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[6450-01-P]

DEPARTMENT OF ENERGY

10 CFR Part 430

[Docket Number EERE–2016–BT–TP–0023]

RIN 1904-AD70

Energy Conservation Program: Test Procedure for Television Sets

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

ACTION: Advance notice of proposed rulemaking (ANOPR).

SUMMARY: The U.S. Department of Energy’s (DOE) test procedure for television sets (TVs) is codified at appendix H to subpart B of 10 CFR 430. DOE is seeking comment on possible revisions to ensure the current TVs test procedure is representative in measuring the energy consumption of TVs.

DATES: DOE will accept comments, data, and information regarding the ANOPR no later than

INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN FEDERAL REGISTER.

For details, see section V, “Public Participation,” of this ANOPR.

ADDRESSES: Any comments submitted must identify the Test Procedure ANOPR for TVs, and provide docket number EERE-2016-BT-TP-0023 and/or regulatory information number (RIN) number 1904-AD70. Comments may be submitted using any of the following methods:

- 1) Federal eRulemaking Portal: www.regulations.gov. Follow the instructions for submitting comments.
- 2) E-mail: Televisions2016TP0023@ee.doe.gov. Include the docket number and/or RIN in the subject line of the message.
- 3) 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. 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., 6th Floor, Washington, DC 20024. Telephone: (202) 586-6636. If possible, please submit all items on a CD, in which case it is not necessary to include printed copies.

For detailed instructions on submitting comments and additional information on the rulemaking process, see section V of this document (Public Participation).

DOCKET: The docket, 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, 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 <https://www.regulations.gov/docket?D=EERE-2016-BT-TP-0023>. The docket web page will contain simple instructions on how to access all documents, including public comments, in the docket. See section V for information on how to submit comments through www.regulations.gov.

FOR FURTHER INFORMATION CONTACT:

Direct requests for additional information may be sent to Mr. Jeremy Dommu, U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, Building Technologies Program, EE-2J, 1000 Independence Avenue, SW., Washington, DC 20585-0121. Telephone: 202-586-9870. E-mail: ApplianceStandardsQuestions@ee.doe.gov.

In the office of the General Counsel, contact Ms. Mary Greene, U.S. Department of Energy, Office of General Counsel, GC-33, 1000 Independence Avenue, SW., Washington, DC 20585-0121, (202) 586-1817. E-mail: mary.greene@gmail.com.

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I. Background

The U.S. Department of Energy (DOE) published a new TVs test procedure on October 25, 2013, which currently is found at appendix H to subpart B of 10 CFR part 430. 78 FR 63823. This test procedure includes methods for measuring active mode (on-mode), standby mode, and off mode power draw; screen luminance; and the annual energy consumption (AEC) of TVs. As part of the on-mode testing, DOE adopted the use of the International Electrotechnical Commission (IEC) standard, IEC 62087, Edition 3, 2011-04 “Methods of measurement for the power consumption of audio, video, and related equipment” (IEC 62087:2011).

On June 24, 2016, DOE published in the Federal Register a request for information (RFI) detailing findings from investigative testing and seeking comments on the existing test procedure for TVs. 81 FR 41262. The RFI discussed DOE’s testing on several brands of TVs to determine how representative the current test procedure is in measuring the energy use of TVs during a representative average use cycle or period of use. During investigative testing, DOE found that certain TVs consistently demonstrated decreased power use when displaying the IEC 62087:2011 Blu-ray Disc Dynamic Broadcast-Content Video Signal (IEC test clip), used in the current DOE test procedure, compared to other test clips. DOE believes this difference in power use to be related to the high degree of on-screen motion in the IEC test clip. DOE also observed

that changing certain TV parameters automatically disabled energy saving features and these energy saving features were not present in any other preset picture settings other than the default picture setting. In response to the publication of the RFI, DOE received eight sets of comments submitted by stakeholders. DOE took these comments under consideration while drafting the potential amendments presented in this ANOPR, and these comments will be addressed if DOE proposes to amend the TVs test procedure in the future. The full set of comments on the RFI can be found at: <https://www.regulations.gov/docket?D=EERE-2016-BT-TP-0023>.

II. Overview

DOE is seeking to determine if the existing TVs test procedure needs to be amended to ensure that a TV is configured for testing during a representative use cycle or period of use. DOE's internal testing that was presented in the RFI, testing conducted by other interested parties¹, and stakeholder comments in response to the RFI, seem to indicate that amendments to the TVs test procedure should be pursued. Accordingly, in this ANOPR, DOE is presenting possible revisions to amend the TVs test procedure in appendix H to subpart B of 10 CFR 430. To that effect, a separate document, titled "Potential Amendments to the Televisions Test Procedure" is being made available in the docket.

