COMPLIANCE CHECKLIST

IP29_General support Facilities

The following checklist is intended to be used in plan review applications for health care facilities submitted to Massachusetts Department of Public Health This checklist summarizes & references applicable requirements from Licensure Regulations & 2022 Edition of FGI Guidelines for Design & Construction of Hospitals Applicants must verify compliance of plans submitted to Department with all referenced requirements from Licensure Regulations & FGI Guidelines when completing this Checklist separate Checklist must be completed for each nursing unit hospital or clinic department or clinical suite

Other jurisdictions regulations & codes may have additional requirements which are not included in this checklist such as:

- NFPA 101 Life Safety Code (2012) & applicable related standards contained in appendices of Code
- State Building Code (780 CMR)
- Accreditation requirements of Joint Commission
- CDC Guidelines for Preventing Transmission of Mycobacterium Tuberculosis in Health Care Facilities
- USP 797 & Regulations of Massachusetts Board of Registration in Pharmacy
- Occupational Safety & Health Standards (OSHA)
- Accessibility Guidelines of Americans with Disabilities Act (ADA)
- Architectural Access Board Regulations (521 CMR)
- Local Authorities having jurisdiction

Instructions:

1. All requirement lines must be completed according to following instructions & included in plan submissions for Self-Certification Process or Abbreviated Review Process
2. This checklist must be completed by project architect or engineer based on design actually reflected in plans at time of completion of checklist
3. Each requirement line (___) of this Checklist must be completed exclusively with one of following marks unless otherwise directed in checklist If functional space is not affected by renovation project mark “E” may be indicated on requirement line (___) before name of functional space (associated requirements on indented lines below that name or associated MEP requirements do not have to be completed in this case) If more than one functional space serves given required function (e.g patient room or exam room) that clarification should be provided in Project Narrative & requirement lines are understood to only address functional spaces that are involved in project

X = Requirement is met for new space for renovated space or for existing direct support space for expanded service

E = Requirement relative to existing suite or area that has been *licensed* for its designated function is *not affected* by construction project & *does not pertain to required direct support space* for specific service affected by project “E” must not be used for existing required support space associated with new patient care room or area

☒ = Check box under section titles or individual requirements lines for optional services or functions that are not included in project area

W = Waiver requested for specific section of Regulations or FGI Guidelines where hardship in meeting requirement can be demonstrated (a Physical Plant Waiver Form must be completed for each waiver request) explicit floor plan or plan detail must be attached to each waiver request

4. All room functions marked with "X" must be shown on plans with same name labels as in this checklist
5. Mechanical electrical & plumbing requirements are only partially mentioned in this checklist relevant section of FGI Guidelines must be used for project compliance with all MEP requirements & for waiver references
6. Oxygen vacuum medical air waste anesthesia gas disposal & instrument air outlets (if required) are identified respectively by abbreviations "OX" "VAC" "MA" “WAGD” & “IA”
7. Requirements referenced with “FI” result from formal interpretations from FGI Interpretations Task Group
8. The location requirements including asterisks (*) refer to definitions of Glossary in beginning section of FGI Guidelines & reproduced in this checklist

Facility Name:

DoN Project Number: (if applicable)

Facility Address:

Satellite Name: (if applicable)

Building/Floor Location:

Satellite Address: (if applicable)

Submission Dates:

Project Description:

Initial Date:

Revision Date:

	Architectural Requirements	Building Systems Requirements	
2.1-5	**GENERAL SUPPORT FACILITIES**		
2.1-5.1	**STERILE PROCESSING SUITE** ☐ check if not included in project		
2.1-5.1.2	**Facilities for On-Site Sterile Processing** ☐ check if not included in project (only if contractual arrangements are made for off-site processing & support areas for off-site processing are provided in hospital)		
2.1-5.1.2.1(2)	___ Sterile processing facility meet requirements of semi-restricted area		
2.1-5.1.2.1(3)	Layout: ___ sterile processing facilities designed to provide one-way traffic pattern		
2.1-5.1.2.2	___ Two-room sterile processing facility ☐ check if not included in project		
(1)(a)	___ decontamination room & clean workroom physically separated by wall containing door or pass-through window **or** ___ built-in washer/disinfector with pass-through door or window		
(1)(b)	___ Sterilizer access room for maintaining equipment ☐ check if not included in project		
(2)	___ Decontamination room		
(a)	___ sized to meet min equipment space & clearances needed for equipment used ___ equipment shown on plans	Ventilation: ___ Min 6 air changes per hour ___ Exhaust ___ Negative pressure ___ No recirculating room units	Table 7-1
(b)	___ work counter(s) ___ handwashing station ___ three-basin sink with counter ___ flushing-rim clinical sink or equivalent fixture **or** ___ alternative methods for disposal of bio-waste ___ space for waste & soiled linen receptacles ___ documentation area ___ instrument air outlet for drying instruments **or** ___ portable compressed air for drying instruments ___ storage for decontamination supplies & personal protective equipment (PPE)		

