INITIAL EXPRESS TERMS  
FOR PROPOSED BUILDING STANDARDS  
OF THE **OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT**  
REGARDING THE **2019 CALIFORNIA MECHANICAL CODE**  
CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART **4**

**(OSHPD 05/19)**

The State agency shall draft the regulations in plain, straightforward language, avoiding technical terms as much as possible and using a coherent and easily readable style. The agency shall draft the regulation in plain English. A notation shall follow the express terms of each regulation listing the specific statutes authorizing the adoption and listing specific statutes being implemented, interpreted, or made specific (Government Code Section 11346.2(a)(1)).

If using assistive technology, please adjust your settings to recognize underline, strikeout, italic and ellipsis.

## LEGEND for EXPRESS TERMS (Based on model codes - Parts 2, 2.5, 3, 4, 5, 9, 10)

1. Model Code language appears upright
2. Existing California amendments appear in *italic*
3. Amended model code or new California amendments appear *underlined & italic*
4. Repealed model code language appears ~~upright and in strikeout~~
5. Repealed California amendments appear in *~~italic and strikeout~~*
6. Ellipsis (...) indicate existing text remains unchanged

**INITIAL EXPRESS TERMS**

# ITEM 1

OSHPD adds the term “SPC or freestanding”. This is done to establish consistency with Title 24, Part 2. OSHPD clarifies the proper authority having jurisdiction for OSHPD 4 facilities as the Department of Corrections and Rehabilitation.

## CHAPTER 1

## ADMINISTRATION

## DIVISION 1

## CALIFORNIA ADMINISTRATION

…

***1.10.1 OSHPD 1 and OSHPD 1R.***

…

***OSHPD 1 and OSHPD 1R***

***Application – [OSHPD 1]*** *General acute-care hospital buildings. [OSHPD 1R] Non-conforming hospital SPC or freestanding buildings that have been removed from acute care service.*

…

***1.10.4 OSHPD 4.*** *Specific scope of application of the agency responsible for enforcement, enforcement agency, specific authority to adopt and enforce such provisions of this code, unless otherwise stated.*

***OSHPD 4***

***Application*** *– Correctional Treatment Centers.*

***Enforcing Agency*** *– California Department of Corrections and Rehabilitation ~~Office of Statewide Health Planning and Development (OSHPD). The Office shall also enforce the Division of the State Architect access compliance regulations and the regulations of the Office of the State Fire Marshal for the above stated facility types.~~*

…

**Notation:**

Authority: Health and Safety Code, Sections 1275, 18928, 129790, and 129850

Reference: Health and Safety Code, Section 129850

# ITEM 2

OSHPD adds “1R” and “5” to the banner for Authority Having Jurisdiction. This is done to establish consistency with Title 24, Part 2.

## CHAPTER 2

## DEFINITIONS

…

**203.0** **– A –**

…

**Authority Having Jurisdiction.** …Authority Having Jurisdiction’s duty authorized representative. ***[OSHPD 1, 1R,*** ***2, 3,~~& 4~~ & 5]*** *…*

…

**Notation:**

Authority: Health and Safety Code, Sections 1275, 18928, 129790, and 129850

Reference: Health and Safety Code, Section 129850

# ITEM 3

OSHPD adds a section to act as a pointer to Section 309 of Title 24, Part 2 for general requirements.Un-adopt section 303.2 to allow for clarification and the application of more-current NFPA requirements boiler installations in a new section, 1001.2.1.Add the requirement that mechanical equipment will remain operable in the event of a controls network failure. Add appropriate references to Title 24, Part 2 for systems and utilities. Change the name of the space “Data Equipment Rooms” to “Technology Equipment Centers” to establish consistency with a recent change in Title 24, Part 2. Add requirement for redundant cooling in Technology Equipment Center Room to ensure that if there is an outage, the space has cooling to secure critical patient data. This is done to keep the computer systems operational if there is a loss of primary cooling and to assist in continued patient care. Specify that fans are on essential power so that they remain operable in order to deliver hot air while heating equipment is already required to be on essential power. This applies to areas not categorized as sensitive as per Section 322.0.

Require that mechanical equipment schedules in construction documents include essential power requirements and special seismic certifications. This will prompt design professionals to submit complete documentation for review and construction.

## CHAPTER 3

## GENERAL REGULATIONS

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***301.7 OSHPD 1R [OSHPD 1R].*** *For OSHPD 1R, refer to Section 309 of California Existing Building Code for general requirements.*

…

**303.2 Closet or Alcove Installations. *[Not adopted for OSHPD 1, 1R, 2, 3, 4 & 5]*** …***~~[OSHPD 1, 1R, 2, 3, 4 & 5]~~*** *~~The total volume of the boilers shall be based on the total number of central-heating boilers that can operate at the same time.~~*

***~~Exception: [OSHPD 1, 1R, 2, 3, 4 & 5]~~*** *~~A 25 percent reduction in the boiler room volume is allowed with forced-draft boilers and approved ventilation of the boiler room. In no case shall boiler room volume or clearances be reduced below those required by the conditions of the boiler listing. The boiler and the boiler room ventilation system, including fans, controls, and damper motors shall be on emergency power when required by Section 321.0. The ventilation system shall either operate continuously, or, if interlocked with the boiler(s) it shall not interfere with the proper boiler operation.~~*

…

***306.2 Building Automation Systems. [OSHPD 1]*** *Building automation systems shall provide for localized control in the event of network failure. This capability shall be specified in the construction documentation.*

…

***318.2 Services/System and Utilities.*** *Refer to Section 1224.4.1, 1225.2.1 and 1228.4.1.1 of the California Building Code.*

…

…

***320.3 Requirements for Outpatient Facilities and Licensed Clinics. [For OSHPD 3]***

***320.3.1*** *The system shall be designed to provide the temperature and ~~humidity’s~~  humidities* *for sensitive areas for rooms shown in Table 4-A.*

…

***320.4 Telephone and Technology Equipment Centers ~~Data Equipment Rooms~~. [OSHPD 1 & 4]***

*…*

***320.4.4*** *Technology equipment centers shall have redundant cooling systems each of sufficient capacity to provide required cooling during periods of breakdown or maintenance of either system. One system shall be non-hydronic and on essential power*.

