COMPLIANCE CHECKLIST

IP16_Radiation Therapy

The following checklist is intended to be used in the plan review applications for health care facilities submitted to the Massachusetts Department of Public Health. This checklist summarizes and references the applicable requirements from the Licensure Regulations and the 2018 Edition of the FGI Guidelines for Design and Construction of Hospitals. Applicants must verify compliance of the plans submitted to the Department with all referenced requirements from the Licensure Regulations and FGI Guidelines when completing this Checklist. A separate Checklist must be completed for each nursing unit, hospital or clinic department, or clinical suite.

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

- NFPA 101 Life Safety Code (2012) and applicable related standards contained in the appendices of the Code
- State Building Code (780 CMR)
- Accreditation requirements of The Joint Commission
- CDC Guidelines for Preventing the Transmission of Mycobacterium Tuberculosis in Health Care Facilities
- USP 797 & Regulations of the Massachusetts Board of Registration in Pharmacy
- Occupational Safety & Health Standards (OSHA)
- Accessibility Guidelines of the 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 the following instructions and included in the plan submissions for Self-Certification Process or Abbreviated Review Process.
2. This checklist must be completed by the project architect or engineer based on the design actually reflected in the plans at the time of completion of the checklist.
3. Each requirement line (___) of this Checklist must be completed exclusively with one of the following marks, unless otherwise directed in the checklist. If a functional space is not affected by a renovation project, the mark "E" may be indicated on the requirement line (___) before the name of the 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 a given required function (e.g. patient room or exam room), that clarification should be provided in the Project Narrative, and the requirement lines are understood to only address the functional spaces that are involved in the project.

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

E = Requirement relative to an existing suite or area that has been *licensed* for its designated function, is *not affected* by the construction project and *does not pertain to a required direct support space* for the specific service affected by the project. "E" must not be used for an existing required support space associated with a 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 the project area.

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

4. All room functions marked with "X" must be shown on the plans with the same name labels as in this checklist.
5. Mechanical, electrical & plumbing requirements are only partially mentioned in this checklist. The relevant section of the FGI Guidelines must be used for project compliance with all MEP requirements and for waiver references.
6. Oxygen, vacuum, medical air, waste anesthesia gas disposal and instrument air outlets (if required) are identified respectively by the abbreviations "OX", "VAC", "MA", "WAGD" & "IA".
7. Requirements referenced with "FI" result from formal interpretations from the FGI Interpretations Task Group.
8. The location requirements including asterisks (*) refer to the definitions of the Glossary in the beginning section of the FGI Guidelines and 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	
2.2-3.5	**RADIATION THERAPY**		
2.2-3.5.2	**EXTERNAL BEAM RADIATION THERAPY SUITE** ☐ check if not included in project		
A2.2-3.5.a	(Radiation treatment modalities that use high-energy, non-radioactive beams)		
2.2-3.5.2.1	___ Examination room		
	___ examination room provided for each external beam radiation therapy room	Ventilation: ___ Min. 6 air changes per hour	Table 7.1
2.2-3.5.8.15(1)	___ min. clear floor area 100 sf	Lighting: ___ Portable or fixed exam light	2.1-8.3.4.3(3)
2.2-3.5.8.15(2)	___ handwashing station	Power: ___ Min. 8 receptacles in total	Table 2.1-1
		___ Min. 4 receptacles convenient to head of gurney or bed	
		Nurse Call System: ___ Staff assistance station	Table 2.1-2
		___ Emergency call station	
2.2-3.5.2.2	___ Radiation therapy room	Ventilation:	
(1)	Space Requirements:	___ Min. 6 air changes per hour	Table 7.1
(a)	___ room sized to accommodate following:	Nurse Call System: ___ Staff assistance station	Table 2.1-2
	___ equipment	___ Emergency call station	
	___ access to equipment for patient on gurney		
	___ medical staff access to equipment & patient		
	___ service access to equipment		
(b)	___ radiation therapy room sized in compliance with manufacturer's technical specifications		
	___ manufacturer's technical specifications have been submitted to DPH Plan Review		
	___ room sized for min. clearance 4'-0" on three sides of treatment table to facilitate bed transfer & provide access to patient		
	___ door swing does not encroach on equipment or on patient circulation or transfer space		
2.2-3.5.2.3	**Support Area for External Beam Radiation Therapy Suite:**		
(1)(a)	___ Mold room	Ventilation:	2.2-3.5.2.3(1)(a)
	___ handwashing station	___ Exhaust hood	
(b)	___ block room (may be combined with mold room)		
	___ storage		

