heaters, and unfired hot water storage tanks (collectively ''ASHRAE equipment''). For each type of listed equipment, EPCA directs that if ASHRAE amends 90.1, DOE must adopt amended standards at the new ASHRAE efficiency level, unless DOE determines, supported by clear and convincing evidence, that adoption of a more stringent level would produce significant additional conservation of energy and would be technologically feasible and economically justified. (42 U.S.C. 6313(a)(6)(A)(ii)) Under EPCA, DOE must also review energy efficiency standards for covered equipment, including DX–DOASes, every six years and either: (1) issue a notice of determination that the standards do not need to be amended as adoption of a more stringent level is not supported by clear and convincing evidence; or (2) issue a notice of proposed rulemaking including new proposed standards based on certain criteria and procedures in subparagraph (B) of 42 U.S.C. 6316(a)(6). (42 U.S.C. 6313(a)(6)(C))

In deciding whether a more-stringent standard is economically justified, under either the provisions of 42 U.S.C. 6313(a)(6)(A) or 42 U.S.C. 6313(a)(6)(C), DOE must determine whether the benefits of the standard exceed its burdens. DOE must make this determination after receiving comments on the proposed standard, and by considering, to the maximum extent practicable, the following seven factors:

(1) The economic impact of the standard on manufacturers and consumers of the products subject to the standard;

(2) The savings in operating costs throughout the estimated average life of the covered products in the type (or class) compared to any increase in the price, initial charges, or maintenance expenses for the covered products that are likely to result from the standard;

(3) The total projected amount of energy (or as applicable, water) savings likely to result directly from the standard;

(4) Any lessening of the utility or the performance of the covered products likely to result from the standard;

(5) The impact of any lessening of competition, as determined in writing by the Attorney General, that is likely to result from the standard;

(6) The need for national energy and water conservation; and

(7) Other factors the Secretary of Energy (''Secretary'') considers relevant. (42 U.S.C. 6313(a)(6)(B)(ii)(I)–(VII))

Further, EPCA establishes a rebuttable presumption that an energy conservation standard is economically justified if the Secretary finds that the additional cost to the consumer of purchasing a product that complies with the standard will be less than three times the value of the energy (and, as applicable, water) savings during the first year that the consumer will receive as a result of the standard, as calculated under the applicable test procedure. (42 U.S.C. 6316(a); 42 U.S.C. 6295(o)(2)(B)(iii)) However, while this rebuttable presumption analysis applies to most commercial and industrial equipment (42 U.S.C. 6316(a)), it is not a required analysis for ASHRAE equipment (42 U.S.C. 6316(b)(1)). Nonetheless, DOE considered the criteria for this rebuttable presumption as part of its economic justification analysis.

EPCA, as codified, also contains what is known as an ''anti-backsliding'' provision, which prevents the Secretary from prescribing any amended standard that either increases the maximum allowable energy use or decreases the minimum required energy efficiency of a covered product. (42 U.S.C. 6313(a)(6)(B)(iii)(I)) Also, the Secretary may not prescribe an amended or new standard if interested persons have established by a preponderance of the evidence that the standard is likely to result in the unavailability in the United States in any covered product type (or class) of performance characteristics (including reliability), features, sizes, capacities, and volumes that are substantially the same as those generally available in the United States. (42 U.S.C. 6313(a)(6)(B)(iii)(II)(aa))

B. Background

EPCA defines ''commercial package air conditioning and heating equipment'' as air-cooled, water-cooled, evaporatively-cooled, or water source (not including ground water source) electrically operated, unitary central air conditioners and central air conditioning heat pumps for commercial application. (42 U.S.C. 6311(8)(A); 10 CFR 431.92) Industry standards generally describe unitary central air conditioning equipment as one or more factory-made assemblies that normally include an evaporator or cooling coil and a compressor and condenser combination. Units equipped to also perform a heating function are included as well. Unitary DOASes provide conditioning of outdoor ventilation air using a refrigeration cycle (which normally consists of a compressor, condenser, expansion valve, and evaporator), and therefore,

DOE has concluded that unitary DOASes are a category of commercial package air conditioning and heating equipment subject to EPCA.

From a functional perspective, unitary DOASes operate similarly to other categories of commercial package air conditioning and heat pump equipment, in that they provide conditioning using a refrigeration cycle. Unitary DOASes provide ventilation and conditioning of 100-percent outdoor air to the conditioned space, whereas for typical commercial package air conditioners that are central air conditioners, outdoor air makes up only a small portion of the total airflow (usually less than 50 percent). Unitary DOASes are typically installed in addition to a local, primary cooling or heating system (*e.g.,* commercial unitary air conditioner, variable refrigerant flow system, central air conditioner or distributed fan-coil units served by a chilled water system, water-source heat pumps)—the unitary DOAS conditions the outdoor ventilation air, while the primary system provides cooling or heating to balance building shell and interior loads and solar heat gain.

An industry consensus test standard has been established for a subset of unitary DOASes, direct expansion-dedicated outdoor air systems (DX–DOASes). On July 27, 2022, DOE published a test procedure final rule (''July 2022 TP final rule''), adopting definitions, a new Federal test procedure, energy efficiency metrics, and representation requirements for DX–DOASes. 87 FR 45164.

1. ASHRAE 90.1 Efficiency Levels for DX–DOASes

As first established in ASHRAE 90.1–2016, ASHRAE 90.1–2019 specifies 14 separate equipment classes for DX–DOASes and sets minimum efficiency levels using the ISMRE metric for all DX–DOAS classes and also the ISCOP metric for air-source heat pump and water-source heat pump DX–DOAS classes. ASHRAE 90.1–2019 specifies that both metrics are to be measured in accordance with ANSI/AHRI 920–2015. ANSI/AHRI 920–2015 specifies the method for testing DX–DOASes, in part, through a reference to ANSI/ASHRAE 198–2013, ''Method of Test for Rating DX-Dedicated Outdoor Air Systems for Moisture Removal Capacity and Moisture Removal Efficiency'' (''ANSI/ASHRAE 198–2013''). The energy efficiency standards specified in ASHRAE 90.1, based on ANSI/AHRI 920–2015 and ANSI/ASHRAE 198–2013, are shown in Table II.1.

TABLE II.1—ASHRAE 90.1 EFFICIENCY LEVELS FOR DX–DOASES

Equipment class	Energy efficiency levels
Air-cooled: without energy recovery	4.0 ISMRE.
Air-cooled: with energy recovery	5.2 ISMRE.
Air-source heat pumps: without energy recovery	4.0 ISMRE, 2.7 ISCOP.
Air-source heat pumps: with energy recovery	5.2 ISMRE, 3.3 ISCOP.
Water-cooled: cooling tower condenser water, without energy recovery	4.9 ISMRE.
Water-cooled: cooling tower condenser water, with energy recovery	5.3 ISMRE.
Water-cooled: chilled water, without energy recovery	6.0 ISMRE.
Water-cooled: chilled water, with energy recovery	6.6 ISMRE.
Water-source heat pumps: ground-source, closed loop, without energy recovery	4.8 ISMRE, 2.0 ISCOP.
Water-source heat pumps: ground-source, closed loop, with energy recovery	5.2 ISMRE, 3.8 ISCOP.
Water-source heat pumps: ground-water source, without energy recovery	5.0 ISMRE, 3.2 ISCOP.
Water-source heat pumps: ground-water source, with energy recovery	5.8 ISMRE, 4.0 ISCOP.
Water-source heat pumps: water-source, without energy recovery	4.0 ISMRE, 3.5 ISCOP.
Water-source heat pumps: water-source, with energy recovery	4.8 ISMRE, 4.8 ISCOP.

2. Update to the Industry Metric

As discussed in the July 2022 TP final rule, AHRI revised AHRI 920 and published AHRI 920–2020, which contains several revisions, including revised test conditions and weighting factors for ISMRE and ISCOP. 87 FR 45164. These metrics were redesignated as ISMRE2 and ISCOP2, respectively. The test standard revisions also more accurately reflect the actual energy use for DX–DOASes, improve the repeatability and reproducibility of the test methods, and also reduce testing burden compared to ISMRE and ISCOP. For example, the revised weighting factors reflect the number of hours per year for each test condition, and the revised test conditions are based on weather data from Typical Meteorological Year 2 (TMY2). 86 FR 36018, 36029. A detailed discussion of the summary of the AHRI 920 updates is provide in the DX–DOAS test procedure notice of proposed rulemaking (''NOPR'') published on July 7, 2021. 86 FR 36018.

The July 2022 TP final rule adopted a new appendix B to subpart F of part 431 (''appendix B''), titled ''Uniform test method for measuring the energy consumption of direct expansion-dedicated outdoor air systems,'' that includes the new test procedure requirements for DX–DOASes. 87 FR 46164. The test procedure in appendix B incorporates by reference AHRI 920–2020, the most recent version of AHRI 920, the test procedure recognized by ASHRAE Standard 90.1 for DX–DOASes, and the relevant industry standards referenced therein.

The amendments adopted in AHRI 920–2020 result in different efficiency metric values, ISMRE2 and ISCOP2, than the ISMRE and ISCOP values measured using ANSI/AHRI 920–2015, which as noted previously, is the test standard upon which the DX–DOAS efficiency levels in 90.1–2016 and 90.1–2019 are based. Accordingly, because the ISMRE2 and ISCOP2 metrics adopted in the July 2022 TP final rule are different from the metrics used in ASHRAE 90.1–2019 (ISMRE and ISCOP), DOE has developed a crosswalk analysis which translates the existing ASHRAE 90.1–2019 ISMRE and ISCOP standards to the ISMRE2 and ISCOP2 metrics adopted in the July 2022 TP final rule. This crosswalk analysis is further discussed in section III.E of this document.

3. History of Standards Rulemaking for DX–DOASes

On February 1, 2022, DOE published a NOPR (''February 2022 NOPR'') which proposed to adopt energy conservation standards for DX–DOASes based on ISMRE2 and ICOP2 metrics. 87 FR 5560. DOE, based on a crosswalk analysis, tentatively determined that the proposed ISMRE2 and ISCOP2 standards were of equivalent stringency to the ISMRE and ISCOP standards in ASHRAE 90.1–2019. 87 FR 5561–5562.

DOE requested comment on the proposals included in the February 2022 NOPR, including the energy conservations and equipment classes that were proposed. 87 FR 5588.

DOE received six comments relevant to DX–DOASes in response to the February 2022 NOPR from the interested parties listed in Table II.2.

TABLE II.2—FEBRUARY 2022 NOPR WRITTEN COMMENTS

Commenter(s)	Abbreviation	Comment No. in the docket	Commenter type
Madison Indoor Air Quality	MIAQ	12	Manufacturer.
Carrier Corporation	Carrier	11	Manufacturer.
Appliance Standards Awareness Project, New York State Energy Research and Development Authority, American Council for an Energy-Efficient Economy, Natural Resources Defense Council.	Joint Advocates	13	Efficiency Advocate.
Air-Conditioning, Heating, and Refrigeration Institute	AHRI	15	Industry Representative.
Pacific Gas and Electric Company, Southern California Edison, San Diego Gas and Electric Company.	CA IOUs	14	Utility.
Northwest Energy Efficiency Alliance	NEEA	16	Efficiency Advocate.

A parenthetical reference at the end of a comment quotation or paraphrase provides the location of the item in the public record.[3]

III. General Discussion

DOE developed this final rule after considering oral and written comments, data, and information from interested parties that represent a variety of interests. The following discussion addresses issues raised by these commenters.

