Final Report

Passenger Vessel Access Advisory Committee

Recommendations for Accessibility Guidelines for Passenger Vessels

December 2000

Passenger Vessel Access Advisory Committee

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American Sail Training Association	Louis Linden	Baltimore, MD
American Society of Travel Agents	Wayne Nelson	Alexandria, VA
BB Riverboats	Alan Bernstein	Covington, KY
Boston Commission for Persons with Disabilities	Stephen Spinetto (Chair)	Boston, MA
Chesapeake Region Accessible Boating, Inc.	Donald Backe	Annapolis, MD
International Council of Cruise Lines	Ted Thompson	Washington, DC
National Tour Association	Christopher Shepler	Mackinaw City, MI
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Rhode Island Tourism Division	Robert Gearing	Providence, RI
Self Help for Hard of Hearing People, Inc.	Susan Finisdore	Washington, DC
Society for the Advancement of Travel for the Handicapped	Laurel Van Horn	New York, NY
Southeast Alaska Independent Living	Jerry Kainulainen	Sitka, AK
Southwest Disability and Business Technical Assistance Center	Carri George	Houston, TX
The Society of Naval Architects and Marine Engineers	David Chapman	Cape May, NJ
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INTRODUCTION

This report represents the recommendations of the Passenger Vessel Access Advisory Committee (PVAAC) to the US Access Board. These recommendations will assist the Board in developing a rule under the Americans with Disabilities Act which will propose accessibility guidelines for the design, new construction and alteration of passenger vessels.

NOTE: Any proposed rule concerning passenger vessel access will be made through the federal rulemaking process. This report is not part of any rulemaking.

In developing this report, the committee primarily used as a guide the recommendations contained in the Americans with Disabilities Act Accessibility Guidelines Review Advisory Committee report (ADAAG-R) which was developed to assist the Access Board in revising the ADA Accessibility Guidelines for Buildings and Facilities. (The ADAAG-R is available on the Board's web site at www.access-board.gov.) The PVAAC applied the recommendations in the ADAAG-R to passenger vessels and then modified those "building" provisions which were problematic when applied to vessels. The PVAAC was unable to evaluate all provisions in the ADAAG-R.

In order to focus its resources, the committee decided to provide access recommendations to the Board for passenger vessels which fall under subchapters K or H of the US Coast Guard regulations (see 46 CFR 70 - 80 and 114 - 122) and vessels subject to subchapters C or T (see 46 CFR 24 - 28 and 175 - 185) which are typically smaller vessels.

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Chapter 1 Onboard Accessible Routes

*Standards and sections from the ADAAG Review Report referenced in this report that have not been reviewed or approved by the committee.

Note: This chapter only applies to passenger vessels subject to subchapters K or H, except where sections are referenced by chapter 12 which addresses subchapters C and T vessels.

Note: Several recommendations incorporate engineering standards published by ASME, ANSI, BHMA and other engineering standards setting organizations. The committee did not review these standards, which were included by reference. Therefore, the committee recommends that the competent regulatory drafting authorities and others specifically review all referenced industry standards to determine their suitability in designing equipment for use onboard ships in the marine environment.

Note: The committee recognizes that these recommendations may apply to vessels not built or constructed in U.S. shipyards, and to systems not manufactured in the United States. Therefore, the committee recommends that the final regulations recognize and accept the use of other equivalent standards, such as the International Standards Organization standards and recommendations, International Electro-Technical Commission Engineering standards and recommendations, Japan Engineering Standards, etc.

Measurements: All measurements are determined based on the vessel's static design condition.

SCOPING

206 Accessible Routes Onboard a Passenger Vessel

206.1 General. Accessible routes shall be provided onboard a passenger vessel in accordance with 206.

206.2 Where Required. Onboard accessible routes shall be provided where required by 206.2.1 through 206.2.8 and shall comply with 401.

206.2.1 Not Used.

206.2.2 Not Used.

206.2.3 Multi-Level Passenger Vessels. At least one accessible route shall connect each level required to be accessible, including mezzanines, onboard multi-deck passenger vessels.

Note: The following Exception 1, and notes 1 through 3, were provided by the Access Board.

EXCEPTION 1. An accessible route is not required to levels located above or below the accessible level in passenger vessels that are less than three decks or that have less than 3,000 square feet (280 m^2) per deck.

Note 1: The DOT may revisit the application of the elevator exception to the vessels based on comments received in response to future rulemaking.
Note 2: The elevator exception does not apply to State and local governments. (See 28 CFR 35.151(c)).
Note 3: This is the minimum baseline. The DOJ, DOT, or the Access Board (or PVAAC) may expand the exception or develop additional exceptions.

