

DOCKETED

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SolarCity Comments - Residential Compliance Manual

Additional submitted attachment is included below.



July 31, 2015

RE: 2016 Building Energy Efficiency Standards Residential Compliance Manual and Documents

SolarCity respectfully submits the following comments on electric water heater rules in the 2016 Building Energy Efficiency Standards Residential Compliance Manual and Documents.

Background

SolarCity is California's leading full service solar power provider for homeowners and businesses – a single source for engineering, design, financing, installation, monitoring, and support. The company provides cost-effective financing that enables customers to go solar without high upfront costs. SolarCity currently has more than 6,000 California employees based at more than 30 facilities around the state and has contracted to provide clean energy services to more than 260,000 customers nationwide.

In addition to rooftop solar, SolarCity develops and deploys other non-solar distributed energy resources (DER) for both residential and commercial applications. Specifically, SolarCity offers grid-interactive water heaters (GIWH), smart thermostats, and battery energy storage systems to help customers manage their energy use. Accordingly, SolarCity has a strong interest in the California Energy Commission's (CEC) Building Energy Efficiency Standards and in policies guiding the deployment of GIWH to meet the goals of the CEC and provide valuable services for California customers and the electric grid.

Discussion

With regard to grid-wide value, GIWH can be operated in a dynamic manner that provides a firm resource to decrease or completely eliminate electric water heater power consumption during peak demand periods as well as offering firm capacity and ancillary services that can be managed directly by the grid operator with no adverse impacts to customer comfort or costs. Deploying electric resistance water heaters enabled as GIWH at scale has the ability to positively impact grid operations and reduce the overall cost to deliver energy to customers.

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As currently written, the CEC Building Energy Efficiency Standards *Residential Compliance Manual Chapter 5 – Water Heating Requirements Overview* requires that electric storage water heaters >55 gallons are required to have a minimum Energy Factor (EF) of 2.057 – (0.0013 * Tank Volume). This requirement effectively prohibits electric resistance water heaters enabled as GIWH from being utilized for dynamic grid response because electric resistance water heaters have lower EF values than the currently written standard. The increased EF requirement effectively requires the use of heat pump water heater technology for tank volumes >55 gallons, which does not provide the same grid benefits as electric resistance water heaters.

On April 30, 2015, President Obama signed into law a bipartisan bill – the Energy Efficiency Improvement Act – which included amended draft language to be inserted into federal efficiency standards for electric water heaters that allowed for lower EF for electric storage water heaters when used for the aforementioned grid benefits.

Conclusion

It is SolarCity’s position that the California Energy Commission Building Energy Efficiency Standards should allow for lower EF electric water heaters to be utilized as GIWH and align with currently in place federal law.

SolarCity appreciates the opportunity to provide these reply comments regarding California Energy Commission’s Building Energy Efficiency Standards and looks forward to continued engagement.

Respectfully Submitted,

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