A. Scope of Coverage

As discussed previously, and in the February 2022 NOPR, unitary DOASes meet the EPCA definition for ''commercial package air conditioning and heating equipment,'' and, thus, are to be considered as a category of that covered equipment (42 U.S.C. 6311(8)(A)). In the July 2022 TP final rule, DOE established a definition for unitary DOAS and DX–DOAS as follows:

(1) ''Unitary dedicated outdoor air system, or unitary DOAS, means a category of small, large, or very large commercial package air-conditioning and heating equipment that is capable of providing ventilation and conditioning of 100-percent outdoor air and is marketed in materials (including but not limited to, specification sheets, insert sheets, and online materials) as having such capability''

(2) ''Direct expansion-dedicated outdoor air system, or DX–DOAS, means a unitary dedicated outdoor air system that is capable of dehumidifying air to a 55 °F dew point—when operating under Standard Rating Condition A as specified in Table 4 or Table 5 of AHRI 920–2020 (incorporated by reference, see § 431.95) with a barometric pressure of 29.92 in Hg—for any part of the range of airflow rates advertised in manufacturer materials, and has a moisture removal capacity of less than 324 lb/h.''
87 FR 45176.

DOE did not request comment on the DX–DOAS or unitary DOAS definition in the February 2022 NOPR, however DOE received a comment from Carrier, who asserted that unitary DOASes that are not DX–DOASes do not have specified energy conservation standards. (Carrier, No. 11, pp. 1–2) Carrier noted that these units are typically based on commercial unitary air conditioner and commercial unitary heat pump (''CUAC/HP'') designs, that they meet the current CUAC/HP energy conservations standards, and that like CUAC/HPs, they are used to meet both sensible and latent cooling needs. Carrier also stated that both unitary DOASes that are not DX–DOASes and CUAC/HPs are used in similar applications. Therefore, Carrier recommended unitary DOASes that are not DX–DOASes be required to test to the CUAC/HP test procedure and meet the CUAC/HP standards. *Id.*

DOE notes that the definition of a unitary DOAS, as established in the July 2022 TP final rule, states that unitary DOAS is capable of providing ventilation and conditioning of 100-percent outdoor air *and* is marketed in materials (including but not limited to, specification sheets, insert sheets, and online materials) as having such capability. 87 FR 45170. As stated in the July 2022 TP final rule, to determine whether a unit is distributed in commerce for a certain application, DOE reviews manufacturer literature (*e.g.,* brochures, product data, installation manuals, engineering specifications) sales data, and available material. Additionally, DOE stated that equipment that is marketed and/or distributed in commerce for both CUAC/CUHP applications and unitary DOAS applications must comply with the requirements applicable to both CUAC/HPs *and* unitary DOASes. 87 FR 45170. Currently there are no requirements, and none proposed, for unitary DOASes that are not also DX–DOASes. However, in response to Carrier's comment, DOE notes that units that meet the unitary DOAS definition but not the DX–DOAS definition, that are marketed and/or distributed in commerce for CUAC/CUHP applications, are required to test to the CUAC/HP test procedure and meet the CUAC/HP standards.

As noted, DOE finalized the definition of ''unitary dedicated outdoor air system'' and ''direct expansion-dedicated outdoor air system'' in the July 2022 TP final rule. Those definitions are applicable to the energy conservation standards established in this final rule.

B. Equipment Classes

When evaluating and establishing energy conservation standards, DOE divides covered equipment into product classes by the type of energy used or by capacity or other performance-related features that justify differing standards.

EPCA generally requires DOE to establish energy conservation standards for commercial package air-conditioning and heating equipment at the minimum efficiencies set forth in ASHRAE 90.1. (See 42 U.S.C. 6313(a)(6)(A)) As discussed in the February 2022 NOPR, ASHRAE 90.1–2016 created 14 separate equipment classes for DX–DOASes differentiated by, among other characteristics, condensing type (air-cooled, air-source heat pump, water-cooled, and water-source heat pump).

[3] The parenthetical reference provides a reference for information located in the docket of DOE's rulemaking to develop energy conservation standards for DX–DOASes. (Docket No. EERE–2017–BT–STD–0017, which is maintained at *www.regulations.gov*). The references are arranged as follows: (commenter name, comment docket ID number, page of that document).

87 FR 5560, 5566. More specifically, ASHRAE 90.1–2016 divides water-cooled condensing equipment into two subcategories (cooling tower condenser water and chilled water), and water-source heat pump equipment into three subcategories (ground-source closed loop, ground-water-source, and water-source). These subcategories were maintained in ASHRAE Standard 90.1–2019.

In the February 2022 NOPR, DOE noted that these subcategories are meant to represent different application conditions for the same equipment. 87 FR 5560, 5566. Additionally, DOE noted that ground-water-source equipment are excluded from the commercial package air conditioning and heating equipment definition in EPCA (see 42 U.S.C. 6311(8)(A)), and that the ground-source closed loop and chilled water conditions are optional application ratings. Therefore, DOE proposed to establish eight DX–DOAS equipment classes, as shown below in Table III.1. 87 FR 5560, 5566–5567.

TABLE III.1—EQUIPMENT CLASSES FOR DX–DOASES

Equipment class in ASHRAE 90.1	Proposed equipment class in Federal energy conservation standards
Air-cooled: without energy recovery	(AC)—Air-cooled without ventilation energy recovery systems.
Air-cooled: with energy recovery	(AC w/VERS)—Air-cooled with ventilation energy recovery systems.
Air-source heat pumps: without energy recovery	(ASHP)—Air-source heat pumps without ventilation energy recovery systems.
Air-source heat pumps: with energy recovery	(ASHP w/VERS)—Air-source heat pumps with ventilation energy recovery systems.
Water-cooled: cooling tower condenser water, without energy recovery	(WC)—Water-cooled without ventilation energy recovery systems.
Water-cooled: cooling tower condenser water, with energy recovery	(WC w/VERS)—Water-cooled with ventilation energy recovery systems.
Water-source heat pumps: water-source, without energy recovery	(WSHP)—Water-source heat pumps without ventilation energy recovery systems.
Water-source heat pumps: water-source, with energy recovery	(WSHP w/VERS)—Water-source heat pumps with ventilation energy recovery systems.

In the February 2022 NOPR, DOE requested comment on these proposed equipment classes. 87 FR 5560, 5568.

AHRI, MIAQ, Carrier, and the CA IOUs all supported the eight equipment classes. (AHRI, No. 15, p. 4; MIAQ, No. 12, p. 3; Carrier, No. 11, p. 1; CA IOUs, No. 14, p. 1). The Joint Advocates and NEEA however recommended DOE merge equipment classes for DX–DOASes with VERS, and DX–DOASes without VERS, because VERS should be treated as a design option used to improve efficiency. (Joint Advocates, No. 13, p. 2; NEEA, No. 16, p. 2)

Specifically, NEEA stated that DOE's proposed minimum efficiency standards are unfair to DX–DOAS units with VERS, which would be required to meet increasing standards over time by improving their energy recovery efficiency when units without VERS are allowed to persist with effectively zero energy recovery efficiency. NEEA also stated that DOE has established precedence for considering equipment components as technology options rather than performance related features in their rulemakings for other products such as consumer and commercial water heaters, and residential furnaces. (NEEA, No. 16, p. 2) NEEA noted that combining equipment classes for units with or without VERS provides an opportunity to expand the DX–DOAS standard in the future to effectively require VERS for all DX–DOAS systems, and that this approach would allow there to be an opportunity for a significant amount of energy savings in the future. NEEA also noted that it published an energy efficiency analysis final report for commercial DX–DOAS systems which discovered a whole-building energy cost increase of up to 40% for DX–DOAS systems without VERS, depending on building type, and that this is further evidence that DX–DOASes with and without VERS should be treated as one equipment class. (NEEA, No. 16, p. 3)

The Joint Advocates stated that they understand that DOASes without energy recovery does not offer distinct customer utility and that both types of equipment provide ventilation and dehumidification of 100% outdoor air, with the VERS functioning to precondition the outdoor air. The Joint Advocates stated that, due to this preconditioning, a DX–DOAS with VERS can consume significantly less energy than a model without energy recovery, and noted DOE's estimate in the 2019 NODA/RFI DOE that an air-cooled baseline unit (*i.e.,* just meeting ASHRAE 90.1 levels) with VERS consumes 23 percent less energy than a baseline unit without VERS. The Joint Advocates stated their belief that energy recovery, which offers significant potential for energy savings, should be treated as a design option to improve efficiency. (Joint Advocates, No. 13, p. 2)

As previously mentioned, DOE cannot determine, supported by clear and convincing evidence, that a more stringent standard is warranted. As such, DOE must adopt the efficiency levels specified for DOASes in ASHRAE 90.1, which includes distinct efficiency levels for DOASes with VERS, and for DOASes without VERS. (42 U.S.C. 6313(a)(6)(A)ii)(I)) Therefore, DOE declines to consider combining DOASes with VERS and without VERS into the same equipment classes in this final rule.

C. Test Procedure

EPCA sets forth generally applicable criteria and procedures for DOE's adoption and amendment of test procedures. (42 U.S.C. 6314(a)) Manufacturers of covered equipment must use these test procedures to certify to DOE that their product complies with energy conservation standards and to quantify the efficiency of their product.

As discussed, DOE adopted a test procedure for DX–DOASes in the July 2022 TP final rule. The standards adopted in this final rule shall be determined using DOE's test procedure for DX–DOASes, as specified in appendix B.

DOE received a comment from AHRI and MIAQ in response to the February 2022 NOPR stating that while they agree with DOE's proposed energy conservation standards, they believe that DOE should not adopt AHRI 920–2020 as the DOE test procedure and should not adopt energy conservation standards for DX–DOAS based on AHRI 920–2020 before AHRI 920–2020 is formally adopted in ASHRAE 90.1. (AHRI, No. 15, pp. 1–3; MIAQ, No. 12, pp. 1–3) AHRI and MIAQ also noted that the ASHRAE 90.1 SSPC committee has voted to release addendum cv to ASHRAE 90.1 which will adopt AHRI

920–2020, however they noted that it is unlikely to publish until after June 2022.[4] *Id.* DOE notes that since AHRI and MIAQ have submitted these comments, the ASHRAE 90.1 SPPC committee has published a public review draft of Addendum cv, which contains an updated reference to AHRI 920–2020 rather than ANSI/AHRI 920–2015 as the test standard for DX–DOAS.

As discussed in the July 2022 TP final rule, DOE disagreed with AHRI that it is premature to adopt AHRI 920–2020, and that DOE lacks the authority to do so. As discussed in the July 2022 TP final rule, the industry test procedure for DX–DOASes referenced in ASHRAE Standard 90.1–2019, AHRI 920–2015, was superseded in the intervening years since DOE was first triggered to review the DX–DOAS provisions of ASHRAE Standard 90.1–2016. As supported by many of the comments that DOE received in the test procedure rulemaking, including from AHRI itself, DOE determined, by clear and convincing evidence, that AHRI 920–2015 is not reasonably designed to produce test results which reflect energy efficiency of DX–DOASes during a representative average use cycle and that some components of AHRI 920–2015 are unnecessarily burdensome. Accordingly, DOE incorporated by reference AHRI 920–2020 in the July 2022 TP final rule, and the test procedure established in that rule must be used to demonstrate compliance with the energy conservation standards established in this final rule. Further discussion of DOE's justification to adopt AHRI 920–2020 may be found in the July 2022 TP final rule. 87 FR 45174.

