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[6450-01-P]

DEPARTMENT OF ENERGY

10 CFR Part 431

[EERE-2020-BT-TP-0032]

RIN 1904-AE53

Energy Conservation Program: Test Procedures for Certain Commercial and Industrial Equipment; Early Assessment Review; Pumps

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

ACTION: Request for information.

SUMMARY: The U.S. Department of Energy (“DOE”) is undertaking an early assessment review to determine whether to proceed with a rulemaking to amend the test procedure for commercial and industrial pumps. This request for information (“RFI”), DOE seeks data and information that could enable the agency to determine whether to amend its current test procedure as well as comment on the availability of consensus-based test procedures for measuring the energy use of commercial and industrial pumps that could be adopted with or without modification. DOE welcomes written comments from the public on any subject within the scope of this document (including topics not raised in this RFI), as well as the submission of data and other relevant information concerning this early assessment review.

DATES: Written comments and information will be accepted on or before **[INSERT DATE 75 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**.

ADDRESSES: Interested persons are encouraged to submit comments using the Federal eRulemaking Portal at <http://www.regulations.gov>. Follow the instructions for submitting comments. Alternatively, interested persons may submit comments, identified by docket number EERE–2020–BT–TP–0032, by any of the following methods:

1. *Federal eRulemaking Portal:* <http://www.regulations.gov>. Follow the instructions for submitting comments.
2. *E-mail:* to Pumps2020TP0032@ee.doe.gov. Include docket number EERE–2020–BT–TP–0032 in the subject line of the message.
3. *Postal Mail:* Appliance and Equipment Standards Program, U.S. Department of Energy, Building Technologies Office, Mailstop EE-5B, 1000 Independence Avenue, SW., Washington, DC, 20585-0121. Telephone: (202) 287-1445. If possible, please submit all items on a compact disc (“CD”), in which case it is not necessary to include printed copies.
4. *Hand Delivery/Courier:* Appliance and Equipment Standards Program, U.S. Department of Energy, Building Technologies Office, 950 L’Enfant Plaza, SW., Suite 600, Washington, DC, 20024. Telephone: (202) 287-1445. If possible, please submit all items on a CD, in which case it is not necessary to include printed copies.

No telefacsimiles (“faxes”) will be accepted. For detailed instructions on submitting comments and additional information on this process, see section III of this document (Submission of Comments).

Docket: The docket for this activity, which includes *Federal Register* notices, comments, and other supporting documents/materials, is available for review at <http://www.regulations.gov>. All documents in the docket are listed in the <http://www.regulations.gov> index. However, some documents listed in the index, such as those containing information that is exempt from public disclosure, may not be publicly available.

The docket web page can be found at <http://www.regulations.gov/docket?D=EERE-2020-BT-TP-0032>. The docket web page contains instructions on how to access all documents, including public comments, in the docket. See section III for information on how to submit comments through <http://www.regulations.gov>.

FOR FURTHER INFORMATION CONTACT: Mr. Jeremy Domm, U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, Building Technologies Office, EE-5B, 1000 Independence Avenue, SW., Washington, DC, 20585-0121. Telephone: (202) 586-9870. E-mail: ApplianceStandardsQuestions@ee.doe.gov.

Mr. Michael Kido, U.S. Department of Energy, Office of the General Counsel, GC-33, 1000 Independence Avenue, SW., Washington, DC, 20585-0121. Telephone: 202-586-8145. E-mail: Michael.Kido@hq.doe.gov.

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

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I. Introduction

DOE established an early assessment review process to conduct a more focused analysis of a specific set of facts or circumstances that would allow DOE to determine that, based on statutory criteria, an amended test procedure is not warranted. The purpose of this review is to limit the resources, from both DOE and stakeholders, committed to rulemakings that will not satisfy the requirements in EPCA that an amended test procedure more accurately or fully comply with the requirement that the test procedure produces results that measure energy use during a representative average use cycle for equipment, and not be unduly burdensome to conduct. *See* 85 FR 8626, 8653-8654 (Feb. 14, 2020).

As part of the early assessment, DOE publishes an RFI in the *Federal Register*, announcing that DOE is initiating a rulemaking proceeding and soliciting comments, data, and information on whether an amended test procedure would more accurately measure energy use during a representative average use cycle or reduce testing burden. Based on the information received in response to the RFI and DOE's own analysis, DOE will determine whether to proceed with a rulemaking for an amended test procedure.