	Architectural Requirements	Building Systems Requirements	
(3)	___ Clean workroom	Ventilation:	
(a)	___ sized to accommodate space & clearances needed for sterilization equipment used ___ equipment shown on plans	___ Min 4 air changes per hour ___ Positive pressure ___ No recirculating room units	Table 7-1
(b)	___ work counter(s) ___ handwashing station ___ storage for sterilization supplies ___ documentation area		
	___ instrument air outlet for drying instruments **or** ___ portable compressed air for drying instruments		
	___ cooling area for sterilization cart where sterilizer is loaded/unloaded using rolling cart		
(4)	___ Sterile storage (provided for storage of sterile instruments & supplies)	Ventilation:	
(a)	___ area part of clean workroom **or** ___ separate storage room	___ Min 4 air changes per hour ___ Positive pressure	Table 7-1
(b)	___ space for case cart storage ☐ check if <u>not</u> included in project (only if case carts are not used)		
2.1-5.1.2.3	___ One-room sterile processing facility ☐ check if <u>not</u> included in project		
(1)	___ consists of decontamination area & clean work area		
(b)	___ two entrances **or** ___ single entrance ___ located approximately equidistant from clean & decontamination sides of room ___ allows for one-way traffic flow		
(2)	___ decontamination area	Ventilation:	
(a)	___ countertop ___ two-basin sink for washing instruments ___ handwashing station ___ separate from instrument-washing sink ___ storage for supplies	___ Min 6 air changes per hour ___ Exhaust ___ Negative pressure ___ No recirculating room units	Table 7-1
	___ instrument air outlet for drying instruments **or** ___ portable compressed air for drying instruments		

	Architectural Requirements	Building Systems Requirements	
(b)	___ instrument-washing sink separated from clean work area by 4'-0" foot distance from edge of sink **or** ___ instrument-washing sink separated from clean work area by wall **or** ___ instrument-washing sink separated from clean work area by screen ___ screen extends min 4'-0" above sink rim		
(3)	___ clean work area	Ventilation:	
(a)	___ countertop	___ Min 4 air changes per hour	Table 7-1
(b)	___ sterilizer	___ Positive pressure	
(c)	___ storage for supplies	___ No recirculating room units	
(d)	___ instrument air outlet for drying instruments **or** ___ portable compressed air for drying instruments		
2.1-5.1.2.4	___ Equipment & supply storage	Ventilation:	
(1)	___ instrument & supply storage provided for sterile & clean instruments & supplies	___ Min 4 air changes per hour ___ Positive pressure	Table 7-1
(a)	___ separate room **or** ___ portion of clean workroom		
(b)	___ space for case cart storage ☐ check if not included in project (only if case carts are not used in facility)		
(2)	___ clean/sterile medical/surgical supply receiving room	Ventilation: ___ Min 4 air changes per hour ___ Positive pressure	Table 7-1
2.1-5.1.2.5	**Support Areas for Staff:**		
(1)(a)	___ separate changing areas provided for male & female staff (unisex changing area with one or more private changing rooms is permitted)		
(1)(b) (1)(c)	___ staff changing areas meet requirements of unrestricted area (may be shared with other departments or services)		
(2)(a)	___ lockers		
(2)(b)	___ toilet room	Ventilation:	
(2)(c)	___ handwashing station	___ Min 10 air changes per hour	Table 7-1
(2)(d)	___ space for donning surgical attire	___ Exhaust	
(2)(e)	___ provision for separate storage of clean & soiled work attire	___ Negative pressure ___ No recirculating room units	

	Architectural Requirements	Building Systems Requirements	
2.1-5.1.3	**Support Areas for Hospitals Using Off-Site Sterile Processing** ☐ check if not included in project (only if on-site sterile processing department is provided in hospital per above requirements)		
2.1-5.1.3.1	___ Clean/sterile medical/surgical supply receiving room	Ventilation: ___ Min 4 air changes per hour ___ Positive pressure	Table 7-1
2.1-5.1.3.2	___ Equipment & supply storage ___ instrument & supply storage provided for sterile & clean instruments & supplies ___ separate room **or** ___ portion of clean workroom ___ space for case cart storage ☐ check if not included in project (only if case carts are not used in facility)	Ventilation: ___ Min 4 air changes per hour ___ Positive pressure	Table 7-1
2.1-5.1.3.3	___ Room for gross decontamination & holding of instruments		
(1)	___ instrument-washing sink for gross decontamination (use of handwashing station is not permitted for this function)		
	or		
(2)	___ soiled workroom		
2.1-2.8.12.2		Ventilation:	
(1)(a)	___ handwashing station	___ Min 10 air changes per hour	Table 7-1
(1)(b)	___ flushing-rim clinical service sink with bedpan-rinsing device or equivalent flushing-rim fixture	___ Exhaust ___ Negative pressure ___ No recirculating room units	
(1)(c)	___ work counter		
(1)(d)	___ space for separate covered containers for waste & soiled linen		
(2)	___ fluid management system is used ☐ check if not included in project		
(a)	___ electrical & plumbing connections that meet manufacturer requirements		
(b)	___ space for docking station		
2.1-5.2	**LINEN SERVICES** ☐ check if not included in project		
2.1-5.2.1	___ Hospital has provisions for storing & processing of clean & soiled linen used for patient care & support (permitted to occur on-site or in off-site laundry)		

