

DOCKETED

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Regarding the 2022 Energy Code

Additional submitted attachment is included below.

Email to: docket@energy.ca.gov

Docket Number: 21-BSTD-01 Schneider Electric Comments "2022 Energy Code"

Date: 6/16/2021

Re: Comments from Schneider Electric North America regarding the 2022 Energy Code

As a global specialist in energy management, Schneider Electric offers integrated solutions across multiple market segments, including utilities, infrastructure, industry, buildings, and data centers. As part of a major presence in California, we have approximately 2,600 employees at more than two dozen facilities. We also support thousands of additional direct and indirect jobs in California by working with more than 270 vendors and suppliers located throughout the state.

Schneider Electric is grateful for the opportunity to participate in this discussion and welcomes the opportunity to offer the following comments and observations on the draft revisions to be considered for inclusion in the 2022 Residential and Nonresidential Building Energy Efficiency Standards (California Code of Regulations, Title 24, Part 1, Chapter 10, and Part 6, and supporting language).

Schneider Electric appreciates the Commission opening the rulemaking in 21-BSTD-01. The timing is critical as the available technology has changed rapidly from the last rulemaking. Today Schneider Electric and others are deploying technology into energy efficiency rules and regulations that were centered on technology two decades ago.

Schneider Electric would like to focus attention on the following areas that should permeate the entire rulemaking in 21-BSTD-01 regardless of the section or building type.

- 1) The rule should focus on outcomes and be technology agnostic as far as the techniques used to achieve outcomes desired by the State of California.
 - a. Examples of this are in the calling out specifically of thermostat based active load management over circuit breaker enclosure based or smart meter-based systems of the same type.
 - b. While formulas for technologies like battery storage are great guidelines for resiliency and creating flexibility, they should not be a presumptive prescriptive technology solution in rules but speak to outcomes that are desired. Active load management platforms or building energy management systems (BEMS) for buildings of all types use air, water, and other thermal loads to optimize behind

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meters to customer desired outcomes. A price signal that represents needs or outcomes on circuits below substations on distribution systems is lacking that assistance all ratepayers on that circuit from receiving value from a BEMS extending their optimization past the intercoupling with the utility. This latter point is being taken up in a different rulemaking however its value should not be lost in this rule making.

- 2) Any presumption that customers will give up control of appliances or equipment in their home required by this rule is a mistake. There is little uptake past early adopters or enthusiasts that would allow a distribution utility that type of command and control past the electric meter. This also would be a vision that falls short of today's technology. Two way automated communication with BEMS or automated load management (ALM) that gives customers a pathway to set their values and distribution utilities to see uptake rates at price points represents a foundation for a functional transactive energy system that finds the best value from retail to wholesale markets.
- 3) Schneider Electric recommends a resilience requirement for buildings constructed in wildfire areas or areas that have experienced a Public Safety Power Shutoff (PSPS) in the previous 18 months should be created. Prescribe as an option to accommodate "resilience-ready" electrical infrastructure for buildings that do not meet the previous requirement. This could be by requiring: i) an electric panel that would accommodate future energy storage and isolation switch/relay to power critical loads or the entire facility or ii) new buildings to accept an external power source connection at the exterior of the building to support batteries or portable emergency backup generators.
- 4) The California Energy Commission should make a policy decision that is outcome based on energy storage sizing to address peak load management during the on-peak time periods (4 – 9 pm) affecting the Duck Curve. Also, serving critical loads to serve critical load circuits during a grid outage or rolling blackout as well.
- 5) For an all-electric building of all types, a BEMS or ALM should be required to offset the size increase of electrical distribution equipment to accommodate the many electrical loads; such as garages having more than one EV charger, induction electric ovens and stoves, HVAC systems, instant electric water heaters; will drive a considerable carbon footprint in the extra metal required to size the larger panels needed for 600 amp or larger electrical distribution equipment and wires into the home/building vs. using software and machine learning systems. Additionally, requiring separation in electrical distribution equipment of critical circuits such as heat, cooling, water, EV charging and renewable based generation on 240v and higher building circuits will give even more resiliency to the California building of the future.
 - a. Specifically, in Section 110.10. There is an exemption for load management that should be a requirement for all building types not just residential to create consistency in policy outcomes.
 - b. The requirement should be buildings with BEMS or ALM systems be able to deliver 48 hours isolated operation of critical circuits in the building. Critical circuits be they heat, cooling, hot water, minimal lights, transportation, each customer has values on what is critical and those should be considered as well as today's BEMS or ALMs can deliver that where hardware alone cannot. Size to the outcome rather than the technology.

Proposed language:

Section 140.10(b): Battery Storage System Requirements

EXCEPTION 5 to Section 140.10(b). No battery storage system is required for buildings that include an automated load management system.

Section 140.1(b): Energy Budget for the Proposed Design Building

EXCEPTION to Section 140.1(b). A community shared solar electric generation system, or other renewable electric generation system, or automated load management (or, microgrid) system, and/or community shared battery storage system, which provides dedicated power, utility energy reduction credits, or payments for energy bill reductions, to the permitted building and is approved by the Energy Commission as specified in Title 24, Part 1, Section 10-115, may offset part or all of the solar electric generation system TDV energy required to comply with the Standards, as calculated according to methods established by the Commission in the Nonresidential ACM Reference Manual.

Section 10-115 - COMMUNITY SHARED SOLAR ELECTRIC GENERATION SYSTEM OR COMMUNITY SHARED BATTERY STORAGE SYSTEM COMPLIANCE OPTION FOR ON-SITE SOLAR ELECTRIC GENERATION OR BATTERY STORAGE REQUIREMENTS

- (a) **Community Shared Solar Electric Generation System or Battery Storage System Offset.** If approved by the commission, a community shared solar system, other community shared renewable system, community shared battery storage system, automated load management (or, microgrid) system, or combination of the aforementioned systems (hereinafter referred to as a community shared solar or battery storage system) may be used as a compliance option to partially or totally meet the on-site solar electric generation system and/or battery storage system that is otherwise required by Section 140.1(b), 150.1(b)1, or 170.1(b) of Title 24, California Code of Regulations, Part 6. To be approved, the community shared solar electric generation or community shared battery storage system must demonstrate, to the Commission's satisfaction, that all the following requirements will be met: