
ELECTRICAL GUIDE for HEALTH FACILITIES REVIEW

**HOSPITALS
SKILLED NURSING FACILITIES
AND CLINICS**

2019

**Office of Statewide Health Planning and Development
Facilities Development Division**

Forward

The Office of Statewide Health Planning and Development (OSHPD) is responsible for enforcing all building standards, codes, and regulations pertaining to hospitals, skilled nursing facilities, and under specific circumstances, clinics in the State of California.

The following document was compiled by the OSHPD electrical engineering staff as a guide for plan review to verify compliance and is intended for OSHPD use. All others who use this information for any other purpose do so with the full knowledge that it may not contain every requirement or change in policy and that the requirements are as interpreted by OSHPD.

Title 24, Part 3, California Electrical Code, as well as other parts of Title 24, apply in the design and construction of health care facilities. This guide highlights and summarizes the most common requirements encountered in the review of hospitals, skilled nursing facilities, and clinics. This document may not contain every requirement or change in policy and the requirements are as interpreted by OSHPD.

All projects submitted on or after January 1, 2020, are subject to the 2019 California Electrical Code (CEC) which is based on the 2017 National Electrical Code (NEC) with the 2019 California amendments.

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PLAN SUBMITTAL CHECK LIST

The following may be used as a guide to check that submitted plans are complete and reviewable by OSHPD.

Item	Description
1	All electrical plans and specifications signed by the electrical engineer of record and responsible person in charge of the project.
2	List of symbols and abbreviations used on plans and their meaning.
3	Correct electrical code cited. Refer to OSHPD Code Application Notice (CAN) 1-0 for current enforceable codes.
4	Gridlines, key plans, room/area names and numbers on all plan sheets.
5	Site plan with area names showing electrical equipment locations, electrical utility runs, and site lighting.
6	Show all new electrical devices, equipment, luminaires, and exit signs. Identify all wet procedure locations on plans.
7	Show existing electrical equipment and devices as they relate to the project for code verification (i.e. nurse call devices, receptacles, panelboards, light fixtures, fire alarm, etc.).
8	Schedules of equipment requiring electrical connection (mechanical equipment, conduit/feeder schedules, luminaire, etc.). Include special seismic certification numbers and power source (Normal, Life Safety, Critical, Equipment).
9	Elevation details of all switchgears, switchboards, motor control centers, and other large electrical equipment.
10	Structural installation details for equipment.
11	Special seismic certification for equipment as required by the California Building Code.
12	Fire protection details.
13	Indicate conductor quantities, properties (i.e. aluminum or copper), and sizes for all circuits.
14	Indicate voltage drops for all feeders and branch circuits on plans.
15	Indicate conduit and raceways types and sizes.

16	Single line diagram of the electrical system. Clearly identify the normal and essential electrical system (i.e. Life Safety, Critical, Equipment). Indicate electrical rating of transformers, buses, circuit breakers, panel boards, and motors. Show available asymmetrical fault current values for at each switchgear, switchboard, MCC, panelboards, ATS, and control panel.
17	Indicate the short circuit withstand/interrupting rating of switchgears, switchboards, MCC panelboard, ATS, control panels, circuit breakers, fuses, and the % impedance of transformers.
18	Panel schedules with accurate circuit descriptions, power branch type (Normal, Life Safety, Critical, Equipment), buss and overcurrent protection ratings, AIC ratings, connected load, demand load, and totalized load.
19	Load calculations or other approved methods showing verification of load capacity for all equipment and conductors. Refer to OSHPD Policy Intent Notice (PIN) 38, Electrical Load Capacity Verification Guideline for more information.
20	Fire alarm system - Provide specifications for equipment, show locations of all devices, and show power sources.
21	Nurse call system - Provide specifications for equipment, show locations of all devices, and show power sources.
22	All equipment including x-ray and diagnostic equipment must be listed by a Nationally Recognized Testing Laboratory.
23	Coordination of plans with all disciplines.
24	Mark all required testing and inspections on the Testing, Observation, and Inspection form. Add additional testing and inspections as required. Check the box for the EEOR to provide Final Verified Reports.
25	Provided all the required California Energy Code NRCC forms and show all require details on plans. This would include daylight zones for automatic daylighting controls per California Energy Code 130.1(d)(1).
26	Provide local approvals. Refer to OSHPD CAN 2-0.
27	Provide functional programs as required. Refer to CBC 7-119.

<p>28</p>	<p>Branch Circuit wiring:</p> <p>Electrical plans submitted to OSHPD shall address the required content shown in ELECTRICAL PLAN REQUIREMENTS - BRANCH CIRCUITS table.</p> <p>There are various methods of presenting the required information for branch circuits.</p> <p>One method is representing branch circuit wiring graphically on floor and reflected ceiling plans with electrical outlets and devices shown in their approximate locations. Lines connecting the outlets/devices are shown to represent the physical routing of the connecting raceway or cable. Branch circuit wiring is shown with various symbols, such as tick marks, that represent the size and number of conductors. Additional explanatory material is provided by using symbol legends and sheet notes. Tracing of the circuiting leads to a home run that shows the source of power and number of conductors.</p> <p>Another method is to only show each homerun from a single outlet or device, identifying the source (panel and circuit #) at each device and providing rules on each sheet for the physical routing of raceways and cables.</p> <p>Either of the above identified approaches or other variations are approvable provided the required content is shown on the drawings with no ambiguity or contradictions. Simple references to the code requirements will not be approved.</p>
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ELECTRICAL PLAN REQUIREMENTS - BRANCH CIRCUITS		
Required content	Code Section	Parameter being verified
Conductor count and size	CEC 210.4(B)	Multiwire branch circuits – disconnecting means
	CEC 210.19	Branch circuit rating
	CEC 310.15(B)(3)(a)	Conductor ampacity adjustment
	CEC 220, PIN 38	Load calculations
	CEC 404.2(C)	Grounded conductor at lighting switches
	CEC 517.13(A & B)	Grounding in patient care areas
	CEC 517.18(A)	Multiwire branch circuits - Not allowed at general care patient bed locations
	CEC 517.19(A)	Multiwire branch circuits – Not allowed at critical care patient bed locations
	CEC 700.19	Multiwire branch circuits – Not allowed for emergency power and lighting
	Conduit and box sizing	CEC 300.17
CEC 314.16		Sizing of outlet, device, junction boxes, and conduit bodies
Routing	CBC 714	Penetrations
	CEC 310.15(B)(2)	Ambient temperature ampacity adjustment
	CEC 700.10(C)	Emergency System wiring location
	T24 Part 6 130.5(C)	Voltage drop
Grouping of branch circuits	CEC 517.31(C)(1)	Separation of hospital life safety branch
	CEC 517.31(C)(1)	Separation of hospital critical branch
	CEC 517.42(D)	Separation of SNF life safety and equipment branches
	CEC 700.10(B)	Separation of emergency systems
Identification of source at each outlet	CEC 210.11	Required branch circuits
	CEC 220, PIN 38	Load calculations
	CEC 517.18(A)	Normal power source and dedicated critical branch circuit required at general care bed locations
	CEC 517.19(A)	Normal power source and dedicated critical branch circuit required at critical care bed locations
	CEC 517.33	Hospital life safety branch loads
	CEC 517.34	Hospital critical branch loads
	CEC 517.35	Hospital equipment branch loads
	CEC 517.43	SNF life safety branch loads
	CEC 517.44	SNF equipment (previously critical) branch loads

GENERAL HEALTH CARE FACILITY REQUIREMENTS

ELECTRICAL LOAD VERIFICATION			
Item	Branch	Requirements	Applicable Codes
1		Electrical load verification requirements.	Article 220 OSHPD PIN 38

SELECTIVE COORDINATION			
Item	Branch	Requirements	Applicable Codes
1	Essential System	Overcurrent protective devices serving the essential electrical system shall be coordinated for the period of time that a fault's duration extends beyond 0.1 second.	CEC 517.31(G)
2		Ground fault protection of the service and feeder disconnecting means shall be fully selective.	CEC 517.17(C)
3		Selective coordination for more than one driving machine (elevators, escalators, etc.).	CEC 620.62
4		Selective coordination for fire pumps in multibuilding campus-style complexes.	CEC 695.3(C)(3)
5		Responsible Engineer in Charge to provide necessary tests, inspections, and reports in OSHPD TIO form. Responsible Engineer in Charge to review all tests, data, studies, and reports. Coordination studies to be submitted with a summary page stating specifically that that all overcurrent protective devices serving the essential electrical system are coordinated for the period of time that a faults duration extend beyond 0.1 seconds and fire pumps and elevators are fully coordinated. Any changes required to the construction documents due to the tests, data, studies, and reports are to be submitted as an ACD. Responsible Engineer in Charge to stamp and sign all documentation.	OSHPD TIO Form CAC Chapter 7, Article 4 Construction
6		Coordination studies are to be submitted to the Office for review. Coordination studies are to be listed as a deferred submittal on the title sheet unless submitted as part of the project during plan review.	