	Architectural Requirements	Building Systems Requirements	
2.1-5.2.2	**On-Site Linen Processing Facilities** ☐ check if not included in project (only if contractual arrangements are made for off-site processing & support areas for off-site processing are provided in hospital)		
2.1-5.2.2.1(1)	___ Soiled linen holding room	Ventilation:	
2.1-2.8.12.3(2)	___ space for separate covered containers for soiled linen	___ Min 10 air changes per hour ___ Exhaust	Table 7-1
2.1-5.2.2.1(1)(a)	___ handwashing station provided in each room or area where soiled linen is processed or handled	___ Negative pressure ___ No recirculating room units	
2.1-5.2.2.1(1)(b)	___ discharge from soiled linen chutes received in separate room adjacent* to soiled holding room		
2.1-5.2.2.1(2)	___ Clean linen inspection room or area		
(a)	___ part of clean linen storage room **or** ___ area provided for inspection removal of lint mending folding assembling & packaging of clean linen		
(b)	___ space for table shelving & storage		
2.1-5.2.2.1(3)	___ Clean linen storage room ___ provided in addition to linen storage required at individual patient units		
2.1-5.2.2.1(4)	___ Separate areas provided for parking of clean & soiled linen carts out of traffic		
2.1-5.2.2.1(5)	___ Service entrance where linen processing facilities are located in separate building on hospital campus service entrance ☐ check if not included in project (only if all linen processing facilities are located within main hospital building) ___ protected from inclement weather ___ provided for loading & unloading of linen		
2.1-5.2.2.2	___ Laundry facilities		
(1) (b)	___ designed to permit orderly work flow & minimize cross-traffic that might mix clean & soiled operations		
(2)	___ laundry processing room ___ space for commercial or industrial washing & drying equipment ___ can process at least seven-day supply of laundry during regularly scheduled work week		
(3)	___ handwashing station		
(4)	___ storage for laundry supplies		

	Architectural Requirements	Building Systems Requirements	
2.1-5.2.8	**Support Areas for Off-Site Linen Processing** ☐ check if not included in project (only if on-site sterile processing department is provided in hospital per above requirements)		
2.1-5.2.8.1	___ Soiled linen holding room	Ventilation:	
2.1-2.8.12.3(2)	___ space for separate covered containers for soiled linen	___ Min 10 air changes per hour ___ Exhaust	Table 7-1
2.1-5.2.8.1(2)	___ discharge from soiled linen chutes received in separate room adjacent* to soiled holding room	___ Negative pressure ___ No recirculating room units	
2.1-5.2.8.2	___ Clean linen storage room	Ventilation:	
	___ provided in addition to linen storage required at individual patient units	___ Min 2 air changes per hour ___ Positive pressure	Table 7-1
2.1-5.2.8.3	___ Separate areas provided for parking of clean & soiled linen carts out of traffic		
2.1-5.2.8.4	___ Service entrance provided for loading & unloading linen		
2.1-5.2.8.5	___ Control station (permitted to are shared with other functions)		
(1)	___ control station for pickup & receiving of soiled & clean linen		
2.1-5.2.9	**Support Areas for Staff**		
2.1-5.2.9.2	(may be shared with other departments or services)		
2.1-5.2.9.1	___ Lounge		
	___ readily accessible* to linen services area		
	___ Locker facilities		
	___ readily accessible* to linen services area		
	___ Staff toilet room	Ventilation:	
	___ readily accessible* to linen services area	___ Min 10 air changes per hour ___ Exhaust ___ Negative pressure ___ No recirculating room units	Table 7-1

2.1-5.3 **MATERIALS MANAGEMENT**

☐ check if not included in project

2.1-5.3.1.2 Location:
___ materials management facilities separate from patient care areas

2.1-5.3.2 ___ Receiving area

2.1-5.3.2.1 ___ unloading area separated from public streets

2.1-5.3.2.2 ___ receiving area provided to accommodate delivery trucks & other vehicles

(1) Location:

(a) ___ separated from other occupied building areas

___ located so that noise & odors from operation will not adversely affect building occupants

(b) ___ segregated from waste staging & other outgoing materials-handling functions

(2) Space Requirements:

(a) ___ area provided for unpacking sorting & staging of incoming materials & supplies

(d) ___ workstation area

2.1-5.3.3 ___ Central storage facilities

2.1-5.3.3.1

(1) ___ provided in addition to supply storage facilities located in individual departments

(2) ___ location of central storage facilities in main hospital building

or

___ location of central storage facilities in separate building on-site

___ provisions made for protection against inclement weather during transfer of supplies to hospital

2.1-5.3.3.2(2) Space Requirements:
___ general storage rooms with total area of no less than 20 sf per inpatient bed provided

2.1-5.3.3.3 Additional Storage Areas for Outpatient Departments:

(1) ___ location in general storage room in central area in outpatient department or at off-site location

(2) Space Requirements:
___ total area of no less than 5 percent of total floor area of outpatient departments served