D. Discussion of Specific Comments

1. Non-Standard Indoor Fans

In the February 2022 NOPR, DOE did not specifically request comment on how non-standard indoor fans should be treated when determining DX–DOAS basic models. However, in response to the February 2022 NOPR, Carrier stated that it supported DOE's determination of a DX–DOAS basic model, while AHRI and MIAQ stated that while they generally support DOE's determination of a DX–DOAS basic model, they believe that because AHRI 920–2020 does not include non-standard indoor fan motors as an optional feature for testing and because many model lines offer multiple higher static indoor fan motor options for higher static installations, separate basic models are required to accommodate each of the different indoor fan motor options. (AHRI, No. 15, pp. 5–6; MIAQ, No. 12, p. 5; Carrier, No. 11, p. 3) AHRI and MIAQ also stated that this would greatly increase the number of DX–DOAS basic models, and that this would be at great cost to small and large manufacturers. AHRI and MIAQ therefore recommended that DOE treat non-standard indoor fan motors consistent with section D4 of AHRI Standard 340/360–2022 ''Performance Rating of Commercial and Industrial Unitary Air-conditioning and Heat Pump Equipment'' (''AHRI 340/360–2022''),[5] which allows non-standard indoor fan motors to be optional for basic model representations, provided they have an efficiency that is ''equivalent'' or better than that of the standard fan motor (the test standard provides a definition for equivalent efficiency that takes into consideration that trend for efficiency increase as motor power increases). *Id.*

DOE acknowledges that AHRI 920–2020 does not include an approach similar to AHRI 340/360–2022 regarding the treatment of non-standard indoor fans, as described by AHRI. However, DOE notes that the supply air external static pressure (ESP) requirements in AHRI 920–2020 are significantly higher than those found in AHRI 340/360–2022 and ANSI/AHRI 920–2015.[6] Hence, the potential mismatch between the power required to operate a unit as required by the test procedure and the shaft power rating of a non-standard high-static motor should make much less difference to results as compared to equipment tested under AHRI 340/360–2022. AHRI did not provide information suggesting the potential range of such a mismatch.

While the comment claims that the approach finalized in the test procedure would ''greatly increase the number of DX–DOAX basic models,'' no specific details were provided explaining this significant increase. For example, the comment did not claim that such units with non-standard high-static motors would not be able to meet the proposed efficiency standards. DOE notes that the test procedure indicates that representations be based on the least-efficient of the individual models within the basic model (with certain allowances for certain components) but that no limit is imposed regarding the allowable efficiency difference among those individual models. 87 FR 45183. Thus, it is not clear why the number of basic models should greatly increase.

DOE does not have sufficient data or information to consider the impacts of amending the DOE test procedure to adopt a non-standard indoor fan approach similar to the one implemented in AHRI 340/360–2022. DOE notes that manufacturer literature for DX–DOASes does not have nearly as much detail on the ESP operation ranges of the motors offered within a model line, unlike the literature for CUACs which typically includes such information. Hence, DOE does not have data regarding the distribution of DX–DOASes with non-standard indoor fans compared to DX–DOASes with standard indoor fans, which could be used to indicate how representative a DX–DOAS with a non-standard indoor fan is with respect to the overall market. Accordingly, DOE is not at this time considering revision of the test procedure requirements regarding non-standard fans.

2. Representation Requirement for Moisture Removal Capacity

In the February 2022 NOPR, DOE proposed to require that the represented value of MRC be either the mean of the MRCs measured for the units in the selected sample rounded to the nearest lb/hr multiple according to Table 3 of AHRI 920–2020 or the MRC output simulated by an AEDM rounded to the nearest lb/hr multiple according to Table 3 of AHRI 920–2020, and requested feedback on this proposal. 87 FR 5560, 5580.

AHRI and MIAQ supported DOE's proposed representation requirements regarding MRC. (AHRI, No. 15, p. 5; MIAQ, No. 12, p. 4) Carrier agreed that the MRC should be based on tested values or an AEDM output, however Carrier recommended that the represented value of MRC should be between 95 and 100 percent of the mean of the measured capacities in the selected sample. (Carrier, No. 11, p. 3) Carrier stated that this process is not a burden for manufacturers and includes the impact of variation between the samples. *Id.*

DOE notes that Carrier's recommendation is consistent with the requirements for making btu/h representations for CUAC/HPs. 10 CFR 429.43(a)(1)(iv) DOE notes that this approach would allow manufacturers the option to make conservative (*i.e.,* avoid overstating) MRC representations. As such, and to align with the representation requirements of CUAC/HP, DOE has determined to amend its proposal in the February 2022 final rule

[4] DOE understands that AHRI was not indicating DOE should act upon the publication of addendum cv public review draft, or the publication of addendum cv, but that DOE should wait to adopt energy conservation standards for DX–DOASes based on AHRI 920–2020 until ASHRAE 90.1–2022 is published with a reference to AHRI 920–2020.

[5] AHRI 340/360–2022 is the most recent publication of the industry test procedure for CUAC/HPs.

[6] Supply air ESPs in AHRI 920–2020 range from 0.64–1.35 in H_2O. ESPs in AHRI 340/360–2022 and ANSI/AHRI 920–2015 range from 0.10–0.75 in H_2O.

and is adopting Carrier's recommendation in this final rule. Therefore, DOE is requiring that the represented value of MRC be either between 95 and 100 percent of the mean of the measured capacities of the units in the selected sample rounded to the nearest lb/hr multiple according to Table 3 of AHRI 920–2020 or the MRC output simulated by an AEDM rounded to the nearest lb/hr multiple according to Table 3 of AHRI 920–2020. DOE is adopting these provisions in 10 CFR 429.43(a)(3)(ii), and is including the rounding requirements from Table 3 of AHRI 920–2020 in Table 2 to paragraph (a)(3)(i)(B) of § 429.43.

NEEA supported DOE's proposal to incorporate MRC as the primary capacity representation, however, NEEA recommended DOE represent capacity information for DX–DOAS in both MRC and Btu/h because (1) manufacturers will already know the capacity of units expressed in Btu/h, thus the addition of this capacity information will not add extra burden to manufactures; (2) all other heating, ventilation, and air conditioning (HVAC) regulated DOE products have capacity represented in Btu/h; (3) there is no statutory limitation for describing capacity in multiple ways; and (4) capacity represented by Btu/h can be used to represent total capacity, including both sensible and latent cooling capacity, and capacity represented by MRC only represents the latent capacity of the unit. (NEEA, No. 16, pp. 3–4) Additionally, NEEA noted that the calculation from 760,000 Btu/h to 324 MRC has been performed by DOE, and asserted that it should be possible for other capacities if necessary in the future and recommended that if such a calculation is not specified in AHRI 920–2020, that DOE should include provisions that provide instructions for how the calculation should be performed. (NEEA, No. 16, p. 4)

DOE understands that representing capacity in Btu/h in addition to MRC may provide customers capacity representations in a term they are more familiar with (*i.e.,* Btu/h). However, DOE has determined that DX–DOASes, whose primary purpose is to dehumidify, are best represented solely by the MRC capacity measurement. DOE notes that AHRI 920–2020 includes test methods to determine capacity for dehumidification mode in terms of MRC, not Btu/h—none of its test provisions indicate how to determine capacity in terms of Btu/h. At this time, DOE does not have sufficient data or information to consider the impacts of making DX–DOAS capacity representations in terms of both MRC and Btu/h, and DOE has determined that there is not clear and convincing evidence to deviate from AHRI 920–2020 by making such representations in terms of Btu/h. Accordingly, DOE declines to follow NEEA's recommendation in this final rule.

3. Compliance Date

When establishing energy conservation standards at the same level as in ASHRAE Standard 90.1, DOE must establish such standards no later than 18 months following the ASHRAE Standard 90.1 update (in this case, ASHRAE 90.1–2016), and manufacturers must comply with such standards 2 to 3 years after the ASHRAE Standard 90.1 update, depending on the size of the equipment.[7] (42 U.S.C. 6313(a)(6)(A)(ii)(I) and (a)(6)(D)) In order to provide DX–DOAS manufacturers with a reasonable lead-time to comply with the standards proposed in the February 2022 NOPR, DOE proposed that manufacturers would be required to comply with the new standards for DX–DOASes 18 months following the publication date of this final rule. 87 FR 5560, 5582.

MIAQ stated that the HVAC industry has petitioned the Environmental Protection Agency to implement a January 1, 2025 compliance date requiring less than 750 GWP refrigerants for many HVAC appliances, which includes DOAS systems, as a result of the American Innovation and Manufacturing Act. MIAQ requests DOE implement an energy conservation standard compliance date for DOAS no sooner than January 1, 2025, given the complexity and expense of this low GWP refrigerant transition, and because this would help to ensure a smoother transition. (MIAQ, No. 12, p. 6)

DOE notes that its approach to energy conservation standards rulemakings, and the compliance dates adopted in such rulemakings, are dictated by the requirements in EPCA. As discussed, the publication of ASHRAE 90.1–2016 triggered DOE's obligation to establish uniform national standards for DX–DOASes no later than 18 months after its publication. (42 U.S.C. 6313(a)(6)(A)(ii)(I)) DOE's action to establish the ASHRAE 90.1–2016 DX–DOAS standards in this final rule is already 4 years late. Manufacturers have had these years of additional time in excess of the lead time specified by the statute to prepare for meeting these standards. Therefore, DOE is not deviating from the approach discussed in the February 2022 NOPR, and is adopting a compliance date for DX–DOASes 18 months after the publication of this final rule. As such, DOE is maintaining the same lead time between final rule and compliance date as would have occurred if DOE had met the requirements specified in EPCA regarding finalizing the amended standards and establishing a compliance date (using a compliance date 3 years after the update to ASHRAE 90.1 with amended standards established 18 months after the update to ASRHAE 90.1).

4. Certification and Enforcement Requirements

In the February 2022 NOPR, DOE proposed that the enforcement provisions generally applicable to commercial package air-conditioning and heating equipment would be applicable to DX–DOASes. 87 FR 5560, 5581. DOE also proposed to establish provisions in 10 CFR 429.134 that specify how DOE would determine the ISMRE2 and ISCOP2 for DX–DOASes with VERS. *Id.* DOE received comments from AHRI and MIAQ generally supporting these proposals and did not receive any additional comments on this subject. (AHRI, No. 15, p. 5; MIAQ, No. 12, pp. 4–5) As such, DOE has determined to adopt the enforcement provisions proposed in the February 2022 NOPR, but has done so by directly referencing DOE's test procedure, rather than industry standards.

In the February 2022 NOPR, DOE did not propose certification or reporting requirements for DX–DOASes and noted it would consider proposals to establish certification requirements and reporting for DX–DOASes under a separate rulemaking regarding appliance and equipment certification. 87 FR 5560, 5584. AHRI and MIAQ expressed concern that DOE is not currently proposing to establish certification requirements for DX–DOASes and urged DOE to swiftly establish said certification requirements and certification template. (AHRI, No. 15, p. 5; MIAQ, No. 12, pp. 4–5) The Joint Advocates also encouraged DOE to finalize all pertinent certification provisions for DX–DOASes as soon as possible, to allow time for stakeholders to review and submit feedback. (Joint Advocates, No. 13, p. 2)

DOE appreciates stakeholder feedback regarding this topic and will take it into consideration upon developing a separate rulemaking regarding equipment certification.

[7] In the February 2022 NOPR, DOE decided to assign a three-year compliance date regardless of equipment size because ASHRAE Standard 90.1–2016 established equipment classes for DX–DOASes that do not distinguish units based on the small, large, or very large categories.