SHORT CIRCUIT CURRENT			
Item	Branch	Requirements	Applicable Codes
1		<p>Circuit breakers and fuses shall have AIC ratings greater than or equal to the available short circuit current.</p> <p>Electrical equipment short-circuit current ratings shall be greater than or equal to the available short-circuit (fault) current.</p> <p>Provide SCCRs, AIC ratings, transformer impedances and short circuit calculations on plans.</p>	CEC 110.9 CEC 110.10 CEC 110.16(B) CEC 110.24(A) CEC 409.22 CEC 430.99 CEC 440.10(B) CEC 480.7(D) CEC 620.51(D)(2)
2		Provide acceptable method for arc energy reduction for fuses and circuit breakers rated 1200 amps or higher.	CEC 240.67 CEC 240.87
3		Switchboards, switchgears, panelboards, industrial control panels, meter socket enclosures, and motor control centers shall have arc flash hazard warning labels.	CEC 110.16(A)
4		Service equipment 1200 amps or more shall have arc flash hazard warning labels with the following information: <ul style="list-style-type: none"> • Nominal system voltage • Available fault current at the service overcurrent protective devices • The clearing time of service overcurrent protective devices based on the available fault current at the service equipment • The date the label was applied 	CEC 110.16(B)
5		Service equipment shall be legibly marked in the field with the maximum available fault current and date calculation was performed.	CEC 110.24(A)
6		Elevator control panel shall be legibly marked in the field with the maximum available fault current and date calculation was performed.	CEC 620.51(D)(2)
7		Responsible Engineer in Charge to provide necessary tests, inspections, and reports in OSHPD TIO form. Responsible Engineer in Charge to review all tests, data, studies, and reports. Short circuit studies to be submitted with a summary page stating specifically that all electric equipment short circuit withstand/interrupting ratings meet or exceed available fault currents values determined in the study. Any changes required to the construction	OSHPD TIO Form CAC Chapter 7, Article 4 Construction

		documents due to the tests, data, studies, and reports are to be submitted as an ACD. Responsible Engineer in Charge to stamp and sign all documentation.	
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ELECTRICAL DEVICES, EQUIPMENT, AND INSTALLATION			
Item	Branch	Requirements	Applicable Codes
1		All electrical devices and equipment shall be listed, labeled, or certified for its use by a Nationally Recognized Testing Laboratory (NRTL).	CEC 110.2
2		Listed or labeled equipment shall be installed in accordance with the instructions provided by its manufacturer.	CEC 110.3(B)
3	Essential	Location of essential electrical system components to minimize risk of damage and interruptions due to natural forces.	CEC 517.30(C) CEC 517.41(C) CBC 1617A.1.40
4	Essential	Fire protection for essential electrical system.	CEC 700.10(D)
5		Special seismic certification.	OSHPD PIN 55 CBC 1705.13.3 CBC 1705A.13.3 CEC 517.1(B)
6		Unless listed otherwise, the ampacity of conductors shall base on the terminals not to exceed 60° for conductor size 14 through 1AWG or 75°C for conductor sizes over 1 AWG.	CEC 110.14(C)(1)
7		Electrical rooms with electrical equipment rated 800 amps or more shall be have door(s) swing in the direction of egress and panic hardware or fire exit hardware. See applicable codes for details.	CBC 1010.1.10 CEC 110.26(C)(3)
8		For electrical rooms with electrical equipment operating over 1000 volts, door(s) shall swing in the direction of egress and have panic hardware or fire exit hardware. See applicable codes for details.	CBC 1010.1.10 CEC 110.33(A)(3)
9		Unless otherwise permitted, 1000 volts or less electrical equipment rated 1200 amps or more and over 6 feet wide shall have one entrance to the required working space at each end of the working space. See applicable code for details.	CEC 110.26(C)(2)
10		Unless otherwise permitted, 1000 volts and higher switchgear and control panel which are over 6 feet wide shall have one entrance at each	CEC 110.33(A)(1)

		end of the equipment. See applicable code for details.	
11		<p>Electrical equipment clearance:</p> <p>The following equipment shall be provided with working space and dedicated equipment space:</p> <ul style="list-style-type: none"> a) Switchboards b) Switchgears c) Panelboards d) Motor control centers <p>The following equipment shall be provided with working space:</p> <ul style="list-style-type: none"> a) Duct heaters b) Battery systems c) Elevator controllers, disconnecting means, and other electrical equipment d) Energy storage system components e) Outdoor generators f) Generator Subbase Fuel Tank g) Fire Pump Rooms h) Fire Pump Controller i) Motor starter and control cabinets j) Transfer Switches k) Fused Safety Switches and Disconnects l) Other equipment likely to require examination, adjustment, servicing, or maintenance while energized. 	<p>CEC 110.26</p> <p>CEC 110.32</p> <p>CEC 110.34</p> <p>CEC 408.18(B)</p> <p>CEC 424.66</p> <p>CEC 480.10(C)</p> <p>CEC 620.5</p> <p>CEC 706.10(C)</p> <p>2016 NFPA 110: 7.2.6</p> <p>2016 NFPA 110: 7.9.12.1</p> <p>CFC 901.4.6</p> <p>2016 NFPA 20: 4.13.1.1.7</p> <p>2016 NFPA 20: 10.2.4</p>

EQUIPMENT AND DEVICE IDENTIFICATION			
Item	Branch	Requirements	Applicable Codes
1	Life Safety Critical Equipment	All receptacles and light switches (or their covers) connected to essential electrical system shall have a distinctive marking or color to identify they are on the essential electrical system.	CEC 517.31(E) CEC 517.42(E) CEC 700.10(A)
2	Critical	All receptacles at patient bed locations shall be marked with the panel and circuit number supplying them.	CEC 517.18(A) CEC 517.19(A)
3	Life Safety Critical Equipment	Boxes and enclosures for emergency circuits shall be permanently marked so they will be readily identified as a component of the emergency power system.	CEC 517.26 CEC 700.10(A)

4	Life Safety Critical Equipment	Exposed cable or raceway systems shall be permanently marked to be identified as a component of emergency system at intervals not to exceed 25 ft.	CEC 517.26 CEC 700.10(A)
5		Panelboards shall have an accurate circuit directory. Every new circuit and circuit modification shall be identified as to its clear, evident and specific purpose or use. The identification shall include sufficient detail for each circuit to be distinguished from others.	CEC 408.4(A) CFC 604.3.1
6		Each switch or circuit breaker in switchboard or switchgear shall be legibly identified as to its clear, evident, and specific purpose or use.	CEC 408.4(A) CFC 604.3.1
7		All switchboards, switchgears and panelboards shall be permanently marked to indicate the device or equipment where power supply originates.	CEC 408.4(B)
8		Electrical equipment schedules in the construction documents shall clearly indicate which equipment will be powered by the essential electrical system or appropriate special seismic certifications.	CEC 517.1(B)

WIRING METHOD AND MATERIALS			
Item	Branch	Requirements	Applicable Codes
1		Non-metallic raceways, like PVC conduit, shall not be used for branch circuits that supply patient care spaces of health care facilities.	CEC 517.13(A) CEC 517.31(C)(3)(1) CEC 517.31(C)(3)(2)
2		Branch circuits serving patient care spaces shall have redundant grounding path. <ul style="list-style-type: none"> • Must use metal raceway or metallic armor or sheath that qualify as an equipment grounding conductor. • Must have a green insulated copper equipment grounding conductor. 	CEC 517.13
3	Type 1 ESS Life Safety Critical	Schedule 40 PVC conduits used for Type 1 life safety branch and critical branch wiring shall be encased in minimum of two inches of concrete. Note: <i>Not applicable to Type 2 ESS used in nursing homes, intermediate and skilled nursing facilities, and correctional treatment centers and acute psychiatric hospitals.</i>	CEC 517.31(C)(3)(2)

<p>4</p>	<p>Type 1 ESS Life Safety Critical</p>	<p>Listed flexible metallic conduit and listed metal sheathed cable assemblies are permitted for use in any of the following:</p> <ul style="list-style-type: none"> a) Where used in listed prefabricated medical headwalls b) In listed office furnishings c) Where fished into existing walls or ceilings, not otherwise accessible and not subject to physical damage d) Where necessary for flexible connection to equipment e) For equipment that requires a flexible connection due to movement, vibration, or operation f) Luminaires installed in rigid ceiling structures where there is no access above the ceiling space after the luminaire is installed g) Where necessary to allow relative movement between immediately adjacent buildings <p>Note 1: OSHPD allows luminaires installed in ceiling structure to use listed flexible metallic conduit and listed metal sheathed cable for final point of connection to luminaire in order to allow for movement of ceiling structure during seismic event. Maximum length of flexible conduits and cables shall not exceed 6 feet.</p> <p>Note 2: Not applicable to Type 2 ESS used in nursing homes, intermediate and skilled nursing facilities, and correctional treatment centers and acute psychiatric hospitals.</p>	<p>CEC 517.31(C)(3)(3)</p>
<p>5</p>		<p>Flat conductor cable (FCC) is not permitted for use in hospital buildings, other than administrative office areas.</p>	<p>CEC 324.12(5)</p>
<p>6</p>		<p>Sizing outlet, device, and junction boxes and conduit bodies.</p>	<p>CEC 314.16</p>
<p>7</p>		<p>Boxes used to enclose flush devices shall be provided with substantial support. Substantial support as interpreted by OSHPD requires such boxes to be supported in order to withstand incidental contact and the repeated insertion and removal of plugs without the enclosed flush device box breaking the surface around it and being pushed in or removed.</p>	<p>CEC 314.19 CEC 314.20 CEC 314.23</p>

8		Separation of 24 inches (horizontal distance) for switch or outlet boxes in fire rated walls and partitions.	CBC 714.4.2 ex. 1.1
9		Raceway and conduit fill.	CEC 300.17
10		Conductors shall be sized not less than the maximum load served.	CEC 210.19 CEC 215.2 CEC 230.42
11		Conductor ampacity adjustments.	CEC 310.15(B)
12		Class 2 and Class 3 signaling and communication systems and power-limited fire alarm systems are not required to be enclosed in raceway unless otherwise specified by Chapter 7 and Chapter 8 or required by local building department.	CEC 517.31(C)(3) CEC 517.31(C)(3)(5) CEC 517.80 CEC 725 CEC 760 CEC 800
13	Type 1 ESS Life Safety Critical	Other types of Class 2 and Class 3 systems including PoE lighting and other low voltage lighting systems that are powered by either the life safety branch or critical branch need mechanical protection (i.e., installed in non-flexible conduit).	CEC 517.31(C)(3) CEC 517.80 CEC 725 CEC 800
14		Class 2 and Class 3 circuits that transmit power and data to a powered device shall meet the requirements of 725.144 including the ampacity derating when installed in bundles.	CEC 725.144 CEC 840.160

MULTIWIRE BRANCH CIRCUITS			
Item	Branch	Requirements	Applicable Codes
1		Provide means to disconnect all ungrounded conductors in a multiwire branch circuit.	CEC 210.4(B)
2		Branch circuits serving patient bed locations shall not be part of a multiwire branch circuit.	CEC 517.18(A) CEC 517.19(A)
3		Multiwire branch circuits are not permitted on the essential electrical system.	CEC 700.19

GROUNDING			
Item	Branch	Requirements	Applicable Codes
1		Size of equipment grounding conductors.	CEC 250.122 CEC Table 250.122
2		Size of grounding electrode conductor.	CEC 250.66

3		Generator grounding.	CEC 250.34 CEC 250.35
4		Provide redundant grounding path for branch circuits serving patient care spaces.	CEC 517.13
5		Panelboard grounding and bonding.	CEC 408.40 CEC 517.14 CEC 517.19(D) CEC 517.19(E)
6		Isolated power systems.	CEC 517.19(F) CEC 517.19(G)
7		X-Ray and diagnostic equipment grounding.	CEC 517.78