…

***321.0 Essential Mechanical Provisions. [OSHPD 1, 1R, 2, 3 (Surgical Clinics only) 4 & 5]***

*…*

***321.1*** (Does not apply to OSHPD 3 surgical clinic.) All heating equipment and fans necessary to maintain a minimum temperature of …

…

***321.2*** All heating equipment and fans necessary to maintain the minimum temperatures …

***323.0 Mechanical Equipment Schedules. [OSHPD 1, 1R, 2, 4 & 5]*** *Mechanical equipment schedules in the construction documents shall clearly indicate which equipment will be powered by essential power or appropriate special seismic certifications.*

*…*

**Notation:**

Authority: Health and Safety Code, Sections 1275, 18928, 129790, and 129850

Reference: Health and Safety Code, Section 129850

# ITEM 4

OSHPD included in Section 402 for ventilation. Remove the reference to FGI guidelines. Clarify that ASHRAE 62.1 applies to non-medical spaces. Eliminates some sections not suitable for medical facility ventilation being applied to OSHPD facilities. Brings requirements for in-room recirculating HVAC equipment in line with those in ASHRAE 170. Removal of the term “1R” from multiple banners as it is inappropriate to have it here. Removal of the 100% outdoor air column from Table 4-A as this is not supported by ASHRAE 170 in places where it is a condition for lower air changes per hour in a space. Requirements for compounding suite added for asepsis.

## CHAPTER 4

## VENTILATION AIR

…

**402.0 Ventilation Air.** *~~[Not Permitted for OSHPD 1,2,3 & 4]~~*

**402.1 Occupiable Spaces.** Occupiable spaces listed in Table 402.1 ***[OSHPD 1, 1R, 2, 3, 4 & 5]*** *and Table 4-A* shall be designed to have ventilation (outdoor) air for occupants in accordance with this chapter.

…

**402.1.3 Ventilation in Health Care Facilities.** … *~~as published with “Guidelines for Design and Construction of Hospitals and Outpatient Facilities,” 2014 edition~~* *~~(published by the Facility Guidelines Institute)~~*

…

**402.1.3(1)** *Ventilation rates for areas not specified in Table 4-A shall have minimum ventilation and air change rates per ANSI/ASHRAE Standard 62.1. Where areas with prescribed ventilation rates in both Standards 62.1 and Table 4-A exist, the higher of the two air change rates shall be used.*

…

**402.2** **Natural Ventilation.** *[Not permitted for OSHPD 1, 2, 3, 4 & 5]*

*…*

**402.3** **Mechanical Ventilation.** *[Not permitted for OSHPD 1, 2, 3, 4 & 5]*

…

**403.0** **Ventilation Rates.** *[Not permitted for OSHPD 1, 2, 3, 4 & 5 spaces listed in Table 4-A]*

…

**407.0 Ventilation System Details. [OSHPD 1, 1R, 2, 3, 4 & 5]**

…

***407.4.1.7 Recirculating Room Units.*** *For spaces where Table 4-A permits air to be recirculated by room units, the portion of the minimum total air changes per hour required for a space that is greater than the minimum outdoor air changes per hour required component may be provided by recirculating room HVAC units. Such recirculating room HVAC units shall*

1. *not receive nonfiltered, nonconditioned outdoor air;*
2. *serve only a single space; and*
3. *provide filtration per Section 408.2 and 408.3 for airflow passing over any surface that is designed to condense water. This filter shall be located upstream of any such cold surface, so that all of the air passing over the cold surface is filtered.*

*…*

***408.0 Filters. [OSHPD 1, 1R, 2, 3, 4 & 5]***

…

***408.2 Filters for Hospitals.***

***408.2.1*** *All air-ventilation systems shall comply with code requirements of this section and shall have filter bank efficiencies as listed in Table 4-B.*

***408.2.2*** *Noncentral recirculating air systems providing cooling to high heat producing equipment located in nonsensitive areas shall have a filter with ~~30 percent average efficiency based on ASHRAE 52.2 or a~~ minimum efficiency reporting value (MERV) of ~~8~~* *6 based on ASHRAE 52.2.*

***408.2.3*** *Noncentral air systems serving any areas not listed in Table 4-B shall ~~be provided with filter arrangement and efficiency specifically approved by the enforcing agency~~ have a filter with minimum efficiency reporting value (MERV) of 6 based on ASHRAE 52.2.*

***408.2.4*** *Noncentral recirculating air handling systems, for example, through-the-wall units, fan coil units, and heat pumps may be utilized for single patient rooms of one or more beds. Filtration for these units shall have a* *filter with* *~~minimum weight arrestance value of 50 percent, based on ASHRAE 52.2 or a~~ minimum efficiency reporting value (MERV) of* *~~1~~ 6,* *based on ASHRAE 52.2. The air ventilation system providing the minimum air changes of outdoor air shall comply with Table 4-B. These units may be used as recirculating units only. All outdoor air requirements shall be met by a separate central air handling system~~s~~.*

