

**DOCKETED**

<b>Docket Number:</b>	17-EVI-01
<b>Project Title:</b>	Block Grant for Electric Vehicle Charger Incentive Projects
<b>TN #:</b>	224055
<b>Document Title:</b>	Siemens Comments on EnergyStar Certification and ISOIEC 15118
<b>Description:</b>	N/A
<b>Filer:</b>	System
<b>Organization:</b>	Chris King/Siemens
<b>Submitter Role:</b>	Public
<b>Submission Date:</b>	7/4/2018 9:39:09 AM
<b>Docketed Date:</b>	7/5/2018

*Comment Received From: Chris King*  
*Submitted On: 7/4/2018*  
*Docket Number: 17-EVI-01*

**Siemens Comments on EnergyStar Certification and ISO/IEC 15118**

*Additional submitted attachment is included below.*

Docket No. 17-EVI-01

Comments by Siemens

July 3, 2018

Siemens strongly supports transportation electrification — we are the first corporation of our size to make a commitment to a zero carbon footprint (by 2030). We operate in 180 countries; in California, we employ 5000 personnel including those that are involved in the manufacturing and assembling of EV charging infrastructure and electrical components. Siemens's goal is to promote policies that reduce the Total Cost of Ownership (TCO) for EV owners – considered the most important factor in the adoption of EVs. Siemens applauds California for providing financial and other incentives for EV adoption through CALeVIP and other programs. .

We appreciate this opportunity to provide comments on the proposals presented in the webinar given on June 28, 2018. These written comments should be seen as complimentary to the oral comments we provided during the webinar. Should these written comments conflict in any way with those oral comments, these written comments supersede the earlier ones.

Our comments address the two main areas covered by the webinar: EnergyStar certification and ISO/IEC 15118 implementation.

### **EnergyStar**

CALeVIP proposes that all Level 2 chargers be EnergyStar certified. Siemens is not convinced that such certification is cost-effective but does not oppose the certification requirement.

The purpose of EnergyStar certification is to guide consumers to purchase appliances that are more energy efficient. However, EV chargers are not appliances. The purpose of an appliance is to deliver a result to the consumer that is completely distinct from the provision of electricity. In an appliance, electricity is an invisible means to an end. An air conditioner delivers cool air, a printer printed pages, a television entertainment. For an appliance, electricity is an indirect input that results in the actual result the consumer ultimately desires. Therefore, an EnergyStar-certified appliance can be easily and correctly compared to a non-certified appliance: both deliver the same result, but the certified model uses less energy and should be preferred.

In contrast, an EV charger is an electrical component that manages the delivery of electricity to the consumer's end device, in this case an electric vehicle. One result is the charged vehicle battery, but important other results include the level of energy losses incurred in the charging and the effects of the charging on the grid. A smart EV charger – one that has a submeter and is networked – has the functions of providing remote data access and integrating to the grid to enable programs such as demand response. Therefore, a smart EV charger is more like a smart meter – a point of interconnection to the grid equipped with metering and remote communications functionality.

The EVSE serves the consumer by charging the EV, but it also serves the grid and the utility (ultimately society) by being a grid asset. Accordingly, in contrast to an appliance, the implication of EnergyStar certification is not as clear: less energy consumption is always a good thing, but it could come at the expense of reduced functionality in acting as a grid asset or potentially lower efficacy in acting as a charging device (because energy losses in charging are affected by numerous factors such as the battery state of charge and the charging rate at various stages in the charging process<sup>1</sup>).

Due to these complexities, the value of EnergyStar certification should be considered carefully.

Nevertheless, Siemens understands that the goal of EnergyStar is to promote energy conservation and that the desire is that EV chargers utilize less electricity in performing their primary functions. Therefore, Siemens does not oppose the imposition of the requirement of Energy Star certification.

In this context, Siemens supports CALeVIP's proposal to require certification but have a grace period for compliance. Many EVSE providers do not yet have Energy Star certification, so Siemens appreciates the opportunity for such providers to participate temporarily in the CALeVIP program with non-certified chargers. Siemens also agrees with the requirement that such providers make a firm commitment to EnergyStar certification by a date certain. Siemens further agrees that the commitment should be made prior to participation and that the deadline for non-certified chargers by December 31, 2018.

### **ISO/IEC 15118**

Siemens is a strong supporter of open standards, because they reduce costs, enhance competition among providers, and reduce the risk of obsolescence. We support the implementation of ISO/IEC 15118 in this context, and, in fact, Siemens participated in the original development of this standard.

However, Siemens respectfully urges CALeVIP to delay the compliance requirement until at least 2022 for Level 2 chargers. The reasons:

1. The implementation of 15118 will increase the cost of a Level 2 charger by at least 20% until volumes become large. In addition, 85% of potential EV buyers in a recent survey stated that insufficient availability of charging infrastructure is a major barrier to a purchase decision.<sup>2</sup> Increasing the infrastructure cost only increases that barrier. One reason for the cost increase is the need to add communications hardware to the charger. However, there are also significant expenses related to engineering, IT systems, back-end data processing, systems integration, interoperability between network and OEM providers, and so on. This makes the ultimate implementation cost substantially higher than it appears.
2. Smart charging, including demand response and responding to price signals, can be performed without 15118. This is done in pilot programs today. Therefore, the payback

---

<sup>1</sup> Apostolaki-Iosifidou, *Measurement of power loss during electrical vehicle charging and discharging*, Energy, Vol. 127, pp. 730-742, May 15, 2017.

<sup>2</sup> - Altman, Vilandrie & Company.

information indicated in the webinar – 1 month – is misleading at best. Since smart charging, including arbitraging time-of-use prices, is possible without 15118, the entire cost-benefit analysis for 15118 is called into question.

3. There has been no market adoption of 15118 in Level 2 chargers to date (except for small pilots), because the market has not perceived a need. This is, in part, because of the dearth of EVs that support 15118 now. As vehicles begin to incorporate 15118, the market will grow, the need will increase, and the cost-benefit case will improve. At that point, it will be appropriate to mandate 15118.

In short, Siemens does not believe that the case has been made that the substantial costs of a 15118 mandate for Level 2 chargers are matched by the quantifiable benefits. Accordingly, the mandate should be delayed until 2022.

### **Conclusion**

Siemens supports the proposed approach to Energy Star certification, provided it is understood that EV chargers are not appliances. Siemens opposes the January 2020 deadline for 15118 implementation and proposes January 2022 instead.

We appreciate the opportunity to comment.