

**FINAL EXPRESS TERMS
FOR
PROPOSED BUILDING STANDARDS
OF THE
OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT

REGARDING PROPOSED CHANGES TO
CALIFORNIA MECHANICAL CODE
CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 4**

LEGEND FOR FINAL EXPRESS TERMS (combination of 45-day and 15-day changes)

1. For 45-day and 15-Day changes, existing California amendments or code language being modified appears in *italics*, with modified language underlined.
2. For 45-day and 15-Day changes, repealed text appears in ~~strikeout~~.

EXPRESS TERMS

**CHAPTER 3
GENERAL REGULATIONS**

319.0 Steam and Hot-Water Systems.

319.1 Requirements for Hospitals and Optional Services Provided in Correctional Treatment Centers. [OSHPD 1 & 4]

319.1.3 *Boiler systems providing space heating shall be designed to maintain a minimum temperature of 60°F (15.6°C) in general patient areas and the temperatures specified in Table ~~320.0 4-A~~ for sensitive areas during periods of breakdown or maintenance of any one boiler. ~~Winter design temperature shall be based on the Median of Extremes shown by the 1982 ASHRAE Climatic Data for Region X and ASHRAE 1994 Supplement to Climatic Data for Region X~~*

320.0 Air Conditioning and Heating Systems.

320.1 Requirements for Hospitals and Optional Services Provided in Correctional Treatment Centers. [OSHPD 1 & 4]

320.1.1 *The systems shall be designed to provide the temperatures and relative humidity for sensitive areas or rooms shown in Table ~~320.0 4-A~~. When outdoor humidity and internal moisture sources are not sufficient to meet the requirements of sensitive areas or rooms in Table ~~320.0 4-A~~, humidification shall be provided by means of the health-care facility air-handling systems. Temperature shall be individually controlled for each operating and delivery room. Burn unit patient rooms that require humidifiers to comply with the requirements of sensitive areas or rooms in Table ~~320.0 4-A~~ shall be provided with individual humidity control. All humidifiers shall use dry steam. Humidifiers shall be located within air handling systems or ductwork to avoid moisture accumulation in downstream components, including filters and insulation.*

320.1.2 *Heating systems shall be designed based on the "Heating DB 99.6%" column of the Climatic Design Data in ~~For occupied areas not shown in Table 320.0~~, heating systems shall be designed to provide 70°F to 75°F (21.1°C to 23.9°C) based on the Climatic Design Data in the most recent version of ASHRAE Handbook-Fundamentals. The systems shall be thermostatically controlled with appropriate zoning to achieve the above conditions.*

320.1.3 *Cooling systems shall be designed based on the 0.4% columns of the four Annual Design Conditions titled Cooling, Evaporation, Dehumidification, and Enthalpy shown by the Climatic Design Data ~~For occupied areas not shown in Table 320.0~~, cooling systems shall be*

~~designed to provide 75°F (23.9°C) maximum based on the 0.4 percent summer design dry bulb temperatures shown by the Climatic Design Data in the most recent version of ASHRAE Handbook-Fundamentals. The systems shall be thermostatically controlled with appropriate zoning to achieve the above conditions.~~

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 for sensitive areas for rooms shown in Table 320.0 4-A.~~

320.4 Telephone and Data Equipment Rooms. [OSHPD 1 & 4] Where telecommunications service entrance rooms, technology equipment centers, or technology distribution rooms are provided in accordance with Section 1224.5 of the California Building Code, the following requirements shall apply:

320.4.1 Power for HVAC systems serving the room(s) shall be supplied by the Equipment Branch pursuant to the California Electrical Code. Where redundant systems are provided, only one shall be required to be supplied by the Equipment Branch.

320.4.2 Mechanical equipment or fixtures that are not directly related to the support of the room shall not be installed in or pass through the room.

Exception: Unrelated ductwork may be installed and shall be not less than 10 feet above the finished floor.