*…*

***408.3 Filters for Skilled Nursing Facilities, Intermediate Care Facilities, and Correctional Treatment Centers.***

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***408.3.3*** *Noncentral recirculating air-handling systems, i.e. through the wall units, may be utilized for each patient room with one or more beds. Filtration for these units shall have a filter with* *~~minimum weight arrestance value of 50 percent, based on ASHRAE 52.2 or a~~ minimum efficiency reporting value (MERV) of ~~1~~* *6, based on ASHRAE 52.2. The air ventilation system providing the minimum air changes of outdoor air shall comply with Table 4-C. These units may be used as recirculating units only. All outdoor air requirements shall be met by a separate central air handling system.*

…

***411.0 Kitchen and Dining Areas.*** ***[OSHPD 1, ~~1R,~~ 2, 3, 4 & 5]***

*…*

***412.0 Boiler, Mechanical, and Electrical Rooms.*** ***[OSHPD 1, ~~1R,~~ 2, 3, 4 & 5]***

*…*

***413.0 Odorous Rooms.*** ***[OSHPD 1, ~~1R,~~ 2, 3, 4 & 5]***

*…*

***414.0 Airborne Infection Isolation Rooms.*** ***[OSHPD 1, ~~1R,~~ 2, 3, 4 & 5]***

*…*

***415.0 Protective Environment Rooms.*** ***[OSHPD 1, ~~1R,~~ 2, 3, 4 & 5]***

*…*

***416.0 Alarms – Airborne Infection Isolation Rooms and Protective Environment Rooms.*** ***[OSHPD 1, ~~1R,~~ 2, 3, 4 & 5]***

*…*

***417.0 Testing of Balancing Airborne Infection Isolation Rooms and Protective Environment Rooms.*** ***[OSHPD 1, ~~1R,~~ 2, 3, 4 & 5]***

*…*

*…*

### TABLE 4-A

### PRESSURE RELATIONSHIP AND VENTILATION REQUIREMENTS FOR GENERAL ACUTE CARE HOSPITALS, SKILLED NURSING FACILITIES, INTERMEDIATE CARE FACILITIES, CORRECTIONAL TREATMENT CENTERS, OUTPATIENT FACILITIES, AND LICENSED CLINICS

