



April 6, 2007

Mr. Gary Flamm
California Energy Commission
1516 Ninth Street, Mail Stop 25
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Dear Mr. Flamm,

Schneider Electric is engaged in the design and installation of energy efficiency solutions as well as the manufacturer of energy efficient products which include; lighting, lighting control, transformers, variable speed drives for motors and tenant metering. A few of our companies and brands include; TAC, Juno Lighting Group, Square D, Clipsal, and Powerlink.

We have taken the time to review proposed language for the Building Energy Efficiency Standards and would like to share our comments that may assist your efforts in enhancing the language to provide clear direction for the users.

Section 119 – Item k (Dimmers)

3. Shall be listed by Underwriters Laboratories or other [national recognized testing laboratories¹](#) ~~testing & rating laboratories recognized by the International Code Council (ICC)~~, and

Section 130 – Item 3

B. The wattage of line voltage busway and track rated for 20 amperes or less shall be determined by one of the following methods:

i. The volt-ampere rating of the branch circuit feeding the track or busway, or

ii. The higher of the volt-ampere rating of an integral current limiter controlling the track or busway, or 12.5 watts per linear foot of track or busway, provided that the integral current limiter complies with Section 119(l); or



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iii. The sum of the volt-ampere (VA) rating of all of the circuit breakers in a dedicated track-limiting panel ~~certified listed~~ by Underwriters Laboratories (UL) or other ~~testing/rating national recognized testing~~ laboratories¹ ~~recognized by the International Code Council (ICC)~~. ~~The circuit breakers shall be UL-listed branch circuit breakers, or other listed circuit breakers if required by the jurisdiction having authority.~~² ~~The VA rating of the circuit breaker is established by multiplying the continuous ampere rating of the circuit breaker by the nominal voltage of the circuit.~~³ The track-limiting panel shall meet all of the following:

- a. Have a NEMA 1 metal enclosure with a hinged door with clearly marked VA limits for each breaker on the interior of the door; and
- b. Have only track lighting circuits routed through the panel; and
- c. Be permanently installed in an electrical equipment room or have a means to lock the enclosure or locate to limit access only to authorized personnel⁴; and
- d. Be labeled "Circuit breakers in this track-limiting panel shall be replaced with the same or lower amperage originally installed. Circuit breakers shall not be added to this panel. Installing additional breakers or replacing existing breakers with higher amperage breakers will void the track limiting panel listing and require re-submittal and re-certification of California Title 24, Part 6 compliance documentation."
- e. The circuit breakers shall be branch circuit breakers listed to UL 489.²

Section 150 – Item k (Residential Lighting)

11. A. Be listed for zero clearance insulation contact (IC) by Underwriters Laboratories or other national recognized testing laboratories¹ ~~testing g/rating laboratories recognized by the International Code Council (ICC)~~, and

1) The ICC has an evaluation service but does not certify / "recognize" products or organizations, so this restriction is inaccurate making compliance impossible. It should also be noted that ICC is not actively involved in the electrical industry and does not have any criteria for electrical equipment evaluation beyond exit signs. The only organization that recognizes the capabilities of laboratories is OSHA as National Recognized Testing Laboratories (NTRL).

2) The listing requirement also establishes confusion. This requirement is actually a component of the track-limiting panel and should be relocated as part "e" of the panel requirements. Also, there is only one standard for listing a branch circuit breaker which is UL 489. Devices are listed to various other UL standards such as UL 1077 or UL 508 because they are unable to meet the performance and safety requirements of UL 489.

3) We understand the fundamental objective of this section is to provide a means to limit current to the lighting load in order to keep additional lighting load from being added in the future. Providing a current limiting means for this section requires understanding the volt-ampere (VA) ratings of branch circuits, current limiters, and circuit breakers. A circuit breaker does not have a VA rating, therefore it is paramount that guidance be provided on how to figure that rating as it is likely that values are not consistently being applied across the industry.

The continuous rating of the circuit breaker is known, therefore the VA rating should be determined by the continuous load that it can carry. When a continuous load moves above this rating of the circuit breaker it can begin to nuisance trip, therefore it is not practical to establish a VA rating directly based on the handle rating of the circuit breaker.



4) Requiring the panel to be located in an electrical equipment room is over restrictive. We understand this restriction to establish an attempt to limit public access to the panel. Lighting panels are often found located in a variety of areas other than in a dedicated equipment room especially in retail structures / stores.

We appreciate the opportunity to participate in the review of the proposed language for the 2008 CEC. We hope our proposed language revision will enhance the understanding of the CEC requirements. We also hope a few of the other proposed revisions will ensure products and solutions are not excluded due to interpretation of the certification / listing language. Please do not hesitate to contact us if we can be of further assistance in your development of the 2008 CEC.

Sincerely,

A handwritten signature in black ink that reads "Alan Manche". The signature is written in a cursive style and is positioned above a thin red vertical line.

Alan Manche, P.E.

Director, Industry Standards

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