320.4.3 HVAC systems shall be provided to maintain environmental conditions recommended in ASHRAE's Thermal Guidelines for Data Processing Environment and the requirements of the specific equipment installed.

320.5 Psychiatric Services. [OSHPD 1, 2, & 4] For projects associated with provision of psychiatric services in acute psychiatric hospitals, general acute-care hospitals, and special treatment program service units in skilled nursing facilities, psychiatric, seclusion, and holding-patient rooms shall be designed with security diffusers, grilles, and registers.

321.0 Essential Mechanical Provisions. [OSHPD 1, 2, 3 (Surgical Clinics only) & 4] During periods of power outages essential electrical power shall be provided for the following equipment:

321.1 (Does not apply to OSHPD 3 surgical clinic.) All heating equipment necessary to maintain a minimum temperature of 60°F (15.6°) in patient areas which are not specified in Section 322.0 Table 320.0.

321.2 All heating equipment necessary to maintain the minimum temperatures listed in Table 4-A for sensitive areas as specified in Section 322.0 Table 320.0.

321.3 Equipment necessary for humidification of the areas listed in Section 322.0 Table 320.0.

Note: Sections 322.0 and 322.1 are relocated and reformatted information from Table 320. This information has not been changed from the previous edition of the code.

322.0 Sensitive Areas or Rooms. [OSHPD 1, 2, 3 (Surgical Clinics) & 4] The following are sensitive areas or rooms:

- (1) Operating room, hybrid operation room
- (2) Cystoscopy
- (3) Cardiac catheterization lab
- (4) Trauma/cardiac room
- (5) Delivery room, cesarean operating room
- (6) Gastrointestinal endoscopy procedure room
- (7) Post-anesthesia care unit
- (8) Newborn nursery

- (9) *Newborn intensive-care nursery unit*
- (10) *Intensive care*
- (11) *Burn unit*

322.1 *The following conditions shall be met for sensitive areas or rooms:*

- (1) *Thermostats and humidistats shall be either locally resettable and of the non-locking type or remotely resettable and of the locking type.*
- (2) *Systems shall be capable of maintaining the rooms within the temperature range in Table 4-A during normal operation. Lower or higher temperature shall be permitted when patients' comfort and/or medical conditions require those conditions.*
- (3) *The humidity ranges listed in Table 4-A are the minimum and maximum limits where control is specifically needed.*
- (4) *Types of intensive care service spaces are listed in the California Building Code.*

CHAPTER 4 VENTILATION

402.1 Occupiable Spaces. ~~*Not permitted for OSHPD 1, 2, 3, and 4*~~ Occupiable spaces listed in Table 402.1 shall be designed to have ventilation (outdoor) air for occupants in accordance with this chapter. ...

402.1.3 Ventilation in Health Care Facilities. Mechanical ventilation for health care facilities shall be designed and installed in accordance with this code and ASHRAE 170. ~~*2013, through Addendum ae, as published with "Guidelines for Design and Construction of Hospitals and Outpatient Facilities," 2014 edition (published by The Facility Guidelines Institute). All supply-air, return air, and exhaust-air systems shall comply with ASHRAE 170. The text of ASHRAE 170 shall be modified as follows:*~~

- (1) ~~*ASHRAE 170. Section 6.1.2.1 -- Not adopted.*~~
- (2) ~~*ASHRAE 170. Section 6.3.2 -- Not adopted.*~~
- (3) ~~*ASHRAE 170. Table 6.4 - Not adopted.*~~
- (4) ~~*ASHRAE 170. Section 6.4-6.4.4 -- Not adopted.*~~
- (5) ~~*ASHRAE 170. Section 6.9 -- Not adopted.*~~
- (6) ~~*ASHRAE 170. Section 7.1a -- Modify as follows:
Replace reference to Table 7.1 with reference to Table 4-A.*~~
- (7) ~~*ASHRAE 170. Section 7.2.1a through e -- Not adopted.*~~
- (8) ~~*ASHRAE 170. Section 7.2.2 a through c, and e -- Not adopted*~~
- (9) ~~*ASHRAE 170. Section 7.2.3 -- Not adopted.*~~
- (10) ~~*ASHRAE 170. Section 7.3.1 -- Modify as follows:
Replace reference to Table 7.1 with reference to Table 4-A.*~~
- (11) ~~*ASHRAE 170. Section 7.4.1 -- Modify as follows:
Delete the Exception that allows for high return grilles.*~~

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407.2 Outdoor Air Intakes and Exhaust Outlets.