2.1-5.4 **WASTE MANAGEMENT**

☐ check if not included in project

2.1-5.4.1 Waste Collection & Storage Facilities

2.1-5.4.1.1

(2) Waste processing equipment is shown on plans including equipment listed below:

(a) ___ compactor units (for municipal solid waste & recycling)
(b) ___ balers
(c) ___ sharps disposal containers
(d) ___ recycling containers
(e) ___ composting containers
(f) ___ used inhalation anesthesia gas containers

(3) Waste Collection & Storage Spaces:

(a) ___ municipal solid waste
(b) ___ regulated medical waste
(c) ___ pharmaceutical waste
(d) ___ anatomical remains
(e) ___ hazardous wastes
(f) ___ chemotherapy wastes (bulk & trace)
(g) ___ universal wastes
(h) ___ radiologic wastes

2.1-5.4.1.3 Regulated Waste Holding Spaces:

(1) ___ secured space provided for regulated medical waste & other regulated waste types

(a) Interior Infectious Waste Holding Space:

☐ check if not included in project

___ cleanable floor & wall surfaces

Ventilation:

___ Min 10 air changes per hour Table 7-1
___ Exhaust
___ Negative pressure
___ No recirculating room units

(b) Exterior Infectious Waste Holding Space:

☐ check if not included in project

___ cleanable floor (and wall where provided) surfaces
___ protection from weather
___ protection from animals
___ protection from vermin infestation

(2)

(a) ___ illumination to min 50 foot-candles
(b) ___ protection from unauthorized entry

2.1-5.5 **ENVIRONMENTAL SERVICES**
☐ check if not included in project

2.1-5.5.1 ___ Environmental services rooms
___ provided throughout facility
2.1-2.8.14.1 ___ readily accessible* to unit or floor it serves (permitted to serve more than one patient care unit on floor)
2.1-2.8.14.2(1) ___ service sink or floor-mounted mop sink
2.1-2.8.14.2(2) ___ provisions for storage of supplies & housekeeping equipment
2.1-2.8.14.2(3) ___ handwashing station
or
___ hand sanitation station

Ventilation:
___ Min 10 air changes per hour Table 7-1
___ Exhaust
___ Negative pressure
___ No recirculating room units

2.1-5.5.2 ___ Facilities for cleaning & sanitizing carts
2.1-5.5.2.1 ___ serving central services department food & nutrition facilities & linen services
2.1-5.5.2.2 ___ centralized
or
___ departmentalized

2.1-5.6 **ENGINEERING & MAINTENANCE SERVICES**
☐ check if not included in project

2.1-5.6.2 ___ Mechanical & electrical equipment
2.1-5.6.2.2
(1) ___ rooftop air-conditioning & ventilation equipment installed in weatherproof housing
(2) ___ emergency generators
___ engine & appropriate accessories (i.e batteries) are properly heated
___ enclosed in weatherproof housing
(3) ___ cooling towers & heat rejection equipment
(4) ___ electrical transformers & switchgear
___ installed in weatherproof housing
(5) ___ medical gas parks & equipment
(6) ___ air-cooled chillers
___ installed in weatherproof housing
(7) ___ trash compactors
(8) ___ site lighting post indicator valves & other equipment normally installed on exterior of building
(9) ___ telecommunication signaling or tower equipment

2.1-5.6.2.3 Security:
___ mechanical & electrical equipment rooms secured with controlled access

2.1-5.6.3 ___ Equipment & supply storage
2.1-5.6.3.1(1) ___ storage room for building maintenance supplies
2.1-5.6.3.1(2) ___ storage for solvents & flammable liquids

2.1-5.6.4 ___ General maintenance shop
☐ check if not included in project

2.1-5.6.5 ___ Medical equipment shop
☐ check if not included in project
2.1-5.6.5.1 ___ separate area or room provided for storage repair & testing of electronic & other medical equipment

2.1-5.6.6 ___ Facility manager's office
☐ check if not included in project
2.1-5.6.6.2 ___ provisions for protected storage of facility drawings records manuals etc

2.1-5.7 **MORGUE SERVICES**
☐ check if not included in project

2.1-5.7.1.2 Location:
___ morgue service facilities located to avoid need for transporting body through public areas
2.1-5.7.1.3 ___ Morgue service facilities secured with controlled access

2.1-5.7.2 ___ Autopsy facilities
☐ check if not included in project
2.1-5.7.2.1 ___ refrigerated facilities for body holding
___ refrigerators equipped with temperature-monitoring & alarm signals that annunciate at 24-hour staffed location

2.1-5.7.2.2 ___ autopsy room
(1) ___ work counter with handwashing station
(2) ___ storage space for supplies equipment & specimens
(3) ___ autopsy table
(4) ___ deep sink for washing specimens
(5) ___ combination emergency deluge shower & facewash
☐ check if not included in project
(only if embalming fluid or fixatives containing formaldehyde are not used)

Ventilation:
___ Min 12 air changes per hour Table 7-1
___ Exhaust
___ Negative pressure
___ No recirculating room units

2.1-5.7.2.3 ___ environmental services facilities
___ service sink or receptor provided for cleanup & housekeeping