If DOE makes an initial determination based upon available evidence that an amended test procedure would not meet the applicable statutory criteria, DOE would engage in notice and comment rulemaking before issuing a final determination that an amended test procedure is not warranted. If DOE reaches such a determination, the rulemaking would be concluded, which would satisfy the Department's 7-year-lookback test procedure review requirement under the statute (as discussed in section I.A of this document).

Conversely, if DOE makes an initial determination that an amended test procedure would satisfy the applicable statutory criteria, including that adoption of a consensus-based test procedure as the DOE test procedure would more accurately or fully comply with statutory requirements, or DOE's analysis is inconclusive, DOE would undertake the preliminary stages of a rulemaking to issue an amended test procedure. Beginning such a rulemaking, however, would not preclude DOE from later making a determination that an amended test procedure would not satisfy the requirements in EPCA, based upon the full suite of DOE's analyses. *Id.* at 85 FR 8654.

A. Authority

The Energy Policy and Conservation Act, as amended (“EPCA”),¹ among other things, 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 C² of EPCA, added by Public Law 95-619, Title IV, §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. This equipment includes commercial and industrial pumps (“pumps”), the subject of this RFI. (42 U.S.C. 6311(1)(A))

Under EPCA, DOE’s energy conservation program consists essentially of four parts: (1) testing, (2) labeling, (3) Federal energy conservation standards, and (4) certification and enforcement procedures. Relevant provisions of EPCA 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; 42 U.S.C. 6296).

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

¹ All references to EPCA in this document refer to the statute as amended through America’s Water Infrastructure Act of 2018, Public Law 115–270 (October 23, 2018).

² For editorial reasons, upon codification in the U.S. Code, Part C was redesignated Part A-1.

accordance with the procedures and other provisions of EPCA. (42 U.S.C. 6316(a); 42 U.S.C. 6297(d))

EPCA also requires that, at least once every 7 years, DOE evaluate test procedures for each type of covered equipment, including pumps, to determine whether amended test procedures would more accurately or fully comply with the requirements for the test procedures to not be unduly burdensome to conduct and be reasonably designed to produce test results that reflect energy efficiency, energy use, and estimated operating costs during a representative average use cycle. (42 U.S.C. 6314(a)(1)) DOE is publishing this RFI to collect data and information to inform its decision, in order to satisfy the 7-year review requirement.

B. Rulemaking History

DOE's test procedure for measuring pump energy efficiency was established in a final rule published on January 25, 2016. 81 FR 4086 (“January 2016 Final Rule”).³ The January 2016 Final Rule established definitions for the term pump, certain pump components, and several categories and configurations of pumps. The procedure incorporates by reference the Hydraulic Institute (“HI”) Standard 40.6-2014, “Methods for Rotodynamic Pump Efficiency Testing” (“HI 40.6-2014”), with several modifications

³ On March 23, 2016, DOE published a correction to the January 2016 Final Rule to correct the placement of the product-specific enforcement provisions related to pumps under 10 CFR 429.134(h). 81 FR 15426.

related to measuring the hydraulic power, shaft power, and electric input power of pumps, inclusive of electric motors and any continuous or non-continuous controls.⁴

II. Request for Information

DOE is publishing this RFI to collect data and information during the early assessment review to inform its decision, consistent with its obligations under EPCA, as to whether the Department should proceed with a test procedure rulemaking.

Accordingly, in the following sections, DOE has identified specific issues on which it seeks input to aid its analysis of whether an amended test procedure for pumps would more accurately or fully comply with the requirement that the test procedure produce results that measure energy use during a representative average use cycle for the equipment, and not be unduly burdensome to conduct. In particular, DOE is interested in: (1) any information indicating that there has not been sufficient technological or other changes since DOE last conducted a test procedure rulemaking analysis for pumps to suggest an amended test procedure could satisfy these criteria; or (2) whether adopting a consensus-based test procedure, without modification, as the DOE test procedure would more accurately or fully comply with the statutory requirement. DOE also welcomes comments on other issues relevant to its early assessment that may not specifically be identified in this document.