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~~**407.2.3 Relief Air Discharge.** *Building relief air discharge shall discharge at least 10 feet (3048 mm) from any outside air intake.*~~

407.3 Air Balance.

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~~**407.3.2** Where the variation in static pressure drop across filters is a significant portion of the total pressure drop, static pressure or pressure differential controls or constant volume devices may be required to ensure the maintenance of air balance relationships shown in Table 4-A regardless of filter loading.~~

~~**Exception:** This section does not pertain to skilled nursing facilities, intermediate care facilities and nonsensitive areas in correctional treatment centers, except for airborne infection isolation rooms and protective environment rooms.~~

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), °F/°C
<i>Administrative</i>	<i>NR</i>	2	4	2	<i>NR</i>	<i>NR</i>	<i>NR</i>	<i>NR</i>
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
<i>Airborne infection isolation treatment/exam</i>	<i>Negative</i>	2	12	12	Yes	<i>No</i>	<i>NR</i>	<i>NR</i>
<i>Angiography room</i>	<i>Positive</i>	5	15	12	<i>NR</i>	<i>NR</i>	<i>NR</i>	<i>NR</i>
Bathing room	Negative	NR	10	<u>NR</u>	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
<i>Blood bank/tissue storage</i>	<i>NR</i>	2	6	6	<i>NR</i>	<i>NR</i>	<i>NR</i>	<i>NR</i>
<i>Blood draw/phlebotomy</i>	<i>NR</i>	2	6	6	<i>NR</i>	<i>NR</i>	<i>NR</i>	<i>NR</i>
Bronchoscopy, sputum collection, and pentamidine administration (n)	Negative	2	12	12	Yes	No	NR	68-73/20-23
<i>Cardiac catheterization lab</i>	<i>Positive</i>	5	20	12	<i>NR</i>	<i>No</i>	<i>max 60</i>	<i>70-75/21-24</i>
Clean linen storage	Positive	NR	2	2	NR	NR	NR	72-78/22-26

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), °F/°C
Clean workroom (central medical and surgical supply space)	Positive	2	4	4	NR	No	max 60	72-78/22-26
Clean workroom or clean holding (support)	Positive	2	4	4	NR	NR	NR	NR
Critical and intensive care	NR	2	6	6	NR	No	30-60	70-75/21-24
<i>CT Scan</i>	<i>NR</i>	<i>2</i>	<i>6</i>	<i>6</i>	<i>NR</i>	<i>NR</i>	<i>max 60</i>	<i>NR</i>
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
<i>Dining room</i>	<i>NR</i>	<i>2</i>	<i>10</i>	<i>10</i>	<i>NR</i>	<i>NR</i>	<i>NR</i>	<i>NR</i>
<i>Dishwashing room</i>	<i>N</i>	<i>NR</i>	<i>10</i>	<i>NR</i>	<i>Yes</i>	<i>NR</i>	<i>NR</i>	<i>NR</i>
<i>Electroconvulsive therapy procedure room</i>	<i>P</i>	<i>3</i>	<i>15</i>	<i>10</i>	<i>NR</i>	<i>NR</i>	<i>NR</i>	<i>NR</i>
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

