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6450-01-P

DEPARTMENT OF ENERGY

10 CFR Parts 429 and 431

[EERE-2017-BT-TP-0010]

RIN 1904-AD78

**Energy Conservation Program: Test Procedure for Walk-in Coolers and Walk-in Freezers;
Correction**

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

ACTION: Final rule; correcting amendments.

SUMMARY: On May 4, 2023, the U.S. Department of Energy (“DOE”) published a final rule adopting test procedures for walk-in coolers and walk-in freezers. This document corrects errors and omissions in that final rule. Neither the errors and omissions nor the corrections affect the substance of the rulemaking or any conclusions reached in support of the final rule.

DATES: Effective **[INSERT DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**.

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SUPPLEMENTARY INFORMATION:

I. Background

On May 4, 2023, DOE published a final rule (“May 2023 Final Rule”) amending the test procedures for walk-in coolers and freezers (“walk-ins”) at title 10 of the Code of Federal Regulations (“CFR”) part 431, subpart R, appendices A, B, C, and C1 (hereafter referred to as “appendix A”, “appendix B”, “appendix C”, and “appendix C1”, respectively). 88 FR 28780. Since publication of the May 2023 Final Rule, DOE has identified errors and omissions in the regulatory text established by that final rule. DOE is issuing this rule to correct certain errors and omissions in the May 2023 Final Rule, specifically in 10 CFR 429.70 and appendices A, B, C, and C1, and to assist regulated entities with compliance efforts. The corrections are described in the following paragraphs.

In 10 CFR 429.70(f)(5)(vi), Table 7 of the regulatory text in the May 2023 Final Rule was erroneously labeled as “Table 7 to Paragraph (f)(5)(iv),” whereas it should have been labeled as “Table 7 to Paragraph (f)(5)(vi)”. 88 FR 28780, 28837. This document corrects the typographical error.

Section 5.2.1 of appendix A as finalized by the May 2023 Final Rule erroneously instructs the reader to determine standardized thermal transmittance per section 5.1.1 of appendix A. 88 FR 28780, 28840. However, there is no section 5.1.1 of appendix A; this should instead reference section 5.1 of appendix A. This document corrects this typographical error.

In the May 2023 Final Rule preamble text, DOE states that it is maintaining the current requirement that testing be completed within 24 hours of cutting a test specimen from the envelope components. 88 FR 28780, 28800. However, this requirement was erroneously omitted from the regulatory text in appendix B. Section 5.3 of appendix B should instruct the reader that

“Testing must be completed within 24 hours of samples being cut for testing per section 5.2.5 of this appendix”. This document corrects this inadvertent omission.

Section 5.2.5.7 of appendix B as finalized by May 2023 Final Rule erroneously instructs the reader “To determine the parallelism of the specimen for side 2, repeat section” while omitting which section to repeat. 88 FR 28780, 28845. Section 5.2.5.7 should state “To determine the parallelism of the specimen for side 2, repeat section 5.2.5.6 of this appendix”. This document corrects this inadvertent omission.

In the May 2023 Final Rule regulatory text, the seventh column of table 17 in appendix C and table 5 in appendix C1 erroneously specify that the compressor capacity or operating mode of the “Off-Cycle Power” test shall be “Compressor On” and that the compressor capacity or operating mode of “Refrigeration Capacity, Ambient Condition A” test shall be “Compressor Off”. 88 FR 28780, 28846, 28851-28852. These labels in the seventh column should be switched such that the “Off-Cycle Power” test is labeled as “Compressor Off” and the “Refrigeration Capacity, Ambient Condition A” test is labeled as “Compressor On”. This document corrects these typographical errors.

In the May 2023 Final Rule regulatory text, the table for Test Operating Conditions for Medium-Temperature CO₂ Unit Coolers in appendix C is erroneously labeled as Table 17. 88 FR 28780, 28846. In appendix C, Table 15 and Table 16 provide modifications to Table 15 and Table 16 included in the referenced industry standard, AHRI 1250–2009 “Standard for Performance Rating of Walk-in Coolers and Freezers.” Because these tables do not represent table numbering within appendix C, subsequent tables only included in appendix C (*i.e.*, Tables 17 through 19 and the final Table 1, discussed in the following paragraphs) should not continue with the AHRI 1250-2009 table numbering approach and should provide distinct table labels. To

address this error and to avoid confusion with the table numbering referencing AHRI 1250-2009, Table 17 as well as the references thereto should instead be labeled as Table C.1. This document corrects this typographical error.