	Architectural Requirements	Building Systems Requirements	
2.2-3.5.3	**RADIOSURGERY SUITE** ☐ check if not included in project		
A2.2-3.5.3	(Rotating, robotic, or gantry-based external beam therapy systems of higher power & accuracy than conventional external beam therapy systems, e.g. Gamma Knife or Cyber Knife systems)		
2.2-3.5.3.1			
(1)	___ Radiosurgery suite readily accessible* to imaging services suite to facilitate image acquisition prior to radiosurgery treatment		
(2)	___ Examination room	Ventilation:	
(a)	___ examination room provided for each radiosurgery room	___ Min. 6 air changes per hour	Table 7.1
2.2-3.5.8.15(1)	___ min. clear floor area 100 sf	Lighting:	
		___ Portable or fixed exam light	2.1-8.3.4.3(3)
2.2-3.5.8.15(2)	___ handwashing station	Power:	
		___ Min. 8 receptacles in total	Table 2.1-1
	or	___ Min. 4 receptacles convenient to head of gurney or bed	
	___ private pre- & post-procedure patient care station provided for each radiosurgery room	Nurse Call System:	
		___ Staff assistance station	Table 2.1-2
		___ Emergency call station	
2.2-3.5.3.2	___ Radiosurgery rooms (i.e. gamma knife/cyber knife rooms)	Ventilation:	
(1)	Space Requirements:	___ Min. 6 air changes per hour	Table 7.1
(a)	___ sized to accommodate patient access on gurney, medical staff access to equipment & patient & service access	Nurse Call System:	
		___ Staff assistance station	Table 2.1-2
		___ Emergency call station	
	___ radiosurgery rooms sized & configured to meet manufacturer's technical specifications		
	___ manufacturer's technical specifications have been submitted to DPH Plan Review		
(b)	___ min. clearance 4'-0" provided on all sides of treatment table for maintenance access & clearance around table sufficient to facilitate patient transfer		
	___ door swing does not encroach on equipment or on patient circulation or transfer space		
(2)	___ handwashing station		
2.2-3.5.3.3	___ Pre- & post-procedure/recovery accommodations ☐ check if not included in project		
2.1-3.4.1.1	___ patient care stations accommodate lounge gurneys for pre- & post-procedure (recovery) patient care		
	___ patient care stations accommodate seating space for family/visitors		
2.2-3.5.3.6(2)	___ storage for patient belongings		

	Architectural Requirements	Building Systems Requirements	
2.1-3.4.1.4 (1)	Number of Patient Care Stations: ___ pre- & post-procedure patient care stations are combined into one patient care area ___ at least two patient care stations for each procedure room		
2.1-3.4.2.2 (2)(a)	Space Requirements: ___ patient care bays ☐ check if not included in project ___ min. clearance 5'-0" between sides of patient gurneys ___ min. clearance 3'-0" between sides of patient gurneys & adjacent* walls or partitions ___ min. clearance 2'-0" between foot of patient gurneys & cubicle curtain	Ventilation: ___ Min. 6 air changes per hour ___ No recirculating room units Power: ___ Min. 8 receptacles in total ___ convenient to head of gurney Nurse Call System: ___ Staff assistance station ___ Emergency call station Medical Gases: ___ 1 OX, 3 VAC, 1 MA per station	Table 7.1 Table 2.1-1 Table 2.1-2 Table 2.1-3
(2)(b)	___ patient care cubicles ☐ check if not included in project ___ min. clearance 3'-0" between sides of patient gurneys & adjacent* walls or partitions ___ min. clearance 2'-0" between foot of patient gurneys & cubicle curtain	Ventilation: ___ Min. 6 air changes per hour ___ No recirculating room units Power: ___ Min. 8 receptacles in total ___ convenient to head of gurney or bed Nurse Call System: ___ Staff assistance station ___ Emergency call station Medical Gases: ___ 1 OX, 3 VAC, 1 MA per station	Table 7.1 Table 2.1-1 Table 2.1-2 Table 2.1-3
(2)(c)	___ single-patient rooms ☐ check if not included in project ___ min. clearance 3'-0" between sides & foot of gurneys & adjacent* walls or partitions	Ventilation: ___ Min. 6 air changes per hour ___ No recirculating room units Power: ___ Min. 8 receptacles in total ___ convenient to head of gurney or bed Nurse Call System: ___ Staff assistance station ___ Emergency call station Medical Gases: ___ 1 OX, 3 VAC, 1 MA per station	Table 7.1 Table 2.1-1 Table 2.1-2 Table 2.1-3
2.1-3.4.2.4 2.1-2.1.2	Patient Privacy: ___ provisions are made to address patient visual & speech privacy		
2.1-3.4.2.5 2.1-2.8.7.1	___ Handwashing stations ___ located in each room where hands-on patient care is provided		