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), °F/°C
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
<i>Fast track room</i>	<i>NR</i>	<i>2</i>	<i>6</i>	<i>2</i>	<i>NR</i>	<i>NR</i>	<i>NR</i>	<i>NR</i>
<i>Fluoroscopy room</i>	<i>Negative</i>	<i>2</i>	<i>6</i>	<i>6</i>	<i>Yes</i>	<i>No</i>	<i>NR</i>	<i>NR</i>
Food preparation center (i)	NR	2	10	10	NR	No	NR	72-78/22-26
<i>Gamma camera</i>	<i>NR</i>	<i>2</i>	<i>6</i>	<i>6</i>	<i>NR</i>	<i>No</i>	<i>NR</i>	<i>NR</i>
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
<i>Infusion room</i>	<i>Positive</i>	<i>2</i>	<i>6</i>	<i>6</i>	<i>NR</i>	<i>NR</i>	<i>NR</i>	<i>NR</i>
Intermediate care (s)	NR	2	6	6	NR	NR	max 60	70-75/21-24
<i>Interventional imaging procedure room</i>	<i>Positive</i>	<i>5</i>	<i>15</i>	<i>12</i>	<i>NR</i>	<i>NR</i>	<i>NR</i>	<i>NR</i>
<i>IV Prep. room</i>	<i>Positive</i>	<i>2</i>	<i>6</i>	<i>6</i>	<i>NR</i>	<i>NR</i>	<i>NR</i>	<i>NR</i>
Janitor's closet, <i>housekeeping</i>	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

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), °F/°C
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
<i>Lactation</i>	<i>NR</i>	<i>2</i>	<i>6</i>	<i>2</i>	<i>NR</i>	<i>NR</i>	<i>NR</i>	<i>NR</i>
Laser eye room	Positive	3	15	15	NR	No	20-60	70-75/21-24

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), °F/°C
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
<u>Morgues and</u> autopsy room (n)	Negative	2	12	12	Yes	No	NR	68-75/20-24
<i>MRI room</i>	NR	2	6	6	NR	NR	NR	NR
<i>Multipurpose room</i>	NR	2	6	6	NR	NR	NR	NR
<i>Negative-pressure x-ray room</i>	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/ <u>well baby</u> 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
<i>Nuclear medicine (Gamma, PET, SPECT)</i>	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
<u>Nurse station</u>	NR	NR	2	2	NR	NR	NR	NR

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), °F/°C
<i>Observation/seclusion room</i>	NR	2	6	2	NR	NR	NR	NR
Occupational therapy	NR	2	6	6	NR	NR	NR	70-75/21-24
Operating room, <i>hybrid operating room</i> (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
<i>Patient holding preparation</i>	NR	2	6	6	NR	No	NR	NR
Patient room	NR	2	4 (y)	2	NR	NR	max 60	70-75/21-24
<i>Pediatric play area</i>	NR	2	6	6	NR	NR	NR	NR
Pharmacy (b)	Positive	2	4	2	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
<i>Post-anesthesia care unit</i>	NR	2	6	6	Yes	No	20-60	70-75/21-24
<i>Pre-screening area</i>	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

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), °F/°C
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
<i>Recreation/activity room</i>	<i>NR</i>	<i>2</i>	<i>6</i>	<i>6</i>	<i>NR</i>	<i>NR</i>	<i>NR</i>	<i>NR</i>
Resident gathering/activity/dining (nursing 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
<i>Semi-restricted corridor</i>	<i>NR</i>	<i>2</i>	<i>4</i>	<i>2</i>	<i>NR</i>	<i>NR</i>	<i>NR</i>	<i>NR</i>
<i>Shower room</i>	<i>Negative</i>	<i>NR</i>	<i>10</i>	<i>NR</i>	<i>Yes</i>	<i>No</i>	<i>NR</i>	<i>NR</i>
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, <i>utility room</i>	Negative	2	10	4	Yes	No	NR	NR
<i>Special purpose room (SNF & ICF only)</i>	<i>NR</i>	<i>2</i>	<i>6</i>	<i>6</i>	<i>Yes</i>	<i>NR</i>	<i>NR</i>	<i>NR</i>
<i>Speech therapy/audiology room</i>	<i>NR</i>	<i>2</i>	<i>6</i>	<i>2</i>	<i>NR</i>	<i>NR</i>	<i>NR</i>	<i>NR</i>
<i>Staff sleep rooms</i>	<i>NR</i>	<i>2</i>	<i>4</i>	<i>2</i>	<i>NR</i>	<i>NR</i>	<i>NR</i>	<i>NR</i>
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