Similarly, in the May 2023 Final Rule regulatory text, the table for Test Operating Conditions for Low-Temperature CO₂ Unit Coolers in appendix C is erroneously labeled as Table 18. *Id.* This table as well as the references thereto should instead be labeled as Table C.2. This document corrects this typographical error.

In the May 2023 Final Rule regulatory text, the table for Test Operating Conditions for High-Temperature Unit Coolers in appendix C is erroneously labeled as Table 19. *Id.* This table as well as the references thereto should instead be labeled as Table C.3. This document corrects this typographical error.

In the May 2023 Final Rule regulatory text, the table for Test Condition Tolerances and Hierarchy for Refrigerant Charging and Setting of Refrigerant Conditions is erroneously labeled as Table 1. 88 FR 28780, 28847-28848. This table should instead be labeled as Table C.4. This document corrects this typographical error.

In the May 2023 Final Rule regulatory text, in the first column from the left of table 3 to appendix C1, rows three, five, and seven erroneously included a table note numbered five at the end of each “Test description”. 88 FR 28780, 28851. There is no table note that corresponds to note five in this table, however. This document corrects this error.

In the May 2023 Final Rule regulatory text, in the sixth column from the left of table 9 to appendix C1, row nine has “Compressor operating mode” erroneously specified as “Maximum Capacity, k=2”. 88 FR 28780, 28853. This label should instead read “High Capacity, k=2”. This document corrects this error.

In the May 2023 Final Rule regulatory text, in the sixth column from the left of table 13 to appendix C1, rows three, seven, and eleven have “Compressor operating mode” erroneously specified as “Minimum Capacity, k=i”. 88 FR 28780, 28854. These labels should instead read “Intermediate Capacity, k=i”. This document corrects this error.

In the May 2023 Final Rule regulatory text, in the sixth column of table 14 to appendix C1, row 2 has “Compressor operating mode” erroneously specified as “Minimum Capacity, k=i”. *Id.* This label should instead read “Intermediate Capacity, k=i”. This document corrects this error.

II. Need for Correction

As published, the regulatory text in May 2023 Final Rule may lead to confusion in the execution of the DOE test procedure for walk-ins due to incorrect table labeling, omitted section references, and extraneous footnotes. Because this final rule would simply correct errors and omissions in the text without making substantive changes to test procedures adopted in the May 2023 Final Rule, the changes addressed in this document are technical in nature.

III. Procedural Issues and Regulatory Review

DOE has concluded that the determinations made pursuant to the various procedural requirements applicable to the May 2023 Final Rule remain unchanged for these final rule technical corrections. These determinations are set forth in the May 2023 Final Rule. 88 FR 28780, 28827-28834.

Pursuant to the Administrative Procedure Act, 5 U.S.C. 553(b), DOE finds that there is good cause to not issue a separate notice to solicit public comment on those technical corrections contained in this document. Issuing a separate notice to solicit public comment would be impracticable, unnecessary, and contrary to the public interest. As explained previously, the

corrections in this document do not affect the substance of or any of the conclusions reached in support of the May 2023 Final Rule. Additionally, given the May 2023 Final Rule is a product of an extensive administrative record with numerous opportunities for public comment, DOE finds additional comment on the technical corrections is unnecessary. Therefore, providing prior notice and an opportunity for public comment on correcting objective errors and omissions that do not change the substance of the test procedure serves no useful purpose.

Further, this rule correcting errors and omissions makes non-substantive changes to the test procedure in the May 2023 Final Rule. As such, this rule is not subject to the 30-day delay in effective date requirement of 5 U.S.C. 553(d) otherwise applicable to rules that make substantive changes.