DOE notes that the Consumer Technology Association (CTA) and IEC are also in the initial stages of modifying their test methods for measuring the power consumption of a TV, CTA-2037 and IEC 62087, respectively. So that those entities have the benefit of DOE's current

¹ NRDC: Are Leading TV Manufacturers Exploiting Weaknesses in the Federal Energy-Use Test to Hide True Energy Costs? (2016, September 21). <https://www.nrdc.org/media/2016/160921-0>

thinking as they engage in their processes, DOE is issuing this ANOPR that presents the approaches it is considering to improve the existing regulatory test procedure for TVs. DOE's goal is to ensure that TV energy consumption, as measured by the test procedure, is representative of actual TV energy consumption when used by the average consumer.

This ANOPR is not a proposal. In order to adopt the possible amendments contained in the "Potential Amendments to the Televisions Test Procedure" document or any other amendments to the existing test procedure, DOE would need to conduct a notice and comment rulemaking process. Rather, the intention of releasing this ANOPR is to facilitate discussion, solicit feedback, and provide input to industry consensus standards setting bodies of modifications that DOE is considering so that these other organizations can be apprised of DOE's current thinking as they undertake their own revisions. DOE believes that releasing these potential changes in such a manner may also help to facilitate harmonization across all test methods. As a next step, DOE may elect to move forward with a rulemaking to propose adopting these changes or variations of these changes into the regulatory test procedure. Or, based on the progress of these other organizations in modifying their test procedure, DOE may wait until the other standards have been updated, so that DOE can incorporate an updated and harmonized international or industry test procedure into US regulations.

III. Potential Test Procedure Amendments Under Consideration

This ANOPR announces the availability of a document, titled "Potential Amendments to the Televisions Test Procedure" available on the docket webpage, that shows possible amendments to the Uniform Test Method for Measuring the Power Consumption of Television

Sets, codified at 10 CFR 430, subpart B appendix H. This document includes the entire TVs test procedure, including the amendments currently under consideration. Highlighted text is used to clearly identify the changes being considered. The document differentiates between substantive amendments to the test procedure, including newly added or revised text (shown highlighted in blue), and non-substantive or editorial amendments that are being considered primarily to harmonize with the most recent IEC industry standard (shown highlighted in yellow). The key amendments that DOE is suggesting are regarding the configuration of special functions during testing, use of the IEC test clip, and system updates. Each of these substantive and non-substantive amendments are discussed in the following sections.

A. Configuration of Special Functions

The current TVs test procedure requires all TVs to be tested in the default picture setting, which includes the default state for all special functions (unless a message prompt is displayed requiring the configuration of special functions). However, based on the results of testing conducted during the RFI as well as stakeholder comments, there are some instances in which DOE believes that keeping a TV's special function in its default state is not representative. These include instances when: (a) a special function's state changes in response to changing a TV parameter (such as contrast, brightness, volume, backlight, etc.); (b) a special function's configuration in the default picture setting is not prevalent in a majority of the other non-default preset picture settings (e.g., Vivid, Film, Game, etc.); or (c) when the TV's resume time is longer than 10 seconds. Accordingly, DOE presents amendments to consider for the configuration of special functions to ensure that a TV is tested such that the results are representative of an average use cycle or period of use.

B. Use of IEC Test Clip

The current IEC test clip may not be representative of current TV content. A number of studies and data have recently been released that call into question whether the IEC test clip captures a representative measurement of a TV's on-mode power. This includes test data that the DOE presented as part of the RFI, a study by NRDC², and data collected by the U.S. Environmental Protection Agency's (EPA) ENERGY STAR program³. Because certain energy saving features, such as motion detection dimming (MDD), recently deployed by several TV manufacturers dim or briefly turn off a TV's backlight when motion is displayed on screen, the IEC test clip may result in a power measurement that could be significantly lower than what would be expected when that TV is viewed in a consumer's home. Further, since TVs are increasingly capable of displaying content in UHD and HDR, it is possible that the IEC test clip should be updated to display content in these formats.