	Architectural Requirements	Building Systems Requirements	
2.1-2.8.7.3	___ handwashing station serves multiple patient care stations ☐ check if not included in project		
(1)	___ at least 1 handwashing station for every 4 patient care stations or fewer & for each major fraction thereof		
(2)	___ handwashing stations evenly distributed		
2.2-3.5.3.4	**SUPPORT AREAS FOR RADIOSURGERY ROOMS** ☐ check if not included in project (only if radiation therapy modalities do not include radiosurgery)		
(1)	___ Space for sterilization of head-frames		
(2)	___ Target planning area		
(3)	___ Medication safety zone		
2.1-2.8.8.1(2)	Design Promoting Safe Medication Use:		
(a)	___ located out of circulation paths		
(b)	___ work space designed so that staff can access information & perform required tasks	Lighting: ___ Task-specific lighting level min. 100 foot-candles	2.1-2.8.8.1(2)(d)
(c)	___ work counters provide space to perform required tasks		
(e)	___ sharps containers placed at height that allows users to see top of container		
(f)	___ max. 45 dBA noise level caused by building systems		
2.1-2.8.8.2(1)	___ medication preparation room		
(a)	___ under visual control of nursing staff	Ventilation:	
(b)	___ work counter	___ Min. 4 air changes per hour	Table 7.1
	___ handwashing station	Lighting:	
	___ lockable refrigerator	___ Task lighting	2.1-2.8.8.1(2)(d)
	___ locked storage for controlled drugs		
	___ sharps containers ☐ check if not included in project		
(c)	___ self-contained medication-dispensing unit ☐ check if not included in project		
	___ room designed with space to prepare medications		
	or		
2.1-2.8.8.2(2)	___ automated medication-dispensing unit		
(a)	___ located at nurse station, in clean workroom or in alcove	Lighting: ___ Task lighting	2.1-2.8.8.1(2)(d)
(c)	___ handwashing station located next to stationary medication-dispensing units or stations		
2.2-3.5.3.4(4)			
2.1-2.8.9	___ Nourishment area or room	Ventilation:	
2.1-2.8.9.2(1)	___ handwashing station	___ Min. 2 air changes per hour	Table 7.1
2.1-2.8.9.2(2)	___ work counter		
2.1-2.8.9.2(3)	___ refrigerator		
2.1-2.8.9.2(5)	___ storage cabinets		