| **Function or Space** | **Pressure Relationship to Adjacent Areas (f) (n)** | **Minimum Outdoor ach** | **Minimum Total ach** | ***~~Minimum Total ach if 100% O.A.~~*** | **All Room Air Exhausted Directly to Outdoors (j)** | **Air Recirculated**  **by Means of**  **Room**  **Units (a)** | **Design Relative Humidity(k), %** | **Design**  **Temperature(l),oF/oC** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Airborne infection isolation anteroom (u) | (e) | NR | 10 | *~~10~~* | Yes | No | NR | NR |
| Airborne infection isolation room (u) | Negative | 2 | 12 | *~~12~~* | Yes | No | *max 60* | 70-75/21-24 |
| *Airborne infection isolation treatment/exam room* | *Negative* | *2* | *12* | *~~12~~* | *Yes* | *No* | *NR* | *NR* |
| *Angiography room* | *Positive* | *~~5~~3* | *15* | *~~12~~* | *NR* | *No* | *~~NR~~max 60* | *~~NR~~70-75/21-24* |
| Bathing room | Negative | NR | 10 | *~~NR~~* | Yes | No | NR | 70-75/21-24 |
| Bathroom | Negative | NR | 10 | *~~10~~* | Yes | No | NR | 72-78/22-26 |
| Bedpan room | Negative | NR | 10 | *~~10~~* | Yes | No | NR | NR |
| *Blood bank/tissue storage* | *NR* | *2* | *6* | *~~6~~* | *NR* | *NR* | *NR* | *NR* |
| *Blood draw/phlebotomy* | *NR* | *2* | *6* | *~~6~~* | *NR* | *NR* | *NR* | *NR* |
| Bronchoscopy, sputum collection, and pentamidine administration (n) | Negative | 2 | 12 | *~~12~~* | Yes | No | NR | 68-73/20-23 |
| *Cardiac catheterization lab* | *Positive* | *~~5~~3* | *~~20~~15* | *~~12~~* | *NR* | *No* | *max 60* | *70-75/21-24* |
| Clean linen storage | Positive | NR | 2 | *~~2~~* | NR | NR | NR | 72-78/22-26 |
| Clean workroom (central medical and surgical supply space)  supply) | Positive | 2 | 4 | *~~4~~* | NR | No | max 60 | 72-78/22-26 |
| Clean workroom or clean holding (support)  space) | Positive | 2 | 4 | *~~4~~* | NR | NR | NR | NR |
| Critical and intensive care | NR | 2 | 6 | *~~6~~* | NR | No | 30-60 | 70-75/21-24 |
| *CT Scan* | *NR* | *2* | *6* | *~~6~~* | *NR* | *NR* | *max 60* | *NR* |
| Darkroom (g) | Negative | 2 | 10 | *~~12~~* | Yes | No | NR | NR |
| Delivery room (caesarean) (m), (n), (o) | Positive | 4 | 20 | *~~12~~* | NR | No | 20-60 | 68-75/20-24 |
| Dialysis treatment area | NR | 2 | 6 | *~~6~~* | NR | NR | NR | 72-78/22-26 |
| Dialyzer reprocessing room | Negative | NR | 10 | *~~NR~~* | Yes | No | NR | NR |
| Dietary storage | NR | NR | 2 | *~~2~~* | NR | No | NR | 72-78/22-26 |
| *Electroconvulsive therapy procedure room* | *P* | *3* | *15* | *~~10~~* | *NR* | *NR* | *NR* | *NR* |
| Emergency department exam/treatment room (p) | NR | 2 | 6 | *~~6~~* | NR | NR | max 60 | 70-75/21-24 |
| Endoscope cleaning | Negative | 2 | 10 | *~~10~~* | Yes | No | NR | NR |
| ER decontamination | Negative | 2 | 12 | *~~4~~* | Yes | No | NR | NR |
| ER waiting rooms | Negative | 2 | 12 | *~~12~~* | Yes (q) | NR | max 65 | 70-75/21-24 |
| Examination room | NR | 2 | 6 | *~~6~~* | NR | NR | max 60 | 70-75/21-24 |
| *Fast track room* | *NR* | *2* | *6* | *~~2~~* | *NR* | *NR* | *NR* | *NR* |
| *Fluoroscopy room* | *Negative* | *2* | *6* | *~~6~~* | *Yes* | *No* | *NR* | *NR* |
| Food preparation center (i) | NR | 2 | 10 | *~~10~~* | NR | No | NR | 72-78/22-26 |
| *Gamma camera* | *NR* | *2* | *6* | *~~6~~* | *NR* | *No* | *NR* | *NR* |
| Gastrointestinal endoscopy procedure room (x) | NR | 2 | 6 | *~~12~~* | NR | No | 20-60 | 68-73/20-23 |
| Hazardous material storage | Negative | 2 | 10 | *~~10~~* | Yes | No | NR | NR |
| Hydrotherapy | Negative | 2 | 6 | *~~6~~* | NR | NR | NR | 72-80/22-27 |
| *Infusion room* | *Positive* | *2* | *6* | *~~6~~* | *NR* | *NR* | *NR* | *NR* |
| Intermediate care (s) | NR | 2 | 6 | *~~6~~* | NR | NR | max 60 | 70-75/21-24 |
| *Interventional imaging procedure room* | *Positive* | *5* | *15* | *~~12~~* | *NR* | *NR* | *NR* | *NR* |
| *IV Prep. Room* | *Positive* | *2* | *6* | *~~6~~* | *NR* | *NR* | *NR* | *NR* |
| Janitor's closet, *housekeeping* | Negative | NR | 10 | *~~10~~* | Yes | No | NR | NR |
