

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460



OFFICE OF
AIR AND RADIATION

July 27, 2015

Dear ENERGY STAR[®] Distribution Transformer Brand Owner or Other Interested Party:

The U.S. Environmental Protection Agency (EPA) welcomes your input on the following Draft 1 Version 1.0 ENERGY STAR Specification for Distribution Transformers, which covers liquid-immersed distribution transformers. This letter outlines EPA's approach for this product category, including how third party certification would work, and seeks further input.

Basic Approach

In response to the initial framework document released as part of this specification development process, EPA heard from stakeholders about the importance of optimizing transformers for their intended capacity factor, or load. A review of the Department of Energy's (DOE's) transformer data set (which includes over 6000 transformer designs) indicates that different transformers perform more efficiently at different capacity factors, i.e. some transformers perform more efficiently at lower capacity factors, whereas others perform more efficiently at higher ones. Given these circumstances, EPA is proposing to allow for ENERGY STAR certification at particular capacity factors, so that purchasers can easily identify highly efficient alternatives that meet their individual needs.

To this end, EPA proposes to set ENERGY STAR efficiency levels at each capacity factor from 10% to 70% (in 5% increments) that reflect the highest efficiency performance while maintaining a good selection of products across a variety of manufacturers. A transformer design could earn the ENERGY STAR at one or more capacity factors. It is not EPA's intention to establish requirements such that only one technology qualifies.

EPA also heard from stakeholders about the value of a purchasing tool, given the complexity of this product category and the sophistication of the purchasing community. Accordingly, the Agency is in the process of developing an online tool to assist purchasers in selecting the most cost-effective option from among those that are ENERGY STAR certified.

Certification Requirements

EPA intends for transformer manufacturers to follow the same laboratory testing procedures when certifying a product to ENERGY STAR as they do when reporting their product performance to DOE. The DOE test method for distribution transformers is referenced in the draft specification, which allows for testing to be performed at 0% and 100% capacity factor, and for performance at a specified capacity factor to be calculated. Consistent with DOE

requirements, EPA would also allow for the use of an Alternative Efficiency Determination Method (AEDM). For purposes of ENERGY STAR certification, any testing would need to be performed in an accredited laboratory or one that participates in a CB's witnessed or supervised manufacturers' testing laboratory program. Documentation of calculated values for relevant capacity factors would be reviewed by an EPA-recognized certification body. (For general information on EPA's third-party certification process, visit www.energystar.gov/3rdpartycert).

Requested Input

With Draft 1, EPA seeks feedback on the overall approach to establishing energy efficiency levels at the different capacity factors. The Draft 1 includes the following elements:

- Definitions
- Scope
- Approach for Developing Proposed Efficiency Criteria
- Testing Requirements

The Agency has not proposed performance levels but **is assembling additional data to inform the specification setting process**. Manufacturers are invited to provide modeled and tested data on their current models for inclusion in the dataset. In the absence of receiving new data, EPA will evaluate DOE's current dataset of transformer designs to propose levels at each capacity factor in Draft 2. Please send data to DistributionTransformers@energystar.gov.

EPA-developed Purchasing Tool

This tool would be similar to the purchasing tool featured in the 1998-2007 ENERGY STAR program for medium-voltage transformers. The tool would allow purchasers to input their A and B factors to identify the ENERGY STAR certified transformers that best meet their needs. EPA has included screenshots of the tool and encourages stakeholders to provide feedback on which elements are informative and necessary in the design of such a tool. The final tool would be hosted on the ENERGY STAR website and usable with a web browser.

In-Person Meeting

The exchange of ideas and information between EPA, industry, and other interested parties is critical to the success of ENERGY STAR. Stakeholder participation is key to the ENERGY STAR specification development process and is strongly encouraged. **EPA will host an in-person meeting on Thursday, August 20, 2015 from 10am to 4:30pm Eastern time** to discuss the Draft 1 specification. The meeting will be held at the ICF International office at:

1725 I (Eye) Street, NW
Concourse Level Meeting Room
Washington, D.C. 20006

Please RSVP to DistributionTransformers@energystar.gov by Monday, Thursday, August 6th to confirm if you are able to attend.

Submitting Data and Feedback

Stakeholders are encouraged to submit any data and feedback to EPA on the Draft 1 ENERGY STAR Specification for Distribution Transformers no later than Wednesday,

September 16, 2015. Comments should be submitted to DistributionTransformers@energystar.gov. Comments received will inform the next drafts of the specification. All documents related to this specification development are posted on the [ENERGY STAR Distribution Transformers Product Development page](#).

If you have any questions about the ENERGY STAR program and this effort in particular, please contact me at Verena Radulovic, EPA, at Radulovic.Verena@epa.gov and (202) 343-9845 or Matt Malinowski, ICF International, at Matt.Malinowski@icfi.com and (202) 862-2693. For test method questions, please contact Ashley Armstrong, DOE, at Ashley.Armstrong@ee.doe.gov or (202) 586-6590.

Thank you for your support of ENERGY STAR. I look forward to working with you during the specification development process.

Sincerely,

A handwritten signature in cursive script that reads "Verena Radulovic".

Verena Radulovic, Product Manager

Enclosures:

Draft 1 ENERGY STAR Specification for Distribution Transformers

Framework Document Stakeholder Comment Summary and Response

Screenshots of Prototype ENERGY STAR Transformers Purchasing Tool

Data Assembly Form