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), °F/°C
Substerile service area	NR	2	6	10	NR	No	NR	NR
Toilet room	Negative	NR	10	10	Yes	No	NR	NR
Trauma/ <i>cardiac</i> 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
<i>Ultrasound room</i>	<i>NR</i>	<i>2</i>	<i>6</i>	<i>6</i>	<i>NR</i>	<i>NR</i>	<i>NR</i>	<i>NR</i>
<i>Unsterile supply</i>	<i>NR</i>	<i>2</i>	<i>2</i>	<i>2</i>	<i>NR</i>	<i>NR</i>	<i>NR</i>	<i>NR</i>
<i>Waiting area (nuclear medicine)</i>	<i>Negative</i>	<i>2</i>	<i>12</i>	<i>12</i>	<i>Yes</i>	<i>No</i>	<i>NR</i>	<i>NR</i>
<i>Waiting area primary care clinic</i>	<i>Negative</i>	<i>2</i>	<i>10</i>	<i>10</i>	<i>Yes(q)</i>	<i>NR</i>	<i>NR</i>	<i>NR</i>
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:

- a. 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]). 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.
- b. Pharmacy compounding areas may have additional air change, differential pressure, and filtering requirements beyond the minimum of this table depending on the type of pharmacy, the regulatory requirements which may include adoption of USP 797), the associated level of risk of the work (see USP [2013] in Informative Appendix B), and the equipment utilized in the spaces.
- c. 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.
- d. Pressure relationships need not be maintained when the room is unoccupied.
- e. See Section 7.2 and its subsections for pressure-relationship requirements.
- f. *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.*
- g. 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}
- h. 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.
- i. 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.)
- j. 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.
- k. The RH ranges listed are the minimum and/or maximum allowable at any point within the design temperature range required for that space.
- l. 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.

- m. National 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
- n. 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.
- o. Surgeons or surgical procedures may require room temperatures, ventilation rates, humidity ranges, and/or air distribution methods that exceed the minimum indicated ranges.
- p. 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.
- q. 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.)
- r. See NFPA 99 for further requirements.⁸
- s. 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.
- t. 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 shall 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 All functions shall not be permitted. *Positive pressure in each anteroom shall be achieved by balancing the supply cfm to not less than 75 cfm (35.4 L/s) greater than the exhaust and return cfm. Positive-pressure for each protective environment room the anteroom serves shall be achieved by balancing the supply cfm to not less than 75 cfm (35.4 L/s) greater than the exhaust and return cfm.*
- u. The All 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 All room to increase the equivalent room air exchanges; however, the minimum outdoor air changes of Table 4-A are still required. All rooms that are retrofitted from standard patient rooms from which it is impractical to exhaust directly outdoors may be recirculated with air from the All room, provided that air first passes through a HEPA filter. When the All 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. *Negative pressure shall be achieved by balancing the exhaust*

cfm to not less than 75 cfm (35.4 L/s) greater than the supply cfm for each airborne infection isolation room the anteroom serves. The anteroom shall have positive air pressure in relation to the airborne infection isolation room. A door louver, transfer grille, or other acceptable means shall be provided to allow for airflow from the anteroom to the airborne infection isolation room.

