SCHETTER ELECTRIC, INC.
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November 3, 2014

Mr. Lee Simon, California Energy Commission

RE: 2016 T24 Proposal for Change

After working with the 2013 T24 for electrical, there is one main item that would be helpful and also beneficial for energy reduction. For demand response, I recommend that there is an exemption for a 15% design lower power density than the maximum allowed. Please see below for further comments.

1. Tables 141 E, F and Demand Response

Systems that offer an automatic 15% (adjustable) reduction are complex, typically larger scale computer systems and costly. Table õEô should be changed in one of two ways. Recommended is to remove the last section of the table for alterations where a change in area causes demand response. An alternative would be to combine tables õEô and õFô and use the definition of area from table õFô. If the last section of õEô was removed, this would encourage a design reduction of 15% continuously rather than by demand response.

2. 130.1 (e) Demand Response

For new construction, the added complexity of demand response causes computer based systems rather than a simpler solution. As a recommendation, if the design reduced the power density by 15% from the table maximums, then do not require demand response. This would also encourage energy reductions. My concern is for first the initial cost, and then complex field set up (commissioning) and finally certification by a certified person. What then happens if the controls company or its product is no longer available or if the system needs to be reprogrammed after a failure? For a building of 15,000 square feet, will there be someone capable of dealing with these systems?

3. 130.5 (c) Voltage Drop

This section was intended to follow the electric code recommendation of 5% overall voltage drop, but identifies feeders as 2% and branch as 3%. The definition of where feeder ends and branch starts is the last overcurrent protective device. For most office receptacles, the 2% and 3% is acceptable, but if a roof motor, the feeder could be all the way from a main board up to a fused disconnect (final overcurrent device) within 3ô of the motor. This then restricts the feeder with branch to 2% and not 5%. If voltage drop is to be kept as part of the 2016 code, a recommendation is to change it to match electric code such that the combination of feeder and branch does not exceed 5%, with a recommendation of 2% feeder and 3% branch.

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4. 130.1 (c). Shut off Controls

This section states that all lighting is to be controlled for shut off. The California Building Code states that as long as the building is occupied, the entire exit path is to be illuminated. Occupancy sensors alone will not meet the intent as only part of the exit path could be illuminated. If timing is used and lights are off, how do you get to the reset? If someone is in a private office, on the third floor and occupancy sensors have the corridor lights turned off, this is a clear violation of the CBC.

NFPA Life Safety Code defines occupancy as when the public can enter a building. Most buildings have key access or card key access, leaving them accessible. While the intent is to reduce energy, there are minimum requirements for lighting.

In addition, Oregon has a requirement for UL 924 relays and Occupancy sensors to control exit path lighting. From calls, it appears that engineers are ignoring this or calling the local AHJ and identifying them as requiring shut off to limit liability. In checking with manufacturers, those responding do not have a Life Safety Occupancy sensor and are also concerned about liability.

As a proposal, Exception 3 for 0.05 watts/sqft should be raised to a realistic number and consider matching section (a)1. As a longer term possibility, the CEC should consider lobby efforts with the International Code Council for exit path illumination to not require continuous lighting to the public right of way and manufacturers to provided listed products for this.

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