| Labor/delivery/recovery (LDR) (s) | NR | 2 | 6 | *~~2~~* | NR | NR | max 60 | 70-75/21-24 |
| Labor/delivery/recovery/postpartum (LDRP) (s) | NR | 2 | 6 | *~~2~~* | NR | NR | max 60 | 70-75/21-24 |
| Laboratory, bacteriology (v ) | Negative | 2 | 6 | *~~6~~* | Yes | NR | NR | 70-75/21-24 |
| Laboratory, biochemistry (v) | Negative | 2 | 6 | *~~6~~* | Yes | NR | NR | 70-75/21-24 |
| Laboratory, cytology (v) | Negative | 2 | 6 | *~~6~~* | Yes | NR | NR | 70-75/21-24 |
| Laboratory, general (v) | Negative | 2 | 6 | *~~6~~* | NR | NR | NR | 70-75/21-24 |
| Laboratory, glasswashing | Negative | 2 | 10 | *~~10~~* | Yes | NR | NR | NR |
| Laboratory, histology (v) | Negative | 2 | 6 | *~~6~~* | Yes | NR | NR | 70-75/2 1-24 |
| Laboratory, infectious disease and virus | Negative | 2 | 6 | *~~6~~* | Yes | NR | NR | 70-75/21-24 |
| Laboratory, media transfer (v) | Positive | 2 | 4 | *~~4~~* | NR | NR | NR | 70-75/21-24 |
| Laboratory, microbiology (v) | Negative | 2 | 6 | *~~6~~* | Yes | NR | NR | 70-75/21-24 |
| Laboratory, nuclear medicine (v) | Negative | 2 | 6 | *~~6~~* | Yes | NR | NR | 70-75/21-24 |
| Laboratory, pathology (v) | Negative | 2 | 6 | *~~6~~* | Yes | NR | NR | 70-75/21-24 |
| Laboratory, serology (v) | Negative | 2 | 6 | *~~6~~* | Yes | NR | NR | 70-75/21-24 |
| Laboratory, sterilizing | Negative | 2 | 10 | *~~10~~* | Yes | NR | NR | 70-75/21-24 |
| *Lactation* | *NR* | *2* | *6* | *~~2~~* | *NR* | *NR* | *NR* | *NR* |
| Laser eye room | Positive | 3 | 15 | *~~15~~* | NR | No | 20-60 | 70-75/21-24 |
| Laundry, general | Negative | 2 | 10 | *~~10~~* | Yes | No | NR | NR |
| Linen and trash chute room | Negative | NR | 10 | *~~10~~* | Yes | No | NR | NR |
| Medical/anesthesia gas storage (r) | Negative | NR | 8 | *~~8~~* | Yes | NR | NR | NR |
| Medication room | NR | 2 | 4 | *~~2~~* | NR | NR | max 60 | 70-75/21-24 |
| *Morgues and* autopsy room (n) | Negative | 2 | 12 | *~~12~~* | Yes | No | NR | 68-75/20-24 |
| *MRI room* | *NR* | *2* | *6* | *~~6~~* | *NR* | *NR* | *NR* | *NR* |
| *Negative-pressure x-ray room* | *Negative* | *2* | *12* | *~~12~~* | *Yes* | *No* | *max 60* | *72-78/22-26* |
| Newborn intensive care | Positive | 2 | 6 | *~~6~~* | NR | No | 30-60 | 72-78/22-26 |
| *Newborn intensive care formula room* | *P* | *2* | *10* | *~~10~~* | *NR* | *No* | *NR* | *NR* |
| Newborn/*well baby* nursery suite | NR | 2 | 6 | *~~6~~* | NR | No | 30-60 | 72-78/22-26 |
| Nonrefrigerated body-holding room (h) | Negative | NR | 10 | *~~10~~* | Yes | No | NR | 70-75/21-24 |
| Nourishment area or room | NR | NR | 2 | *~~2~~* | NR | NR | NR | NR |
| *Nuclear medicine (Gamma, PET, SPECT)* | *Negative* | *2* | *6* | *~~6~~* | *Yes* | *No* | *NR* | *NR* |
| Nuclear medicine hot lab | Negative | NR | 6 | *~~6~~* | Yes | No | NR | 70-75/21-24 |
| Nuclear medicine treatment room | Negative | 2 | 6 | *~~6~~* | Yes | NR | NR | 70-75/21-24 |
| *Nurse station (aa)* | *(aa)* | *(aa)* | *2* | *~~2~~* | *(aa)* | *(aa)* | *(aa)* | *(aa)* |
| *Observation* | *NR* | *2* | *6* | *~~2~~* | *NR* | *NR* | *NR* | *70-75/21-24* |
| Occupational therapy | NR | *2* | *6* | *~~6~~* | NR | NR | NR | 70-75/21-24 |
| Operating room, *hybrid operating room* (m), (n), (o) | Positive | 4 | 20 | *~~12~~* | NR | No | 20-60 | 68-75/20-24 |
| Operating/surgical cystoscopic room (m), (n), (o) | Positive | 4 | 20 | *~~12~~* | NR | No | 20-60 | 68-75/20-24 |
| Patient corridor | NR | NR | 2 | *~~2~~* | NR | NR | NR | NR |
| *Patient holding preparation* | *NR* | *2* | *6* | *~~6~~* | *NR* | *No* | *NR* | *NR* |
| Patient room | NR | 2 | 4 (y) | *~~2~~* | NR | NR | max 60 | 70-75/21-24 |
| *Pediatric play area* | *NR* | *2* | *6* | *~~6~~* | *NR* | *NR* | *NR* | *NR* |
| Pharmacy (b) | Positive | 2 | 4 | *~~2~~* | NR | NR | NR | NR |
| *Drug room* | *NR* | *2* | *4* | *~~2~~* | *NR* | *NR* | *NR* | *NR* |
| *HD ante room (b)* | *Positive* | *NR* | *NR* | *~~NR~~* | *NR* | *NR* | *<60* | *≤68/≤20* |
| *HD buffer room (b)* | *Negative* | *NR* | *30* | *~~30~~* | *Yes* | *No* | *<60* | *≤68/≤20* |