2.1-5.7.3 ___ Non-refrigerated body-holding room
☐ check if not included in project
(only if autopsies performed outside facility)
___ well-ventilated temperature-controlled body-holding room provided

Ventilation:
___ Min 10 air changes per hour Table 7-1
___ Exhaust
___ Negative pressure
___ No recirculating room units

*LOCATION TERMINOLOGY:

Directly accessible: Connected to identified area or room through doorway pass-through or other opening without going through intervening room or public space

Adjacent: Located next to but not necessarily connected to identified area or room

Immediately accessible: Available either in or adjacent to identified area or room

Readily accessible: Available on same floor or in same clinic as identified area or room

Architectural Details & MEP Requirements

2.1-7.2.2 **ARCHITECTURAL DETAILS**

2.1-7.2.2.1 CORRIDOR WIDTH:
___ Aisles, corridors & ramps in adjunct areas not intended for the housing, treatment, or use of inpatients not less than 44" in clear & unobstructed width

2.1-7.2.2.2 CEILING HEIGHT:
(1) ___ Min. ceiling height 7'-6" in corridors & in normally unoccupied spaces
___ Min. ceiling height 7'-10" in other areas

2.1-7.2.2.3 DOORS & DOOR HARDWARE:
(1) Door Type:
(a) ___ doors between corridors, rooms, or spaces subject to occupancy swing type or sliding doors
(b) ___ sliding doors
☐ check if not included in project
___ manual or automatic sliding doors comply with NFPA 101
___ detailed code review incorporated in Project Narrative
___ no floor tracks

(3) Door Swing:
(a) ___ doors do not swing into corridors except doors to non-occupiable spaces (e.g. environmental services rooms & electrical closets) & doors with emergency breakaway hardware

(4) ___ Lever hardware or push/pull latch hardware

2.1-7.2.2.7 GLAZING MATERIALS:
___ Glazing within 1 foot 6 inches of floor must be safety glass, wire glass or plastic break-resistant material

2.1-7.2.2.8 HANDWASHING STATIONS:
(3)
(a) ___ Handwashing station countertops made of porcelain, stainless steel, solid-surface materials or impervious plastic laminate assembly
(b) ___ Countertops substrate
☐ check if not included in project
___ marine-grade plywood (or equivalent material) with impervious seal
(4) ___ Handwashing station casework
☐ check if not included in project
___ designed to prevent storage beneath sink
(5) ___ Provisions for drying hands
☐ check if not included in project
(only at hand scrub facilities)
(a) ___ hand-drying device does not require hands to contact dispenser
(b) ___ hand-drying device is enclosed to protect against dust or soil & to ensure single-unit dispensing
(6) ___ liquid or foam soap dispensers
(7) ___ no mirror at hand scrub stations or at handwashing stations in food preparation areas & clean & sterile supply areas

2.1-7.2.2.12 NOISE CONTROL:
(2) ___ Noise reduction criteria in Table 1.2-6 applicable to partitions, floors & ceiling construction are met in patient areas

2.1-7.2.2.13 PROTECTION FROM HEAT-PRODUCING EQUIPMENT:
___ Rooms containing heat-producing equipment (e.g. boilers heaters or laundry equipment) are insulated to prevent floor surface above, ceiling below & adjacent walls of occupied areas from exceeding temperature 10ºF above ambient room temperature

2.1-7.2.3 **SURFACES**

2.1-7.2.3.1 FLOORING & WALL BASES:

(1) ___ Flooring surfaces cleanable & wear-resistant for location

(3) ___ Smooth transitions provided between different flooring materials

(4) ___ Flooring surfaces including those on stairways are stable, firm & slip-resistant

(5) ___ Floors & wall bases of kitchens, soiled workrooms, toilet rooms & other areas subject to frequent wet cleaning are constructed of materials that are not physically affected by germicidal or other types of cleaning solutions

(7)(a) Floors are monolithic & integral coved wall bases are at least 6" high & tightly sealed to wall in rooms listed below:

___ sterile processing facility

___ soiled workroom & soiled holding room

2.1-7.2.3.2 WALLS & WALL PROTECTION:

(1)(a) ___ Wall finishes are washable

(1)(b) ___ Wall finishes near plumbing fixtures are smooth, scrubbable & water-resistant

(2) ___ Wall surfaces in areas routinely subjected to wet spray or splatter (e.g. kitchens, environmental services rooms) are monolithic or have sealed seams that are tight & smooth

(5) ___ Wall protection devices & corner guards durable & scrubbable

2.1-7.2.3.3 CEILINGS:

(1) ___ Ceilings provided in all areas except mechanical, electrical & communications equipment rooms

(a) ___ Ceilings cleanable with routine housekeeping equipment

(b) ___ Acoustic & lay-in ceilings where used not create ledges or crevices

(2) Semi-Restricted Areas:

☐ check if not included in project

(a) ___ ceiling finishes are scrubbable, non absorptive, non perforated, & capable of withstanding cleaning with chemicals

