



July 5, 2018

Mr. James Kwon
Energy Star Program Office
U.S. Environmental Protection Agency
1200 Pennsylvania Ave, NW
Washington, DC 20460

Re: ABB Comments to ENERGY STAR® EVSE Draft v1.1 Specification and Test Method Discussion Guide

Dear Mr. Kwon:

Thank you for the opportunity to provide comments and information to the United States Environmental Protection Agency (EPA) on the proposed ENERGY STAR Electric Vehicle Supply Equipment (EVSE) Draft Version 1.1.

ABB is a leader in designing, engineering, and manufacturing DC fast charging (DCFC) technology, with more than 7,000 DCFC systems deployed around the world, including more than 800 deployed in the United States. ABB is committed to the DCFC market. ABB designs, engineers and manufactures DCFC chargers to serve the entire vehicle fleet, including light-duty, medium-duty, and heavy-duty vehicles. As a result, ABB's current product lineup spans from 50kW to 450kW of power, and expects DCFC stations to soon surpass 1MW of power.

For 125 years, ABB has been a global leader in power and automation equipment, from power transformers to electric motors, where energy efficiency has been integral to our product offerings. ABB is actively supportive of and engaged with the Department of Energy's energy conservation standards program for both distribution transformers and electric motors. With a demonstrated commitment to energy efficiency evident across our thousands of products and offerings, ABB draws on our deep domain expertise in these comments.

ABB does not, at this time, support the EPA defining an ENERGY STAR® Electric Vehicle Supply Equipment (EVSE) specification for DC fast charging, for the following reasons, among others:

- DCFC technology is rapidly evolving in many markets with new solutions emerging and yet to emerge to meet the needs of not only passenger vehicles, but buses, trucks, delivery vehicles, haulers, airport equipment, port vehicles and more. Placing a target now on charging systems where the technology, applications, and business models are changing so quickly is premature.
- DCFC systems are not intended for, sold to or owned and operated by consumers and therefore do not seem appropriate for an ENERGY STAR Electric Vehicle Supply Equipment (EVSE) program. Rather, they are typically purchased by commercial customers who undergo detailed specifications processes.
- DCFC performance is heavily influenced by the individual characteristics of each charging station location, use-case, and environment, from vehicle and power grid profile, to local power grid load/demand profiles, to ambient temperature (extreme heat or cold), and expected charging patterns. Often DCFC deployments are custom engineered or configured to suit the specifications of the system owner or operator.

- DCFC sub-systems vary widely by installation and supplier, impacting total system performance. For example, different cooling systems, transformer design and continuous power delivery capabilities impact operational mode use, and make technology comparisons difficult and possibly misleading. Importantly, because the technology is new, variations and subsystem integrations are continuing to develop.
- Because of the unique characteristics of charging stations, there is no agreed upon standard for testing by any standards body, such as the American National Standards Institute (ANSI) or similar body. A lack of any predefined testing method and criteria makes the inclusion of DCFC into the EVSE program especially problematic. Test methodology should be a stakeholder design activity.
- DCFC systems often employ critical safety systems like lighting or cooled cables that impact energy use. A strict efficiency standard may disincentivize these important safety features.
- To ensure long life, reliability, and reduce operations and maintenance costs, DCFC stations require critical ancillary internal mechanisms like fans and heaters to avoid condensation and extreme temperatures. These features are critical because many DCFC are located off highways or in remote locations far from technical support teams. A balance must be met between energy consumption, reliability, and system up-time.
- Public EV infrastructure is an emerging market with uncertain business models; placing additional cost burdens in the fast charging space may suppress investment, innovation and proliferation of charging systems and therefore negatively impact EV adoption.
- Communication systems that manage energy usage may require sophisticated back end systems and software that not all DC fast charging sites will need or require. While ABB supports the use of smart connectivity, the EPA should avoid being overly prescriptive in applying requirements across sites where such complexity is not deployed.

ABB's position is that an ENERGY STAR® Electric Vehicle Supply Equipment (EVSE) specification for DCFC is premature and does not support such a development. Should the EPA still proceed with including DC fast charging in the ENERGY STAR® scope, ABB recommends, as with all efficiency standards, a transparent and systematic stakeholder process. Such process should include a wide group of industry and technology experts who can best address the numerous technological and commercial implications of including DC fast charging under the ENERGY STAR Electric Vehicle Supply Equipment (EVSE) specification and testing scope.

Thank you for your review and consideration of ABB's comments. If you have any questions, please contact me at your convenience.

Sincerely,



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