RECEPTACLES, GFCI RECEPTACLES			
Item	Branch	Requirements	Applicable Codes
1		Hospital grade receptacles in patient bed locations, procedure rooms, and operating rooms.	CEC 517.18(B) CEC 517.19(B)(2) CEC 517.61(C)(2)
2		Hospital grade receptacles are not required in sleeping areas in nursing homes.	CEC 517.18(B) ex. 3
3		Listed tamper resistant covers or listed tamper resistant receptacles in pediatric locations.	CEC 517.18(C)
4		Special purpose receptacles in critical care spaces.	CEC 517.19(H)
5		Isolated ground receptacles shall not be installed within a patient care vicinity.	CEC 517.16
6	Essential	Receptacles supplied from the essential electrical system shall have a distinctive color or marking as to be readily identifiable.	CEC 517.31(E) CEC 517.42(E)
7		No receptacles within 5 feet of the perimeter of shower stalls or bathtubs.	CEC 406.9(C)(1)
8		Meeting Rooms.	CEC 210.71
9		All single-phase receptacles rated 150 volts to ground or less and 50 amps or less and 3-phase receptacles rated 150 volts to ground or less and 100 amps or less shall have GFCI protection in the following places: bathrooms, kitchens, rooftops, outdoors, near sinks, indoor wet locations, locker rooms with associated showering facilities, garages, services bays.	CEC 210.8(B)
10		GFCI protection is not required for receptacles located in patient bed locations.	CEC 210.8(B) ex. 2 to (5)
11		GFCI protection shall not be required for receptacles located in critical care spaces where the toilet and basin are installed within the patient room.	CEC 517.21

12		Receptacles within 6 feet of therapeutic tubs shall be GFCI protected.	CEC 680.62(E)
13		GFCI protection for receptacles and fixed equipment in wet procedure locations where isolated power systems are not provided.	CEC 517.20(A)
14		Receptacle shall be located within 25 feet of all heating, ventilation air-conditioning and refrigeration equipment. Receptacle shall be located on the same level as the equipment. Receptacle shall not be connected to the load side of the equipment disconnected means.	CMC 301.4 CEC 210.63
15	Type 1 ESS Critical Type 2 ESS Equipment	At least one receptacle in electrical and mechanical rooms.	CEC 210.64 CEC 517.34(A)(8)(k) CEC 517.44(A)(8)

LIGHTING

Item	Branch	Requirements	Applicable Codes
1		Artificial lighting levels shall be per the <i>Illuminating Engineers Society of North America (IESNA) Lighting Handbook</i> for OSHPD 1, 2, 3, & 4 and ANSI/IESNA RP-28, <i>Recommended Practice for Lighting and the Visual Environment for Senior Living</i> for OSHPD 2.	CEC 517.22(A) and (B) OSHPD PIN 13 - Lighting System Retrofit
2		Lamps shall be protected against accidental breakage.	CEC 517.22(C)
3		Light switches shall not be within 5 feet of the perimeter of shower stalls and bathtubs.	CEC 404.4(C)
4		Permanent lighting shall be provided at roof access for mechanical equipment. Switch to be located inside building near the mean to access leading to the roof.	CMC 304.3.2
5	Essential	Light switches supplied from the essential electrical system shall have a distinctive color or marking as to be readily identifiable.	
6	Life Safety	Switching restrictions for light fixtures on the life safety branch.	CEC 517.33(A) CEC 517.43(A) CEC 700.20
7	Life Safety Critical	Wiring of the life safety and critical branch shall be allowed to share the same raceway, box, or cabinet, with the normal branch wiring if located in an exit sign or emergency system power luminaire supplied by two sources.	CEC 517.31(C)(1) CEC 517.31(C)(2) CEC 517.31(C)(3) CEC 517.42(D)(2) CEC 517.42(D)(3)

8		Flexible metal conduits are permitted for connection to light fixtures. Lengths are not to exceed to six feet for mechanical protection of Type 1 ESS life safety and critical branches wiring.	CEC 250.118(5) CEC 348.30(A) Exceptions 3 & 4 CEC 350.30(A) Exceptions 3 & 4 CEC 517.31(C)(3)(e) CEC 517.31(C)(3)(f)
9		Listed metal sheathed cable assemblies are permitted for connection to light fixtures. Lengths are not to exceed to six feet for mechanical protection of Type 1 ESS life safety and critical branches wiring.	CEC 320.30(D)(3) CEC 330.30(D)(2) CEC 517.31(C)(3)(e) CEC 517.31(C)(3)(f)
10	Type 1 ESS Critical Type 2 ESS Equipment	At least one light fixture in electrical and mechanical rooms.	CEC 517.34(A)(8)(k) CEC 517.44(A)(8)
11		For attics and underfloor spaces, utility rooms, and basements, at least one lighting outlet containing a switch or controlled by a wall switch shall be installed where these spaces are used for storage or contain equipment requiring servicing.	CEC 210.70(C)
12		Lighting retrofit requirements.	OSHPD PIN 13

CORRIDORS HALLWAYS ENTRANCES EXITS PUBLIC RESTROOM EGRESS ILLUMINATION STAIRCASES			
Item	Branch	Requirements	Applicable Codes
1	Normal Life Safety	Egress illumination. Minimum of one foot-candle at floor level.	CEC 517.33(A) CEC 517.43(A) CBC Section 1008
2	Life Safety	Switch control for emergency egress illumination.	CEC 517.33(A) CEC 517.43(A) CEC 700.20

3	Life Safety	Exit sign requirements.	CEC 517.33(B) CEC 517.43(B)
4	Life Safety	Automatic doors in egress paths. <i>Note: Not required for skilled nursing facilities.</i>	CEC 517.33(H)
5	Equipment	Automatic doors not used for building egress. <i>Note: Not required for skilled nursing facilities.</i>	CEC 517.35(B)(5)
6	Life Safety	Emergency lighting for public restrooms greater than 300 square feet.	CBC 1008.3.3(5)
7	Normal Life Safety	Egress illumination for staircases. Minimum of one foot-candle at floor level.	CEC 517.33(A) CEC 517.43(A) CBC Section 1008
8	Life Safety Branch required Normal, Critical, Equipment, or separate life-safety branch circuit as 2 nd branch circuit	Egress pathways and staircases shall have illumination powered by the life-safety branch. In addition, illumination powered by a separate branch circuit by either the normal, critical, equipment, or another life-safety branch circuit shall be provided.	CEC 517.33(A) CEC 517.43(A) CEC 700.17 CBC Section 1008

PANELBOARDS, SWITCHBOARDS, SWITCHGEARS			
Item	Branch	Requirements	Applicable Codes
1		Provide insulated copper equipment bonding jumpers (minimum 10 AWG) between equipment grounding terminal buses for panelboards serving the same individual patient care vicinity.	CEC 517.14
2		Panelboards not allowed in patient care rooms unless they serve only that room.	CEC 517.12(A)
3		Only authorized personnel shall have access to overcurrent protective devices serving Category 1 (Critical Care) and Category 2 (General Care) spaces. A panelboard with a lock meets this requirement.	CEC 110.26(F)
4	Essential	A listed surge protection device shall be installed in or on all emergency system and essential electrical system switchboards and panelboards.	CEC 700.8

GROUND FAULT PROTECTION (GFP) OF EQUIPMENT			
Item	Branch	Requirements	Applicable Codes
1	Normal and Essential	Overcurrent Protection Devices (OCPD's) rated 1,000A or more on 480VAC or 600VAC solidly grounded wye systems shall be provided with ground-fault protection.	CEC 215.10 CEC 230.95
2	Normal and Essential	When GFP devices are provided to comply with CEC 215.10 and 230.95 and facilities has critical care spaces or utilize life-support equipment, an additional step of GFP shall be provided in all next level feeder over current protection devices. The additional levels of GFP shall not be installed on the load side of an essential electrical system transfer switch.	CEC 517.17(B)
3	Essential	The alternate source for emergency systems shall not be required to provide GFP protection. Ground-fault indication is acceptable.	CEC 700.6(D) CEC 700.31

INTERCONNECTED ELECTRIC POWER PRODUCTION SOURCES ENERGY STORAGE SYSTEMS SOLAR VOLTAIC (PV) SYSTEMS FUEL CELL SYSTEMS WIND ELECTRIC SYSTEMS DIRECT CURRENT MICROGRID			
Item	Branch	Requirements	Applicable Codes
1		Code requirements for electric power production sources operating in parallel with a primary source(s) of electricity.	CEC Article 705 CEC Table 705.3
2		An electric power production source shall be permitted to be connected to the supply side of the service disconnecting means as permitted in 230.82(6). The sum of the ratings of all overcurrent devices connected to power production sources shall not exceed the rating of the service.	CEC 705.12(A)
3		Overcurrent protection for electric power production source conductors, connected to the supply side of the service disconnecting means in accordance with 705.12(A), shall be located within 10 ft of the point where the electric power	CEC 705.31

		production source conductors are connected to the service. Exception: Where the overcurrent protection for the power production source is located more than 3 m (10 ft) from the point of connection for the electric power production source to the service, cable limiters or current-limited circuit breakers for each ungrounded conductor shall be installed at the point where the electric power production conductors are connected to the service.	
4		When power production sources and/or energy storage systems are located in local jurisdiction, a means of disconnect shall be provided at point of demarcation between local and OSHPD jurisdictions.	CEC 705.20 CAN 2-0 CEC 706.7
5		Energy storage systems shall meet code requirements.	CEC Article 706 CFC Section 1206
6		Solar (PV) systems shall meet code requirements.	CEC Article 690 CEC Article 691 CFC Section 1204
7		Fuel cell systems shall meet code requirements.	CEC Article 692 CFC Section 1205
8		Direct current microgrid shall meet code requirements.	CEC Article 712
9		Wind electric systems shall meet code requirements.	CEC Article 694

MOBILE MEDICAL FACILITIES			
Item	Branch	Requirements	Applicable Codes
1		Feeder and disconnect for mobile medical facilities.	CEC 517.24

