

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



OFFICE OF AIR  
AND RADIATION

December 13, 2016

Dear ENERGY STAR® EVSE Manufacturers and Other Interested Stakeholders:

The U.S. Environmental Protection Agency (EPA) is pleased to share with you the Final Draft Version 1.0 ENERGY STAR Electric Vehicle Servicing Equipment (EVSE) Specification and Final Test Method. The attached document outlines the requirements that EVSE must meet to earn the ENERGY STAR under Version 1.0. This EVSE Version 1.0 specification will take effect upon finalization later this month.

EPA incorporated the following changes as proposed in the October 28, 2016 follow-up letter to stakeholders: including a definition and energy efficiency criteria for “No-Vehicle” Mode in the Final Draft specification; modifying the Final Draft Test Method to specify how to test EVSE with multiple ports; and adding guidance on how to set up and measure display brightness for models claiming the display allowance and to conduct power testing with the default image that appears as-shipped.

The Final Draft Version 1.0 ENERGY STAR EVSE specification also includes the following modifications in response to feedback on both the Draft 2 and follow-up letter:

**Compliance with National Electric Code:** EPA received feedback from stakeholders that products do not currently universally adhere to safety standards and those that do not may demonstrate lower power draw. To ensure that purchasers have the ability to assess which ENERGY STAR certified products that meet their safety expectations, EPA proposes that EVSE manufacturers must report which National Electric Code safety standards their products meet.

**Idle Mode Relay Power:** In the Final Draft Specification, EPA has amended this factor to  $0.4 \times \text{Max Current}$  from  $0.25 \times \text{Max Current}$  due to stakeholder feedback on the need to allow for more overhead in power allowance to be able to right-size the relay for the size of the EVSE, which ensures a safe relay connection. This change will allow nearly all products in the EPA dataset to meet the requirements for relay power, ensuring that a range of EVSE sizes with higher relay power are eligible to meet the specification requirements.

**Allowances for EVSE with multiple ports:** Per stakeholder feedback and demonstration by at least one manufacturer that networking and display functions are unlikely to be duplicated for multiple-output EVSE, EPA has modified the No-Vehicle, Partial On, and Idle Modes criteria, dividing allowances for network connectivity and displays by a factor of  $n$ , where  $n$  is the number of outputs. In doing so, the allowances are scaled accordingly and EPA incentivizes more energy efficient implementation of key features via one shared housing.

**Modification to connected language**

EPA seeks to enable current EVSE models on the market to meet the connected functionality criteria and also encourage the development of enhanced capabilities as DR market opportunities

evolve. EPA's approach is intended to list an ENERGY STAR EVSE product as having connected capabilities, encourage development of DR functionality that aligns with utility needs, and enable brand owners to differentiate their product in the capabilities summary. In the Final Draft proposal, EPA continues to maintain less prescriptive optional criteria and provides additional clarity to recognize EVSE that can support Demand Response as connected. An informative note has been added that encourages development of DR capabilities that enable support of both signals-based DR and price response, direct control by the load management authority, and via EVSE management software and/or energy management systems. This note further encourages EVSE brand owners to engage with utilities to ensure EVSE DR capabilities align with utility needs. Finally, the recommended content for the DR capabilities summary has been revised to encompass stakeholder recommendations, e.g., supported DR services, ability for the EVSE to be directly accessed, supported open communications, applicable certifications, etc.

### **Updates to Test Method**

In the Final Test Method, EPA has made the following minor changes:

- Removed the requirement that the test load needs to consist of an electronic AC load bank because it is also acceptable to use a non-electronic, purely resistive load that can handle and maintain the current at  $\pm 2\%$ ;
- Updated the schematic of the Vehicle Emulator Module (VEM) to synchronize with the current industry notations by removing the 270 ohm resistor and renaming the switch on the 1.2 k ohm resistor as S2;
- Added an example of an acceptable thermally non-conductive surface to add clarity;
- Removed the request to record the input voltage and frequency during unit under test preparation but instead expects the EPA-recognized labs performing the testing to ensure it is in accordance with Table 1; and
- Removed mention of SAE J1772 State D (and former switch S2), and the requirement to test in this state, as it is no longer supported by EVSE in the market.

### **Qualified Product Exchange (QPX) Template**

As new products must be certified by an EPA-recognized Certification Body (CB) before being labeled and marketed as ENERGY STAR qualified, EPA will post to the website a draft of the QPX template that certification bodies submit to EPA. The QPX template lists all the data points to be collected by CBs to determine whether the EVSE meets the specification criteria. Upon satisfactory completion of all certification requirements, a CB will notify the partner that the product is ENERGY STAR qualified and will submit qualified product data to EPA for listing on the ENERGY STAR website. EPA invites both manufacturers and certification bodies to review and provide feedback on the QPX template. For more information on the Third-party Certification program, please visit [www.energystar.gov/3rdPartyCert](http://www.energystar.gov/3rdPartyCert).

Please note that ENERGY STAR partnership as a manufacturer is limited to organizations that own and/or license a brand name under which they sell eligible products in the United States and/or Canada. Partnership is not available to original equipment manufacturers (OEMs) that do not sell directly to consumers or end users. OEMs may certify products on behalf of the ENERGY STAR brand owners/licensees; however the brand owner must be the ENERGY STAR partner associated directly with the certified product models, since only partners are authorized to use the ENERGY STAR certification mark.

### **Submitting Feedback**

Any comments on the Final Draft specification should be submitted no later than **December 21, 2016**. Please send comments via e-mail to [evse@energystar.gov](mailto:evse@energystar.gov). All comments received will be posted to the ENERGY STAR Product Development website, unless the submitter specifically requests otherwise. The exchange of ideas and information between EPA, industry, and other interested parties is critical to the success of ENERGY STAR. To track EPA's progress in

developing the ENERGY STAR EVSE products specification and to review comments, please visit the Product Development Web site at [www.energystar.gov/NewSpecs](http://www.energystar.gov/NewSpecs) and click on "Version 1.0 is in development" under "Electric Vehicle Supply Equipment".

Thank you for taking the time to review these materials. Please contact me at [Radulovic.Verena@epa.gov](mailto:Radulovic.Verena@epa.gov) or (202) 343-9845 with any questions or concerns.

Best Regards,

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

Verena Radulovic  
Product Manager, ENERGY STAR

Enclosures:

Final Draft Version 1.0 ENERGY STAR EVSE Specification

Masked Dataset Used to Determine Proposed Final Draft Energy Efficiency Requirements

Final Test Method

Draft 2 and Draft 2 Follow-up Memo Comment-response Summary