List of Subjects

10 CFR Part 429

Administrative practice and procedure, Confidential business information, Energy conservation, Household appliances, Imports, Intergovernmental relations, Reporting and recordkeeping requirements, Small businesses.

10 CFR Part 431

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

Signing Authority

This document of the Department of Energy was signed on August 23, 2023, by Francisco Alejandro Moreno, Acting Assistant Secretary for Energy Efficiency and Renewable Energy,

U.S. Department of Energy, pursuant to delegated authority from the Secretary of Energy. That document with the original signature and date is maintained by DOE. For administrative purposes only, and in compliance with requirements of the Office of the Federal Register, the undersigned DOE Federal Register Liaison Officer has been authorized to sign and submit the document in electronic format for publication, as an official document of the Department of Energy. This administrative process in no way alters the legal effect of this document upon publication in the *Federal Register*.

Signed in Washington, DC, on August 23, 2023

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**FRANCISCO
MORENO**

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Francisco Alejandro Moreno
Acting Assistant Secretary for Energy Efficiency and Renewable Energy
U.S. Department of Energy

For the reasons stated in the preamble, DOE corrects part 429 and 431 of chapter II of title 10 of the Code of Federal Regulations by making the following correcting amendments:

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 §429.70 by revising the heading for the table in paragraph (f)(5)(vi) to read as follows:

§429.70 Alternative methods for determining energy efficiency and energy use.

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(f) * * *

(5) * * *

(vi) * * *

Table 7 to Paragraph (f)(5)(vi)

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

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

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

4. Appendix A to subpart R of part 431 is amended by revising section 5.2.1 to read as follows:

Appendix A to Subpart R of Part 431— Uniform Test Method for the Measurement of Energy Consumption of the Components of Envelopes of Walk-In Coolers and Walk-In Freezers

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5. * * *

5.2 * * *

5.2.1 For display doors and display panels, thermal transmittance, U_{dd} or U_{dp} , respectively, shall be the standardized thermal transmittance, U_{ST} , determined per section 5.1 of this appendix.

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5. Appendix B to subpart R of part 431 is amended by revising sections 5.2.5.7 and 5.3 to read as follows:

Appendix B to Subpart R of Part 431— Uniform Test Method for the Measurement of R-Value of Insulation for Envelope Components of Walk-In Coolers and Walk-In Freezers

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5. * * *

5.2 * * *

5.2.5 * * *

5.2.5.7 To determine the parallelism of the specimen for side 2, repeat section 5.2.5.6 of this appendix.

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5.3 *K-factor Test.* Determine the thermal conductivity, or K-factor, of the 1-inch-thick specimen in accordance with the specified sections of ASTM C518–17. Testing must be completed within 24 hours of the specimen being cut for testing per section 5.2.5 of this appendix.

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6. Appendix C to subpart R of part 431 is amended by:

- a. In section 3.1.6, removing the words “table 17” and adding in its place, the words “table C.1”, and removing the words “table 18” and adding in its place, the words “table C.2”;
- b. In section 3.1.6, revising table 17 and the heading for table 18;
- c. In section 3.1.7, removing the words “table 19” and adding in its place, the words “table C.3”;
- d. In section 3.1.7, revising the heading for table 19;
- e. In section 3.2.7.1, removing the words “table 1 of this section” and adding in its place, the words “table C.4 of this appendix”; and
- f. In section 3.2.7.1 revising the heading for table 1.

The revision reads as follows:

Appendix C to Subpart R of Part 431— Uniform Test Method for the Measurement of Net Capacity and AWEF of Walk-In Cooler and Walk-In Freezer Refrigeration Systems

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3. * * *

3.1. * * *

3.1.6 Test Operating Conditions for CO₂ Unit Coolers

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Table C.1: Test Operating Conditions for Medium-Temperature CO₂ Unit Coolers

Test Description	Unit Cooler Air Entering Dry-bulb, °F	Unit Cooler Air Entering Relative Humidity, %	Suction Dew Point Temp, °F	Liquid Inlet Bubble Point Temperature °F	Liquid Inlet Subcooling, °F	Compressor Capacity	Test Objective

Off-Cycle Power	35	<50	-	-	-	Compressor Off	Measure fan input power during compressor off-cycle.
Refrigeration Capacity, Ambient Condition A	35	<50	25	38	5	Compressor On	Determine Net Refrigeration Capacity of Unit Cooler.
Notes:							
1. Superheat shall be set as indicated in the installation instructions. If no superheat specification is given a default superheat value of 6.5 °F shall be used.							