5. Market and Technology Assessment

Although DOE has determined it does not have sufficient information to conduct a proper market and technology assessment, in the February 2022 NOPR DOE sought information that may inform a market and technology assessment for the DX–DOAS industry, including data on technology options which may increase the ISMRE2 and/or ISCOP2 efficiencies of DX–DOASes. 87 FR 5560, 5571.

AHRI and MIAQ stated that in general, small equipment (below 10 tons) utilize two stage or digital compressors, without inverter control, with small heat exchangers; whereas equipment above 10 tons typically utilizes four-stage or digital compressors, without inverter control, with larger heat exchangers. (AHRI, No. 15, p. 4; MIAQ, No. 12, p. 4) AHRI and MIAQ also noted that DOE contractors have also had extensive conversations with manufacturers to assess the market and technology. *Id.*

NEEA noted that while features that increase ISMRE2 ratings will save energy, there may be other energy saving features that aren't accounted for in the ISMRE2 metric. (NEEA, No. 16, pp. 5–6) Therefore, NEEA recommended DOE consider and request information from stakeholders on all technology options that reduce energy consumption, not just ones that affect ISMRE2, and that if such technology options are not accounted for in the ISMRE2 rating, DOE reconsider if the current TP sufficiently represents DX–DOAS equipment. NEEA also listed several energy saving technology options they recommend DOE consider in a future standards and test procedure rulemaking.[8] *Id.*

The comment provided by AHRI is informative, and DOE appreciates such feedback. DOE notes that AHRI's comment is generally consistent with the information DOE has collected regarding typical DX–DOAS designs, including in discussions with manufacturers. In response to NEEA, DOE has already finalized the DX–DOAS test procedure. 87 FR 45164. DOE will consider whether the test procedure should be modified to better address the potential benefits of additional technologies mentioned in NEEA's comment when considering future revisions to the DX–DOAS test procedure and standards. Therefore, DOE has determined that the feedback provided by NEEA and AHRI does not warrant making any adjustments to the proposals in the February 2022 NOPR.

NEEA also noted that the February 2022 NOPR requested information only on the market of DX–DOASes and did not broadly request information on the market of unitary DOASes. (NEEA, No. 16, pp. 4–5) NEEA expressed concerns that DOE's definition and scope for DX–DOAS and unitary DOAS equipment does not align with how the market differentiates them, and that market size and overlap between DX–DOAS and unitary DOAS is an unknown, which inhibits NEEA from providing meaningful comment on DOE's scope, test procedure, and proposed standard efficiency levels for these products. NEEA therefore recommends DOE collect and publish data on unitary DOAS through this product rulemaking in addition to the information requested for DX–DOAS to better understand the market size and overlap between the two. *Id.*

As discussed in section III.C, DOE established definitions for unitary DOASes and DX–DOASes in the July 2022 TP final rule and discussed any potential overlap between unitary DOASes and CUAC/HPs in that final rule. As discussed in section II.B, DX–DOASes (*i.e.,* the equipment for which DOE is establishing standards in this final rule) are a subset of unitary DOASes. While DOE did not specifically request data on unitary DOASes, commenters were free to provide information relevant to the DOAS market (unitary DOASes and DX–DOASes) that would inform DOE's analyses. In response to the NOPR, DOE was not presented with any data or information on the category of unitary DOASes that are not DX–DOASes. However, DOE may investigate and request additional related information on this specific category (unitary DOASes that are not DX–DOASes) in the future.

E. Energy Conservation Standards

As discussed in the February 2022 NOPR, the efficiency levels established for DX–DOASes in the ASHRAE 90.1 standard are based on the ISMRE and ISCOP metrics used in AHRI 920–2015. However, as noted previously, DOE has incorporated by reference into its test procedure the most recent version of AHRI 920, AHRI 920–2020. AHRI 920–2020 uses the ISMRE2 and ISCOP2 metrics. DOE was unable to conduct the analysis necessary to evaluate the potential energy savings or evaluate whether more stringent standards would be technologically feasible or economically justifiable, with sufficient certainty due to the lack of available market and performance data with the IMSRE2 and ISCOP2 metrics. Therefore, in the February 2022 NOPR, DOE proposed establishing ISMRE2 and ISCOP2 minimum efficiency levels of equivalent stringency to the ISMRE and ISCOP minimum efficiency levels currently published in ASHRAE 90.1 via a ''crosswalk'' analysis using the procedures of 42 U.S.C. 6293(e).[9] 87 FR 5560, 5575. As noted in the February 2022 NOPR, DOE preliminarily determined that, in the present case given the limited data available, conducting a crosswalk analysis generally consistent with the process prescribed in 42 U.S.C. 6293(e) would result in efficiency levels that are of the same stringency as those in ASHRAE Standard 90.1–2019. The proposed ISMRE2 and ISCOP2 levels DOE determined using the crosswalk analysis are shown below in Table III.2. 87 FR 5560, 5562.

TABLE III.2—ENERGY CONSERVATION STANDARDS FOR DX–DOASES

Equipment type	Subcategory	Efficiency level
DX–DOASes	(AC)—Air-cooled without ventilation energy recovery systems	ISMRE2 = 3.8.
	(AC w/VERS)—Air-cooled with ventilation energy recovery systems	ISMRE2 = 5.0.
	(ASHP)—Air-source heat pumps without ventilation energy recovery systems	ISMRE2 = 3.8. ISCOP2 = 2.05.

[8] NEEA listed the following features: Decreased fan energy consumption, low energy defrost, reduced VERS leakage, improved VERS heat recovery effectiveness, heat recovery bypass control capability, and low leakage dampers.

[9] As DOE noted in the February 2022 NOPR, EPCA prescribes requirements to amend the applicable energy conservation standard so that products or equipment that complied under the prior test procedure remain compliant under the amended test procedure. (*See generally* 42 U.S.C. 6293(e); 42 U.S.C. 6314(a)(4)(C)) While these provisions are not explicitly applicable to DX–DOASes in the present case because DOE had no test procedure at the time of the NOPR or energy conservation standards for DX–DOASes, DOE considers those procedures as generally instructive for conducting the crosswalk analysis.

TABLE III.2—ENERGY CONSERVATION STANDARDS FOR DX–DOASES—Continued

Equipment type	Subcategory	Efficiency level
	(ASHP w/VERS)—Air-source heat pumps with ventilation energy recovery systems	ISMRE2 = 5.0. ISCOP2 = 3.20.
	(WC)—Water-cooled without ventilation energy recovery systems	ISMRE2 = 4.7.
	(WC w/VERS)—Water-cooled with ventilation energy recovery systems	ISMRE2 = 5.1.
	(WSHP)—Water-source heat pumps without ventilation energy recovery systems	ISMRE2 = 3.8. ISCOP2 = 2.13.
	(WSHP w/VERS)—Water-source heat pumps with ventilation energy recovery systems	ISMRE2 = 4.6. ISCOP2 = 4.04.

To evaluate the ISMRE2 levels for the crosswalk analysis, DOE conducted investigative testing on four DX–DOASes and collaborated with Pacific Gas and Electric on testing of a fifth DX–DOAS to measure the average impact of the test procedure updates on the dehumidification efficiency metric. To evaluate the ISCOP2 levels, DOE considered the updates in AHRI 920–2020 in a calculation to determine the proper ISCOP2 levels. Details of the crosswalk analysis used to determine ISMRE2 and ISCOP2 levels can be found in the Crosswalk Analysis Support Document (''CASD'').[10]

In the February 2022 NOPR, DOE requested comment on its proposal to adopt the ISMRE2 and ISCOP2 levels determined in DOE's crosswalk analysis. 87 FR 5560, 5579. AHRI and MIAQ stated that many stakeholders, including DOE consultants, came together to develop an appropriate crosswalk between ISMRE and ISMRE2. (AHRI, No. 15, pp. 1–2, 4; MIAQ, No. 12, p. 4) AHRI and MIAQ noted that approximately 23 meetings were held since June 2020 to discuss the crosswalk, that multiple data points that had both ISMRE & ISMRE2 ratings were collected by AHRI, DOE, and the CA IOUs, and that all AHRI data collected was provided to DOE consultants. AHRI and MIAQ noted that the crosswalk was delayed by the low calculated correlation between ISMRE and ISMRE2 and consequently required more complex modeling to map the relationship between the two metrics. AHRI and MIAQ stated that while work was ongoing to map the relationship between ISCOP to ISCOP2 through the AHRI group, DOE continued a separate analysis (*i.e.,* the ISCOP2 crosswalk analysis) culminating in the publication of the February 2022 NOPR and the proposed standards therein. AHRI and MIAQ stated that while DOE proposed ISMRE2 standards in the February 2022 NOPR before ASHRAE completed their crosswalk, AHRI and MIAQ supports the standards proposed in the February 2022 NOPR. *Id.* The CA IOUs also supported DOE's crosswalk analysis, and the proposed ISMRE2 and ISCOP2 levels. (CA IOUs, No. 14, p. 2)

Carrier and the Joint Advocates however disagreed with the proposed ISMRE2 and ISCOP2 levels in the February 2022 NOPR. (Carrier, No. 11, p. 2; Joint Advocates, No. 13, pp. 1–2) Specifically, they disagreed with the proposed levels because of the high variation in the test results, because models not close to the baseline ISMRE levels in ASHRAE 90.1–2016 were considered in the crosswalk analysis, and because while the overall crosswalk showed a decrease in efficiency levels when moving from ANSI/AHRI 920–2015 to AHRI 920–2020, there was an increase in efficiency levels for the units tested which had efficiency levels near the ASHRAE 90.1–2016 baseline. (Carrier, No. 11, pp. 2–3) Therefore, Carrier and the Joint Advocates expressed concern that the efficiency levels being proposed in the February 2022 NOPR are too low because DOE averaged the crosswalk results across all DX–DOASes analyzed (including units near, and further from the ISMRE levels in ASHRAE 90.1), which could potentially lead to market demand for equipment with lower efficiency than baseline DX–DOAS currently on the market. Carrier and the Joint Advocates stated that the models with efficiency levels closest to the ASHRAE 90.1–2016 baseline levels should be the only models considered in the crosswalk and recommended DOE collect more data from units close to the baseline levels. *Id.* Additionally, Carrier asserted that their internal investigations found that the ISMRE2 and ISCOP2 levels should be at the same ISMRE and ISCOP levels in ASHRAE 920–2016 and ASHRAE 90.1–2019, however Carrier did not provide any additional data or information to support that conclusion. (Carrier, No. 11, p. 3)

DOE acknowledges that a crosswalk consistent with the process prescribed at 42 U.S.C. 6293(e) would typically involve testing minimally compliant units, or in this case, testing units that had efficiencies at the minimum level specified in ASHRAE 90.1–2016 and ASHRAE 90.1–2019. However, as noted in the February 2022 NOPR, ISMRE ratings for DX–DOASes are generally not available to determine which models may perform at the minimum ISMRE levels in ASHRAE 90.1–2019 because the market for DX–DOASes is still developing, and efficiency in terms of ISMRE and ISCOP is generally not provided by manufacturers. DOE stated in the February 2022 NOPR that it would consider additional crosswalk data from DX–DOAS models which are minimally compliant with the ASHRAE Standard 90.1–2019 ISMRE levels should such data become publicly available. 87 FR 5560, 5577. While Carrier and the Joint Advocates expressed concern that the standards proposed in the February 2022 NOPR may be too low, DOE has not received any additional data on this subject, and DOE is not aware of any public data that has been made available. Therefore, DOE evaluated five DX–DOASes with a range of moisture removal capacities and ISMRE ratings, as detailed in the CASD, to develop the standard levels proposed in the February 2022 NOPR.