(b) ___ lay-in ceilings

___ gasketed or each ceiling tile weighs at least one pound per square foot

(c) ___ use of perforated tegular serrated or highly textured tiles not are permitted in semi-restricted areas

or

___ ceilings of monolithic construction

2.1-8.2 **HEATING VENTILATION & AIR-CONDITIONING (HVAC) SYSTEMS**

Part 3/6.1.2 Heating & Cooling Sources:

Part 3/6.1.2.1 ___ provide heat sources & essential accessories in number & arrangement sufficient to accommodate facility needs (reserve capacity) even when any one of heat sources or essential accessories is not operating due to breakdown or routine maintenance

___ capacity of remaining source or sources is sufficient to provide for domestic hot water sterilization & dietary purposes; fuel sufficient to support owner's facility operation plan upon loss of fuel service is provided on site

Part 3/6.1.2.2 Central cooling systems greater than 400 tons (1407 kW) peak cooling load

☐ check if not included in project

___ number & arrangement of cooling sources & essential accessories is sufficient to support owner's facility operation plan upon breakdown or routine maintenance of any one of cooling sources.

Part 3/6.2 AIR-HANDLING UNIT (AHU) DESIGN:

Part 3/6.2.1 ___ AHU casing is designed to prevent water intrusion, resist corrosion & permit access for inspection & maintenance

.

Part 3/6.3 OUTDOOR AIR INTAKES & EXHAUST DISCHARGES:

Part 3/6.3.1 Outdoor Air Intakes:

Part 3/6.3.1.1 ___ located such that shortest distance from intake to any specific potential outdoor contaminant source be equal to or greater than separation distance listed in Table 6-1

___ located min. of 25 ft from cooling towers & all exhaust & vent discharges

___ facilities with moderate-to-high risk of natural or man-made extraordinary incidents locate new air intakes away from public access

___ all intakes are designed to prevent entrainment of wind-driven rain

___ contain features for draining away precipitation
___ equipped with birdscreen of mesh no smaller than 0.5 in

Part 3/6.3.1.4 ___ intake in areaway
☐ check if not included in project
___ bottom of areaway air intake opening is at least 6 ft above grade
___ bottom of air intake opening from areaway into building is at least 3 ft above bottom of areaway

Part 3/6.3.2 Exhaust Discharges:
☐ check if not included in project

Part 3/6.3.2.1 ___ ductwork within building is under negative pressure for exhaust of contaminated air (i.e. air from AII rooms bronchoscopy & sputum collection exhaust, pharmacy hazardous-drug exhausted enclosures & laboratory work area chemical fume hoods)
___ exhaust discharge outlets with contaminated air located such that they reduce potential for recirculation of exhausted air back into building

Part 3/6.3.2.2 ___ exhaust discharge outlets with contaminated air additionally is arranged to discharge to atmosphere in vertical direction at least 10 ft above adjoining roof level
___ exhaust discharge outlets from laboratory work area chemical fume hoods discharge with stack velocity of at least 3000 fpm
___ exhaust discharge outlets from AII rooms bronchoscopy & sputum collection exhaust & laboratory work area chemical fume hoods is located not less than 25 ft horizontally from outdoor air intakes, openable windows/doors & areas that are normally accessible to public

Part 3/6.4 FILTRATION:
a. ___ Particulate matter filters, minimum MERV-8 provided upstream of first heat exchanger surface of any air-conditioning system that combines return air from multiple rooms or introduces outdoor air.
b. ___ Outdoor air filtered in accordance with Table 7-1
c. ___ Air supplied from equipment serving multiple or different spaces is filtered in accordance with Table 7-1
d. ___ Air recirculated within room be filtered in accordance with Table 7-1 or Section 7.1(a)(5)
e. ___ Design includes all necessary provisions to prevent moisture accumulating on filters located downstream of cooling coils & humidifiers
h. ___ For spaces that do not permit air recirculated by means of room units & have minimum filter efficiency of MERV-14, MERV-16 or HEPA in accordance with Table 7-1, the min. filter requirement listed in Table 7-1 is installed downstream of all wet-air cooling coils & supply fan

Part 3/6.7 AIR DISTRIBUTION SYSTEMS:
Part 3/6.7.1 ___ Maintain pressure relationships required in tables 7.1 in all modes of HVAC system operation
___ Spaces that have required pressure relationships are served by fully ducted return systems or fully ducted exhaust systems

Part 3/6.7.2 Air Distribution Devices:
___ supply air outlets comply with Table 6-2

Part 3/6.7.3 Smoke Barriers:
___ HVAC zones coordinated with compartmentation to minimize ductwork penetrations of fire & smoke barriers.