- v. 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
- w. 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.
- x. 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.
- y. 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.
- z. *This table is based on Table 7.1 in ASHRAE 170, “Ventilation of Healthcare Facilities”, and is used with expressed written permission from ASHRAE.*

**TABLE 4-B
FILTER EFFICIENCIES FOR CENTRAL VENTILATION AND AIR-CONDITIONING SYSTEMS IN GENERAL ACUTE CARE HOSPITALS, ACUTE PSYCHIATRIC HOSPITALS, OUTPATIENT FACILITIES, AND LICENSED CLINICS¹**

AREA DESIGNATION	MINIMUM NUMBER OF FILTER BANKS	FILTER EFFICIENCY % FILTER BANK		
		(MINIMUM EFFICIENCY REPORTING VALUE MERV)⁵		
		NO. 1¹	NO. 2¹	NO. 3¹
<i><u>Psychiatric hospitals intended for the care and treatment of inpatients who do not require acute medical services</u></i>	<i><u>1</u></i>	<i><u>30%</u></i>	<i><u>=</u></i>	<i><u>=</u></i>
		<i><u>(8)</u></i>	<i><u>=</u></i>	<i><u>=</u></i>

Notation
 Authority: Health and Safety Code Sections 1226, 1275, 18928, 129790 and 129850; Government 11152.5
 Reference: Health and Safety Code Section 129850

**TABLE 320 AND TABLE 4-A, AS DISPLAYED IN THE
FOLLOWING PAGES,
IDENTIFY TEXT THAT IS TO BE RELOCATED
PURSUANT TO THIS PROPOSAL.**

**THESE TABLES ARE FOR INFORMATION ONLY
AND
NOT FOR PUBLICATION OR ADOPTION.**

INFORMATION ONLY

Note: Items not crossed out are relocated. Area and room designations are relocated to Section 322.0. Footnotes are relocated to section 322.1. Temperature and humidity data are relocated to Table 4-A. Relocated information is not changed.

**TABLE 320.0
HEATING, COOLING, AND RELATIVE HUMIDITY-LD
REQUIREMENTS FOR SENSITIVE AREAS OR ROOMS**

Area or Rooms Designation	TEMPERATURE RANGE^{1,2}	RELATIVE HUMIDITY^{1,3}
	°F	Percent
Operating room	68-75	20-60
Cystoscopy	68-75	20-60
Cardiac catheterization lab	70-75	max 60
Trauma/cardiac room	70-75	20-60
Delivery room, cesarean operating room	68-75	20-60
Gastrointestinal endoscopy procedure room	68-73	20-60
Post-Anesthesia Care Unit	70-75	20-60
Newborn nursery	72-78	30-60
Newborn Intensive –care nursery unit	72-78	30-60
Intensive care ⁴	70-75	30-60
Burn Unit	70-75	40-60

¹ Thermostats and humidistat shall be either locally resettable and of the non-locking type or remotely resettable and of the locking type.

² 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.

³ The ranges listed are the minimum and maximum limits where control is specifically needed.

⁴ Types of intensive care service spaces are listed in the California Building Code.

INFORMATION ONLY

Note: Items not crossed out are relocated into new Table 4-A. Relocated information is not changed.

**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**

A AREA DESIGNATION	B AIR BALANCE RELATIONSHIP TO ADJACENT AREAS ⁸	C MINIMUM AIR CHANGES IF 100% O.S.A.	D CONDITIONED AIR NOT 100% O.S.A		F ALL AIR EXHAUSTED DIRECTLY TO OUTDOORS
			MINIMUM AIR CHANGES OF OUTDOOR AIR PER HOUR	MINIMUM TOTAL AIR CHANGES PER HOUR	
Operating room, hybrid operating room, cardiac catheterization lab and cystoscopy	P ²	12	5	20	—
Electroconvulsive therapy procedure room	P	10	3	15	—
Semi-restricted corridor	NR	2	2	4	—
Patient holding preparation [†]	NR	6	2	6	—
Delivery room, cesarean operating room	P	12	5	20	—
Newborn/well baby nursery	NR	6	2	6	—
Recovery/post anesthesia care unit	NR	6	2	6	Yes
Intensive care service spaces, acute respiratory care service spaces, burn service spaces, coronary care service spaces, pediatric intensive care service spaces. ⁹	P	6	2	6	—
Newborn intensive care	P	6	2	6	—
Emergency department [†]					
Waiting area	N	12	2	12	Yes²
Operating room	P	12	5	20	—
Orthopedic/cast room	P	12	5	20	—
Treatment room	NR	6	2	6	—
Trauma Room³	P	12	5	20	—
Observation	NR	2	2	6	—
Fast track room	NR	2	2	6	—
Triage	N	12	2	12	Yes
Pre-screening area	N	12	2	12	Yes²
Patient room	NR	2	2	6	—
Dialysis treatment room	NR	6	2	6	—
Dialyzer reprocessing room	N	—	—	10	Yes
IV Prep. room	P	6	2	6	—
Blood draw/phlebotomy	NR	6	2	6	—
Infusion room	P	6	2	6	—
Blood bank/tissue storage	NR	6	2	6	—
Administrative	NR	2	2	4	—
Patient area corridor	NR	2	2	4	—
Labor/delivery/recovery room,	NR	2	2	6	—
Labor/delivery/recovery/postpartum room					

