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[6450-01-P]

DEPARTMENT OF ENERGY

10 CFR Part 431

[Docket Number EERE–2014–BT–STD–0048]

RIN: 1904-AD37

Energy Conservation Standards for Residential Central Air Conditioners and Heat Pumps: Availability of Provisional Analysis Results

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

ACTION: Notice of data availability (NODA).

SUMMARY: The U.S. Department of Energy (DOE) has completed a provisional analysis to translate the residential central air conditioner and heat pump energy conservation standard levels recommended by the CAC/HP ECS Working Group - expressed in terms of the test procedure at the time of the Working Group negotiations - into levels consistent with the DOE test procedure proposed in the August 2016 test procedure SNOPR. At this time, DOE is not proposing any energy conservation standard for residential central air conditioners and heat pumps. However, it is publishing these analysis results and the underlining assumptions and calculations that might ultimately

support a proposed standard. DOE encourages stakeholders to provide any additional data or information that may improve the analysis.

DATES: DOE will accept comments, data, and information regarding this notice of data availability (NODA) no later than **[INSERT DATE 15 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

Any comments submitted must identify the NODA for central air conditioners and heat pumps, and provide docket number EERE–2014–BT–STD–0048 and/or regulatory information number (RIN) number 1904-AD37. Comments may be submitted using any of the following methods:

1) Federal eRulemaking Portal: www.regulations.gov. Follow the instructions for submitting comments.

   E-mail: CACHeatPump2016TP0029@ee.doe.gov Include the docket number and/or RIN in the subject line of the message.

   Mail: Ms. Ashley Armstrong, U.S. Department of Energy, Building Technologies Office, Mailstop EE-2J, 1000 Independence Avenue, SW., Washington, DC, 20585-0121. If possible, please submit all items on a CD, in which case it is not necessary to include printed copies.

   Hand Delivery/Courier: Ms. Ashley Armstrong, U.S. Department of Energy, Building Technologies Office, 950 L'Enfant Plaza, SW., Suite 600, Washington, DC, 20024. Telephone: (202) 586-6590. If possible, please

submit all items on a CD, in which case it is not necessary to include printed copies.

For further information on how to submit a comment, review other public comments and the docket, contact the Appliance and Equipment Standards Program staff at (202) 586-6636 or by e-mail: central_air_conditioners_and_heat_pumps@ee.doe.gov

ADDRESSES: The Docket Number EERE–2014–BT–STD–0048, is available for review at www.regulations.gov, including **Federal Register** notices, comments, and other supporting documents/materials. 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.

A link to the docket web page can be found at. https://www.regulations.gov/docket?D=EERE-2014-BT-STD-0048 The www.regulations.gov web page contains instructions on how to access all documents in the docket, including public comments.

FOR FURTHER INFORMATION CONTACT: Ms. Ashley Armstrong, U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, Building Technologies, EE-2J, 1000 Independence Avenue, SW., Washington, DC 20585-0121. Telephone: (202) 586-6590. E-mail: central_air_conditioners_and_heat_pumps@ee.doe.gov.

Ms. Johanna Jochum, U.S. Department of Energy, Office of the General Counsel, GC-33, 1000 Independence Avenue, SW., Washington, DC 20585-0121. Telephone: (202) 287-6307. E-mail: Johanna.Jochum@hq.doe.gov.

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I. Background

On June 27, 2011, DOE published in the Federal Register a direct final rule amending the energy conservation standard for residential furnaces and central air conditioners and heat pumps. 76 FR 37408. (The standards set forth in the June 27, 2011 DFR were confirmed in a notice of effective date and compliance dates published in the Federal Register on October 31, 2011. 76 FR 67037.)

DOE is amending its energy conservation standards for central air conditioners pursuant to 42 U.S.C. 6295(m)(1), which requires DOE to periodically review its already established energy conservation standards for a covered product. More specifically, the Energy Policy and Conservation Act of 1975 (EPCA), as amended by the Energy Independence and Security Act of 2007 (EISA 2007), requires that not later than 6 years after issuance of any final rule establishing or amending a standard, DOE must publish either a notice of determination that standards for the product do not need to be amended, or a notice of proposed rulemaking including new proposed energy conservation

standards. As DOE's last final rule for residential central air conditioners and heat pumps energy conservation standards was issued on June 27, 2011, DOE must act by June 27, 2017.

On July 14, 2015, DOE published a notice of intent to form a working group to negotiate energy conservation standards for central air conditioners and heat pumps and requested nominations from parties interested in serving as members of that working group. 80 FR 40938. This working group ("CAC/HP ECS Working Group"), which ultimately consisted of 15 members in addition to one member from the Appliance Standards and Rulemaking Federal Advisory Committee (ASRAC), and one DOE representative, came to a consensus on January 19, 2016 to recommend the energy conservation standard levels outlined in the ASRAC Working Group Final Term Sheet ("the Term Sheet"). (ASRAC Working Group Term Sheet, Docket No. EERE-2014-BT-STD-0048, No. 0076). On August 24, 2016, DOE published a supplemental notice of proposed rulemaking (the August 2016 SNOPR) that incorporates some of those recommendations into DOE's test procedure for central air conditioners and heat pumps. 81 FR 58164.