Table C.2: Test Operating Conditions for Low-Temperature CO₂ Unit Coolers

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3.1.7 * * *

Table C.3: Test Operating Conditions for High-Temperature Unit Coolers

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3.2 * * *

3.2.7 * * *

3.2.7.1 * * *

Table C.4: Test Condition Tolerances and Hierarchy for Refrigerant Charging and Setting of Refrigerant Conditions

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7. Appendix C1 to subpart R of part 431 is amended by:

- a. In section 3.2.1, revising table 3;
- b. In section 3.2.2, revising table 5;
- c. In section 3.2.3, revising table 9; and
- d. In section 3.2.4, revising tables 13 and 14.

The revision reads as follows:

Appendix C1 to Subpart R of Part 431— Uniform Test Method for the Measurement of Net Capacity and AWEF2 of Walk-In Cooler and Walk-In Freezer Refrigeration Systems

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- 3. * * *
- 3.2. * * *
- 3.2.1. * * *

Table 3: Test Operating Conditions for Fixed-Capacity High-Temperature Outdoor Matched-Pair or Single-Packaged Refrigeration Systems

Test Description	Unit Cooler Air Entering Dry-Bulb, °F	Unit Cooler Air Entering Relative Humidity, % ¹	Condenser Air Entering Dry-Bulb, °F	Condenser Air Entering Wet-Bulb, °F	Compressor Status	Test Objective
Refrigeration Capacity A	55	55	95	75 ³ , 68 ⁴	Compressor On	Determine Net Refrigeration Capacity of Unit Cooler, input power, and EER at Test Condition
Off-Cycle Power, Capacity A	55	55	95	75 ³ , 68 ⁴	Compressor Off	Measure total input wattage during compressor off-cycle, $(\dot{E}_{cu,off} + \dot{E}F_{comp,off})^2$
Refrigeration Capacity B	55	55	59	54 ³ , 46 ⁴	Compressor On	Determine Net Refrigeration Capacity of Unit Cooler and system input power at moderate condition
Off-Cycle Power, Capacity B	55	55	59	54 ³ , 46 ⁴	Compressor Off	Measure total input wattage during compressor off-cycle, $(\dot{E}_{cu,off} + \dot{E}F_{comp,off})^2$
Refrigeration Capacity C	55	55	35	34 ³ , 29 ⁴	Compressor On	Determine Net Refrigeration Capacity of Unit Cooler and system input power at cold condition

Off-Cycle Power, Capacity C	55	55	35	34 ³ , 29 ⁴	Compressor Off	Measure total input wattage during compressor off-cycle, ($\dot{E}_{cu,off} + \dot{E}_{F_{comp,off}}^2$)
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Notes:

1. The test condition tolerance (maximum permissible variation of the average value of the measurement from the specified test condition) for relative humidity is 3%.
2. Measure off-cycle power as described in sections C3 and C4.2 of AHRI 1250-2020.
3. Required only for evaporative condensing units (e.g., incorporates a slinger ring).
4. Maximum allowable value for Single-Packaged Systems that do not use evaporative Dedicated Condensing Units, where all or part of the equipment is located in the outdoor room.

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3.2.2 * * *

Table 5: Test Operating Conditions for Medium-Temperature CO₂ Unit Coolers

Test Title	Unit Cooler Air Entering Dry-bulb, °F	Unit Cooler Air Entering Relative Humidity, %	Suction Dew Point Temp ³ , °F	Liquid Inlet Bubble Point Temperature °F	Liquid Inlet Subcooling, °F	Compressor Operating Mode	Test Objective
Off-Cycle Power	35	<50	-	-	-	Compressor Off	Measure unit cooler input wattage during compressor off-cycle, $\dot{E}_{F_{comp,off}}^2$
Refrigeration Capacity, Ambient Condition A	35	<50	25	38	5	Compressor On	Determine Net Refrigeration Capacity of Unit Cooler, $\dot{q}_{mix,rack}$

Notes:

1. Superheat shall be set as indicated in the installation instructions. If no superheat specification is given a default superheat value of 6.5 °F shall be used.
2. Measure off-cycle power as described in sections C3 and C4.2 of AHRI 1250-2020.