Separately, the CA IOUs urged DOE to employ more recent weather data than what was used to create Typical Meteorological Year 2 (TMY2) files to establish ISMRE2 and ISCOP2 weighting factors, and assert that more recent weather data would be more appropriate for DOEs analysis.

In response to the CA IOUs comment about more recent weather data, DOE notes that the purpose of the TMY data is to create hourly weather data over an average year, based on time series of weather data over 25 to 30 years. While there is a more current version than TMY2, version TMY3, the impact of a change in TMY data on the outcome of the weighting factors would be minor. In Chapter 7 of the technical support document for the 2016 Final Rule for

[10] The CASD is available at *www.regulations.gov/document/EERE-2017-BT-STD-0017-0009.*

CUACs/CUHPs,[11] DOE compared the cooling degree days (CDD) for the TMY2 and TMY3 datasets. Nationally, TMY3 had about 5 percent more CDDs however, the average summer maximum daily temperature increased by less than 1 degree F. Given that each ISMRE bin represents a range of temperature conditions and this is a small change in average temperatures, a transition to TMY3 would result in small, if any, change in the average conditions for test conditions A, B, C, and D, and also very small change in the weighting factors for the tests. Ultimately, there is no evidence that it would result in a change in test results that would make a significant change in an efficiency-level ranking of DX–DOAS designs.

DOE did not receive any additional data or information to inform DOE's crosswalk from ISMRE to ISMRE2, or ISCOP to ISCOP2, and absent such data, DOE has determined that DOE's crosswalk is appropriate. A such, in this final rule, DOE is establishing ISMRE2 and ISCOP2 efficiency levels as proposed in the February 2022 NOPR in Table 14 of 10 CFR 431.97.

F. Consideration of Energy Conservation Standards

As discussed in section II.A of this document, EPCA requires DOE to amend the existing Federal energy conservation standard for covered equipment each time ASHRAE amends [12] ASHRAE 90.1 with respect to such equipment. (42 U.S.C. 6313(a)(6)(A)) When triggered in this manner, DOE must adopt the minimum level specified in the amended ASHRAE 90.1, unless DOE determines that there is clear and convincing evidence to support a determination that a more stringent standard level would produce significant additional conservation of energy and be technologically feasible and economically justified. (42 U.S.C. 6313(a)(6)(A)(ii)) If DOE makes such a determination, it must publish a final rule to establish the more stringent standards. (42 U.S.C. 6313(a)(6)(B))

As discussed in the February 2022 NOPR, DOE normally performs multiple in-depth analyses to determine whether there is clear and convincing evidence to support more stringent energy conservation standards *(i.e.,* whether more stringent standards would produce significant additional conservation of energy and be technologically feasible and economically justified). 87 FR 5560, 5562. However, DOE tentatively determined in the February 2022 NOPR that a lack of data precluded such an analysis and therefore precluded a finding, by clear and convincing evidence, that more stringent energy conservation standards are justified. But DOE did provide a technical support document (TSD) [13] to present initial findings for certain of these analyses for DX–DOASes based on the information available to DOE at the time. As described in the following subsections, DOE does not have sufficient data to revise and expand upon these analyses presented in the TSD at this time.

1. Technological Feasibility

a. General

In each energy conservation standards rulemaking, DOE conducts a screening analysis based on information gathered on all current technology options and prototype designs that could improve the efficiency of the products or equipment that are the subject of the rulemaking. As the first step in such an analysis, DOE develops a list of technology options for consideration in consultation with manufacturers, design engineers, and other interested parties. DOE then determines which of those means for improving efficiency are technologically feasible. DOE considers technologies incorporated in commercially available equipment or in working prototypes to be technologically feasible. See generally 10 CFR 431.4; sections 6(b)(3)(i) and 7(b)(1) of appendix A to 10 CFR part 430 subpart C (''Process Rule''). After DOE has determined that particular technology options are technologically feasible, it further evaluates each technology option in light of the following additional screening criteria: (1) practicability to manufacture, install, and service; (2) adverse impacts on product utility or availability; (3) adverse impacts on health or safety and (4) unique-pathway proprietary technologies.

DOE received a number of comments in response to the 2019 NODA/RFI regarding technology options for DOE to include in its analysis. DOE incorporated this feedback into aspects of the crosswalk performed by DOE when developing the ISMRE2 and ISCOP2 levels proposed in the February 2022 NOPR. A summary of those comments and the technology options DOE considered as part of its analysis for the February 2022 NOPR may be found in the February 2022 NOPR. 87 FR 5570–5571. DOE also received several comments from AHRI and MIAQ related to the technology options used in DX–DOASes in response to the February 2022 NOPR, which are discussed in section III.D.5. DOE has determined that information provided by AHRI and MIAQ does not indicate any updates to DOE's analysis are needed. DOE did not receive additional information from stakeholders on these issues after publication of the February 2022 NOPR, and DOE has not found any additional relevant information. Accordingly, DOE maintained the same inputs for its technology and market assessment analyses as it did in the February 2022 NOPR. Additionally, as discussed in the February 2022 NOPR, DOE is not aware of an existing database or compilation containing a comprehensive list of DX–DOAS models and performance metrics, and DOE was not able to find ISMRE and ISCOP, or ISMRE2 and ISCOP2 ratings in much of the manufacturer equipment specifications. 87 FR 5560, 5570. Currently, DOE is still not aware of any such database.

b. Maximum Technologically Feasible Levels

When DOE proposes to adopt an amended standard for a type or class of covered product, it typically determines the maximum improvement in energy efficiency or maximum reduction in energy use that is technologically feasible for such product. (42 U.S.C. 6295(p)(1)) Accordingly, in the engineering analysis, DOE would typically determine the maximum technologically feasible (''max-tech'') improvements in energy efficiency for DX–DOASes, using the design parameters for the most efficient equipment available on the market or in working prototypes.

As discussed in the February 2022 NOPR, DOE was unable to identify the most efficient equipment available on the market in terms of ISMRE2 and ISCOPE2 because of the lack of data available to DOE. 87 FR 5560, 5571. Therefore, DOE was unable to estimate the field-installed energy use and cost of the most efficient equipment (in terms of ISMRE2 and ISCOP2) available on the market (factoring in parameters such as price markups, installation application, life-cycle cost and payback period, and overall shipments), and was unable to evaluate the technological feasibility of

[11] Available at: *https://www.regulations.gov/document/EERE-2013-BT-STD-0007-0105,* p. 7–18.

[12] Although EPCA does not explicitly define the term ''amended'' in the context of what type of revision to ASHRAE 90.1 would trigger DOE's obligation, DOE's longstanding interpretation has been that the statutory trigger is an amendment to the standard applicable to that equipment under ASHRAE 90.1 that increases the energy efficiency level for that equipment. *See* 72 FR 10038, 10042 (March 7, 2007).

[13] The September 2019 NODA/RFI TSD is available as Document No. 2 at *www.regulations.gov/docket/EERE-2017-BT-STD-0017.*

standards more stringent than the levels in the updated ASHRAE 90.1. *Id.*

DOE did not receive any additional information in response to the February 2022 that would assist DOE in assessing ISMRE2 and ISCOP2 levels more stringent than the levels in AHSRAE 90.1–2019. Therefore, in this final rule, DOE has determined that it is unable to assess more stringent levels than those presented in ASHRAE 90.1–2019.

2. Energy Savings

In setting a more stringent standard for ASHRAE equipment, DOE must have ''clear and convincing evidence'' that doing so ''would result in significant additional conservation of energy'' in addition to being technologically feasible and economically justified. 42 U.S.C. 6313(a)(6)(A)(ii)(II). This language indicates that Congress intended for DOE to determine that, in addition to the savings from the ASHRAE standards, DOE's standards would yield additional energy savings that are significant. As under the statutory provision applicable to covered products and non-ASHRAE equipment, this provision requires DOE to determine that its standards will produce a ''significant conservation of energy,'' (42 U.S.C. 6295(o)(3)(B)), but here also requires that DOE make that determination supported by ''clear and convincing evidence''. *See* 85 FR 8626, 8666–8667.

In the February 2022 NOPR, DOE initially determined that there is insufficient data on the developing DX–DOAS market to conduct an analysis of potential energy savings resulting from more stringent standards because AHRI 920–2020 is a relatively recent industry test standard, and thus, no database with ISMRE2 and ISCOP2 ratings has been established to show the general distribution of DX–DOAS efficiencies currently on the market. 87 FR 5560, 5571. Since then, DOE has not received or obtained sufficient data and information needed to conduct an analysis of potential energy savings resulting from more stringent standards. While DOE has received data from stakeholders comparing energy savings of DX–DOASes with VERS and DX–DOASes without VERS (as discussed in section III.B), DOE has not received data detailing energy savings of DX–DOASes with varying efficiencies. DOE is also currently still not aware of any database with ISMRE2 and ISCOP2 ratings which could contribute to an analysis of DX–DOAS efficiency distributions or energy savings analysis. As such, DOE has not conducted an analysis of potential energy savings resulting from more stringent standards, and DOE is adopting ISMRE2 and ISCOP2 DX–DOASes standards that are equivalent to the ISMRE and ISCOP standards presented in ASHRAE 90.1–2019, in part because it is unable to establish clear and convincing evidence to support more stringent standards.

3. Economic Justification

As noted previously, EPCA provides seven factors to be evaluated in determining whether a potential energy conservation standard is economically justified. (*See* 42 U.S.C. 6313(a)(6)(B)(ii)(I)–(VII)) As required by EPCA, DOE has considered each of these factors ''to the maximum extent practicable''.[14] The following sections discuss how DOE has addressed each of those seven factors in this rulemaking.

a. Economic Impact on Manufacturers and Consumers

For individual consumers, measures of economic impact include the changes in LCC and payback period (''PBP'') associated with new or amended standards. These measures are discussed further in the following section. For consumers in the aggregate, DOE also calculates the national net present value of the consumer costs and benefits expected to result from particular standards. DOE also evaluates the impacts of potential standards on identifiable subgroups of consumers that may be affected disproportionately by a standard.

As noted, DOE is unaware of any database or compilation containing a comprehensive list of DX–DOAS models and performance metrics. This presents significant challenges to performing an accurate assessment of the DX–DOAS industry structure.

In determining the impacts of a potential standard on manufacturers, DOE typically conducts a manufacturer impact analysis (MIA). DOE did not perform an MIA for this rulemaking because there is not enough information available on the DX–DOAS market to determine which entities are already compliant with the finalized energy conservation standards (*i.e.,* producing DX–DOASes which currently meet or exceed the ISMRE2 and ISCOP2 minimum efficiency levels in this final rule) and what portion of annual cash flow these DX–DOASes comprise. However, DOE did examine the potential impacts on small manufacturers in its regulatory flexibility analysis, which is presented in section VII.B of this final rule.

DOE notes that a full consideration of more stringent levels, if undertaken, would assess manufacturer impacts including cumulative burden. However, because DOE is adopting energy conservation standards for DX–DOASes of equivalent stringency as those in present in ASHRAE 90.1–2019, and in the absence of more stringent standards, DOE has determined that the proposals set forth in this final rule would not add additional burden to manufacturers.

For individual consumers, DOE measures the economic impact by calculating the changes in LCC and PBP associated with new or amended standards. For consumers in the aggregate, DOE would also calculate the national net present value of the consumer costs and benefits expected to result from particular standards, while taking into account the impacts of potential standards on identifiable subgroups of consumers that may be affected disproportionately by a standard.