⁴ A “continuous control” is a control that adjusts the speed of the pump driver continuously over the driver operating speed range in response to incremental changes in the required pump flow, head, or power output. A “non-continuous control” is a control that adjusts the speed of a driver to one of a discrete number of non-continuous preset operating speeds, and does not respond to incremental reductions in the required pump flow, head, or power output. 10 CFR 431.462.

A. Energy Use Measurements

DOE's current test procedure for pumps can be found at 10 CFR part 431, subpart Y, appendix A, “*Uniform Test Method for the Measurement of Energy Consumption of Pumps*” (“Appendix A”). It measures energy use by determining the constant load pump energy index (“PEI_{CL}”) – used for pumps sold without continuous or non-continuous controls – and the variable load pump energy index (“PEI_{VL}”) – used for pumps sold with continuous or non-continuous controls. 10 CFR 431.464(a)(2). The PEI_{CL} and PEI_{VL} metrics both describe the weighted average performance of the rated pump at specific load points (*i.e.*, pump energy rating, or “PER”), normalized with respect to the performance of a minimally compliant pump without controls (“PER_{STD}”). The PER represents an average of driver power input to the motor at three load points (for pumps sold without continuous or non-continuous controls) or an average of driver power input to the continuous or non-continuous controls at four load points (for pumps sold with such controls).

The test procedure contains methods to determine the appropriate index for all equipment to which this test procedure applies either by (a) measuring the bare pump shaft input power and calculating efficiency, or losses, of the motor and any continuous control (*i.e.*, calculation-based method) or (b) measuring the input power to the driver, or motor, and any continuous or non-continuous controls for a given pump directly (*i.e.*, testing-based method). See 10 CFR part 431, subpart Y, appendix A, Table 1. The test procedure also prescribes the specific categories and configurations of pumps to which the calculation-based and testing-based methods apply. *Id.* DOE seeks comment on whether existing test procedure requirements (*e.g.*, measurement equipment, test

conditions, data collection, specific testing-based and calculation-based approaches) accurately measure energy use without adding undue burden to the test procedure. DOE is particularly interested in whether changes in equipment testing methodology or new equipment on the market since the test procedure was established may necessitate amending the procedure.

B. Representative Average Use Cycle

The current DOE test procedure for pumps measures energy use during a representative average use cycle. Pumps are used in a variety of situations where there is a need to move liquids from one location to another. As currently defined, a pump is a type of equipment designed to move liquids (including entrained gases, free solids, and totally dissolved solids) by physical or mechanical action. It includes both the bare pump itself and the mechanical equipment, driver, and controls that a manufacturer includes with the bare pump at the time of sale. See 10 CFR 431.462. DOE seeks comment on what constitutes a representative average use cycle for pumps.

C. Test Burden Reductions

In the January 2016 Final Rule, DOE estimated a cost of \$2.9 million to the industry to test pump basic models in accordance with the test procedure adopted in the Final Rule. 81 FR 4368 (January 26, 2016)⁵. This estimate included setup, testing, and takedown, with the final industry cost calculation assuming two tests per basic model.

⁵ See Final Rule “Technical Support Document: Energy Efficiency Program for Consumer Products and Commercial and Industrial Equipment: Pumps”, Section 12.4.9, “Compliance, Certification and Enforcement Testing Expense”, December 2015. EERE-2011-BT-STD-0031.

DOE's test procedure for pumps allows manufacturers the option of rating pumps sold with single-phase motors as bare pumps (using a calculation-based method) or as pumps with motors using the testing-based methods.⁶ DOE's calculations of testing costs assumed that the majority of pump basic models would be certified based on the bare pump configuration and subsequent ratings for the same bare pump sold with any number of applicable motors and continuous controls could be generated using the calculation-based approach. DOE seeks comment on whether any modifications to the test procedure could reduce these costs while still allowing for accurate determinations of energy use during a representative average use cycle.