However, with the goal of harmonization with international standards, DOE is not considering any existing alternative test clips at this time. Rather, DOE believes that IEC is the most suitable forum to build international consensus on the development of a future test clip to be used for TV energy testing. Accordingly, DOE requests that the IEC lead an effort to create a new test clip that addresses these issues. The United States is committed to being an active participant in the IEC TC100 committee tasked with this revision. Once a new test clip is developed through international consensus, DOE will evaluate the clip and, if appropriate,

² NRDC: Are Leading TV Manufacturers Exploiting Weaknesses in the Federal Energy-Use Test to Hide True Energy Costs? (2016, September 21). <https://www.nrdc.org/media/2016/160921-0>

³ Televisions Specification Version 8.0 (2016, October 12). https://www.energystar.gov/products/spec/televisions_specification_version_8_0_pd

consider it for the DOE test procedure. If IEC does not demonstrate sufficient progress toward development of a new test clip, DOE will consider alternative avenues in the future for incorporating a more representative test clip into the federal test method for televisions.

C. System Updates

Another possible amendment to the test procedure that could improve test representativeness would require TVs to perform system updates, if applicable, prior to testing. DOE is also considering a requirement that network enabled TVs, if necessary, temporarily connect to the internet to perform an update.

D. Incorporation by Reference of New IEC Standard

In addition to these new requirements, the remainder of DOE's possible updates are to incorporate by reference the existing language of certain definitions and test requirements by referencing the recent version of the IEC standard, IEC 62087, Edition 1.0, 2015-06, "Audio, video, and related equipment – Determination of power consumption" (IEC 62087:2015). Since many of the provisions in IEC 62087:2015 are consistent with the provisions in the existing regulatory test procedure, these edits represent the incorporation of a similar provision of the IEC standard into the regulatory text.

Specifically, one option DOE is considering is to incorporate by reference specific sections of the following three standards: (a) IEC 62087-1, Edition 1.0, 2015-06, "Audio, video, and related equipment – Determination of power consumption – Part 1: General" (IEC 62087-1:2015); (b) IEC 62087-2, Edition 1.0, 2015-06, "Audio, video, and related equipment –

Determination of power consumption – Part 2: Signals and media” (IEC 62087-2:2015); and (c) IEC 62087-3, Edition 1.0, 2015-06, “Audio, video, and related equipment – Determination of power consumption – Part 1: Television sets” (IEC 62087-3:2015).

E. Summary of Potential Amendments to the TVs Test Procedure

DOE seeks comments on the potential amendments to the TVs test procedure summarized below. These edits can be seen in the document in the docket, titled “Potential Amendments to the Televisions Test Procedure”.

1. Replace all definitions in the existing TVs test procedure with the corresponding terms from IEC 62087-1:2015 and IEC 62087-3:2015, through incorporation by reference.
2. Remove the definitions for “IEC 62087 Ed. 3.0” and “IEC 62087 Ed. 3.0 Blu-ray Disk™ Dynamic Broadcast Content Video Signal”, and add definitions for “IEC 62087-1:2015”, “IEC 62087-2:2015”, “IEC 62087-3:2015”.
3. Add new definitions for “automatic dimming functions” and “quick start”.
4. Replace the term “ $L_{\text{brightest}}$ ” with “ $L_{\text{Brightest_Home}}$ ” and add the term “MDD” in the symbol usage section.
5. Revise requirements for voltage and frequency, power supply, power meter, luminance meter, illuminance meter, ambient temperature conditions, room

illuminance level, and additional functions to incorporate by reference the existing language from corresponding sections in IEC 62087-1:2015.

6. Revise requirements for room illuminance level, TV installation and placement, additional functions, video connection priority and input terminal, network connection and capabilities, light source set-up, luminance measurement stabilization, luminance meter set-up, three vertical bar signal measurement, retail configuration luminance measurement, and standby mode video input device, to incorporate by reference the existing language from corresponding sections in IEC 62087-3:2015.
7. Introduce testing provisions that aide in determining how special functions should be configured. The intent of these provisions is to ensure that the TV is tested in a manner that is representative of a normal use cycle.
8. Update the IEC standard incorporated by reference in requirements for video aspect ratio, video format, and sound level.
9. Add a new requirement for conducting TV system updates prior to testing.
10. Update all references to the IEC test clip in the on mode test and luminance test to a new test clip, which is yet to be determined.

11. Revise the on mode stabilization requirements to limit the amount of time needed for a TV to stabilize prior to on mode power measurement.

12. For all references to TV settings (such as ABC setting, default picture setting, etc.) in the on mode test and luminance mode test, revise the requirements to clarify that the setting must be determined based on the newly added special function configuration requirements.

13. Update all references to the three bar video signal in the luminance test to the new IEC 62087-2:2015.

IV. Issues on Which DOE is Seeking Comment

DOE welcomes comments on all aspects of this ANOPR including feedback on the potential TVs test procedure amendments presented in the separate document, alternatives to the potential amendments presented, or recommendations for other potential amendments for consideration by DOE that would improve the test procedure.

Issued in Washington, DC, on January 19, 2017.



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