FIRE ALARM EMERGENCY COMMUNICATIONS ALARM AND ALERTING SYSTEMS			
Item	Branch	Requirements	Applicable Codes
1	Life Safety	Fire alarm systems powered by life safety branch. Includes fire alarm control units, fire suppression control units, NAC power extenders, remote power supplies, fire alarm terminal	CEC 517.33(C)(1) CEC 517.43(C)(1) CEC 760.41(B)

		cabinets (FATC), electric water flow devices, and automatic fire and smoke detection devices. Branch circuit supplying the fire alarm system shall supply no other loads. Branch circuit disconnecting means shall have red identification and be identified as "FIRE ALARM CIRCUIT."	
2	Life Safety	Communication systems used for issuing instructions during emergency conditions.	CEC 517.33(D) CEC 517.43(D)
3	Life Safety	Alarm and alerting systems other than fire alarm. Example: refrigerant leak detection alarm for chiller rooms, domestic hot-water high temperature alarm, ethylene oxide (ETO) sterilization area air flow alarm.	CEC 517.33(C)(2) CMC 1106.2.2.1 CFC 605.8 CPC 613.5 CMC 418.545
4	Life Safety	Emergency responder radio.	CFC Section 510

ELEVATORS

Item	Branch	Requirements	Applicable Codes
1	Life Safety	Cab lighting, controls, communications, and signal systems.	CEC 517.33(G) CEC 517.43 (G)
2	Life Safety	Separate branch circuit shall supply car (cab) lights, receptacles, auxiliary power, lighting source, and ventilation for each elevator car. Overcurrent device located in elevator machinery room.	CEC 620.22(A)
3		Dedicated branch circuit for HVAC equipment. Overcurrent device located in elevator machinery room.	CEC 620.22(B)
4	Normal, Equipment, or Critical	Dedicated branch circuit for lighting and a dedicated circuit for the receptacle(s) for Hoistway Pit.	CEC 620.24
5	Critical (Type 1 ESS) Equipment (Type 2 ESS)	Dedicated branch circuit(s) for machine room lighting. Dedicated branch circuit(s) for receptacles in the machine room.	CEC 517.34(A)(8)(k) CEC 517.44(A)(8) CEC 620.23
6		Overcurrent protection of control wiring: 18 AWG not over 7 amps, 16 AWG not over 10 amps, 14 AWG or larger per CEC 310.15.	CEC 620.61(A)
7		Motor duty classified as intermittent.	CEC 430.33 CEC 620.61(B)(1)
8		Disconnecting means for all power sources.	CEC 620 Part VI
9	Equipment	Automatic or manual connection for at least one elevator.	CEC 517.35(B)(2)

10	Equipment (Type 1 ESS)	Where interruption of normal power would result in elevators stopping between floors, throw-over facilities shall be provided to allow the temporary operation of any elevator for the release of passengers.	CEC 517.35(B)(2)
11	Equipment (Type 2 ESS)	For Skilled Nursing Facilities: delayed automatic or manual connection to essential electrical power for all elevators to allow the release of passengers.	CEC 517.44(B)(4)
12	Life-Safety	The building corridors shall be so lighted that the illumination at the landing sills, when an elevator is in service, shall not be less than 10 foot-candles.	ASME A17.1 2.11.10
13	Equipment	Elevator machine rooms serving elevators connected to the equipment branch: elevator HVAC equipment to be connected to the equipment branch.	CFC 606.2.4
14		Elevator shunt trip.	CFC 606.8.5
15	Equipment	Provide surge protection at elevator disconnecting means supplied by equipment branch.	CEC 620.51(E)
16	Life Safety Critical or Equipment	Seismic switch, as required by ASME A17.1, shall be connected to the essential electrical system.	CBC 3009.1.1

ELECTRIC VEHICLE CHARGING STATION			
Item	Branch	Requirements	Applicable Codes
1		Electric vehicle charging stations are not required for health facilities (OSHPD 1,2 and 4).	CALGreen 301.5.
2		Each outlet installed for the purpose of charging electric vehicles shall be supplied by an individual branch circuit. Each circuit shall have no other outlets.	CEC 625.40
3		Overcurrent protection for feeders and branch circuits supplying equipment shall be sized for continuous duty and shall have a rating of not less than 125 percent of the maximum load of the equipment. Where noncontinuous loads are supplied from the same feeder, the overcurrent device shall have a rating of not less than the sum of the noncontinuous loads plus 125 percent of the continuous loads.	CEC 625.41
4		For equipment rated more than 60 amperes or more than 150 volts to ground, the disconnecting means shall be provided and installed in a readily accessible location. The disconnecting means	CEC 625.43

		shall be lockable open in accordance with 110.25.	
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FIRE PUMP			
Item	Branch	Requirements	Applicable Codes
1		Fire pump equipment and installation shall comply with all requirements of CBC 913, NFPA 20, CEC 695 and other CEC requirements.	CBC 913 NFPA 20 CEC 695
2		Electric motor-driven fire pumps shall have a reliable source of power. Such reliable source of power shall consist of a normal source and an onsite generator as the alternate source.	CEC 695.3
3		Selection of power source shall be performed by a transfer switch listed for fire pump service. Transfer switches used in OSHPD 1, OSHPD 2 with patient on life support, and OSHPD 4 shall be provided with electrical by-passing and isolating and in-phase monitor relay found in 517.31(B)(B)(3).	CEC 695.3(G)
4		Fire pump supply conductors shall be installed as service entrance conductor as per article 230.6, 230.9 and Parts III and IV of Article 230.	CEC 695.3(A)(1)
5		Except as permitted, fire pump supply services or on-site power production facilities conductors through a building or other structure shall be either routed outside of the building or installed in a raceway and encased in or under no less than 2 inches of concrete.	CEC 695.6(A)(1)
6		Except as permitted, no disconnecting means shall be installed within the fire pump feeder circuit.	CEC 695.4(A) CEC 695.4(B)(1)(a)
7		Except as permitted, the fire pump room shall have a minimum of 2 hours fire barriers.	CBC 913.2.1
8		Transfer switch(es) shall be as close as practical and within sight of fire pump they control.	CEC 695.12(A)
9		Fire pump controller shall not be used as a junction box to supply other equipment.	CEC 695.6(l)(6)
10		Pressure maintenance pump(s) shall not be connected to the fire pump controller.	CEC 695.6(E) NFPA 20: 10.3.4.6
11		Over current protection for fire pump source(s) other than on-site standby generator(s) shall be set to carry indefinitely the locked rotor current of fire pump(s), the pressure maintenance pump(s)	CEC 695.4(B)(2)(a)

		(when provided as part of system), and the full load current of the associated fire pump accessory equipment.	
12		<p>The fire pump system shall have a maximum total voltage drop as specified below:</p> <ul style="list-style-type: none"> No more than 5% at the motor terminals with the motor operating (running) at 115% of its full load current rating. No more than 15% of the controller voltage rating at the controller line terminals under starting condition. <p>The utility source (transformer) and other transformer voltage drop shall be included in this calculation.</p>	CEC 695.7
13		Fire pumps for use in high-rise buildings shall be supplied by an emergency generator (via an Automatic Transfer Switch) with a fuel supply of no less than eight hours of full-demand operation at 100 percent of the rated pump capacity in addition to all other required supply demands.	CFC Section 913.6 NFPA 20: 9.6.2.3
14		If the sources in 695.3(A) are not practicable and the installation is part of a multibuilding campus-style complex, feeder sources shall be permitted if approved by the authority having jurisdiction and installed in accordance with either (C)(1) and (C)(3) or (C)(2) and (C)(3).	CEC 695.3(C)

TEMPORARY SYSTEMS, UTILITIES, AND EQUIPMENT			
Item	Branch	Requirements	Applicable Codes
1		Requirements for temporary systems, utilities, and equipment.	OSHPD CAN 2-108

ESSENTIAL ELECTRICAL SYSTEM TESTING			
Item	Branch	Requirements	Applicable Codes
1	Essential	Tests per manufacturer instructions.	CEC 110.3(B)
2	Essential	<p>Tests required for a new Essential Electrical System and/or a new generator installation. Perform all elements of Installation Acceptance:</p> <ul style="list-style-type: none"> Essential Electrical System Building Load Test 	2016 NFPA 110 7.13.4

		<ul style="list-style-type: none"> • Generator Full-Load Test • Cycle Crank Test • Safety Indications and Shutdowns Test 	
3	Essential	An operational test shall be initiated at an ATS and shall include testing of each Essential Electrical System component on which maintenance or repair has been performed, including the transfer of each automatic and manual transfer switch to the alternate power source, for a period of not less than 30 minutes under operating temperature.	2016 NFPA 110 8.3.2.1
4	Essential	<p>Perform Essential Electrical System Building Load Acceptance Test after installation of an additional Automatic Transfer Switch to an existing Essential Electrical System:</p> <ul style="list-style-type: none"> • Test load shall be all loads served by the Essential Electrical System i.e., the building load. There is no minimum load, but all transfer switches shall be activated by opening breakers supplying normal power and be connected to their loads. If new or existing transfer switches are installed for future use, load banks shall be connected to simulate future loads. • Make all measurements required in the test including time required for transfer switches to pick up loads. Verify that life safety and critical branches meet the 10 second requirement. Equipment and optional branches shall transfer within the time as noted on plans. • Verify building loads do not exceed capacity of the Essential Electrical System. • Test duration shall be a minimum of 90 minutes. • Remaining tests in NFPA 110: 7.13.4 such as generator full-load test are not required. 	NFPA 110 7.13.4.1
5	Essential	<p>Perform the following tests after an in-kind replacement of an existing Automatic Transfer Switch:</p> <ul style="list-style-type: none"> • Perform operational test on the new replacement transfer switch. • Test load shall be the actual load connected to the new replacement transfer switch. • Make all measurements required. 	2016 NFPA 110 7.13.4.1

		<ul style="list-style-type: none">• Test duration shall be a minimum of 90 minutes.	
6		Mark required tests on the TIO form.	
7		If tests are to be performed in a different sequence than required by NFPA 110, provide testing information on drawings and an Alternate Means of Compliance (AMoC) stating reason tests are to be run in a different sequence and state how the requirements of NFPA 110 are still complied with.	