**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**

A AREA DESIGNATION	B AIR BALANCE RELATIONSHIP TO ADJACENT AREAS ⁸	C MINIMUM AIR CHANGES IF 100% O.S.A.	D CONDITIONED AIR NOT 100% O.S.A		E MINIMUM TOTAL AIR CHANGES PER HOUR	F ALL AIR EXHAUSTED DIRECTLY TO OUTDOORS
			MINIMUM AIR CHANGES OF OUTDOOR AIR PER HOUR	MINIMUM TOTAL AIR CHANGES PER HOUR		
Airborne infection isolation room	N ⁴	12	2	12	Yes	
Airborne infection isolation anteroom	P ⁴	10	2	10	Yes	
Protective environment room	P ⁵	15	2	15	—	
Protective environment anteroom	N ⁶	15	2	15	—	
Treatment room, examination rooms, Bloodborne infection isolation room	NR	6	2	6	—	
Bronchoscopy and endoscopy	N	12	2	12	Yes	
Special purpose room (SNF & ICF only)	NR	6	2	6	Yes	
Radiological/Imaging: Angiography room	P	12	5	15	—	
Interventional imaging procedure room	P	12	5	15	—	
X-ray (diagnostic and treatment)	NR	6	2	6	—	
CT Scan	NR	6	2	6	—	
MRI room	NR	6	2	6	—	
Fluoroscopy room	N	6	2	6	Yes	
Dark room	N	12	2	12	Yes	
Negative-pressure x-ray room	N	12	2	12	Yes	
Ultra sound room	NR	6	2	6	—	
Gamma camera	NR	6	2	6	—	
Waiting area	N	12	2	12	Yes	
Nuclear Medicine (Gamma, PET, SPECT)	N	6	2	6	Yes	
Bedpan room	N	—	—	10	Yes	
Bathroom	N	—	—	10	Yes	
Janitors' closet, housekeeping room	N	—	—	10	Yes	
Sterilizer equipment room	N	—	—	10	Yes	
Sub-sterile room	NR	10	2	10	Yes	
Linen and trash chute rooms	N	—	—	10	Yes	
Food preparation centers	NR	10	2	10	Yes	
Dining room	NR	10	2	10	—	
Dishwashing room	N	—	—	10	Yes	
Dietary day storage	NR	—	—	2	—	
Laundry, general (clean and dirty)	NR	10	2	10	Yes	
Soiled linen sorting and storage	N	—	—	10	Yes	
Clean linen storage	P	2	2	2	—	
Anesthesia storage	NR	8	—	8	Yes	
Central medical and surgical supply:						
Soiled or decontamination room	N	4	2	4	Yes	
Clean workroom	P	4	2	4	—	
Unsterile supply	NR	2	2	2	—	
Pharmacy/medicine room	P	2	2	4	—	