Several of the Term Sheet recommendations are relevant to this NODA. Recommendation #8 of the Term Sheet recommended standard levels, in terms of SEER, EER, and HSPF, based on the test procedure that was in place at the time of the CAC/HP ECS Working Group negotiations. Recommendation #9 of the Term Sheet provided translated values, in terms of SEER2 and EER2, for some of the recommended standard

levels in Recommendation #8 that would be consistent with the proposed amendments to the test procedure outlined in the November 2015 test procedure SNOPR.[1] 80 FR 69278 (Nov. 9, 2015). The Term Sheet also provided translated values for heating efficiency of split system and single-package heat pumps, in terms of HSPF2, using an alternative test procedure favored by some of the Working Group members. Recommendation #9 of the Term Sheet stated that the energy conservation standards for small-duct high velocity and space constrained products should remain unchanged from current levels (i.e. that there would be no change in stringency), but did not provide translated values. (ASRAC Term Sheet, No. 76 at pp. 4-5)

Based on comments received on the November 2015 test procedure SNOPR, DOE continued work on the concurrent rulemaking to amend the CAC/HP test procedure while the CAC/HP ASRAC Working Group was negotiating the standard levels for CACs and HPs. DOE published a test procedure SNOPR on August 24, 2016 proposing revisions to the amendments of the November 2015 NOPR. 81 FR 58164. The August 2016 test procedure SNOPR included translated HSPF2 levels for split-system and single-package heat pumps, but did not include translated levels for small-duct high velocity and space constrained products.

This NODA provides provisional translations of the CAC/HP Working Group's recommended energy conservation standard levels for small-duct high velocity and space

[1] DOE proposed similar amendments most recently in the August 2016 SNOPR published on August 24, 2016. 81 FR 58164.

constrained products (which are in terms of the test procedure at the time of the 2015-2016 Negotiations) into levels consistent with the test procedure proposed in the August 2016 test procedure SNOPR. As mentioned, translated values for all other product classes can be found in the Term Sheet[2] or August 24, 2016 test procedure SNOPR. 81 FR 58164.

II. Summary of the Analyses Performed by DOE

Table 1: Provisional Translations of CAC/HP Working Group-Recommended Energy Conservation Standard Levels

Product Class	**CAC/HP Working Group Recommendation**		**August 2016 Test Procedure SNOPR Translation**	
	SEER	HSPF	SEER2	HSPF2
Small-Duct High-Velocity Systems	12	7.2	12	6.1
Space-Constrained Air Conditioners			11.6*/11.8**	
Space-Constrained Heat Pumps	12		11.5*/11.9**	6.3

*Estimated SEER2 at 0.50 in. wc.
**Estimated SEER2 at 0.30 in. wc.

A. Small-Duct High-Velocity

The August 2016 test procedure SNOPR made minor changes to the procedure for measuring SEER in SDHV systems. Specifically, rather than testing with external static pressure that varies with capacity from 1.1 to 1.2 inches water column (in. wc.), consistent with term sheet Recommendation #2, the August 2016 SNOPR proposed testing all SDHV units with 1.15 in wc. external static pressure. 81 FR 58163 (Aug. 24, 2016). Translation of SEER for this test procedure change would involve a slight

[2] Available at https://www.regulations.gov/document?D=EERE-2014-BT-STD-0048-0076.

reduction for low-capacity unit, no change for medium-capacity units, and a slight increase for high-capacity units. Rather than setting three different SEER levels for these products, DOE's translated level represents an average translation, equivalent to no change in the value. Consequently, current SEER ratings would not change should DOE adopt the test procedure proposed in the August 2016 SNOPR, per the CAC/HP Working Group's Recommendation #8 to keep the current 12 SEER standard.

The August 2016 test procedure SNOPR proposes changes to the test procedure for determining heating performance, including for SDHV systems. Consequently, HSPF2 numerical values for SDHV will be different than the current HSPF numerical values. In the August 2016 test procedure, DOE interpolated between the HSPF2 values resulting from the heating load line slope factor options presented by the CAC/HP Working Group in the Term Sheet to translate current HSPF standard levels to HSPF2 levels in terms of the proposed heating load line slope factor for split-system heat pumps. DOE found that this methodology resulted in a 15% reduction from HSPF to HSPF2 ratings. 81 FR at 58191. For SDHV heat pump products, DOE reviewed split-system heat pump test data to determine the appropriate HSPF to HSPF2 translation and found that the same 15% reduction in HSPF to HSPF2 would be appropriate to apply to SDHV heat pump products as well. Thus, to translate the CAC/HP Working Group recommendation a HSPF2 value consistent with the August 2016 test procedure SNOPR achieve the HSPF2 values presented in this NODA, DOE applied a 15% reduction to the current SDHV HSPF standard.