REMODEL			
Item	Branch	Requirements	Applicable Codes
1		Requirements for remodels.	OSHPD CAN 2-102.6

CALIFORNIA ENERGY CODE			
Item	Branch	Requirements	Applicable Codes
1		Alteration projects at healthcare facilities are exempt from California Energy Code requirements. New facilities and additions required to comply.	California Energy Code Section 141.0
2		Resources for the California Energy Code. <ul style="list-style-type: none"> • California Energy Commission Non-Residential Compliance Manual • Title 24 Hotline 1-800-772-3300 • EnergyCodeAce: Fact Sheet: Healthcare Facilities 2019 	
3		Manual Area Lighting Controls, Automatic Daylighting Controls.	California Energy Code Section 130.1(a) California Energy Code Section 130.1(d)
4		All skylit daylit zones and primary sidelit daylit zones, and the combined primary and secondary sidelit daylit zones in parking garages shall be shown on the plans.	California Energy Code Section 130.1(d)(1)
5		Outdoor lighting and controls.	California Energy Code Section 130.2
6		Lighting control acceptance installation and certification requirements.	California Energy Code Section 130.4
7		Maximum combined voltage drop on feeder and branch circuit conductors shall not exceed 5%.	California Energy Code Section 130.5(c)
8		Required electrical NCRR forms. <ul style="list-style-type: none"> • 2019-NCRR-ELC-E • 2019-NRCC-LTI-E • 2019-NRCC-LTO-E • 2019-NRCC-LTS-E 	CAC 10-103(a)(2)

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9		Energy management system shall not override any control necessary to ensure continuity of an alternate power source.	CEC 750.20 CEC 750.30
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NURSE CALL SYSTEM

NURSE CALL SYSTEM - ACUTE CARE HOSPITAL			
Item	Branch	Requirements	Applicable Codes
1	Critical	Nurse call system power shall be connected to the critical branch.	CEC 517.34(A)(5)
2		Wireless nurse call systems permitted if they comply with the 7th edition or later of UL 1069.	CEC 517.34(A)(5)
3		Nurse call components.	CEC 517.123
4		Nurse call device location requirements. Refer to CBC Table 1224.4.6.5.	CEC 517.123 CBC Table 1224.4.6.5
5		Visible signal shall be activated in the corridor at the patient room door or care space. Visual and audible signals at nurse/control station and at all associated duty stations. In multi-corridor nursing units, additional visible signals shall be installed at corridor intersections. Visual signals at corridor intersections where individual patient room door or care space signals are not directly visible from the associated nurses' stations.	CEC 517.123(A)(3)
6		In patient and client sleeping rooms. Actuation of such smoke detectors shall cause a visual display on the corridor side of the room in which the detector is located and shall cause an audible and visual alarm at the respective nurses' station. A nurse call system listed for this function is an acceptable means of providing the audible and visual alarm at the respective nurses' station and corridor room display.	CBC 907.2.6.2.2 (1)

NURSE CALL SYSTEM - SKILLED NURSING FACILITY			
Item	Branch	Requirements	Applicable Codes
1	Equipment	Nurse call system power shall be connected to the equipment branch. Note: Nurse call systems approved and installed under previous code editions are allowed to remain on the life-safety branch CEC 517.44(A)(6).	CEC 517.44(A)(6)

2		Wireless nurse call systems permitted if they comply with the 7th edition or later of UL 1069.	CEC 517.44(A)(6) OSHPD Ex. 1
3		Nurse call components.	CEC 517.123
4		Nurse call device location requirements. Refer to CBC Table 1224.4.6.5.	CEC 517.123 CBC Table 1224.4.6.5
5		For Skilled Nursing Facilities: two-way voice communication is required unless the system has a resetting function at the calling station.	CEC 517.123(B)(1) ex.
6		Visible signal shall be activated in the corridor at the patient room door or care space. Visual and audible signals at nurse/control station and at all associated duty stations. In multi-corridor nursing units, additional visible signals shall be installed at corridor intersections. Visual signals at corridor intersections where individual patient room door or care space signals are not directly visible from the associated nurses' stations.	CEC 517.123(A)(3)
7		In patient and client sleeping rooms. Actuation of such smoke detectors shall cause a visual display on the corridor side of the room in which the detector is located and shall cause an audible and visual alarm at the respective nurses' station. A nurse call system listed for this function is an acceptable means of providing the audible and visual alarm at the respective nurses' station and corridor room display.	CBC 907.2.6.2.2 (1)

NURSE CALL SYSTEM - PSYCHIATRIC			
Item	Branch	Requirements	Applicable Codes
1		Nurse call system not required.	CEC 517.123(F)
2		If a nurse call system is provided, the nurse call system shall have the following additional requirements: <ul style="list-style-type: none"> • Provisions shall be made for easy removal or for covering of call button outlets. • All hardware shall have tamper-resistant fasteners. • Cords at all call stations in rooms designated for psychiatric patient use shall be detachable. 	CEC 517.123(F)
3		Wireless nurse call systems permitted if they comply with the 7th edition or later of UL 1069.	CEC 517.34(A)(5)
4		Nurse call components.	CEC 517.123

5		Nurse call device location requirements. Refer to CBC Table 1224.4.6.5.	CEC 517.123 CBC Table 1224.4.6.5
6		Visible signal shall be activated in the corridor at the patient room door or care space. Visual and audible signals at nurse/control station and at all associated duty stations. In multi-corridor nursing units, additional visible signals shall be installed at corridor intersections. Visual signals at corridor intersections where individual patient room door or care space signals are not directly visible from the associated nurses' stations.	CEC 517.123(A)(3)
7		In patient and client sleeping rooms. Actuation of such smoke detectors shall cause a visual display on the corridor side of the room in which the detector is located and shall cause an audible and visual alarm at the respective nurses' station. A nurse call system listed for this function is an acceptable means of providing the audible and visual alarm at the respective nurses' station and corridor room display.	CBC 907.2.6.2.2 (1)

NURSE CALL SYSTEM - TEMPORARY			
Item	Branch	Requirements	Applicable Codes
1		Temporary nurse call systems.	OSHPD PIN 60

2019 CBC TABLE 1224.4.6.5 LOCATION OF NURSE CALL DEVICES FOR FACILITIES UNDER CBC 1224 HOSPITALS						
X=Required						
Area Designation	Patient Station	Bath Station	Staff Emergency Station	Code Call Station	Nurse Master Station	Duty Station
Nursing Units						
Patient toilet room		X				
Patient bathing		X				
Special bathing			X			
Patient bed (nursing service)	X		X	X		
Patient bed (intensive care)	X		X	X		
Patient bed (LDR/LDRP)	X		X	X		
Patient bed (Dementia Unit)	X					
Patient bed (SNF/ICF)	X					
NICU			X	X		
Nursery			X	X		
Support Areas						
Nurse/control station					X	
Medication preparation room						X
Soiled workroom/utility/holding						X
Clean workroom/utility/holding						X
Diagnostic and Treatment Areas						
Seclusion room or vestibule			X			
Emergency exam, treatment, triage rooms	X		X			
Operating room/Cesarean			X	X		
Delivery room/birthing room			X	X		
Observation unit bed/gurney	X		X	X		
Pre-op patient care	X		X	X		
Post-op patient care/PACU	X		X	X		
Imaging exam/procedure room			X	X		
Procedure Room, including Endoscopy			X	X		
Patient toilet room		X				
Electroconvulsive therapy			X	X		

2019 CBC TABLE 1224.4.6.5 LOCATION OF NURSE CALL DEVICES FOR FACILITIES UNDER CBC 1225 SKILLED NURSING AND INTERMEDIATE CARE FACILITIES						
X=Required						
Area Designation	Patient Station	Bath Station	Staff Emergency Station	Code Call Station	Nurse Master Station	Duty Station
Nursing Units						
Patient toilet room		X				
Patient bathing		X				
Patient bed (Dementia Unit)	X					
Patient bed (SNF/ICF)	X					
Support Areas						
Nurse/control station					X	

2019 CBC TABLE 1224.4.6.5 LOCATION OF NURSE CALL DEVICES FOR FACILITIES UNDER CBC 1226 CLINICS						
X=Required						
Area Designation	Patient Station	Bath Station	Staff Emergency Station	Code Call Station	Nurse Master Station	Duty Station
Support Areas						
Nurse/control station					X	
Diagnostic and Treatment Areas						
Operating room/Cesarean			X	X		
Delivery room/birthing room			X	X		
Pre-op patient care	X		X	X		
Post-op patient care/PACU	X		X	X		
Imaging exam/procedure room			X	X		
Procedure Room, including Endoscopy			X	X		
Patient toilet room		X				

2019 CBC TABLE 1224.4.6.5						
LOCATION OF NURSE CALL DEVICES FOR FACILITIES UNDER CBC 1227						
CORRECTIONAL TREATMENT CENTERS						
X=Required						
Area Designation	Patient Station	Bath Station	Staff Emergency Station	Code Call Station	Nurse Master Station	Duty Station
Nursing Units						
Patient toilet room		X				
Patient bathing		X				
Patient bed (nursing service)	X		X	X		
Patient bed (intensive care)	X		X	X		
Patient bed (LDR/LDRP)	X		X	X		
Patient bed (Dementia Unit)	X					
Patient bed (SNF/ICF)	X					
NICU			X	X		
Nursery			X	X		
Support Areas						
Nurse/control station					X	
Medication preparation room						X
Soiled workroom/utility/holding						X
Clean workroom/utility/holding						X
Diagnostic and Treatment Areas						
Emergency exam, treatment, triage rooms	X		X			
Operating room/Cesarean			X	X		
Delivery room/birthing room			X	X		
Observation unit bed/gurney	X		X	X		
Pre-op patient care	X		X	X		
Post-op patient care/PACU	X		X	X		
Imaging exam/procedure room			X	X		
Procedure Room, including Endoscopy			X	X		
Patient toilet room		X				
Electroconvulsive therapy			X	X		

2019 CBC TABLE 1224.4.6.5 LOCATION OF NURSE CALL DEVICES FOR FACILITIES UNDER CBC 1228 ACUTE PSYCHIATRIC HOSPITALS PSYCHIATRIC NURSING UNITS						
X=Required						
Area Designation	Patient Station	Bath Station	Staff Emergency Station	Code Call Station	Nurse Master Station	Duty Station
Support Areas						
Nurse/control station					X	
Diagnostic and Treatment Areas						
Seclusion room or vestibule			X			
Electroconvulsive therapy			X	X		

