

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



OFFICE OF  
AIR AND RADIATION

July 19, 2016

Dear ENERGY STAR<sup>®</sup> Distribution Transformer Brand Owner or Other Interested Party:

The U.S. Environmental Protection Agency (EPA) welcomes your input on the following Draft 2 Version 1.0 ENERGY STAR Specification for Distribution Transformers, which covers liquid-immersed distribution transformers. This letter explains changes made since the Draft 1 specification was released and how EPA arrived at the revised proposal in response to stakeholder input.

**Revised Approach**

In Draft 1, EPA proposed developing criteria for a range of load factors in response to feedback on the importance of optimizing transformers for their intended load factor. EPA proposed to set ENERGY STAR efficiency levels at each load factor from 10% to 70%. EPA also proposed developing a tool to assist purchasers in considering Total Owning Cost (TOC) when selecting a model, hearing from stakeholders on the value of promoting a TOC approach to reflect both the purchase and operational costs of transformers. In response to the Draft 1, stakeholders relayed that fewer load factors sufficed to meet utility purchasers' needs and suggested that EPA develop criteria for two or three ranges of load factors. Additionally, some stakeholders advocated that EPA develop a specification where all products purchased using a TOC approach qualify for the ENERGY STAR.

With this Draft 2, EPA has sought to address this stakeholder feedback by drafting a specification that promotes a TOC approach and sets product efficiency criteria that deliver energy savings over conventional, baseline models- namely products that just meet the DOE standard. To do so, EPA conducted an analysis of the Department of Energy's (DOE's) dataset, applying various application scenarios and using commonly found A and B factors (cost of no load and load losses respectively) to ensure the cost effectiveness of proposed efficiency criteria. Thus, the resulting Draft 2 specification proposes criteria that would recognize products that deliver cost effective energy savings under a variety of A and B factors. Additionally, more than one core technology would be able to meet each criterion proposed for different transformer sizes at different load factors. In the Draft 2 specification, EPA provides a detailed explanation of the dataset used and analysis undertaken to develop the draft criteria for the low, mid, and high load factors. EPA continues to request data and stakeholder feedback where EPA lacked sufficient data to propose efficiency criteria at different load factors in this draft.

EPA is promoting a TOC approach such that purchasers are attuned to the total costs of losses over time and will more readily consider the potential for reduced operating costs to offset higher first costs. As such, with this draft, EPA encourages manufacturers to highlight transformers that deliver both energy and cost savings over a minimum DOE-compliant design when responding to RFPs. EPA has included industry-accepted calculations for determining TOC in Draft 2. Given EPA's promotion of TOC in the specification via inclusion of a formula for calculating TOC for a model and the Agency's careful consideration of cost effectiveness when developing efficiency requirements, EPA is not expecting to pursue the creation of an online tool for purchasers.

### **Third-Party Certification**

To ensure confidence in the ENERGY STAR label and to protect the investment of ENERGY STAR partners, EPA requires all ENERGY STAR products to be third-party certified. Products are tested in an EPA-recognized laboratory, which can include manufacturer owned laboratories, and reviewed by an EPA-recognized certification body before they can carry the label. In response to Draft 1, stakeholders expressed concern that ENERGY STAR's third-party certification requirements would add cost and burden to manufacturers responding in real-time to utility RFPs. EPA understands the importance of ensuring that transformer manufacturers are in a position to respond promptly to potential customer requests and that transformer designs are only manufactured once an order has been placed.

For purposes of ENERGY STAR third-party certification, transformer manufacturers will be allowed to follow the same laboratory testing procedures they use when reporting their product performance to DOE. As such, manufacturers will be able to use both the same actual test results submitted to DOE as well as modeled results from the same alternative efficiency determination method (AEDM) they currently use to demonstrate DOE compliance, allowing for more timely response to potential customers regarding ENERGY STAR status of design options. Like other ENERGY STAR product categories where the majority of testing is conducted in manufacturers labs, the lab would need to sign up with a Certification Body's (CB's) Supervised Manufacturers Testing Lab (SMTL) Program and to have the CB review the test data as part of the certification process. For third party verification, EPA envisions allowing for a desk review of ENERGY STAR transformer designs that are slated for manufacturing to ensure they are within the design parameters of the models certified. For more information on how EPA's third party certification and verification program is structured for ENERGY STAR, see

[https://www.energystar.gov/index.cfm?c=third\\_party\\_certification.tpc\\_index](https://www.energystar.gov/index.cfm?c=third_party_certification.tpc_index).

### **Webinar**

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 plans to hold a webinar on Thursday, August 11, 2016 from 1:00 PM – 4:00 PM** to discuss the Draft 2 specification. To participate in this webinar, please [register](#) prior to this date and time.

### **Submitting Data and Feedback**

**Stakeholders are encouraged to submit feedback to EPA on the Draft 2 ENERGY STAR Specification for Distribution Transformers no later than August 16, 2016.** Comments

should be submitted to [DistributionTransformers@energystar.gov](mailto: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](mailto:Radulovic.Verena@epa.gov) and (202) 343-9845 or Matt Malinowski, ICF International, at [Matt.Malinowski@icfi.com](mailto:Matt.Malinowski@icfi.com) and (202) 862-2693.

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 2 ENERGY STAR Specification for Distribution Transformers

Draft Partner Commitments

Responses to Stakeholder Comments for Draft 1