| *HD segregated compounding area (ab)* | *Negative* | *NR* | *12* | *~~12~~* | *Yes* | *NR* | *NR* | *NR* |
| *HD storage (b)* | *Negative* | *NR* | *12* | *~~12~~* | *Yes* | *NR* | *NR* | *NR* |
| *Non-HD ante room (b)* | *Positive* | *NR* | *30* | *~~30~~* | *NR* | *NR* | *<60* | *≤68/≤20* |
| *Non-HD buffer room (b)* | *Positive* | *NR* | *30* | *~~30~~* | *NR* | *No* | *<60* | *≤68/≤20* |
| *Non-HD segregated compounding area ~~(b)~~* | *NR* | *NR* | *NR* | *~~NR~~* | *NR* | *NR* | *NR* | *NR* |
| Physical therapy (nursing facility) | Negative | 2 | 6 | *~~6~~* | NR | NR | NR | 70-75/21-24 |
| Physical therapy (diagnostic and treatment) | Negative | 2 | 6 | *~~6~~* | NR | NR | max 65 | 72-80/22-27 |
| *Post-anesthesia care unit* | *NR* | *2* | *6* | *~~6~~* | *Yes* | *No* | *20-60* | *70-75/21-24* |
| *Pre-screening area* | *Negative* | *2* | *12* | *~~12~~* | *Yes (q)* | *NR* | *NR* | *NR* |
| Procedure room (o), (d) | Positive | 3 | 15 | *~~12~~* | NR | No | 20-60 | 70-75/21-24 |
| Protective environment anteroom (t) | (e) | NR | 10 | *~~15~~* | NR | No | NR | NR |
| Protective environment room (t) | Positive | 2 | 12 | *~~15~~* | NR | No | max 60 | 70-75/21-24 |
| Radiology waiting rooms | Negative | 2 | 12 | *~~12~~* | Yes (q), (w) | NR | max 60 | 70-75/21-24 |
| Recovery room | NR | 2 | 6 | *~~2~~* | NR | No | 20-60 | 70-75/21-24 |
| *Recreation/activity room* | *NR* | *2* | *6* | *~~6~~* | *NR* | *NR* | *NR* | *NR* |
| Resident gathering/activity/dining (nursing facility)  facility) | NR | 4 | 4 | *~~4~~* | NR | NR | NR | 70-75/21-24 |
| Resident room (nursing facility) | NR | 2 | 2 | *~~2~~* | NR | NR | NR | 70-75/21-24 |
| Resident unit corridor (nursing facility) | NR | NR | 4 | *~~2~~* | NR | NR | NR | NR |
| *Seclusion room* | *NR* | *2* | *6* | *~~2~~* | *NR* | *NR* | *NR* | *NR* |
| *Semi-restricted corridor* | *NR* | *2* | *4* | *~~2~~* | *NR* | *NR* | *NR* | *NR* |
| *Shower room* | *Negative* | *NR* | *10* | *~~NR~~* | *Yes* | *No* | *NR* | *NR* |
| Soiled linen sorting and storage | Negative | NR | 10 | *~~10~~* | Yes | No | NR | NR |
| Soiled or decontamination room | Negative | 2 | 6 | *~~4~~* | Yes | No | NR | 72-78/22-26 |
| Soiled workroom or soiled holding, *utility room* | Negative | 2 | 10 | *~~4~~* | Yes | No | NR | NR |
| *Special purpose room (SNF & ICF only)* | *NR* | *2* | *6* | *~~6~~* | *Yes* | *NR* | *NR* | *NR* |
| *Speech therapy/audiology room* | *NR* | *2* | *6* | *~~2~~* | *NR* | *NR* | *NR* | *NR* |
| Sterile storage | Positive | 2 | 4 | *~~4~~* | NR | NR | max 60 | 72-78/22-26 |
| Sterilizer equipment room | Negative | NR | 10 | *~~10~~* | Yes | No | NR | NR |
| Substerile service area | NR | 2 | 6 | *~~6~~* | NR | No | NR | NR |
| Toilet room | Negative | NR | 10 | *~~10~~* | Yes | No | NR | NR |
| Trauma/*cardiac* room (crisis or shock) (c) | Positive | 3 | 15 | *~~12~~* | NR | No | 20-60 | 70-75/21-24 |
| Treatment room (surgery and critical care) (p) | NR | 2 | 6 | *~~6~~* | NR | NR | 20-60 | 70-75/21-24 |
| Treatment room (diagnostic and treatment) (x) | NR | 2 | 6 | *~~6~~* | NR | NR | max 60 | 70-75/21-24 |
| Triage | Negative | 2 | 12 | *~~12~~* | Yes (q) | NR | max 60 | 70-75/21-24 |
| *Ultrasound room* | *NR* | *2* | *6* | *~~6~~* | *NR* | *NR* | *NR* | *NR* |
| *Unsterile supply* | *NR* | *2* | *2* | *~~2~~* | *NR* | *NR* | *NR* | *NR* |
| *Waiting area (nuclear medicine)* | *Negative* | *2* | *12* | *~~12~~* | *Yes* | *No* | *NR* | *NR* |
| *Waiting area primary care clinic* | *Negative* | *2* | *10* | *~~10~~* | *Yes(q)* | *NR* | *NR* | *NR* |
| Warewashing | Negative | NR | 10 | *~~10~~* | Yes | No | NR | NR |
| Wound intensive care (burn unit) | NR | 2 | 6 | *~~6~~* | NR | No | 40-60 | 70-75/21-24 |
| X-ray (diagnostic and treatment) | NR | 2 | 6 | *~~6~~* | NR | NR | max 60 | 72-78/22-26 |
| X-ray (surgery/critical care and catheterization) | Positive | 3 | 15 | *~~12~~* | NR | No | max 60 | 70-75/21-24 |