**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**

A AREA DESIGNATION	B AIR BALANCE RELATIONSHIP TO ADJACENT AREAS ⁸	C MINIMUM AIR CHANGES IF 100% O.S.A.	D CONDITIONED AIR NOT 100% O.S.A.		F ALL AIR EXHAUSTED DIRECTLY TO OUTDOORS
			MINIMUM AIR CHANGES OF OUTDOOR AIR PER HOUR	MINIMUM TOTAL AIR CHANGES PER HOUR	
Laboratory					
General	N	6	2	6	—
Biochemistry	P	6	2	6	—
Cytology	N	6	2	6	Yes
Glass washing	N	10	2	10	Yes
Histology	N	6	2	6	Yes
Microbiology	N	6	2	6	Yes
Pathology	N	6	2	6	Yes
Serology	P	6	2	6	—
Sterilizing	N	10	2	10	Yes
Media transfer	P	4	2	4	—
Infectious disease and virus	N	6	2	6	Yes
Bacteriology	N	6	2	6	Yes
Nuclear medicine hot lab	N	—	—	6	Yes
Airborne infection isolation treatment/exam room	N	12	2	12	Yes
Physical therapy and hydrotherapy	N	6	2	6	—
Soiled workroom (utility room)	N	4	2	10	Yes
Clean workroom	P	4	2	6	—
Autopsy	N	12	2	12	Yes
Toilet room	N	—	—	10	Yes
Shower room	N	—	—	10	Yes
Waiting area primary care clinic	N	10	2	10	Yes ²
Staff sleep rooms	NR	2	2	4	—
Morgues and autopsy rooms	N	10	2	10	Yes
Pediatric play area	NR	6	2	6	—
Recreation/activity room	NR	6	2	6	—
Multipurpose room	NR	6	2	6	—
Lactation	NR	2	2	6	—
Observation/seclusion room	NR	2	2	6	—
Speech therapy/audiology room	NR	2	2	6	—
Occupational therapy	NR	6	2	6	—
Endoscope cleaning/processing	N	10	2	10	Yes

P = Positive NR = No requirement for continuous directional control N = Negative

¹The pressure relationship of the entire emergency department shall be negative to other adjacent areas.

²Air may be recirculated if a high-efficiency particulate air (HEPA) filter with a minimum efficiency of 99.97 percent or a minimum efficiency reporting value (MERV) of 17 is installed in the return air duct which serves the waiting area.

³The term "trauma room" as used here is the operating room space in the emergency department or other trauma reception area that is used for emergency surgery. The first aid room and/or "emergency room" used for initial treatment of accident victims may be ventilated as noted for the "treatment rooms."

⁴The anteroom shall have positive air pressure in relation to the airborne infection isolation room. A door louver, transfer grille, or other acceptable means shall be provided to allow for airflow from the anteroom to the airborne infection isolation room. 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. Negative pressure shall be achieved by balancing the exhaust cfm to no less than 75 cfm (35.4 L/s) greater than the supply cfm for each airborne infection isolation room the anteroom serves. The overall area consisting of the anteroom, airborne infection isolation room, and adjoining toilet room shall have an equal air balance in relation to the corridor.

Exception: For correctional treatment centers, the location and design of the air transfer device shall not compromise the safety, security and

~~protection of staff, inmates, and property.~~

⁵ Positive-pressure shall be achieved by balancing the supply cfm to not less than 75 cfm (35.4 L/s) greater than the exhaust and return cfm for each protective environment room the anteroom serves.

⁶ The anteroom shall have negative air pressure in relation to the protective environment room. A door louver, transfer grille, or other acceptable means shall 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. Positive pressure shall be achieved by balancing the supply cfm to not less than 75 cfm (35.4 L/s) greater than the exhaust and return cfm. The overall area consisting of the anteroom, protective environment room, and adjoining toilet room shall have an equal air balance in relation to the corridor.

Exception: For correctional treatment centers, the location and design of the air transfer device shall not compromise the safety, security, and protection of staff, inmates, and property.

⁷ Cystoscopy may have no requirement for continuous directional control when approved by Authority Having Jurisdiction.

⁸ 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 Table 320.0 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.

⁹ Intensive care patient rooms that contain a modular toilet/sink combination unit within the room shall be provided with a minimum of 75 cfm of exhaust directly over the modular toilet/sink combination unit.