ACUTE CARE HOSPITAL REQUIREMENTS, ACUTE PSYCHIATRIC (CRITICAL AND/OR GENERAL CARE) HOSPITALS

SYSTEM SEGREGATION SERVICE EQUIPMENT			
Item	Branch	Requirements	Applicable Codes
1	Life Safety Critical Equipment	The essential electrical system shall be comprised of three separate branches: the equipment branch, life safety branch, and critical branch.	CEC 517.31
2	Life Safety	Life safety branch wiring shall be independent of all other wiring and equipment except for in transfer switches, exit signs and egress lighting.	CEC 517.31(C)(1) CEC 700.10(B)
3	Critical	Critical branch wiring shall be independent of all other wiring and equipment except for in transfer switches, exit signs and egress lighting.	CEC 517.31(C)(1) CEC 700.10(B)
4		Essential services may originate or pass through existing facilities provided they are seismically conforming facilities.	CEC 517.4 CBC 1224.4.1 California Existing Building Code Section 307
5	Critical	At least one receptacle and light fixture in electrical and mechanical rooms.	CEC 210.64 CEC 517.34(A)(8)(k)
6	Life Safety	No other function than those listed in this Code section are allowed to be connected to the life safety branch.	CEC 517.33
7		Hospital normal and essential electrical system power sources are allowed to serve non-OSHPD buildings on the same site provided the buildings can be disconnected in case of an emergency.	CEC 517.31(B)(2)
8		Loads not required by CEC Article 517 to be on the essential electrical system can be served by their own (optional load) transfer switches.	CEC 517.31(B)(1), (2), (3)

GENERATING UNITS, FUEL SUPPLY, TRANSFER SWITCHES, FUEL CELL SYSTEMS			
Item	Branch	Requirements	Applicable Codes
1	Essential System	Alternate source(s) of power shall be a generator(s) driven by some form of prime mover(s) or a fuel cell system(s) meeting the requirements of CEC 517.30(B)(2).	CEC 517.30(B)
2	Life Safety	Selected receptacles and battery back-up light fixtures at generator set and transfer switch locations.	CEC 517.33(E)
3	Life Safety Critical	Automatic restoration of power within 10 seconds.	CEC 517.32(B) CEC 700.12
4	Life Safety	Generator set accessories and required accessories (battery charger, jacket warmer, fuel pumps, etc.) as required.	CEC 517.33(E) CEC 517.33(F) CEC 700.12(B)(4)
5		On site fuel supply for at least 24 hours of operation at full demand. For NPC-5, at least 72 hours. Main fuel tank shall have a minimum capacity of at least 133% of the low-fuel sensor. For facilities subject to CMS regulations, see 42 CFR 482.15(e)(3).	CEC 700.12(B)(2) exception 1 NFPA 110: 5.5.3
6	Equipment	Means for automatically transferring from one fuel supply to another when using dual fuel supply.	CEC 700.12(B)(3)
7	Life Safety Equipment	Fuel transfer pump shall be on essential electrical system.	CEC 517.33(F) CEC 517.35(C) CEC 700.12(B)(2)
8	Life Safety Critical Equipment	Minimum of one transfer switch per essential electrical system branch required. [One transfer switch allowed for the essential electrical system rated for 150kVA or lower]	CEC 517.31(B)
9		Automatic transfer switches shall have bypass isolation capability with an in-phase monitor relay.	CEC 517.31(B)(B)(3)
10		Separately derived grounding systems shall require four pole transfer switches.	CEC 250.30 CEC 250.35(A)
11		Generator overcurrent protection.	CEC 445.12
12		Generator shall be listed in accordance with UL 2200.	CBC 2702.1.1
13		Indoor generator room/area requirements.	CBC 442 CBC 2702.1.3 NFPA 110: 7.2.1

14		No interior openings (doors) are allowed for generator rooms in Group I buildings.	CBC 442.2.2.1
15		Provide at least one remote emergency stop switch per generator – locate outside the room or on the exterior of enclosure, with signage to identify the generator it controls.	CEC 445.18(B) NFPA 37: 9.2.1.1 NFPA 110: 5.6.5.6
16		Fuel cell systems.	CEC 517.30(B)(2)
17		Provide temporary generator connection for single-source emergency power source system.	CEC 700.3(F)
18		Remote annunciator with battery back-up at 24 staffed location.	NFPA 110: 5.6.6.1

TECHNOLOGY AND TELECOMMUNICATION ROOMS			
Item	Branch	Requirements	Applicable Codes
1	Critical	Task illumination and at least one receptacle in data and telephone rooms to be on emergency system.	CEC 517.34(A)(7)
2	Equipment	HVAC equipment serving telephone equipment and/or data equipment rooms and closets to be on the equipment branch. <i>Note: Where redundant HVAC system are provided, only one shall be required to be supplied by the equipment branch.</i>	CEC 517.35(A)(8) CMC 320.4.1
3	Equipment Critical	UPS systems serving telephone, data, technology and telecommunications equipment rooms and closets.	CEC 517.35(A)(10)
4		Non-lighting circuits shall be dedicated to the room.	CEC 517.124(A)
5		Electrical, mechanical, and plumbing equipment not directly related to the support of the room shall not be installed or pass through the room.	CEC 517.124(A) CMC 320.4.2 CPC 310.13
6		Grounding requirements.	CEC 517.124(B)
7		Each hospital facility shall have at least one telecommunications service entrance room.	CEC 517.124 CBC 1224.5.1
8		Each hospital shall have at least one technology equipment center. It shall be located to minimize the risk of water damage, both from internal and external sources. It shall be located above any floodways or flood hazard areas as described in the National Flood Insurance Program.	CEC 517.124 CBC 1224.5.2
9		There shall be a minimum of one technology distribution room on each floor of the facility. <i>Exception: For existing facilities not undergoing major renovation, a technology distribution room may serve adjacent floors.</i>	CEC 517.124 CBC 1224.5.3

10		A central UPS system serving multiple technology and telecommunication rooms is not allowed to be located in a technology or telecommunication room.	CEC 517.124(A)
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HVAC SUMP PUMPS MEDICAL AIR MEDICAL GAS CHILLER ROOMS SMOKE CONTROL SYSTEMS PLUMBING FIXTURES ISOLATION ROOMS			
Item	Branch	Requirements	Applicable Codes
1	Equipment	Heating ventilating, cooling, and plumbing equipment required by the California Mechanical Code (CMC) and California Plumbing Code (CPC).	CPC 321 CEC 517.35 CMC 320 CMC 321.0 CMC 322.0 CEC 517.35(A)(9)
2	Equipment	All supply, return, and exhaust fans required for positive or negative pressure.	CMC 321.4 CEC 517.35(A)(6)
3	Critical	Alarms systems for monitoring negative pressure isolation rooms and positive pressure isolation rooms.	CEC 517.34(A)(10)(c) CMC 321.6
4	Equipment or Critical	Delayed automatic connection for medical and surgical central suction including controls.	CEC 517.35(A)(1)
5	Essential System	All control components, and control system necessary for the normal operation of equipment required to have essential electrical power.	CMC 321.5
6	Equipment	Delayed automatic connection for sump pumps and other equipment required to operate for the safety of major apparatus including associated controls and alarms.	CEC 517.35(A)(2)
7	Equipment or Critical	Delayed automatic connection for medical and surgical compressed air systems including controls.	CEC 517.35(A)(3)
8	Equipment	Stair pressurizations systems.	CEC 517.35(A)(4)
9	Equipment or Critical	Fire smoke dampers, smoke control systems, and accordion folding fire doors.	CEC 517.35(A)(4)
10		Emergency shutdown switch for chiller equipment located immediately outside room.	CMC 1108.3 CFC 605.9.1
11	Life Safety	Refrigerant leak detection alarm for chiller rooms.	CEC 517.33(C)(2) CMC 1106.2.2.1
12	Life Safety	Medical gas alarm system.	CEC 517.33(C)(3)

13	Critical	Sensor-operated plumbing fixtures as required by Table 4-2 of the California Plumbing Code.	CEC 517.34(A)(10)(b)
14	Equipment	Domestic water booster pumps, domestic hot water pumps, sewage ejector pumps, sump and drainage pumps, domestic water heating equipment and their controls, and grease removal devices requiring electric power.	CPC 321.0

FOOD PREPARATION AREA, KITCHENS, NOURISHMENT			
Item	Branch	Requirements	Applicable Codes
1	Critical	Task illumination.	CEC 517.34(A)(8)(j)
2	Critical	At least one receptacle.	CEC 517.34(A)(8)(j)
3	Critical	Patient food refrigeration (single-phase only).	CEC 517.34(A)(10)(f)
4	Equipment	Kitchen hood supply and exhaust fans.	CEC 517.35(A)(5)
5		Receptacles in kitchens and within 6 ft of sinks shall have GFCI protection as follows: <ul style="list-style-type: none"> • All single-phase receptacles rated 150 volts to ground or less, 50 amperes or less • All three phase receptacles rated 150 volts to ground or less, 100 amperes or less GFCI shall be installed in a readily accessible location.	CEC 210.8 CEC 210.8(B)(2) CEC 210.8(B)(5)

CLEAN UTILITY ROOMS, SOILED UTILITY ROOMS, CENTRAL SUPPLY			
Item	Branch	Requirements	Applicable Codes
1	Critical	Task illumination.	CEC 517.34(A)(8)(j)
2	Critical	At least one receptacle.	CEC 517.34(A)(8)(j)

BLOOD, BONE AND TISSUE BANKS HUMAN PHYSIOLOGY LABORATORY			
Item	Branch	Requirements	Applicable Codes
1	Critical	Task illumination.	CEC 517.34(A)(6) CEC 517.34(A)(8)(g)
2	Critical	At least one receptacle.	CEC 517.34(A)(6) CEC 517.34(A)(8)(g)
3	Critical	Blood, Bone and Tissue Banks Equipment.	CEC 517.34(A)(6)
4	Critical	Human Physiology Laboratory Equipment.	CEC 517.34(A)(8)(g)
5	Equipment	Laboratory fume hoods.	CEC 517.35(A)(6)

MEDICATION PREPARATION AREA PHARMACY MEDICINE DISPENSING UNITS MEDICATION REFRIGERATORS AND FREEZERS STERILE COMPOUNDING PHARMACIES HAZARDOUS AND NON-HAZARDOUS DRUGS			
Item	Branch	Requirements	Applicable Codes
1	Critical	Task illumination.	CEC 517.34(A)(3)(b) CEC 517.34(A)(3)(c)
2	Critical	At least one receptacle.	CEC 517.34(A)(3)(b) CEC 517.34(A)(3)(c)
3	Critical	Self-contained medicine dispensing unit that requires power.	CEC 517.34(A)(10)(d) CBC 1224.4.4.4.2
4	Critical	Pharmacy compounding engineering controls such as hoods, laminar airflow workbenches, biological safety cabinets, and barrier isolaters.	CEC 517.34(A)(10)(g)
5	Critical	Medication refrigerators and freezers.	CEC 517.34(A)(10)(e)
6	Equipment	Ventilation equipment and controls.	CEC 517.35(B)(1.1) CMC 321

NURSE STATION CONTROL STATION/DESK			
Item	Branch	Requirements	Applicable Codes
1	Critical	Task illumination.	CEC 517.34(A)(3)(g)
2	Critical	At least one receptacle.	CEC 517.34(A)(3)(g)

PATIENT BEDROOM MED SURGE ROOM ANTEPARTUM BEDROOM POSTPARTUM BEDROOM LABOR ROOM LABOR RECOVERY ROOM PRE-OP			
Item	Branch	Requirements	Applicable Codes
1	Normal Critical	Normal and critical branch power circuits serving each patient bed location. All branch circuits from the normal system shall originate from the same panelboard. Normal branch circuit is not required if patient bed location is served by two critical branch circuits fed from two separate transfer switches.	CEC 517.18(A) CEC 517.18(A) ex. 3
2	Normal Critical	Minimum of eight receptacles (4 duplex) serving each patient bed location, split between normal and critical branch power or split between two critical branches as allowed in CEC 517.18(A) exception 3.	CEC 517.18(B)
3	Critical	Task illumination.	CEC 517.34(A)(8)(a)
4	Normal Critical	Psychiatric patient bedrooms shall not be required to have receptacle outlets installed in the room. If installed, the receptacles shall be tamper-resistant, controlled by a switch outside the room that is under the control of staff, and shall be protected by a ground-fault circuit interrupter.	CEC 517.18(B) ex. 4

INTENSIVE CARE UNIT CRITICAL CARE SPACES POST-ANESTHETIC CARE UNIT (PACU)			
Item	Branch	Requirements	Applicable Codes
1	Normal Critical	Normal and critical branch power circuits serving each patient bed location. All branch circuits from the normal power system shall originate from the same panelboard. Normal branch circuit is not required if critical care patient bed location is served by two critical branch circuits fed from two separate transfer switches.	CEC 517.19(A) CEC 517.19(A) ex. 2
2	Critical	A minimum of one dedicated critical branch circuit serving only that patient bed location.	CEC 517.19(A)
3	Normal Critical	Minimum of fourteen receptacles (7 duplex) serving each patient bed location, split between normal and critical branch or split between two critical branches as allowed in CEC 517.19(A) exception 2.	CEC 517.19(B)(1) CEC 517.19(B)(2)
4	Critical	Task illumination.	CEC 517.34(A)(8)(h) CEC 517.34(A)(8)(i)

DELIVERY ROOM LABOR/DELIVERY/RECOVERY (LDR) LABOR/DELIVERY/RECOVERY/POSTPARTUM (LDRP)			
Item	Branch	Requirements	Applicable Codes
1	Normal Critical	Normal and critical branch power circuits serving each patient bed location. All branch circuits from the normal power system shall originate from the same panelboard. Normal branch circuit is not required if critical care patient bed location is served by two critical branch circuits fed from two separate transfer switches.	CEC 517.19(A) CEC 517.19(A) ex. 2
2	Critical	A minimum of one dedicated critical branch circuit serving only that patient bed location.	CEC 517.19(A)
3	Normal Critical	Minimum of fourteen receptacles (7 duplex) serving each patient bed location, split between normal and critical branch or split between two critical branches as allowed in CEC 517.19(A) exception 2.	CEC 517.19(B)(1)
4	Normal Critical	Minimum of six receptacles serving the infant resuscitation location, split between normal and critical branch.	CEC 517.19 CBC 1224.32.3.5

5	Critical	Task illumination.	CEC 517.34(A)(8)(h)
6	Critical	Provide a surgical light in each delivery room.	CBC 1224.32.3.4
7	Critical Battery	Battery-operated or direct wired clock.	CBC 1224.32.3.3

NURSERY			
Item	Branch	Requirements	Applicable Codes
1	Critical	Task illumination.	CEC 517.34(A)(3)(a)
2	Critical	At least one duplex receptacle.	CEC 517.34(A)(3)(a)
3		One duplex receptacle shall be provided for every two bassinets.	CEC 517.18(D)

NEONATAL INTENSIVE CARE UNIT (NICU)			
Item	Branch	Requirements	Applicable Codes
1	Critical	Illumination level at a minimum of 100 foot candles. Dimmer or multi-level switching allowed.	CEC 517.22(D)(2)
2	Critical	Task illumination.	CEC 517.34(A)(8)(h)
3	Critical	A minimum of one dedicated critical branch circuit serving only that patient bed location.	CEC 517.19(A)
4	Critical Normal	Normal and critical branch power circuits serving each patient bed location. All branch circuits from the normal power system shall originate from the same panelboard. Normal branch circuit is not required if critical care patient bed location is served by two critical branch circuits fed from two separate transfer switches.	CEC 517.19(A) CEC 517.19(A) ex. 2
5	Critical Normal	Minimum of fourteen receptacles (7 duplex) split between normal and critical branch or split between two critical branches as allowed in CEC 517.19(A) exception 2.	CEC 517.19(B)(1)

<p align="center">OPERATING ROOM CYSTOSCOPY HYBRID OPERATING ROOM CLASS 3 IMAGING ROOM CAESAREAN SECTION ROOM</p>			
Item	Branch	Requirements	Applicable Codes
1		Battery-powered emergency light fixtures with a minimum of a 90 minute runtime.	CEC 517.63(A)
2	Critical	Task illumination and surgical lights.	CEC 517.34(A)(1)
3	Critical	Provide a surgical light in cesarean operating room.	CBC 1224.32.3.4
4		Areas shall be considered wet procedure locations unless the Functional Program required in California Administrative Code Section 7-119 states otherwise. Functional Program should include a list of procedures that will be performed in the area.	CAC 7-119
5	Critical	Minimum of thirty-six receptacles, of which at least twelve (but not more than 24) are fed from the normal branch or a critical branch on a different transfer switch as allowed in CEC 517.19(A) exception 2.	CEC 517.19(C)
6	Critical	Fixed electrical equipment.	CEC 517.34(A)(1)
7	Critical or Battery	Electric clocks.	CEC 517.34(A)(10)(a) CBC 1224.32.3.3 CBC 1224.15.3.6
8		Grounding and bonding.	CEC 517.19(C) & (D) CEC 517.62
9		Wiring and equipment in other-than-hazardous anesthetizing locations.	CEC 517.61(C) CEC 517.63
10	Normal Critical	Isolated power systems or ground-fault circuit interrupters if required due to wet procedure determination.	CEC 517.19(F) CEC 517.20 CEC 517.160
11	Normal Critical	Minimum of six receptacles serving the infant resuscitation location in caesarean section room, split between normal and critical branch.	CEC 517.19 CBC 1224.32.3.5

TRAUMA ROOM ANGIOPLASTY CARDIAC CATH LAB CLASS 2 IMAGING ROOM PROCEDURE ROOM			
Item	Branch	Requirements	Applicable Codes
1		Anesthetizing locations shall have a battery-powered emergency light fixtures with a minimum of a 90 minute runtime.	CEC 517.63(A)
2	Critical	Task illumination.	CEC 517.34(A)(1)
3	Critical Normal	Normal and critical branch power circuits serving each patient bed location. All branch circuits from the normal power system shall originate from the same panelboard. Normal branch circuit is not required if critical care patient bed location is served by two critical branch circuits fed from two separate transfer switches.	CEC 517.19(A) CEC 517.19(A) ex. 2
4	Critical	A minimum of one dedicated critical branch circuit serving only that patient bed location.	CEC 517.19(A)
5	Critical	Minimum of fourteen hospital grade receptacles (7 duplex) serving each patient bed location, split between normal and critical branch or split between two critical branches as allowed in CEC 517.19(A) exception 2.	CEC 517.19(B)
6	Critical	Fixed electrical equipment.	CEC 517.34(A)(1)
8	Critical or Battery	Electric clocks.	CEC 517.34(A)(10)(a) CBC 1224.15.3.6
9		Grounding and bonding.	CEC 517.19(C) & (D) CEC 517.62
10		Wiring and equipment in other-than-hazardous anesthetizing locations.	CEC 517.61(C) CEC 517.63
11	Normal Critical	Isolated power systems or ground-fault circuit interrupters if required due to wet procedure determination.	CEC 517.19(F) CEC 517.20 CEC 517.160

EMERGENCY ROOM EMERGENCY EXAM ROOM EMERGENCY TREATMENT ROOM EMERGENCY TRIAGE ROOM WARD TREATMENT ROOM			
Item	Branch	Requirements	Applicable Codes
1	Critical	Task illumination.	CEC 517.34(A)(3)(f) CEC 517.34(A)(8)(f)
2	Critical	Minimum of one receptacle.	CEC 517.34(A)(3)(f) CEC 517.34(A)(8)(f)

X-RAY DIAGNOSTIC EQUIPMENT			
Item	Branch	Requirements	Applicable Codes
1		Disconnecting means – in locations operable/readily accessible from x-ray controls.	CEC 517.72
2		Disconnecting means not required for portable equipment served by 120 volt receptacle rated 30A or less.	CEC 517.72(C)
3		Rating of overcurrent protection and supply conductors.	CEC 517.73
4		Grounding.	CEC 517.78
5	Critical or Equipment	The fluoroscopy equipment in the hospital designated fluoroscopy room is required to be connected to the essential electrical system.	CBC 1224.18.1 CBC 1617A.1.40(2)
6	Critical	Task illumination in the hospital designated fluoroscopy room.	CEC 517.34(A)(9)

SKILLED NURSING FACILITY REQUIREMENTS, ACUTE PSYCHIATRIC (NON-CRITICAL AND/OR NON- GENERAL CARE) HOSPITAL REQUIREMENTS

SYSTEM SEGREGATION SERVICE EQUIPMENT			
Item	Branch	Requirements	Applicable Codes
1	Life Safety Equipment	The essential electrical system shall comprise the life safety and equipment branches. <i>Note: facilities approved under previous code editions will not be required to rename the critical branch to equipment branch.</i>	CEC 517.42(A)
2	Life Safety	Branch wiring shall be independent of all other wiring and equipment except as allowed by code.	CEC 517.42(D) CEC 700.10
3		Essential services may originate or pass through existing facilities provided they are seismically conforming facilities.	CEC 517.4
4	Life Safety	No other function than those listed in this Code section are allowed to be connected to the life safety branch of the emergency system.	CEC 517.43