***Note:***NR = No requirement

***Notes for Table 4-A:***

1. Except where indicated by a “No” in this column, recirculating room HVAC units (with heating or cooling coils) are acceptable for providing that portion of the minimum total air changes per hour that is permitted by Section ~~7.1 (subparagraph [a][5])~~407.4.1.7. Because of the cleaning difficulty and potential for buildup of contamination, recirculating room units shall not be used in areas marked “No.” Recirculating devices with HEPA filters shall be permitted in existing facilities as interim, supplemental environmental controls to meet requirements for the control of airborne infectious agents. The design of either portable or fixed systems should prevent stagnation and short circuiting of airflow. The design of such systems shall also allow for easy access for scheduled preventative maintenance and cleaning.
2. *Additional air change, ISO class, ~~differential pressure,~~ continuous pressure monitoring and filtering requirements for compounding areas shall comply with California Board of Pharmacy regulations Title 16 Section 1735 & Section 1751, and USP <797> & <800>. Air supplied to the ~~cleanroom suite~~compounding buffer room and ante room must be introduced through 99.97% minimum HEPA filters located in the ceiling. At least 15 air changes per hour (ACPH) shall be provided to nonhazardous drug (non-HD) compounding buffer rooms through the ceiling. The HEPA filtered air from the PEC in the non-HD buffer room, when added to the HVAC-supplied HEPA-filtered air, shall increase the total HEPA-filtered ACPH to at least 30. If the PEC is used to meet the minimum total ACPH requirements, the PEC must not be turned off except for maintenance. All hazardous drug (HD) compounding areas and PECs shall be exhausted externally through 99.97% HEPA filtration. ~~M~~For both hazardous and non-hazardous compounding, minimum air changes shall be met under dynamic operating conditions as defined by USP. Returns and exhaust grilles shall be mounted low on the wall unless a visual smoke study demonstrates dilution of particles and sweeping out of particles from the entire room. One return/exhaust should be placed near the refrigerator compressor. Anteroom shall have a minimum pressure differential of +0.02 inches water column in relation to the adjacent, non-compounding spaces. Non-HD buffer room shall have a pressure differential of +0.02 to +0.05 inches water column in relation to the anteroom. HD buffer room shall have a pressure differential of -0.01 to -0.03 inches water column in relation to the anteroom.*
3. The term *trauma room* as used herein is a first-aid room and/or emergency room used for general initial treatment of accident victims. The operating room within the trauma center that is routinely used for emergency surgery is considered to be an operating room by this standard.
4. Pressure relationships need not be maintained when the room is unoccupied.
5. See Section 7.2 *of ASHRAE 170* and its subsections for pressure-relationship requirements.
6. *For operating rooms, cardiac catheterization labs, angiography rooms, cystoscopy rooms, delivery rooms, cesarean operating rooms, newborn intensive care, ~~intensive care units,~~ and nurseries provide approximately 15% excess supply air to the room or a sufficient quantity of excess supply air to maintain an appropriate positive air balance based on the room tightness and number of doors. For all rooms not listed in this footnote or not listed in Section 322.0 requiring either a positive or negative air balance, provide approximately 10% differential cfm between supply and return/exhaust airflow but not less than 25 cfm differential shall be provided regardless of room size. Room function, size, and tightness may be considered when determining the differential airflow required. Where continuous directional control is not required, variations between supply cfm and return or exhaust cfm shall be minimized in accordance with Section 407.4.1.3.*
7. All air need not be exhausted if darkroom equipment has a scavenging exhaust duct attached and meets ventilation standards regarding NIOSH, OSHA, and local employee exposure limits.2,3
8. A nonrefrigerated body-holding room is applicable only to facilities that do not perform autopsies on-site and use the space for short periods while waiting for the body to be transferred.
9. Minimum total air changes per hour (ach) shall be that required to provide proper makeup air to kitchen exhaust systems as specified in ANSI/ASHRAE Standard 154.4 In some cases, excess exfiltration or infiltration to or from exit corridors compromises the exit corridor restrictions of NFPA 90A,5 the pressure requirements of NFPA 96,6 or the maximum defined in the table. During operation, a reduction to the number of air changes to any extent required for odor control shall be permitted when the space is not in use. (See FGI [2010] in Informative Appendix B.)
10. In some areas with potential contamination and/or odor problems, exhaust air shall be discharged directly to the outdoors and not recirculated to other areas. Individual circumstances may require special consideration for air exhausted to the outdoors. To satisfy exhaust needs, constant replacement air from the outdoors is necessary when the system is in operation.
11. The RH ranges listed are the minimum and/or maximum allowable at any point within the design temperature range required for that space.
12. Systems shall be capable of maintaining the rooms within the range during normal operation. Lower or higher temperature shall be permitted when patients’ comfort and/or medical conditions require those conditions.
13. Institute for Occupational Safety and Health (NIOSH) criteria documents regarding occupational exposure to waste anesthetic gases and vapors, and control of occupational exposure to nitrous oxide7 indicate a need for both local exhaust (scavenging) systems and general ventilation of the areas in which the respective gases are utilized. Refer to NFPA 99 for other requirements.8
14. If pressure-monitoring device alarms are installed, allowances shall be made to prevent nuisance alarms. Short-term excursions from required pressure relationships shall be allowed while doors are moving or temporarily open. Simple visual methods such as smoke trail, ball-in-tube, or flutterstrip shall be permitted for verification of airflow direction.
15. Surgeons or surgical procedures may require room temperatures, ventilation rates, humidity ranges, and/or air distribution methods that exceed the minimum indicated ranges.
16. Treatment rooms used for bronchoscopy shall be treated as bronchoscopy rooms. Treatment rooms used for procedures with nitrous oxide shall contain provisions for exhausting anesthetic waste gases.
17. In a recirculating ventilation system, HEPA filters shall be permitted instead of exhausting the air from these spaces to the outdoors provided that the return air passes through the HEPA filters before it is introduced into any other spaces. The entire minimum total air changes per hour of recirculating airflow shall pass through HEPA filters. When these areas are open to larger, nonwaiting spaces, the exhaust air volume shall be calculated based on the seating area of the waiting area. (**Note:** The intent here is to not require the volume calculation to include a very large space [e.g., an atrium] just because a waiting area opens onto it.)
18. See NFPA 99 for further requirements.8
19. For intermediate care, labor/delivery/recovery rooms, and labor/delivery/recovery/postpartum rooms, four total ach shall be permitted when supplemental heating and/or cooling systems (radiant heating and cooling, baseboard heating, etc.) are used.
20. The protective environment airflow design specifications protect the patient from common environmental airborne infectious microbes (i.e., Aspergillus spores). *The anteroom shall have negative air pressure in relation to the protective environment room. A door louver, transfer grille, or other acceptable means may be provided to allow for airflow from the protective environment room to the anteroom. The protective environment room shall have positive-pressure in relation to the anteroom and adjoining toilet room.* Recirculation HEPA filters shall be permitted to increase the equivalent room air exchanges; however, the outdoor air changes are still required. Constant-volume airflow is required for consistent ventilation for the protected environment. The pressure relationship to adjacent areas shall remain unchanged if the PE room is utilized as a normal patient room. Rooms with reversible airflow provisions for the purpose of switching between protective environment and AII functions shall not be permitted.
21. The AII room described in this standard shall be used for isolating the airborne spread of infectious diseases, such as measles, varicella, or tuberculosis. *The airborne infection isolation room shall have negative pressure in relation to the anteroom, and the adjoining toilet room shall have negative pressure in relation to the airborne infection isolation room.* Supplemental recirculating devices using HEPA filters shall be permitted in the AII room to increase the equivalent room air exchanges; however, the minimum outdoor air changes of Table 4-A are still required. AII rooms that are retrofitted from standard patient rooms from which it is impractical to exhaust directly outdoors may be recirculated with air from the AII room, provided that air first passes through a HEPA filter. When the AII room is not utilized for airborne infection isolation, the pressure relationship to adjacent areas, when measured with the door closed, shall remain unchanged and the minimum total air change rate shall be 6 ach. Switching controls for reversible airflow provisions shall not be permitted. *The anteroom shall have positive air pressure in relation to the airborne infection isolation room. A door louver, transfer grille, or other acceptable means may be provided to allow for airflow from the anteroom to the airborne infection isolation room.*
22. When required, appropriate hoods and exhaust devices for the removal of noxious gases or chemical vapors shall be provided in accordance with NFPA 99.8
23. The requirement that all room air is exhausted directly to outdoors applies only to radiology waiting rooms programmed to hold patients who are waiting for chest x-rays for diagnosis of respiratory disease.
24. If the planned space is designated in the organization’s operational plan to be utilized for both bronchoscopy and gastrointestinal endoscopy, the design parameters for “bronchoscopy, sputum collection, and pentamidine administration” shall be used.
25. For single-bed patient rooms using Group D diffusers, a minimum of six total ach shall be provided and calculated based on the volume from finished floor to 6 ft (1.83 m) above the floor.
26. *This* table *is based on Table 7.1 in ASHRAE 170, “Ventilation of Healthcare Facilities”, and is used with expressed written permission from* ASHRAE*.*
27. *Nurse station pressure relationship and ventilation requirements shall match the area in which it is located.*
28. *~~Air change per hour and ventilation rates for spaces not listed in Table 4-A may be per ASHRAE 62.1.~~ HD segregated compounding area shall have a differential pressure of -0.01 to -0.03 inches water column in relation to adjacent areas and a minimum of 12 air changes per hour.*

