

From: [William Koffel](#)
To: CBSC@DGS
Subject: 2025 California Electrical Code Proposal: Article 702.4(A)(2)
Date: Monday, July 1, 2024 1:58:36 PM
Attachments: [image001.jpg](#)
Importance: High

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The California Solar and Storage Association (CALSSA) is submitting the following Public Comment for consideration by the BSC. It should be noted that the BSC proposes to adopt Chapters 7 through 9 from the 2023 NEC without amendments. However, BSC proposes not to adopt articles 708, 728, and 840 into the 2025 edition of the CEC. The following language is a proposed revision to Chapter 7 of the 2025 California Electrical Code.

Proposed Change:

(2) Automatic Load Connection.

If the connection of load is automatic, an optional standby system shall comply with 702.4(A)(2)(a) or (A)(2)(b) in accordance with Parts I through IV of Article 220 or by another approved method.

- a. *Full Load.* The standby source shall be capable of supplying the full load that is automatically connected.
- b. *Energy Management System (EMS).* Where a system is employed in accordance with 750.30 that will automatically manage the connected load, the standby source shall have a minimum capacity equal to the EMS current setpoint in accordance with 750.30(C) ~~(1)~~ sufficient to supply the maximum load that will be connected by the EMS.

Informational Note: A listed EMS with PCS is typically used to control loads at the branch circuit, feeder distribution level, or combination of both to prevent branch circuits, feeders, standby sources, and equipment from being overloaded upon connection of the load onto the standby source.

Substantiation

702.4(B)(2)(b) is modified editorially to provide clarity on the requirement that the optional source must have a minimum capacity that is equal to the current setpoint of the EMS where a listed EMS is used to prevent the standby source, conductors, and equipment from being

overloaded. The requirements for prevention of overload are handled through the appropriate standards.

A new informational note provides clarity that the EMS with PCS could be used at the branch circuit or feeder distribution level to remove a load or group of loads from the standby source.

Background

The 2023 NEC removes the ability of grid-connected energy storage systems (ESS) that operate in island mode to be considered a stand-alone system per Article 710. Previously, Article 706 for ESS has pointed to Article 710 for system capacity guidance as it relates to what site loads can be included in the backup circuit. With the changes in NEC 2023 to Article 710, Article 702.4 for system capacity of optional standby systems is the most applicable section to use for guidance on this aspect of the system. However, NEC 2023 language in 702.4(A)(2)(b) is often misinterpreted for automatically connected systems that use listed energy management systems (EMS) in states that have already adopted the 2023 NEC. This misinterpretation often results in the AHJ enforcing system sizing that is identical to a system that doesn't have a listed EMS by requiring sizing to the full load (i.e., 702.4(A)(2)(a)).

Sizing of the optional standby system to the full load when it has an EMS greatly reduces the benefits of the EMS and optional standby system in the following ways

- Removes any distinction between a system with an EMS vs a system without an EMS as defined in 702.4(A)(2)
- Reduces the number of house electrical loads available to customers during backup and when self-consuming renewable energy in island mode
- Greatly increases the cost of the system for customers who want to include more home loads in the backup system (e.g., buying more ESS units to increase available power)

In summary, these misinterpretations greatly decrease the value proposition per ESS unit and significantly increases the cost to the customer. This will result in expanding equity gaps for residential renewable energy products and slow ESS deployment in the state.

The clarifications in the proposed language below will help eliminate confusion over the intent of the article by providing clear language and an informational note. This will reduce misinterpretations in California and help keep residential ESS efficient and affordable to install.

As noted above, the proposal is being submitted by CALSSA. Koffel Associates provides code consulting services to CALSSA.

Bill

William E. Koffel P.E., FSFPE, SASHE
Sr. Director of Special Projects



8815 Centre Park Drive / Suite 200 / Columbia, MD 21045
direct 410-540-9008 / tel 410-750-2246 / fax 410-750-2588
wkoffel@koffel.com / www.koffel.com
Fire Protection Engineers: *Expertly Engineering Safety From Fire*
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