D. Consensus-Based Test Procedures

The current DOE test procedure for pumps generally incorporates by reference HI 40.6-2014, with minor modifications to ensure repeatable and reproducible test results and additional provisions related to measuring the hydraulic power, shaft power, and electric input power of pumps, inclusive of electric motors and any continuous or non-continuous controls, which are not included in HI 40.6-2014. DOE seeks comment on the availability of consensus-based test procedures for measuring the energy use of pumps that could be adopted without modification and more accurately or fully comply with the requirement that the test procedure produce results that measure energy use during a representative average use cycle for the equipment, and not be unduly

⁶ In the case of the calculation-based method, only the bare pump performance is physically measured—the performance of the motor and any continuous or non-continuous controls would be addressed through a series of calculations. In the case of the testing-based method, the input power to the pump at the motor or at the continuous or non-continuous control, if any, is directly measured and used to calculate PEI_{CL} or PEI_{VL} . 81 FR 4127-4131 (January 25, 2016).

burdensome to conduct. With respect to consensus-based test procedures, DOE describes recent developments in this area since the publication of the January 2016 Final Rule below.

a. HI Standard 40.6

As stated, DOE's test procedure for pumps generally incorporates HI 40.6-2014. Since publication of the January 2016 Final Rule, the Hydraulics Institute updated HI 40.6-2014 with the publication of HI Standard 40.6-2016, "Methods for Rotodynamic Pump Efficiency Testing" ("HI 40.6-2016"). This update aligned the definitions and procedures specified in HI Standard 40.6 with the DOE test procedure for pumps.

DOE requests comments on the updated standard HI 40.6-2016 and on whether DOE should incorporate HI 40.6-2016 by reference as the DOE test procedure for pumps. Specifically, DOE requests information on whether the updates in HI 40.6-2016 impact the measured values, and if so, to what extent. DOE also requests information on the impact of the updates in HI 40.6-2016 to the test burden and the representativeness of the test results.

b. IEC 61800-9-2:2017 (Adjustable Speed Electrical Power Drive Systems)

While DOE's test procedure for pumps incorporates by reference HI 40.6-2014, as noted previously, DOE also includes additional provisions related to measuring the hydraulic power, shaft power, and electric input power of pumps, inclusive of electric motors and any continuous or non-continuous controls – these provisions are not included in HI 40.6-2014, and at the time of finalization of DOE's test procedure, similar

provisions were not available in any other industry test standard. Since publication of the January 2016 Final Rule, the International Electrotechnical Commission (“IEC”) published standard IEC 61800-9-2:2017 “Adjustable speed electrical power drive systems - Part 9-2: Ecodesign for power drive systems, motor starters, power electronics and their driven applications - Energy efficiency indicators for power drive systems and motor starters” (“IEC 61800-9-2:2017”), which addresses test methods and reference losses for motor and controls combinations (*i.e.*, “power drive systems”). Specifically, Annex A of IEC 61800-9-2:2017 describes reference losses for complete drive modules (*i.e.* controls) and power drive systems at different operating points, comparable to the approach already presented in section VII.E.1.2 of appendix A to subpart Y of part 431. A second edition of this standard is projected to be published in November 2021 to address further the test method and evaluate the reference losses based on test results.⁷

DOE requests comments on the approach presented in Annex A of IEC 61800-9-2:2017 to represent reference losses for complete drive modules (*i.e.* controls) and power drive systems (*i.e.* motor and controls combinations) and on whether DOE should incorporate by reference this approach in lieu of the calculations in section VII of Appendix A, or if any considerations for updates should be postponed until the second edition of IEC 61800-9-2 is published.

⁷ Electric Motors Systems Annex (EMSA). (March 2019) *Round Robin of Converter Losses, Report of Results of Phase I*. Available at: https://www.motorsystems.org/files/otherfiles/0000/0206/RR_C_report_phase_1_final_1_d_20190322.pdf

c. Adoption of Other Consensus-Based Test Procedures

DOE requests comment on whether another consensus-based test procedure could be adopted, with or without modification, and meet the criteria in EPCA related to representativeness and test burden. If so, DOE requests comment on the benefits and burdens of adopting any such industry/voluntary consensus-based or other appropriate test procedure, with or without modification.

III. Submission of Comments

DOE invites all interested parties to submit in writing by **[INSERT DATE 75 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**, comments and information on matters addressed in this notice and on other matters relevant to DOE's early assessment of whether amendments to the test procedure for pumps would more accurately or fully comply with the requirement that the test procedure produces results that measure energy use during a representative average use cycle for the equipment, and not be unduly burdensome to conduct.