Part 3/6.8 ENERGY RECOVERY SYSTEMS:
☐ check if not included in project

Part 3/6.8.1 ___ Located upstream of filters required by Part 3/6.8.4

Part 3/7 SPACE VENTILATION-HOSPITAL SPACES:
Part 3/7.1.a ___ Spaces ventilated according to Table 7-1
___ Air movement is from clean to less-
Part 3/7.1.a.1 clean areas

Part 3/7.1.a.3 ___ Min. number of total air changes required for positive pressure rooms is provided by total supply airflow
___ Min. number of total air changes required for negative pressure rooms is provided by total exhaust airflow

Part 3/7.1.a.4 ___ Entire minimum outdoor air changes per hour required by Table 7-1 for each space meet filtration requirements of Section 6.4

Part 3/7.1a.5 ___ Air recirculation through room unit
☐ check if not included in project
___ complies with Table 7-1
___ room unit receive filtered & conditioned outdoor air
___ serve only a single space
___ provides min MERV 8 filter located upstream of any cold surface so that all of air passing over cold surface is filtered

Part 3/7.5.1 Morgue & Autopsy Rooms:
☐ check if not included in project
___ Low sidewall exhaust grilles are provided unless exhaust air is removed through autopsy table designed for this purpose
___ exhaust air from autopsy non-refrigerated body holding & morgue rooms is discharged directly to outdoors without mixing with air from any other room or exhaust system

2.1-8.3 **ELECTRICAL SYSTEMS**

2.1-8.3.2 **ELECTRICAL DISTRIBUTION & TRANSMISSION**

2.1-8.3.2.1 Switchboards Switchgear & Automatic Transfer Switches:
☐ check if not included in project
(1)(b) ___ accessible to authorized persons only
(1)(c) ___ located in dry ventilated space free of corrosive or explosive fumes, gases or any flammable material
(2) ___ overload protective devices are listed for ambient room temperature for space in which they are installed

2.1-8.3.2.2 Panelboards:
(1) ___ panelboards serving life safety branch circuits serve floors on which they are located & floors immediately above & below
(2) ___ panelboard critical branch circuits serve floors on which they are located
(3) ___ panelboards not located in exit enclosures or exit passageways

2.1-8.3.3 **POWER-GENERATING & -STORING EQUIPMENT**

2.1-8.3.3.1 ___ Essential electrical system or emergency electrical power
(1) ___ essential electrical system complies with NFPA 99
(2) ___ emergency electrical power complies with NFPA 99

2.1-8.3.5 **ELECTRICAL EQUIPMENT**

2.1-8.3.5.1 ___ Handwashing sinks & scrub sinks that depends on building electrical service for operation are connected to essential electrical system

2.1-8.3.5.2 ___ Electronic health record system servers & centralized storage provided with uninterruptible power supply

2.1-8.3.6 **ELECTRICAL RECEPTACLES**

2.1-8.3.6.1 Receptacles In Corridors:
(1) ___ duplex-grounded receptacles for general use installed 50'-0" apart or less in all corridors
___ duplex-grounded receptacles for general use installed within 25'-0" of corridor ends

2.1-8.3.6.3 Essential Electrical System Receptacles:
(1) ___ cover plates for electrical receptacles supplied from essential electrical system are distinctively colored or marked for identification
(2) ___ same color is used throughout facility

2.1-8.4 **PLUMBING SYSTEMS**

2.1-8.4.2 Plumbing & Other Piping Systems:
2.1-8.4.2.1(3) ___ no plumbing piping exposed overhead or on walls where possible accumulation of dust or soil may create cleaning problem
___ no plumbing piping exposed overhead or on walls where leaks would create potential for food contamination

2.1-8.4.2.5 Heated Potable Water Distribution Systems:
(2) ___ heated potable water distribution systems serving patient care areas are under constant recirculation
___ non-recirculated fixture branch piping does not exceed 25'-0" in length
(3)(a) ___ no installation of dead-end piping (except for empty risers mains & branches for future use)
(3)(c)
(3)(b) ___ any existing dead-end piping is removed
☐ check if not included in project

(4)(a) ___ water-heating system supplies water at temperatures & amounts indicated in Table 2.1-4

2.1-8.4.2.6 Drainage Systems:
(1)(a) ___ drainage piping installed above ceiling of or exposed in rooms listed below piping have special provisions (e.g. double wall containment piping or oversized drip pans) to protect space below from leakage & condensation
- operating rooms
- delivery rooms
- procedure rooms
- trauma rooms
- nurseries
- central kitchens
- one-room sterile processing facilities
- clean workroom of two-room sterile processing facilities
- pharmacies
- Class 2 & 3 imaging rooms
- electronic mainframe rooms (EFs & TERs)
- main switchgear
- electrical rooms
- electronic data processing areas
- electric closets

(1)(b) ___ drip pan for drainage piping above ceiling of sensitive area
☐ check if not included in project
___ accessible
___ overflow drain with outlet located in normally occupied area that is not open to restricted area

2.1-8.4.3 **PLUMBING FIXTURES**
2.1-8.4.3.1(1) ___ Materials used for plumbing fixtures are non-absorptive & acid-resistant

2.1-8.4.3.2 Handwashing Station Sinks:
(2) ___ sink basins have nominal size of no less than 144 square inches
___ sink basins have min. dimension 9 inches in width or length
(3) ___ sink basins are made of porcelain, stainless steel or solid-surface materials
(5) ___ water discharge point of faucets is at least 10 inches above bottom of basin
(7) ___ anchored so that allowable stresses are not exceeded where vertical or horizontal force of 250 lbs. is applied
(8) ___ sinks used by medical & nursing staff, patients, public & food handlers have fittings that can be operated without using hands (may be single-lever or wrist blade devices)
(a) ___ blade handles
☐ check if not included in project
___ at least 4 inches in length
___ provide clearance required for operation
(b) ___ sensor-regulated water fixtures
☐ check if not included in project
___ meet user need for temperature & length of time water flows
___ designed to function at all times and during loss of normal power