B. Space-Constrained Products

For the space-constrained air conditioner SEER standard level translation, DOE reviewed existing test data, adjusted relevant measurements based on indoor fan performance data to account for the test procedure changes (e.g., increased ESP), and translated the levels based on the average impact. DOE reviewed test data for multiple blower-coil split-system space-constrained air conditioners. Because these data are for blower-coil systems tested at static pressures lower than those proposed in the August 2016 test procedure SNOPR, DOE had to adjust the data for a relevant translation. Under 10 CFR 429.16, ratings for split-system space-constrained products must include a coil-only efficiency representation of the least efficient coil-only combination. To derive a space-constrained coil-only SEER rating based on the test data, DOE replaced the tested indoor fan power with 365 W/1000 CFM, and recalculated the SEER rating. The 365 W/1000 CFM is the default fan power value in the current test procedure, which represents indoor fan performance at the operating conditions specified in the current test procedure.

The August 2016 test procedure SNOPR proposed that split-system coil-only products be tested at a minimum external static pressure of 0.5 in. wc. To adjust for this change, DOE replaced the tested indoor fan power with 441 W/1000 CFM, and recalculated the SEER rating. The 441 W/1000 CFM is the default fan power value recommended in the CAC/HP Working Group Term Sheet and proposed in the August 2016 test procedure SNOPR to represent split-system coil-only blower power consumption at 0.5 in. wc., which reduced the space-constrained coil-only SEER value by an average of 4%. ASRAC Term Sheet, No. 76 at p. 3; 81 FR at 58185 (Aug. 24,

2016). DOE applied this 4% reduction to the SEER standard level recommended by the CAC/HP Working Group (to maintain stringency equivalent to the current space constrained air conditioner 12 SEER standard) to derive the translated SEER2 level in Table 1. DOE also evaluated the impact on SEER assuming operation at 0.30 in. wc., as recommended by the CAC/HP ECS Working Group, given that the test procedure is not finalized and DOE's proposals may change. To estimate SEER at 0.30 in. wc., DOE replaced the tested indoor fan power with 406 W/1000 CFM, and recalculated the SEER rating. The 406 W/1000 CFM is the default fan power value recommended in the CAC/HP Working Group Term Sheet and proposed in the August 2016 test procedure SNOPR to represent split-system mobile home coil-only blower power consumption at 0.30 in. wc. (ASRAC Term Sheet, No. 76 at p. 3) 81 FR at 58185 (Aug. 24, 2016). The space-constrained coil-only SEER reduced by an average of 2%. DOE applied this 2% reduction to the SEER standard level recommended by the CAC/HP Working Group (to maintain stringency equivalent to the current space constrained air conditioner 12 SEER standard) to derive the translated SEER2 level in Table 1.

For the space-constrained heat pump SEER translation, DOE used a similar methodology as it used for space-constrained air conditioners, but the adjustments to blower power were slightly different. 429.16 requires that split-system heat pumps have blower-coil efficiency representations. In addition, the August 2016 test procedure SNOPR proposed that split-system coil-only products be tested at a minimum external static pressure of 0.5 in. wc., which is higher than the 0.1 to 0.2 in. wc. at which these products are currently. DOE replaced the tested indoor fan power with fan power at 0.5

in. wc. determined from product specification sheets and recalculated SEER. The tested SEER reduced by an average of 4% to 11.5, as listed in Table 1 of this preamble. DOE also evaluated the impact on SEER reduction, assuming operation at 0.30 in. wc., as recommended by the CAC/HP ECS Working Group, given that the test procedure is not finalized and DOE's proposals may change. DOE replaced the tested indoor fan power with fan power at 0.30 in. wc. determined from product specification sheets and recalculated SEER. The tested SEER reduced by an average of 1% to 11.9, as listed in Table 1 of this preamble.

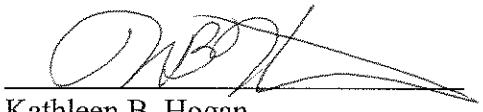
For the space-constrained heat pump HSPF translation, DOE used the same methodology as it used for its SDHV system HSPF translation (i.e., applying a 15% reduction). See section II.A.

III. Issues on which DOE seeks public comment

DOE is interested in receiving comments and views of interested parties concerning the translation of SEER and HSPF values to SEER2 and HSPF2 values shown in Table 1 for spaced-constrained and SDHV products.

The purpose of this NODA is to notify industry, manufacturers, consumer groups, efficiency advocates, government agencies, and other stakeholders of the publication of an analysis of potential energy conservation standards for commercial and industrial fans and blowers. Stakeholders should contact DOE for any additional information pertaining to the analyses performed for this NODA.

Issued in Washington, DC, on October 21, 2016



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