Submitting comments via <http://www.regulations.gov>. The <http://www.regulations.gov> web page will require you to provide your name and contact information. Your contact information will be viewable to DOE Building Technologies staff only. Your contact information will not be publicly viewable except for your first and last names, organization name (if any), and submitter representative name (if any). If your comment is not processed properly because of technical difficulties, DOE will use this information to contact you. If DOE cannot read your comment due to technical

difficulties and cannot contact you for clarification, DOE may not be able to consider your comment.

However, your contact information will be publicly viewable if you include it in the comment or in any documents attached to your comment. Any information that you do not want to be publicly viewable should not be included in your comment, nor in any document attached to your comment. Persons viewing comments will see only first and last names, organization names, correspondence containing comments, and any documents submitted with the comments.

Do not submit to <http://www.regulations.gov> information for which disclosure is restricted by statute, such as trade secrets and commercial or financial information (hereinafter referred to as Confidential Business Information (“CBI”). Comments submitted through <http://www.regulations.gov> cannot be claimed as CBI. Comments received through the website will waive any CBI claims for the information submitted. For information on submitting CBI, see the Confidential Business Information section.

DOE processes submissions made through <http://www.regulations.gov> before posting. Normally, comments will be posted within a few days of being submitted. However, if large volumes of comments are being processed simultaneously, your comment may not be viewable for up to several weeks. Please keep the comment tracking number that <http://www.regulations.gov> provides after you have successfully uploaded your comment.

Submitting comments via email, hand delivery/courier, or postal mail. Comments and documents submitted via email, hand delivery/courier, or postal mail also will be posted to <http://www.regulations.gov>. If you do not want your personal contact information to be publicly viewable, do not include it in your comment or any accompanying documents. Instead, provide your contact information on a cover letter. Include your first and last names, email address, telephone number, and optional mailing address. The cover letter will not be publicly viewable as long as it does not include any comments.

Include contact information each time you submit comments, data, documents, and other information to DOE. If you submit via postal mail or hand delivery/courier, please provide all items on a CD, if feasible. It is not necessary to submit printed copies. Faxes will not be accepted.

Comments, data, and other information submitted to DOE electronically should be provided in PDF (preferred), Microsoft Word or Excel, WordPerfect, or text (ASCII) file format. Provide documents that are not secured, written in English and free of any defects or viruses. Documents should not contain special characters or any form of encryption and, if possible, they should carry the electronic signature of the author.

Campaign form letters. Please submit campaign form letters by the originating organization in batches of between 50 to 500 form letters per PDF or as one form letter with a list of supporters' names compiled into one or more PDFs. This reduces comment processing and posting time.

Confidential Business Information. Pursuant to 10 CFR 1004.11, any person submitting information that he or she believes to be confidential and exempt by law from public disclosure should submit via email, postal mail, or hand delivery/courier two well-marked copies: one copy of the document marked confidential including all the information believed to be confidential, and one copy of the document marked “non-confidential” with the information believed to be confidential deleted. Submit these documents via email or on a CD, if feasible. DOE will make its own determination about the confidential status of the information and treat it according to its determination.

It is DOE’s policy that all comments may be included in the public docket, without change and as received, including any personal information provided in the comments (except information deemed to be exempt from public disclosure).

DOE considers public participation to be a very important part of the process for developing test procedures and energy conservation standards. DOE actively encourages the participation and interaction of the public during the comment period in each stage of this process. Interactions with and between members of the public provide a balanced discussion of the issues and assist DOE in the process. Anyone who wishes to be added to the DOE mailing list to receive future notices and information about this process should contact Appliance and Equipment Standards Program staff at (202) 287-1445 or via e-mail at *ApplianceStandardsQuestions@ee.doe.gov*.

Signing Authority

This document of the Department of Energy was signed on September 22, 2020, by Alexander N. Fitzsimmons, Deputy Assistant Secretary for Energy Efficiency 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, D.C., on September 22, 2020

9/22/2020

X Alexander N. Fitzsimmons

Signed by: ALEXANDER FITZSIMMONS
Alexander N. Fitzsimmons
Deputy Assistant Secretary
for Energy Efficiency
Energy Efficiency and Renewable Energy