…

**Notation:**

Authority: Health and Safety Code, Sections 1275, 18928, 129790, and 129850

Reference: Health and Safety Code, Section 129850

# ITEM 5

OSHPD adds requirements to roof exhaust systems for compounding to enhance safety.

## CHAPTER 5

## EXHAUST SYSTEMS

…

***507.7 Pharmaceutical Compounding Exhaust Discharge. [OSHPD 1, 2, 3, 4 & 5]*** *Exhaust discharge from fans serving the compounding suite shall extend at least 7 feet (2134 mm) above the roof and discharge vertically upward. Self-draining stacks or equivalent shall be used for rain protection. Rain caps which divert the exhaust toward the roof shall be prohibited.*

…

**Notation:**

Authority: Health and Safety Code, Sections 1275, 18928, 129790, and 129850

Reference: Health and Safety Code, Section 129850

# ITEM 6

Removing one word (terminal) to clarify the information. Minor editorial change.

## CHAPTER 6

## DUCT SYSTEMS

*…*

***604.2 [OSHPD 1, 1R, 2, 3 (surgical clinics), 4 & 5]*** … *unless ~~terminal~~ filters with 90 percent average efficiency…*

*…*

**Notation:**

Authority: Health and Safety Code, Sections 1275, 18928, 129790, and 129850

Reference: Health and Safety Code, Section 129850

**ITEM 7**

OSHPD modifies code language to bring boiler room requirements up to modern practice as per NFPA 54.

## CHAPTER 10

## BOILERS AND PRESSURE VESSELS

…

**1001.2 Boiler Rooms and Enclosures.** Boiler rooms and enclosures shall comply with the building code.

***1001.2.1 [OSHPD 1, 1R, 2, 3, 4, 5 & 5]*** *In no case shall boiler room volume or clearances be reduced below those required by the conditions of the boiler listing. The boiler and the boiler room ventilation system, including fans, controls, and damper motors shall be on essential power when required by Section 321.0. The ventilation system shall either operate continuously, or, if interlocked with the boiler(s) it shall not interfere with the proper boiler operation. Listed boilers shall be installed with clearances in accordance with the manufacturer’s instructions.*

…

**Notation:**

Authority: Health and Safety Code, Sections 1275, 18928, 129790, and 129850

Reference: Health and Safety Code, Section 129850

# ITEM 8

OSHPD proposes to remove the reduction of maximum allowable refrigerant quantities for HVAC systems serving technology equipment centers.

## CHAPTER 11

## REFRIGERATION

**1104.0 Requirements for Refrigerant and Refrigeration System Use.**

…

**1104.3 Institutional Occupancies.** The amounts shown in Section 1104.2 shall be reduced by 50 percent for the areas of institutional occupancies. The total of Group A2, B2, A3, and B3 refrigerants shall not exceed 550 pounds (249.5 kg) in the occupied areas and machinery rooms of institutional occupancies.

**Exception:** The total of all Group A2L refrigerants shall not be limited in machinery rooms of institutional occupancies.

***[OSHPD 1 & 4]*** ***Exception:*** *For technology equipment centers not attached to a patient care area the amounts shown in Table 1102.2 may be calculated at 100 percent.*

…

**Notation:**

Authority: Health and Safety Code, Sections 1275, 18928, 129790, and 129850

Reference: Health and Safety Code, Section 129850