



CODE APPLICATION NOTICE

CAN: 3-517.30(B.1)(4)

Health and Safety Code §129851

SUBJECT

Health Care Microgrids as Type 1 Essential Electrical System (EES) Source

Effective: 06/10/2024



CODE SECTIONS

2022 California Electrical Code, Part 3, Title 24, California Code of Regulations, including the 2022 Supplement effective July 1, 2024
Chapter 5 Special Occupancies, ARTICLE 517 Health Care Facilities
Section 517.30 Sources of Power.

Appendix – For code citations related to this Code Application Notice (CAN), see the Appendix located at the end of this document.

Acronyms and Definitions assist the user in recognizing and identifying various acronyms and terms generally used in this CAN. Please refer to the “[Master Glossary of Acronyms and Definitions – Acronyms and Definitions Used in OSHPD Published Documents](#)” which is posted on the HCAI website at <https://hcai.ca.gov/document/master-glossary-of-acronyms-and-definitions/>. Other definitions may also be found in the [California Building Standards Code](#), Title 24, California Code of Regulations.

PURPOSE

The amendment in the 2022 Title 24 Intervening Supplement, effective July 1, 2024, is intended to permit the use of on-site alternate sources of power other than diesel generator(s) to be used as the Essential Electrical System (EES) power source(s). Section 517.30(B.1)(4) states that the health care microgrid, if used as an EES power source, shall be designed with “sufficient reliability”; however, the code does not define what constitutes sufficient reliability. This document will provide minimum standards required for the health care microgrid to be considered to have sufficient reliability. In addition, as the on-site fuel storage requirements currently required by the code generally are related to diesel generators, this document will provide direction on how to meet the on-site fuel storage requirements for health care microgrid sources other than diesel generators.

INTERPRETATION

The requirements to meet “sufficient reliability” status for health care microgrids utilized as EES shall include, but not be limited to, the following:

- a) As required by Title 24, California Building Code, Part 2, Volume 2, Section 1705A.14.3.1 [OSHPD 1 & 4], Special seismic certification (SSC) shall be required for health care microgrid’s

equipment and components used as an EES. See [PIN 55 – Special Seismic Certification Preapproval Program \(OSP\)](#).

- b) EES sources shall be located to meet the requirements of California Building Code, Part 2, Volume 2, Sections 2702.1.8 and 1617A.1.40.
- c) All sources of power shall meet the installation and maintenance requirements of the applicable National Fire Protection Association (NFPA) reference standards for the sources that are part of the EES. (i.e. NFPA 37 – Standard for the Installation and Use of Stationary Combustion Engines and Gas Turbines, NFPA 110 Standard for Emergency and Standby Power Systems, NFPA 111 Standard on Stored Electrical Energy Emergency and Standby Power Systems, NFPA 853 Standard for the Installation of Stationary Fuel Cell Power Systems, etc.).
- d) Type 1 Essential Electrical System (EES) power sources shall be classified as Type 10, Class X, Level 1 as required in NFPA 99 6.7.1.2.1.
- e) California Electrical Code (CEC) Section 517.33(E) and (F) requirements for functions related to emergency generators that are required to be connected to the life safety branch will be enforced for microgrid sources and distribution equipment that are part of the Essential Electrical System (EES).
- f) A sequence of operations shall be submitted and approved during the design phase and included in the contract documents to facilitate the commissioning requirements of NFPA 99 6.10.7.
- g) A commissioning plan as described in NFPA 99 6.10.7.2 shall be developed by the health care microgrid system installers or commissioning agents and be submitted to Office of Statewide Hospital Planning and Development (OSHPD) for review and approval. The commissioning plan must be submitted to OSHPD prior to the start of installation and have all review comments cleared with OSHPD approval prior to the energization of microgrid components.
 - 1. The commissioning plan shall include acceptance testing in conformance with NFPA 110 Section 7.13.4 for generator-sources, and client developed testing requirements based on manufactures recommendations and other applicable standards for all EES sources.
 - 2. The entire system will be tested to the same level as the required system testing in NFPA 110 Section 7.13. Testing forms and documents including schedules should be prepared and submitted to OSHPD for approval before testing is initiated.

The requirements for on-site fuel storage found in CEC Section 700.12(D) shall apply to health care microgrids used as EES power sources. Since Section 700.12(D) is based on generators, the Electrical Engineer of Record will need to submit calculations for all on-site power sources to demonstrate that the combined total of all on-site electrical energy generated, converted, or stored shall be sufficient to power essential electrical system loads for the durations identified in CEC Section 700.12(D)(2), *Exception No. 1, 2, and 3*. It shall be acceptable to use a summation of all on-site power sources that are part of the EES, to demonstrate that the EES loads can operate for required durations.

Original signed _____ 06/10/2024
Chris Tokas, Deputy Director Date

APPENDIX

2022 California Building Standards Code, Title 24, California Code of Regulations

A viewable copy can be found on the California Building Standards Commission website (<http://www.dgs.ca.gov/en/BSC/Codes>)

2022 California Electrical Code, Part 3

Chapter 5 Special Occupancies, ARTICLE 517 Health Care Facilities

517.30 Sources of Power.

(A) Two Independent Power Sources. Essential electrical systems shall have a minimum of the following two independent sources of power: a normal source generally supplying the entire electrical system and one or more alternate sources for use when the normal source is interrupted.

[99:6.7.1.2.2]

(B) Types of Power Sources.

(B.1) [OSHPD 1, 3, 4 & 5] Power Sources for the EES. *Power sources for the EES shall be permitted to be any of those specified in 517.30(B)(1) through 517.30(B)(4). One on-site power source (or set of sources) that is sized to supply the entire EES shall meet the on-premises fuel or battery stored energy requirements specified in Article 700.12.*

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(4) [OSHPD 1, 3, 4 & 5] Health Care Microgrid. *EES shall be permitted to be supplied by a Health Care microgrid that also supplies nonessential loads. The EES Health Care Microgrid shall be permitted to share distributed resources with the normal source. EES Health Care Microgrid systems shall be designed with sufficient reliability to provide effective facility operation consistent with the facility emergency operations plan. EES Health Care Microgrid system components shall not be compromised by failure of the normal source. EES Health Care Microgrids shall meet the installation and commissioning requirements set forth in NFPA 99 Article 6.10.*

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