DOE did not perform an LCC or an assessment of NPV for this rulemaking because there was not enough information available to develop the inputs required to measure the individual or aggregate consumer savings from higher standards. The LCC would require an engineering analysis, an energy use analysis, operating cost inputs, and a distribution of efficiencies that are available on the market. These inputs allow DOE to develop equipment prices, representative efficiency levels, annual operating costs, and a no-standards case distribution of equipment efficiencies to determine which consumers will be impacted by a higher standard. The NIA takes the weighted average national results from the LCC and combines them with shipments forecasts by equipment class and efficiency level in order to measure the national impact, in terms of consumer NPV and full-fuel-cycle energy savings. As stated previously, DOE was unable to develop cost-efficiency curves for DX–DOASes or to conduct an energy use analysis with enough degree of certainty that would allow it to consider a standard level more stringent than ASHRAE 90.1 (see section III.F.2 of this document). Without these inputs, DOE is unable to produce the LCC and NIA for this final rule. Accordingly, DOE did not perform LCC and NIA analyses.

b. Savings in Operating Costs Compared To Increase in Price (LCC and PBP)

EPCA requires DOE to consider the savings in operating costs throughout the estimated average life of the covered product in the type (or class) compared

[14] *See Am. Pub. Gas Ass'n* v. *United States Dep't of Energy,* 22 F.4th 1018, 1025 (D.C. Cir. 2022).

to any increase in the price of, or in the initial charges for, or maintenance expenses of, the covered product that are likely to result from a standard. (*See* 42 U.S.C. 6313(a)(6)(B)(ii)(II)) DOE conducts this comparison in its LCC and PBP analysis.

The LCC is the sum of the purchase price of a product (including its installation) and the operating cost (including energy, maintenance, and repair expenditures) discounted over the lifetime of the product. The LCC analysis requires a variety of inputs, such as product prices, product energy consumption, energy prices, maintenance and repair costs, product lifetime, and discount rates appropriate for consumers. To account for uncertainty and variability in specific inputs, such as product lifetime and discount rate, DOE uses a distribution of values, with probabilities attached to each value.

The PBP is the estimated amount of time (in years) it takes consumers to recover the increased purchase cost (including installation) of a more-efficient product through lower operating costs. DOE calculates the PBP by dividing the change in purchase cost due to a more-stringent standard by the change in annual operating cost for the year that standards are assumed to take effect.

For a LCC and PBP analysis, DOE assumes that consumers will purchase the covered equipment in the first year of compliance with new or amended standards. The LCC savings for the considered efficiency levels are calculated relative to the case that reflects projected market trends in the absence of new or amended standards.

DOE did not perform an LCC and PBP analysis for this final rule. As discussed in the preceding paragraphs there is not enough information available to develop the inputs to the LCC and PBP models.

c. Energy Savings

Although significant conservation of energy is a separate statutory requirement for adopting an energy conservation standard, EPCA requires DOE, in determining the economic justification of a standard, to consider the total projected energy savings that are expected to result directly from the standard. (*See* 42 U.S.C. 6313(a)(6)(B)(ii)(III)) As discussed, DOE was unable to conduct an energy use analysis with sufficient certainty. Therefore, DOE has not conducted or updated an NES analysis for this final rule.

d. Lessening of Utility or Performance of Products

In establishing equipment classes, and in evaluating design options and the impact of potential standard levels, DOE evaluates potential standards that would not lessen the utility or performance of the considered equipment. (*See* 42 U.S.C. 6313(a)(6)(B)(ii)(IV)) Based on data available to DOE, the standards adopted in this document would not reduce the utility or performance of the equipment under consideration in this rulemaking because DOE is establishing standards of equivalent stringency to those already found in ASHRAE 90.1, which have applied to DX–DOASes for several years.

e. Impact of Any Lessening of Competition

EPCA directs DOE to consider the impact of any lessening of competition, as determined in writing by the Attorney General, that is likely to result from a standard. (*See* 42 U.S.C. 6313(a)(6)(B)(ii)(V)) To assist the Department of Justice (''DOJ'') in making such a determination, DOE transmitted copies of its proposed rule and the NOPR TSD to the Attorney General for review, with a request that the DOJ provide its determination on this issue. In its assessment letter responding to DOE, DOJ concluded that the adopted energy conservation standards for DX–DOASes are unlikely to have a significant adverse impact on competition. The Attorney General's assessment is available for review in the rulemaking docket.

f. Need for National Energy Conservation

DOE also considers the need for national energy and water conservation in determining whether a new or amended standard is economically justified. (*See* 42 U.S.C. 6313(a)(6)(B)(ii)(VI)) The energy savings from the adopted standards are likely to provide improvements to the security and reliability of the Nation's energy system. Reductions in the demand for electricity also may result in reduced costs for maintaining the reliability of the Nation's electricity system.

DOE maintains that environmental and public health benefits associated with the more efficient use of energy are important to take into account when considering the need for national energy conservation. The adopted standards are likely to result in environmental benefits in the form of reduced emissions of air pollutants and greenhouse gases (''GHGs'') associated with energy production and use.

The utility impact analysis, emissions analysis, and emissions monetization all rely on the national energy savings estimates from the NIA. As discussed previously, DOE did not conduct an NIA and as a result could not conduct these downstream analyses.

g. Other Factors

In determining whether an energy conservation standard is economically justified, DOE may consider any other factors that the Secretary deems to be relevant. (*See* 42 U.S.C. 6313(a)(6)(B)(ii)(VII)) To the extent DOE identifies any relevant information regarding economic justification that does not fit into the other categories described previously, DOE could consider such information under ''other factors.'' DOE did not identify any relevant ''other factors'' for this final rule.

h. Rebuttable Presumption

EPCA creates a rebuttable presumption that an energy conservation standard is economically justified if the additional cost to the consumer of the equipment that meets the standard is less than three times the value of the first year's energy savings resulting from the standard, as calculated under the applicable DOE test procedure. DOE's LCC and PBP analyses generate values used to calculate the effects that amended energy conservation standards would have on the PBP for consumers. These analyses include, but are not limited to, the 3-year PBP contemplated under the rebuttable-presumption test. In addition, DOE routinely conducts an economic analysis that considers the full range of impacts to consumers, manufacturers, the Nation, and the environment, as required under 42 U.S.C. 6313(a)(6)(B)(ii) and 42 U.S.C. 6313(a)(6)(C)(i). The results of this analysis serve as the basis for DOE's evaluation of the economic justification for a potential standard level (thereby supporting or rebutting the results of any preliminary determination of economic justification).

As discussed, DOE did not perform an LCC and PBP analysis for this final rule because there is not enough information available to develop the inputs to the LCC and PBP models. Therefore, DOE does not have sufficient information to perform this analysis.

G. Conclusions

EPCA requires DOE to establish an amended uniform national standard for small, large, and very large commercial package air conditioning and heating equipment, which includes DX–

DOASes, at the minimum level specified in the amended ASHRAE 90.1 unless DOE determines, by rule published in the **Federal Register**, and supported by clear and convincing evidence, that adoption of a uniform national standard more stringent than the amended ASHRAE 90.1 would result in significant additional conservation of energy and is technologically feasible and economically justified. (42 U.S.C. 6313(a)(6)(A)(ii)(I)–(II)). As discussed throughout this document, due to the lack of available market and performance data with the IMSRE2 and ISCOP2 metrics, DOE is unable to conduct the analysis necessary to evaluate the potential energy savings or evaluate whether more stringent standards would be technologically feasible or economically justified at this time, with sufficient certainty. Therefore, DOE has determined it lacks clear and convincing evidence that adoption of more stringent standards would result in additional conservation of energy and would be technologically feasible and economically justified. Accordingly, DOE is establishing energy conservation standards for DX–DOASes that are of equivalent stringency as the minimum levels specified in ASHRAE 90.1–2019.

DOE is establishing standards using the ISMRE2 and ISCOP2 metrics, which are the metrics used in the most recent version of the industry test procedure for DX–DOAS recognized by ASHRAE 90.1–2019 (*i.e.,* AHRI 920–2020). Based on DOE's crosswalk analysis and the discussion in section III.E, DOE has determined that the adopted energy conservation standards in terms of ISMRE2 and ISCOP2 are of equivalent stringency to the standards for DX–DOAS in ASHRAE 90.1–2019, which rely on the ISMRE and ISCOP metrics. The adopted standards for DX–DOASes are shown in Table III.2 of this final rule. The adopted standards apply to all DX–DOASes with an MRC of less than 324 lbs moisture/hr manufactured in, or imported into, the United States starting 18 months after the publication of this final rule.

IV. Procedural Issues and Regulatory Review

A. Review Under Executive Orders 12866 and 13563

Executive Order (''E.O.'')12866, ''Regulatory Planning and Review,'' as supplemented and reaffirmed by E.O. 13563, ''Improving Regulation and Regulatory Review, 76 FR 3821 (Jan. 21, 2011), requires agencies, to the extent permitted by law, to (1) propose or adopt a regulation only upon a reasoned determination that its benefits justify its costs (recognizing that some benefits and costs are difficult to quantify); (2) tailor regulations to impose the least burden on society, consistent with obtaining regulatory objectives, taking into account, among other things, and to the extent practicable, the costs of cumulative regulations; (3) select, in choosing among alternative regulatory approaches, those approaches that maximize net benefits (including potential economic, environmental, public health and safety, and other advantages; distributive impacts; and equity); (4) to the extent feasible, specify performance objectives, rather than specifying the behavior or manner of compliance that regulated entities must adopt; and (5) identify and assess available alternatives to direct regulation, including providing economic incentives to encourage the desired behavior, such as user fees or marketable permits, or providing information upon which choices can be made by the public. DOE emphasizes as well that E.O. 13563 requires agencies to use the best available techniques to quantify anticipated present and future benefits and costs as accurately as possible. In its guidance, the Office of Information and Regulatory Affairs (''OIRA'') in the Office of Management and Budget (''OMB'') has emphasized that such techniques may include identifying changing future compliance costs that might result from technological innovation or anticipated behavioral changes. For the reasons stated in the preamble, this proposed/final regulatory action is consistent with these principles.

Section 6(a) of E.O. 12866 also requires agencies to submit ''significant regulatory actions'' to OIRA for review.

OIRA has determined that this final regulatory action does not constitute a ''significant regulatory action'' under section 3(f) of E.O. 12866. Accordingly, this action was not submitted to OIRA for review under E.O. 12866.

B. Review Under the Regulatory Flexibility Act

The Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*) requires preparation of an initial regulatory flexibility analysis (''IRFA'') and a final regulatory flexibility analysis (''FRFA'') for any rule that by law must be proposed for public comment, unless the agency certifies that the rule, if promulgated, will not have a significant economic impact on a substantial number of small entities. As required by E.O. 13272, ''Proper Consideration of Small Entities in Agency Rulemaking,'' 67 FR 53461 (Aug. 16, 2002), DOE published procedures and policies on February 19, 2003, to ensure that the potential impacts of its rules on small entities are properly considered during the rulemaking process. 68 FR 7990. DOE has made its procedures and policies available on the Office of the General Counsel's website (*www.energy.gov/gc/office-general-counsel*).

On October 26, 2016, ASHRAE officially released the 2016 edition of ASHRAE 90.1 (''ASHRAE 90.1–2016''), which for the first time created separate equipment classes for DX–DOASes with corresponding standards, thereby triggering DOE's obligations pursuant to EPCA to either: (1) establish uniform national standards for DX–DOASes at the minimum levels specified in the amended ASHRAE 90.1; or (2) adopt more stringent standards based on clear and convincing evidence that adoption of such standards would produce significant additional energy savings and be technologically feasible and economically justified.