	Architectural Requirements	Building Systems Requirements	
2.2-3.5.3.4(5)	___ Storage for head-frames (may be located at each pre- & post-procedure patient care station)		
(6)	___ Toilet room for patients	Ventilation:	
		___ Min. 10 air changes per hour	Table 7.1
		___ Exhaust	
		___ Negative pressure	
		___ No recirculating room units	
	___ Toilet room for staff	Ventilation:	
		___ Min. 10 air changes per hour	Table 7.1
		___ Exhaust	
		___ Negative pressure	
		___ No recirculating room units	
	(7) Area for sedation of pediatric patients		
2.2-3.5.3.5(1)	___ Frame pin sterilization		
	___ work counter to accommodate small autoclave		
2.2-3.5.4	**PROTON THERAPY SUITE**		
2.2-3.5.4.1(1)	___ Rooms & spaces accommodate equipment manufacturer's technical specifications		
	___ equipment manufacturer's technical specifications have been submitted to DPH Plan Review		
2.2-3.5.4.1(3)	___ Examination rooms		
	___ two examination rooms provided for each proton therapy room	Ventilation:	
		___ Min. 6 air changes per hour	Table 7.1
2.2-3.5.8.15(1)	___ min. clear floor area 100 sf	Lighting:	
		___ Portable or fixed exam light	2.1-8.3.4.3(3)
2.2-3.5.8.15(2)	___ handwashing station	Power:	
		___ Min. 8 receptacles in total	Table 2.1-1
		___ Min. 4 receptacles convenient to head of gurney or bed	
		Nurse Call System:	
		___ Staff assistance station	Table 2.1-2
		___ Emergency call station	
	___ Proton therapy room	Ventilation:	
(1)(a)	___ proton therapy equipment	___ Min. 6 air changes per hour	Table 7.1
	___ accommodates patient access on gurney	Nurse Call System:	
	___ accommodates medical staff access to equipment	___ Staff assistance station	Table 2.1-2
		___ Emergency call station	
	___ accommodates service access		
(b)	___ room sized to provide min. clearance 4'-0" on three sides of treatment table to facilitate bed transfer & provide access to patient		
	___ door swing does not encroach on equipment or on patient circulation or transfer space		
(2)	___ cyclotron vault		
(3)	___ hand sanitation station located immediately inside or outside entrance to proton therapy room		

Architectural Requirements **Building Systems Requirements**

2.2-3.5.4.3 ___ Patient holding gurney bays
___ min. two gurney hold bays provided for each proton therapy treatment room
(1) ___ located adjacent* to treatment rooms & screened for privacy

(2) ___ Separate waiting areas for patients
___ separation & privacy of outpatient & inpatient populations

2.2-3.5.4.6 Support Areas for Proton Accelerators:
(1) ___ general supply storage in treatment room for patient care supplies
(2) ___ storage for patient positioning devices
(3) ___ storage for patient-specific treatment devices (e.g. apertures & compensators)
(4) ___ post-treatment storage room for patient-specific treatment devices (e.g. apertures & range compensators)
(a) ___ separate shielded room (may be
(b) located away from proton therapy suite)

2.2-3.5.10.3 ___ Patient changing area
___ two gowning cubicles provided for each proton therapy room
(1) ___ secure storage for valuables & clothing
(2) ___ at least one space large enough for staff-assisted dressing

2.2-3.5.7 **SPECIAL DESIGN ELEMENTS FOR RADIATION THERAPY SUITE**

2.2-3.5.7.1 Architectural Details:
(1) ___ floor structure meets min. load requirements for equipment, patients & personnel
(2) ___ ceiling-mounted equipment have properly designed rigid support structures located above finished ceiling
(3) ___ direct-shielded door to radiation vault
☐ check if not included in project
___ both motor-driven automatic opening system & manual emergency opening system are provided
(4) ___ height & width of doorways, elevators & mazes allow delivery of equipment & replacement sources into treatment rooms

(5) Radiation Protection Requirements:
(a) ___ radiation protection provided in linear accelerator rooms, radiosurgery treatment rooms & proton therapy rooms
(b) ___ both photons & neutrons are taken into account in shielding for electron accelerators of higher energy

	Architectural Requirements	Building Systems Requirements	
(c)	___ layouts designed to prevent escape of radioactive particles		
(d)	___ openings into room including doors ductwork vents & electrical raceways & conduits are baffled to prevent direct exposure to other areas of facility		
(e)	___ physicist & vendor input have been obtained in design process		
	___ certified physicist representing owner specify type location & amount of protection to be installed in accordance with final approved department layout & equipment selection		
	___ shielding plans have been submitted to the DPH Radiation Control Program		
2.2-3.5.8	**SUPPORT AREAS FOR RADIATION THERAPY**		
2.2-3.5.8.1	(may be shared between different services in radiation therapy suite or other areas)		
2.2-3.5.8.4	___ Business office and/or reception/control area		
2.2-3.5.8.13(1)	___ Gurney storage area		
	___ immediately accessible* to radiation therapy treatment rooms		
2.2-3.5.8.14	___ Environmental services room	Ventilation:	
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)	___ Min. 10 air changes per hour ___ Exhaust ___ Negative pressure	Table 7.1
2.1-2.8.14.2(1)	___ service sink or floor-mounted mop sink	___ No recirculating room units	
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		
2.2-3.5.8.16	**OPTIONAL SUPPORT AREAS FOR RADIATION THERAPY** ☐ check if <u>not</u> included in project		
(1)(a)	___ Oncologist's office (may be combined with consultation room)		
(1)(b)	___ Physicist's office (may be combined with treatment planning & record room)		
(2)	___ Consultation room ☐ check if <u>not</u> included in project (only if private prep/holding rooms are provided)		
(3)	___ Quality control area w/ image viewing station		
2.2-3.5.10	**SUPPORT AREAS FOR PATIENTS**		
2.2-3.5.10.1	___ Patient waiting areas		
(1)	___ waiting area for gowned patients provided adjacent* to changing area		
(2)	___ provisions made for patient privacy in waiting area		