GENERATOR FUEL SUPPLY TRANSFER SWITCHES			
Item	Branch	Requirements	Applicable Codes
1		Alternate source of power shall be a generator.	CEC 517.41(B.1)
2	Life Safety	Selected receptacles and light fixtures at generator set location.	CEC 517.43(F)
3	Life Safety	Automatic restoration of power within 10 seconds.	CEC 517.43 CEC 700.12
4		On site fuel supply for at least 6 hours of operation at full demand. Main fuel tank shall have a minimum capacity of at least 133% of the low-fuel sensor. For facilities subject to CMS regulations, see 42 CFR 483.73(e)(3).	CEC 700.12(B)(2) exception 2 NFPA 110: 5.5.3
5	Equipment	Means for automatically transferring from one fuel supply to another when using dual supply.	CEC 700.12(B)(3)

6	Equipment	Fuel transfer pump shall be on essential electrical system power.	CEC 700.12(B)(2)
7	Life Safety Equipment	Minimum of one transfer switch per essential electrical system branch required. [One transfer switch allowed for the essential electrical system rated for 150kVA or lower] Note: Bypass isolation is not required for facilities that are not providing sub-acute care.	CEC 517.42(B)
8		Separately derived grounding systems shall have transfer switches that switch all current carrying conductors and neutral conductor.	CEC 250.30 CEC 250.35
9		Generator overcurrent protection.	CEC 445.12
10		Generator shall be listed in accordance with UL 2200.	CBC 2702.1.1
11		Indoor generator room/area requirements.	CBC 442 CBC 2702.1.3 NFPA 110: 7.2.1
12		No interior openings (doors) are allowed for generator rooms in Group I buildings.	CBC 442.2.2.1
13		Disconnecting means remote generator shut-off.	CEC 445.18(B) NFPA 37: 9.2.1.1 NFPA 110: 5.6.5.6
14		Provide temporary generator connection for single-source emergency power source system.	CEC 700.3(F)
15		Remote annunciator with battery back-up at 24 hour staffed location.	CEC 700.12

HVAC SUMP PUMPS CHILLER ROOMS SMOKE CONTROL SYSTEMS MEDICAL GAS ALARM PLUMBING FIXTURES			
Item	Branch	Requirements	Applicable Codes
1	Equipment	Heating, ventilating, and cooling equipment required by the California Mechanical Code (CMC).	CEC 517.44(B)(1.1) CMC 321.0
2	Equipment	All supply, return, and exhaust fans required for positive or negative pressure.	CMC 321.4 CEC 517.44(B)(1.1)
3	Equipment	Delayed automatic connection for sump pumps and other equipment required to operate for the safety of major apparatus including associated controls and alarms.	CEC 517.44(A)(3)

4	Equipment	Fire smoke dampers, accordion folding fire doors, and stair pressurizations systems.	CEC 517.44(A)(4)
5		Emergency shutdown switch for chiller equipment located immediately outside room.	CMC 1108.3 CFC 605.9.1
6	Life Safety	Refrigerant leak detection alarm for chiller rooms.	CFC 605.8 CMC 1106.2.2.1 CEC 517.43(C)
7	Life Safety	Medical gas alarm system.	CEC 517.43(C)(2)
8	Equipment	Sensor-operated plumbing fixtures as required by Table 4-2 of the California Plumbing Code.	CEC 517.44(A)(9)
9	Equipment	Equipment as required by the California Plumbing Code (CPC).	CEC 517.44(A)(10)
10	Equipment	Domestic water booster pumps, domestic hot water pumps, sewage ejector pumps, sump and drainage pumps, domestic water heating equipment and their controls, and grease removal devices requiring electric power.	CPC 321.0

NURSE STATION MEDICATION PREPARATION AREA PHARMACY DISPENSING AREA PATIENT BED LOCATION SPECIAL PURPOSE ROOM TREATMENT ROOM EXAM ROOM PHYSICAL, OCCUPATIONAL, AND SPEECH THERAPY ROOMS			
Item	Branch	Requirements	Applicable Codes
1	Equipment	Task illumination in Patient Bed Location, Special Purpose Room, Treatment Room, Exam Room, Physical, Occupational, Speech Therapy Rooms.	CEC 517.44(A)(1)
2	Equipment	At least one receptacle powered by equipment branch in Patient Bed Location, Special Purpose Room, Treatment Room, Exam Room, Physical Therapy, Occupational Therapy, and Speech Therapy Spaces.	CEC 517.44(A)(1)
3		Receptacles in patient rooms not required to be hospital grade.	CEC 517.18(B) ex. 3
4	Equipment	Self-contained medicine dispensing unit refrigerator that require power.	CEC 517.44(A)(1)(c)
5	Equipment	Selected receptacles in patient room corridors so that any patient bed can be reached with fifty (50) foot extension cord.	CEC 517.44(A)(7)

DINING AND RECREATION AREAS			
Item	Branch	Requirements	Applicable Codes
1	Life Safety	Light fixtures on life safety branch to provide illumination (minimum of 5 ft-candles) to exit ways in dining and recreation areas.	CEC 517.43(E)

SUB-ACUTE CARE NURSING FACILITY REQUIREMENTS

SUB-ACUTE CARE NURSING FACILITY			
Item	Branch	Requirements	Applicable Codes
1		Sub-acute care nursing facilities and units electrical systems shall comply with the requirements of CEC Part III, CEC 517.29 through CEC 517.35.	CEC 517.40(B)
2		Automatic transfer switches shall have bypass isolation capability with an in-phase monitor relay.	CEC 517.31(B)(B)(3)
3		Sub-acute care patient rooms shall be provided with a minimum of eight receptacles.	CEC 517.19(B)(1) OSHPD exception
4		Fuel supply shall provide a minimum of six hours operation at full demand load. Main fuel tank shall have a minimum capacity of at least 133% of the low-fuel sensor.	CEC 700.12(B) Ex. 2 NFPA 110: 5.5.3
5		Conversion of skilled nursing facilities to sub-acute nursing facilities will require full current code compliance.	OSHPD CAN 3-517.40(B) - Electrical Life-Support Equipment for Nursing Homes and Limited Care Facilities

CLINIC REQUIREMENTS

AMBULATORY SURGICAL CLINIC HEMODIALYSIS CLINIC			
Item	Branch	Requirements	Applicable Codes
1		Ambulatory surgical clinics shall meet the requirements of CEC 517.29 through CEC 517.35.	CEC 517.45(G)
2		Clinics with life support equipment and/or critical care spaces shall meet the requirements of CEC 517.29 through CEC 517.35.	CEC 517.45(B) CEC 517.45(C)
3		Ambulatory surgical clinic essential electrical system shall be supplied by a generator with a minimum of four hours of on-site fuel. Main fuel tank shall have a minimum capacity of at least 133% of the low-fuel sensor.	CEC 517.45(E.1) CEC 700.12(B)(2) Ex. 3 NFPA 110: 5.5.3
4		Automatic transfer switches in ambulatory surgical clinic shall have bypass isolation capability with in an-phase monitor relay.	CEC 517.31(B)(B)(3)
5		Hemodialysis clinic shall have egress lighting and exit signs with at least ninety minutes of battery backup.	CEC 517.45(H)(1)

APPENDIX

OSHPD PIN: Policy Intent Notice. Office of Statewide Health Planning and Development Facility Development Division's policy on a specific subject. PINs can be found on the following webpage:

<https://oshpd.ca.gov/construction-finance/codes-and-regulations/#PINs>

OSHPD CAN: Code Application Notice. Interpretation of specific sections of the California Building Standards Code. CANs can be found on the following webpage:

<https://oshpd.ca.gov/construction-finance/codes-and-regulations/#CANs>

OSHPD Facilities Development Division Website:

<https://oshpd.ca.gov/construction-finance/>

Guide for Working on Projects Under OSHPD Jurisdiction – Tips from the Experts:

<https://oshpd.ca.gov/ml/v1/resources/document?rs:path=/Construction-And-Finance/Documents/Hospital-Building-Safety-Board/Guide-Working-on-Projects-OSHPD-Jurisdiction-Tips-from-Experts.pdf>

OSHPD Testing, Inspection, and Observation Form:

<https://oshpd.ca.gov/construction-finance/resources/forms-applications-reminder-lists/#TIO>

Link to Title 24 California Building Standards Code:

<https://oshpd.ca.gov/construction-finance/codes-and-regulations/#title-24-california-building-standards-code>

OSHPD Region Map

<https://oshpd.ca.gov/construction-finance/building-and-construction-projects/building-permits-construction-observation/#RegionAssignments>

OSHPD Phone List

<https://oshpd.ca.gov/construction-finance/resources/fdd-phone-list/>

OSHPD Electrical Guidelines

<https://oshpd.ca.gov/construction-finance/building-and-construction-projects/comments-activities/>

Revision History

12-01-2020: Final version.

8-10-2021: Revision A

- Addition of CPC 321.0 to plumbing fixtures. Correct code references in exam rooms and operating rooms.
- Addition of requiring life-safety circuit and additional circuit for egress illumination in egress pathways and staircases.
- Added statement that coordination studies are to be submitted to the Office for review and to be listed as a deferred approval on the title sheet
- Addition of Essential Electrical System Testing requirements.
- Updated code requirement for elevator pit lighting and receptacle branch circuits.
- Added section 10 in Telecom and Technology rooms to clarify central UPS systems not allowed in Telecom and Technology rooms.
- Moved Pre-Op from critical care to general care requirements due to use clarification.
- Updated guidelines with the CBC July 2021 updates:
- Added CEC 517.1(B) to Device installation and identification sections
- Added CEC and CFC code references for Solar (PV) Systems, Direct Current Microgrids, Large PV systems, Energy Storage Systems, and Fuel Cells.
- Deleted NFPA 99 references.
- Add requirement for Elevator Seismic Switch
- Added CMC 320.4.2 and CPC 310.13 and mechanical and plumbing equipment restrictions for Technology and Telecommunication rooms.