As result of the ASHRAE trigger, DOE published a NOPR (''February 2022 NOPR'') on February 1, 2022 in which DOE proposed to adopt energy conservation standards for DX–DOASes. 87 FR 5560. In this final rule, DOE is establishing energy conservation standards for DX–DOASes at the stringency levels specified in ASHRAE 90.1–2019, relying on updated metrics: ISMRE2 (for all DX–DOASes) and ISCOP2 (for heat pump DX–DOASes).

For manufacturers of small, large, and very large air-conditioning and heating equipment (including DX–DOASes), the Small Business Administration (''SBA'') has set a size threshold which defines those entities classified as ''small businesses.'' DOE used the SBA's small business size standards to determine whether any small entities would be subject to the requirements of this rule. *See* 13 CFR part 121. The equipment covered by this final rule are classified under North American Industry Classification System (''NAICS'') code 333415,[15] ''Air-Conditioning and Warm Air Heating Equipment and Commercial and Industrial Refrigeration Equipment Manufacturing.'' In 13 CFR 121.201, the SBA sets a threshold of 1,250 employees or fewer for an entity to be considered as a small business for this category.

In reviewing the DX–DOAS market, DOE used company websites, marketing research tools, product catalogues, and other public information to identify

[15] The business size standards are listed by NAICS code and industry description and are available at: *www.sba.gov/document/support—table-size-standards* (Last Accessed July 29th, 2021).

companies that manufacture DX–DOASes. DOE screened out companies that do not meet the definition of ''small business'' or are foreign-owned and operated. DOE used subscription-based business information tools to determine headcount, revenue, and geographic presence of the small businesses.

As noted in the February 2022 NOPR, DOE identified 12 manufacturers of DX–DOASes, of which one met the definition of a domestic small businesses. DOE understands the annual revenue of the small manufacturer to be approximately $66 million. 87 FR 5560, 5584.

In this final rule, DOE adopts energy conservation standards for DX–DOAS based on the ISMRE2 and ISCOP2 metrics. In the July 2022 TP final rule, DOE adopted the test procedure for DX–DOASes, as specified in appendix B. In that test procedure final rule, DOE determined that manufacturers would be unlikely to incur a significant increase in burden, given that DOE referenced the prevailing industry test procedure (*i.e.,* AHRI 920–2020). 87 FR 45189. Additionally, DOE has determined that the adopted ISMRE2 and ISCOP2 standards are of equivalent stringency as the standards in ASHRAE 90.1–2016 (and ASHRAE 90.1–2019), which are expressed in terms of ISMRE and ISCOP. In the absence of available market and performance data, DOE is unable to conduct the analysis necessary to evaluate the potential energy savings or evaluate whether more stringent standards would be technologically feasible or economically justifiable, with sufficient certainty. As such, DOE is not establishing standards at levels more stringent than those specified in ASHRAE 90.1–2019.

Therefore, DOE has determined that manufacturers would only incur costs as result of this final rule if a manufacturer was not already testing to current industry practice. However, in the July 2022 TP final rule, DOE determined that it would be unlikely for manufacturers to incur testing costs given that DOE is referencing the prevailing industry test procedure. DOE determined that its adoption as part of the Federal test procedure would be expected to result in little additional cost, even with the minor modifications proposed. DOE also determined that the test procedure would not require manufacturers to redesign any of the covered equipment, would not require changes to how the equipment is manufactured, and would not impact the utility of the equipment. 87 FR 45189.

DOE identified only one domestic small manufacturer affected by this rulemaking, and received no comments stating otherwise. Furthermore, DOE is not establishing standards at levels more stringent than those specified in ASHRAE 90.1–2019. Therefore, on the basis of the *de minimis* compliance burden and that DOE is not proposing more-stringent standards than those specified in ASHRAE 90.1–2016 (and ASHRAE 90.1–2019), DOE certifies that this final rule does not have a ''significant economic impact on a substantial number of small entities,'' and that the preparation of a FRFA is not warranted. DOE will transmit a certification and supporting statement of factual basis to the Chief Counsel for Advocacy of the Small Business Administration for review under 5 U.S.C. 605(b).

C. Review Under the Paperwork Reduction Act

Under the procedures established by the Paperwork Reduction Act of 1995 (PRA), a person is not required to respond to a collection of information by a Federal agency unless that collection of information displays a currently valid OMB Control Number.

OMB Control Number 1910–1400, Compliance Statement Energy/Water Conservation Standards for Appliances, is currently valid and assigned to the certification reporting requirements applicable to covered equipment, including DX–DOASes. DOE's certification and compliance activities ensure accurate and comprehensive information about the energy and water use characteristics of covered products and covered equipment sold in the United States. Manufacturers of all covered products and covered equipment must submit a certification report before a basic model is distributed in commerce, annually thereafter, and if the basic model is redesigned in such a manner to increase the consumption or decrease the efficiency of the basic model such that the certified rating is no longer supported by the test data. Additionally, manufacturers must report when production of a basic model has ceased and is no longer offered for sale as part of the next annual certification report following such cessation. DOE requires the manufacturer of any covered product or covered equipment to establish, maintain, and retain the records of certification reports, of the underlying test data for all certification testing, and of any other testing conducted to satisfy the requirements of part 429, part 430, and/or part 431. Certification reports provide DOE and consumers with comprehensive, up-to date efficiency information and support effective enforcement.

Certification data will be required for DX–DOASes; however, DOE is not adopting certification or reporting requirements for DX–DOASes in this final rule. Instead, DOE may consider proposals to establish certification requirements and reporting for DX–DOASes under a separate rulemaking regarding appliance and equipment certification. DOE will address changes to OMB Control Number 1910–1400 at that time, as necessary.

Notwithstanding any other provision of the law, no person is required to respond to, nor shall any person be subject to a penalty for failure to comply with, a collection of information subject to the requirements of the PRA, unless that collection of information displays a currently valid OMB Control Number.

D. Review Under the National Environmental Policy Act of 1969

Pursuant to the National Environmental Policy Act of 1969 (''NEPA''), DOE has analyzed this action rule in accordance with NEPA and DOE's NEPA implementing regulations (10 CFR part 1021). DOE has determined that this 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 has determined that promulgation of this 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.

E. Review Under Executive Order 13132

E.O. 13132, ''Federalism,'' 64 FR 43255 (Aug. 10, 1999), imposes certain requirements on Federal agencies formulating and implementing policies or regulations that preempt State law or that have federalism implications. The Executive order requires agencies to examine the constitutional and statutory authority supporting any action that would limit the policymaking discretion of the States and to carefully assess the necessity for such actions. The Executive order also requires agencies to have an accountable process to ensure meaningful and timely input by State and local officials in the development of regulatory policies that have federalism implications. On March 14, 2000, DOE

published a statement of policy describing the intergovernmental consultation process it will follow in the development of such regulations. 65 FR 13735. DOE has examined this rule and has determined that it would not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. EPCA governs and prescribes Federal preemption of State regulations as to energy conservation for the equipment that are the subject of this final rule. States can petition DOE for exemption from such preemption to the extent, and based on criteria, set forth in EPCA. (*See* 42 U.S.C. 6316(a) and (b); 42 U.S.C. 6297) Therefore, no further action is required by Executive Order 13132.

F. Review Under Executive Order 12988

With respect to the review of existing regulations and the promulgation of new regulations, section 3(a) of E.O. 12988, ''Civil Justice Reform,'' imposes on Federal agencies the general duty to adhere to the following requirements: (1) eliminate drafting errors and ambiguity, (2) write regulations to minimize litigation, (3) provide a clear legal standard for affected conduct rather than a general standard, and (4) promote simplification and burden reduction. 61 FR 4729 (Feb. 7, 1996). Regarding the review required by section 3(a), section 3(b) of E.O. 12988 specifically requires that Executive agencies make every reasonable effort to ensure that the regulation (1) clearly specifies the preemptive effect, if any, (2) clearly specifies any effect on existing Federal law or regulation, (3) provides a clear legal standard for affected conduct while promoting simplification and burden reduction, (4) specifies the retroactive effect, if any, (5) adequately defines key terms, and (6) addresses other important issues affecting clarity and general draftsmanship under any guidelines issued by the Attorney General. Section 3(c) of E.O. 12988 requires Executive agencies to review regulations in light of applicable standards in section 3(a) and section 3(b) to determine whether they are met or it is unreasonable to meet one or more of them. DOE has completed the required review and determined that, to the extent permitted by law, this final rule meets the relevant standards of E.O. 12988.

G. Review Under the Unfunded Mandates Reform Act of 1995

Title II of the Unfunded Mandates Reform Act of 1995 (''UMRA'') requires each Federal agency to assess the effects of Federal regulatory actions on State, local, and Tribal governments and the private sector. Public Law 104–4, sec. 201 (codified at 2 U.S.C. 1531). For a regulatory action likely to result in a rule that may cause the expenditure by State, local, and Tribal governments, in the aggregate, or by the private sector of $100 million or more in any one year (adjusted annually for inflation), section 202 of UMRA requires a Federal agency to publish a written statement that estimates the resulting costs, benefits, and other effects on the national economy. (2 U.S.C. 1532(a), (b)) The UMRA also requires a Federal agency to develop an effective process to permit timely input by elected officers of State, local, and Tribal governments on a ''significant intergovernmental mandate,'' and requires an agency plan for giving notice and opportunity for timely input to potentially affected small governments before establishing any requirements that might significantly or uniquely affect them. On March 18, 1997, DOE published a statement of policy on its process for intergovernmental consultation under UMRA. 62 FR 12820. DOE's policy statement is also available at *www.energy.gov/sites/prod/files/gcprod/documents/umra_97.pdf.*

This rule does not contain a Federal intergovernmental mandate, nor is it expected to require expenditures of $100 million or more in any one year by the private sector. In this document, DOE is establishing energy conservation standards at an equivalent stringency level as the existing industry standards in ASHRAE 90.1–2019. The determination of the adopted energy conservation standards is based on a crosswalk of the ASHRAE 90.1–2019 minimum efficiency levels to updated efficiency metrics, and thus DOE does not expect that units which are minimally compliant with ASHRAE 90.1–2019 would require redesign. As a result, the analytical requirements of UMRA do not apply.

H. Review Under the Treasury and General Government Appropriations Act, 1999

Section 654 of the Treasury and General Government Appropriations Act, 1999 (Pub. L. 105–277) requires Federal agencies to issue a Family Policymaking Assessment for any rule that may affect family well-being. This rule would not have any impact on the autonomy or integrity of the family as an institution. Accordingly, DOE has concluded that it is not necessary to prepare a Family Policymaking Assessment.

I. Review Under Executive Order 12630

Pursuant to E.O. 12630, ''Governmental Actions and Interference with Constitutionally Protected Property Rights,'' 53 FR 8859 (March 18, 1988), DOE has determined that this rule would not result in any takings that might require compensation under the Fifth Amendment to the U.S. Constitution.