Architectural Requirements

2.2-3.5.10.2 ___ Patient toilet rooms
- ___ reserved for radiation therapy patients
- ___ directly accessible* to waiting areas & procedure rooms

Building Systems Requirements

Ventilation:
- ___ Min. 10 air changes per hour Table 7.1
- ___ Exhaust
- ___ Negative pressure
- ___ No recirculating room units

*LOCATION TERMINOLOGY:

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

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

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

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

Architectural Details & MEP Requirements

2.1-7.2.2 **ARCHITECTURAL DETAILS**

CORRIDOR WIDTH:

2.1-7.2.2.1 NFPA 101, 18.2.3.4
- ___ Aisles, corridors & ramps required for exit access in a hospital not less than 8'-0" in clear & unobstructed width

or

- ___ Detailed code review incorporated in Project Narrative

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

or

- ___ Detailed code review incorporated in Project Narrative

2.1-7.2.2.2 CEILING HEIGHT:

(1) ___ Min ceiling height 7'-6"in corridors & in normally unoccupied spaces

(2) ___ Min. height 7'-0" in radiation therapy procedure room from floor to lowest protruding element of equipment or fixture in stowed position

(3) ___ Min. height 7'-6" above floor of suspended tracks, rails & pipes located in traffic path for patients in beds & on stretchers

___ 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 included in Project Narrative
- ___ no floor tracks

(2) Door Opening:

(a)
- ___ min. 45.5" clear door width for diagnostic/treatment areas
- ___ min. 83.5" clear door height for diagnostic/treatment areas

(b) ___ swinging doors for personnel use in addition to sliding doors
- ☐ check if not included in project
- ___ min. clear width 34.5"

(3) Door Swing:

(a) ___ doors do not swing into corridors except doors to non-occupiable spaces & doors with emergency breakaway hardware

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

(5) Doors for Patient Toilet Facilities:

(a)
- ___ two separate doors

or

- ___ door that swings outward

or

- ___ door equipped with emergency rescue hardware (permits quick access from outside the room to prevent blockage of the door)

or

- ___ sliding door other than pocket door

(b) ___ toilet room opens onto public area or corridor
☐ check if not included in project
___ visual privacy is maintained

2.1-7.2.2.7 GLAZING MATERIALS:
___ Glazing within 1 foot 6 inches of floor
☐ check if not included in project
___ must be safety glass, wire glass or plastic break-resistant material

2.1-7.2.2.8 HANDWASHING STATIONS:
(1)(c) ___ Handwashing stations in patient care areas located so they are visible & unobstructed
(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

2.1-7.2.2.9 GRAB BARS:
(1) ___ Grab bars anchored to sustain concentrated load 250 pounds
(3) ___ Ends of grab bars constructed to prevent snagging clothes of patients staff & visitors

2.1-7.2.2.10 HANDRAILS:
(1) ___ Handrails installed on both sides of patient use corridors
(3) ___ Rail ends return to wall or floor
(4) ___ Handrail gripping surfaces & fasteners are with 1/8-inch min. radius
(5) ___ Handrails have eased edges & corners
(6) ___ Handrail finishes are cleanable

2.1-7.2.2.11 RADIATION PROTECTION:
☐ check if no radiation emitting equipment is included in project
___ Protection for X-ray & Gamma-ray installations are shown in the plans
___ Documentation for radiation protection has been submitted separately to the DPH Radiation Control Program

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

2.1-7.2.3 **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 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

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 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 do not create ledges or crevices