3. Suction Dew Point shall be measured at the Unit Cooler Exit conditions

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3.2.3 * * *

Table 9: Test Operating Conditions for Two-Capacity Low-Temperature Outdoor Dedicated Condensing Units

Test Title	Suction Dew Point, °F	Return Gas, °F	Condenser Air Entering Dry-bulb, °F	Condenser Air Entering Wet-bulb, °F ¹	Compressor Operating Mode
Capacity, Condition A, Low Capacity	-22	5	95	75	Low Capacity, k=1
Capacity, Condition A, High Capacity	-22	5	95	75	High Capacity, k=2
Off-Cycle, Condition A	-	-	95	75	Compressor Off
Capacity, Condition B, Low Capacity	-22	5	59	54	Low Capacity, k=1
Capacity, Condition B, High Capacity	-22	5	59	54	High Capacity, k=2
Off-Cycle, Condition B	-	-	59	54	Compressor Off
Capacity, Condition C, Low Capacity	-22	5	35	34	Low Capacity, k=1
Capacity, Condition C, High Capacity	-22	5	35	34	High Capacity, k=2
Off-Cycle, Condition C	-	-	35	34	Compressor Off
Notes:					
1. Required only for evaporative condensing units (e.g., incorporates a slinger ring)					

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3.2.4 * * *

Table 13: Test Operating Conditions for Variable- or Multiple-Capacity Low-Temperature Outdoor Dedicated Condensing Units

Test Title	Suction Dew Point, °F	Return Gas, °F	Condenser Air Entering Dry-bulb, °F	Condenser Air Entering Wet-bulb, °F ¹	Compressor Operating Mode
Capacity, Condition A, Minimum Capacity	-22	5	95	75	Minimum Capacity, k=1
Capacity, Condition A, Intermediate Capacity	-22	5	95	75	Intermediate Capacity, k=i
Capacity, Condition A, Maximum Capacity	-22	5	95	75	Maximum Capacity, k=2
Off-Cycle, Condition A	-	-	95	75	Compressor Off
Capacity, Condition B, Minimum Capacity	-22	5	59	54	Minimum Capacity, k=1
Capacity, Condition B, Intermediate Capacity	-22	5	59	54	Intermediate Capacity, k=i
Capacity, Condition B, Maximum Capacity	-22	5	59	54	Maximum Capacity, k=2
Off-Cycle, Condition B	-	-	59	54	Compressor Off
Capacity, Condition C, Minimum Capacity	-22	5	35	34	Minimum Capacity, k=1
Capacity, Condition C, Intermediate Capacity	-22	5	35	34	Intermediate Capacity, k=i
Capacity, Condition C, Maximum Capacity	-22	5	35	34	Maximum Capacity, k=2
Off-Cycle, Condition C	-	-	35	34	Compressor Off
Notes:					
1. Required only for evaporative condensing units (e.g., incorporates a slinger ring)					

Table 14: Test Operating Conditions for Variable- or Multiple-Capacity Low-Temperature Indoor Dedicated Condensing Units

Test Title	Suction Dew Point, °F	Return Gas, °F	Condenser Air Entering Dry-bulb, °F	Condenser Air Entering Wet-bulb, °F ¹	Compressor Operating Mode
Capacity, Condition A, Minimum Capacity	-22	5	90	75	Minimum Capacity, k=1
Capacity, Condition A, Intermediate Capacity	-22	5	90	75	Intermediate Capacity, k=i

Capacity, Condition A, Maximum Capacity	-22	5	90	75	Maximum Capacity, k=2
Off-Cycle, Condition A	-	-	90	75	Compressor Off

Notes:

1. Required only for evaporative condensing units (*e.g.*, incorporates a slinger ring)

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