J. Review Under the Treasury and General Government Appropriations Act, 2001

Section 515 of the Treasury and General Government Appropriations Act, 2001 (44 U.S.C. 3516, note) provides for Federal agencies to review most disseminations of information to the public under information quality guidelines established by each agency pursuant to general guidelines issued by OMB. OMB's guidelines were published at 67 FR 8452 (Feb. 22, 2002), and DOE's guidelines were published at 67 FR 62446 (Oct. 7, 2002). Pursuant to OMB Memorandum M–19–15, Improving Implementation of the Information Quality Act (April 24, 2019), DOE published updated guidelines which are available at *www.energy.gov/sites/prod/files/2019/12/f70/DOE%20Final%20Updated%20IQA%20Guidelines%20Dec%202019.pdf.* DOE has reviewed this final rule under the OMB and DOE guidelines and has concluded that it is consistent with applicable policies in those guidelines.

K. Review Under Executive Order 13211

E.O. 13211, ''Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use,'' 66 FR 28355 (May 22, 2001), requires Federal agencies to prepare and submit to OIRA at OMB, a Statement of Energy Effects for any significant energy action. A ''significant energy action'' is defined as any action by an agency that promulgates or is expected to lead to promulgation of a final rule, and that (1) is a significant regulatory action under Executive Order 12866, or any successor order; and (2) is likely to have a significant adverse effect on the supply, distribution, or use of energy, or (3) is designated by the Administrator of OIRA as a significant energy action. For any significant energy action, the agency must give a detailed statement of any adverse effects on energy supply, distribution, or use should the proposal be implemented, and of reasonable alternatives to the action and their expected benefits on energy supply, distribution, and use.

DOE has concluded that this regulatory action, which sets forth energy conservation standards for DX–DOASes, is not a significant energy action because the standards are not likely to have a significant adverse effect on the supply, distribution, or use of energy, nor has it been designated as such by the Administrator at OIRA. Accordingly, DOE has not prepared a Statement of Energy Effects on this final rule.

L. Information Quality

On December 16, 2004, OMB, in consultation with the Office of Science and Technology Policy (''OSTP''), issued its Final Information Quality Bulletin for Peer Review (''the Bulletin''). 70 FR 2664 (Jan. 14, 2005). The Bulletin establishes that certain scientific information shall be peer reviewed by qualified specialists before it is disseminated by the Federal Government, including influential scientific information related to agency regulatory actions. The purpose of the Bulletin is to enhance the quality and credibility of the Government's scientific information. Under the Bulletin, the energy conservation standards rulemaking analyses are ''influential scientific information,'' which the Bulletin defines as ''scientific information the agency reasonably can determine will have, or does have, a clear and substantial impact on important public policies or private sector decisions.'' 70 FR 2664, 2667.

In response to OMB's Bulletin, DOE conducted formal peer reviews of the energy conservation standards development process and the analyses that are typically used and prepared a report describing that peer review.[16] Generation of this report involved a rigorous, formal, and documented evaluation using objective criteria and qualified and independent reviewers to make a judgment as to the technical/scientific/business merit, the actual or anticipated results, and the productivity and management effectiveness of programs and/or projects. DOE has determined that the peer-reviewed analytical process continues to reflect current practice, and the Department followed that process for developing energy conservation standards in the case of the present rulemaking.

[16] The 2007 ''Energy Conservation Standards Rulemaking Peer Review Report'' is available at the following website: *energy.gov/eere/buildings/downloads/energy-conservation-standards-rulemaking-peer-review-report-0* (last accessed October 4, 2022).

M. Congressional Notification

As required by 5 U.S.C. 801, DOE will report to Congress on the promulgation of this rule prior to its effective date. The report will state that it has been determined that the rule is not a ''major rule'' as defined by 5 U.S.C. 804(2).

V. Approval of the Office of the Secretary

The Secretary of Energy has approved publication of this final rule.

List of Subjects

10 CFR Part 429

Administrative practice and procedure, Confidential business information, Energy conservation, Household appliances, Reporting and recordkeeping requirements.

10 CFR Part 431

Administrative practice and procedure, Confidential business information, Energy conservation test procedures, and Reporting and recordkeeping requirements.

Signing Authority

This document of the Department of Energy was signed on October 19, 2022, 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 October 20, 2022.

Treena V. Garrett,

Federal Register Liaison Officer, U.S. Department of Energy.

For the reasons stated in the preamble, DOE is amending parts 429 and 431 of chapter II of title 10, Code of Federal Regulations as set forth below:

PART 429—CERTIFICATION, COMPLIANCE, AND ENFORCEMENT FOR CONSUMER PRODUCTS AND COMMERCIAL AND INDUSTRIAL EQUIPMENT

■ 1. The authority citation for part 429 continues to read as follows:

Authority: 42 U.S.C. 6291–6317; 28 U.S.C. 2461 note.

■ 2. Amend § 429.43 by adding paragraph (a)(3)(i)(B) and redesignating table 2 as table 3.

The addition reads as follows:

§ 429.43 Commercial heating, ventilating, air conditioning (HVAC) equipment.

(a) * * *

(3) * * *

(i) * * *

(A) * * *

(B) When certifying, the following provisions apply.

(*1*) For ratings based on tested samples, the represented value of moisture removal capacity shall be between 95 and 100 percent of the mean of the moisture removal capacities measured for the units in the sample selected, as described in paragraph (a)(1)(ii) of this section, rounded to the nearest lb/hr multiple specified in table 2 to paragraph (a)(3)(i)(B) of this section.

(*2*) For ratings based on an AEDM, the represented value of moisture removal capacity shall be the moisture removal capacity output simulated by the AEDM, as described in paragraph (a)(2) of this section, rounded to the nearest lb/hr multiple specified in table 2 to paragraph (a)(3)(i)(B) of this section.

TABLE 2 PARAGRAPH (a)(3)(i)(B)—ROUNDING REQUIREMENTS FOR RATED MOISTURE REMOVAL CAPACITY

Moisture removal capacity (MRC), lb/hr	Rounding multiples, lb/hr
0 < MRC ≤ 30	0.2
30 < MRC ≤ 60	0.5
60 < MRC ≤ 180	1
180 < MRC	2

* * * * *

■ 3. Amend § 429.134 by adding paragraphs (s)(2) and (3) to read as follows:

§ 429.134 Product-specific enforcement provisions.

* * * * *

(s) * * *

(2) If the manufacturer certified testing in accordance with Option 1 using default VERS exhaust air transfer ratio (EATR) values or Option 2 using default VERS effectiveness and EATR values, DOE may determine the integrated seasonal moisture removal efficiency 2 (ISMRE2) and/or the integrated seasonal coefficient of performance 2 (ISCOP2) using the default values or by conducting testing to determine VERS performance

according to the DOE test procedure in appendix B to subpart F of part 431 of this chapter (with the minimum purge angle and zero pressure differential between supply and return air).

(3) If the manufacturer certified testing in accordance with Option 1 using VERS exhaust air transfer ratio (EATR) values or Option 2 using VERS effectiveness and EATR values determined using an analysis tool certified in accordance with the DOE test procedure in appendix B to subpart F of part 431 of this chapter, DOE may conduct its own testing to determine VERS performance in accordance with the DOE test procedure in appendix B to subpart F of part 431 of this chapter.

(i) DOE would use the values of VERS performance certified to DOE (*i.e.* EATR, sensible effectiveness, and latent effectiveness) as the basis for determining the ISMRE2 and/or ISCOP2 of the basic model only if, for Option 1, the certified EATR is found to be no more than one percentage point less than the mean of the measured values (*i.e.* the difference between the measured EATR and the certified EATR is no more than 0.01), or for Option 2, all certified values of sensible effectiveness are found to be no greater than 105 percent of the mean of the measured values (*i.e.* the certified effectiveness divided by the measured effectiveness is no greater than 1.05), all certified values of latent effectiveness are found to be no greater than 107 percent of the mean of the measured values, and the certified EATR is found to be no more than one percentage point less than the mean of the measured values.

(ii) If any of the conditions in paragraph (s)(2)(i) of this section do not hold true, then the mean of the measured values will be used as the basis for determining the ISMRE2 and/or ISCOP2 of the basic model.

* * * * *

PART 431—ENERGY EFFICIENCY PROGRAM FOR CERTAIN COMMERCIAL AND INDUSTRIAL EQUIPMENT

■ 4. The authority citation for part 431 continues to read as follows:

Authority: 42 U.S.C. 6291–6317; 28 U.S.C. 2461 note.

■ 5. Amend § 431.97 by adding paragraph (g) and table 14 to § 431.97 to read as follows:

§ 431.97 Energy efficiency standards and their compliance dates.

* * * * *

(g) Each direct expansion-dedicated outdoor air system manufactured on or after the compliance date listed in table 14 to this section must meet the applicable minimum energy efficiency standard level(s) set forth in this section.

TABLE 14 TO § 431.97—MINIMUM EFFICIENCY STANDARDS FOR DIRECT EXPANSION-DEDICATED OUTDOOR AIR SYSTEMS

Equipment type	Subcategory	Efficiency level	Compliance date: equipment manufactured starting on . . .
Direct expansion-dedicated outdoor air systems.	(AC)—Air-cooled without ventilation energy recovery systems.	ISMRE2 = 3.8	May 1, 2024.
	(AC w/VERS)—Air-cooled with ventilation energy recovery systems.	ISMRE2 = 5.0	May 1, 2024.
	(ASHP)—Air-source heat pumps without ventilation energy recovery systems.	ISMRE2 = 3.8 ISCOP2 = 2.05	May 1, 2024.
	(ASHP w/VERS)—Air-source heat pumps with ventilation energy recovery systems.	ISMRE2 = 5.0 ISCOP2 = 3.20	May 1, 2024.
	(WC)—Water-cooled without ventilation energy recovery systems.	ISMRE2 = 4.7	May 1, 2024.
	(WC w/VERS)—Water-cooled with ventilation energy recovery systems.	ISMRE2 = 5.1	May 1, 2024.
	(WSHP)—Water-source heat pumps without ventilation energy recovery systems.	ISMRE2 = 3.8 ISCOP2 = 2.13	May 1, 2024.
	(WSHP w/VERS)—Water-source heat pumps with ventilation energy recovery systems.	ISMRE2 = 4.6 ISCOP2 = 4.04	May 1, 2024.

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BUREAU OF CONSUMER FINANCIAL PROTECTION

12 CFR Part 1006

[Docket No. CFPB–2019–0022]

RIN 3170–AA41

Debt Collection Practices (Regulation F); Corrections

AGENCY: Bureau of Consumer Financial Protection.

ACTION: Final rule; official interpretation; correcting amendments.

SUMMARY: The Consumer Financial Protection Bureau (CFPB) published ''Debt Collection Practices (Regulation F)'' on January 19, 2021, to revise Regulation F, which implements the Fair Debt Collection Practices Act. Omissions in that document resulted in certain paragraphs in the Official Interpretations (Commentary) not being incorporated into the Code of Federal Regulations (CFR). This document corrects the Official Interpretations to Regulation F by adding the missing paragraphs to the CFR.

DATES: The corrections are effective on November 1, 2022.

FOR FURTHER INFORMATION CONTACT: Courtney Jean or Kristin McPartland, Senior Counsels, Office of Regulations, at 202–435–7700. If you require this document in an alternative electronic format, please contact *CFPB_Accessibility@cfpb.gov.*

SUPPLEMENTARY INFORMATION:

I. Background

The CFPB is issuing this document to correct two comments in the CFPB's Commentary to Regulation F, which implements the Fair Debt Collection Practices Act (FDCPA).[1] In the final rule titled, ''Debt Collection Practices (Regulation F)'' (January 2021 Final Rule), published in the **Federal Register** on January 19, 2021 (86 FR 5766), the CFPB included paragraph 3 under heading *30(a)(1) In general* and paragraph 3 under heading *38*—

[1] 15 U.S.C. 1692 *et seq.*