2.1-7.2.4 **FURNISHINGS:**
2.1-7.2.4.1 ___ built-in furnishings upholstered with impervious materials in patient treatment areas with risks of exposure & contamination from bodily fluids & other fluids
2.1-7.2.4.3 ___ Privacy curtains in patient care areas are washable

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

Part 3/6.1 UTILITIES:

Part 3/6.1.2 Heating & Cooling Sources:

Part 3/6.1.2.1 ___ heat sources & essential accessories provided 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

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 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 min. of 25'-0" from cooling towers & all exhaust & vent discharges

___ outdoor air intakes located such that bottom of air intake is at least 6'-0" above grade

___ air intakes located away from public access

Part 3/6.3.1.3 ___ intakes on top of buildings

☐ check if not included in project

___ located with bottom of air intake min. of 3'-0" above roof level

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'-0" above grade

___ bottom of air intake opening from areaway into building is at least 3'-0" above bottom of areaway

Part 3/6.4 FILTRATION:

___ Two filter banks for inpatient care (see Table 6.4)

___ Filter Bank No. 1: MERV 7

___ Filter Bank No. 2: MERV 14

___ Each filter bank with efficiency of greater than MERV 12 is provided with differential pressure measuring device to indicate when filter needs to be changed

Part 3/6.4.1 ___ Filter Bank No. 1 is placed upstream of heating & cooling coils

Part 3/6.4.2 ___ Filter Bank No. 2 is placed 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

___ Inpatient facilities rooms are served by fully ducted return or exhaust systems

Part 3/6.7.2 Air Distribution Devices:

___ supply air outlets comply with Table 6.7.2

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 Filter Bank No. 2

Part 3/6.8.3 ___ Energy recovery systems with leakage potential

☐ check if not included in project

___ arranged to minimize potential to transfer exhaust air directly back into supply airstream

___ designed to have no more than 5% of total supply airstream consisting of exhaust air

___ not used from these exhaust airstream sources: soiled holding room

Part 3/7 SPACE VENTILATION

Part 3/7.1.a ___ Spaces ventilated according to Table 7.1

Part 3/7.1.a.1 ___ Air movement is from clean to less-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 6 filter located upstream of any cold surface so that all of air passing over cold surface is filtered

2.1-8.3 **ELECTRICAL SYSTEMS**

2.1-8.3.2 **ELECTRICAL DISTRIBUTION & TRANSMISSION**

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

☐ check if not included in project

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

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 max. length 25'-0"

(3)(a) ___ no installation of dead-end piping (except for empty risers

(3)(c) mains & branches for future use)

(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 electronic data processing areas & electric closets

☐ check if not included in project

___ special provisions to protect space below from leakage & condensation

(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:
(1) ___ sinks in handwashing stations are designed with basins that will reduce risk of splashing to areas where direct patient care is provided, sterile procedures are performed & medications are prepared
(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” 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 staff, patients, & public 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

2.1-8.4.3.4 Ice-Making Equipment:
___ copper tubing provided for supply connections to ice-making equipment

2.1-8.4.4 **MEDICAL GAS & VACUUM SYSTEMS**
___ Station outlets provided as indicated in Table 2.1-3

2.1-8.5.1 **CALL SYSTEMS**
2.1-8.5.1.1
(1) ___ Nurse call stations provided as required in Table 2.1-2
(2) ___ Nurse call systems report to attended location with electronically supervised visual & audible annunciation as indicated in Table 2.1-2
(4) ___ Call system complies with UL 1069 “Standard for Hospital Signaling & Nurse Call Equipment”
(5) ___ Wireless nurse call system
☐ check if not included in project
___ complies with UL 1069

2.1-8.5.1.3 Bath Stations:
___ bath station that can be activated by patient lying on floor provided at each patient toilet
(1) ___ alarm in these areas can be turned off only at bath station where it was initiated
(3) ___ toilet bath stations located on the side of toilets within 12” of front of toilet bowl & 3'-0" to 4’-0” above floor

2.1-8.5.1.5 ___ Emergency call stations are equipped with continuous audible or visual confirmation to person who initiated the code call

2.1-8.6.2 **ELECTRONIC SURVEILLANCE SYSTEMS**
☐ check if not included in project
2.1-8.6.2.2 ___ monitoring devices 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