2.1-8.4.3.5 Clinical Sinks:
(1) ___ trimmed with valves that can are operated without hands (may be single-lever or wrist blade devices)
(a)
(b) ___ handles are at least 6 inches long
(2) ___ integral trap wherein upper portion of water trap provides visible seal

2.1-8.5.2 **TELECOMMUNICATIONS SYSTEMS**
☐ check if not included in project

2.1-8.5.2.1 Entrance Facility (EF):
(1) ___ each hospital has at least one EF (may be combined with technology equipment center)
(2)(b)
(2)(a) ___ access to EF is restricted
(3)(a) ___ HVAC system provided to meet environmental requirements of equipment in EF
(3)(b) ___ HVAC systems serving EF are connected to hospital's emergency power systems

2.1-8.5.2.2 Technology Equipment Room (TER):
(3)(e)
(1) ___ each hospital has at least one TER space that is not used for any purposes other than data storage processing & networking (may be combined with TSER)
(3)(a) ___ TER located above any floodways or flood hazard areas as described by national flood insurance program (NFIP)
(3)(b) ___ TER not located adjacent to exterior curtain walls to prevent wind & water damage
(3)(c) ___ TER located min. 12'-0" from any transformer
(3)(d) ___ restricted access

(4)(a) ___ mechanical & electrical equipment not directly related to support of TER is not installed in or pass through TER
(4)(b) ___ all computer & networking equipment in TER are served by UPS power
(4)(c) ___ all circuits serving TER equipment are dedicated to serving TER
(4)(d) ___ cooling & heating provided
___ cooling systems serving TER are supplied by essential electrical system

2.1-8.5.2.3 Telecommunications Room (TR):
(1)(a) ___ minimum one TR on each floor of facility
(1)(b) ___ TRs provided throughout facility as necessary to meet 292-foot maximum cable distance required for Ethernet cables from termination point in TR to each wall outlet
(2) ___ TRs provide 3-foot min. clearance on front & back of equipment racks & at ends of racks that require access.
(3)(a) ___ TRs are located in accessible area on each floor
___ TR is be located in semi-restricted or restricted area
(3)(b) ___ access to TR directly off corridor & not through another space such as electrical room or mechanical room
(3)(c) ___ controlled access
(4)(a) ___ mechanical & electrical equipment utilities do not pass over top of any equipment in room
(4)(b) ___ all circuits serving TR & equipment in it are dedicated to serving TR
(4)(d) ___ electrical power for cooling systems serving TR supplied by essential electrical system

2.1-8.5.2.4 Grounding & bonding for Telecommunication Spaces:
___ Comply with Section 2.1-8.5.2.4

2.1-8.5.3 **EMERGENCY COMMUNICATION SYSTEM**
___ Emergency-radio communication system provided in each facility
2.1-8.5.3.1 ___ operates independently of building's service & emergency power systems during emergencies
2.1-8.5.3.2 ___ Frequency capabilities to communicate with state emergency communication networks

2.1-8.6.2 **ELECTRONIC SURVEILLANCE SYSTEMS**
☐ check if not included in project
2.1-8.6.2.1 ___ Display screens in patient areas are mounted in tamper-resistant enclosure that is unobtrusive
2.1-8.6.2.2 ___ Display screens are located so they are not readily observable by general public or patients
2.1-8.6.2.3 ___ Electronic surveillance systems receive power from essential electrical system

2.1-8.7.2 **ELEVATORS**
☐ check if not included in project

2.1-8.7.2.2 Number:
(1) ___ 1 to 59 patient beds located on any floor other than main entrance floor
___ at least two hospital-type elevators
or
(2) ___ 60 to 200 patient beds located on floors other than main entrance floor or major inpatient services located on floor other than those containing patient beds
___ at least two hospital-type elevators
___ **or**
(3) ___ 201 to 350 patient beds are located on floors other than main entrance floor or major inpatient services are located on floor other than those containing patient beds
___ at least three hospital-type elevators
or
(4) ___ more than 350 beds
___ number of elevators determined from study of hospital plan & expected vertical transportation requirements

2.1-8.7.2.3 Dimensions & Clearances:

(1) ___ elevator cars for patient transport have min inside clear dimensions 5'-8" wide by 9'-0" deep

(2) ___ door openings in elevator cars for patient transport have min clear width 54 inches & min height 84 inches

2.1-8.7.2.4 ___ Elevators are equipped with two-way automatic level-maintaining device with accuracy of ± 1/4 inch

2.1-8.7.2.5 Elevator Controls:

(1) ___ elevator call buttons & controls not activated by heat or smoke

(2) ___ light beams if used for operating door reopening devices without touch are used in combination with door-edge safety devices & are interconnected with system of smoke detectors

(3) ___ each elevator except those for material handling are equipped with independent keyed switch for staff use for bypassing all landing button calls & responding to car button calls only