EXCEPTION 2. An accessible route is not required between decks on a high speed ferry with only two passenger decks where all types of passenger facilities are available on the accessible deck.

Advisory 206.2.3 Exception 2: Types of passenger facilities that may be found on high speed ferries with two passenger decks. Seating area, Viewing area, Restrooms, Snack Bar, Open deck area, Gift shop, Dining area, and Baggage storeroom.

EXCEPTION 3. An accessible route is not required to a deck which is less than 300 (28 m^2) square feet in size.

Note: The committee understands that where a deck is not required to be connected to an accessible route, the spaces on that deck which were required to be accessible by this report still must be accessible.

206.2.4 Accessible Spaces and Elements. At least one accessible route shall connect all accessible spaces and elements onboard the passenger vessel which are otherwise connected by a circulation path.

EXCEPTION: An accessible route is not required between levels where exempted by 206.2.3.

206.2.5 Dining Areas. An accessible route shall be provided to all dining areas, including raised or sunken dining areas, and outdoor seating areas.

EXCEPTION: In passenger vessels without elevators, an accessible route to a mezzanine dining area is not required, provided that the mezzanine contains less than 25 percent of the total area for seating and dining and the same services are provided in the accessible area.

206.2.6 Performance Areas. An accessible route shall be provided where a circulation path directly connects a performance area to an assembly seating area. An accessible route shall be provided from performance areas to ancillary areas or facilities used by the public.

206.2.7 Raised Platforms. In banquet rooms or spaces where a head table or speaker's lectern is located on a raised platform, an accessible route shall be provided to the platform.

206.2.8 Vessel Entry and Departure Points. In all ports, an accessible route shall be provided to at least one vessel entry and departure point used by passengers.

EXCEPTION: An accessible route is not required between levels where exempted by 206.2.3.

Note: Access requirements for getting on and off a vessel are addressed in chapter 2 (On/Off Accessible Routes).

206.3 Location. Accessible routes shall coincide with or be located in the same area as a general circulation path. Where the circulation path is interior, the accessible route shall also be interior. An accessible route connecting any two points within one or more accessible spaces shall not be more than 300 feet (91 m) longer than the shortest general circulation path connecting the same two points.

206.3.1 Signage. Where an accessible route does not coincide with a general circulation path, directional signage to an accessible route shall be provided.

206.4 Not Used.

206.5 Doors and Doorways. Accessible doors and doorways shall be provided in accordance with 206.5.1 through 206.5.3 and shall comply with 404.

206.5.1 Accessible Entry and Departure Points. Each accessible entry and departure point shall have at least one accessible door or doorway.

206.5.2 Accessible Rooms and Spaces. Onboard a passenger vessel, at least one door or doorway serving each accessible room or space shall be accessible.

206.5.3 Weather Deck Access. Where the main deck of a passenger vessel is greater than 3,000 square feet (280 m^2) at least one exterior door on each accessible weather deck shall comply with 404.2.5 and shall be located on an accessible route that provides access between the weather deck and the interior of the passenger vessel, except where prohibited by an administrative authority having jurisdiction.

206.6 Elevators. New passenger elevators shall comply with 407.2 or 407.3. Where multiple elevators are provided, each passenger elevator shall comply with 407.2 or 407.3.

EXCEPTION 1. Where an elevator is provided in a passenger vessel eligible for the exceptions to 206.2.3, the elevator shall comply with 407.2, 407.3 or 407.4.

EXCEPTION 2. Where each deck of a ferry is less than 3,000 square feet (280 m^2), elevators are permitted to comply with 407.4.

EXCEPTION 3. Where a passenger vessel is less than 5,000 International Tonnage Convention (ITC), elevators are permitted to comply with 407.4.

EXCEPTION 4. Where a passenger vessel is less than 10,000 ITC and multiple elevators are provided, only one elevator is required to comply with 407.2 or 407.3 and all other elevators are permitted to comply with 407.4.

206.7 Wheelchair (Platform) Lifts. Wheelchair (platform) lifts shall be permitted as a component of an accessible route in new construction as permitted by 206.7.1 through 206.7.4, and shall comply with 408.

206.7.1 Performance Areas. Wheelchair (platform) lifts shall be permitted to provide an accessible route to a performance area in an assembly occupancy.

206.7.2 Wheelchair Spaces. Wheelchair (platform) lifts shall be permitted to comply with the wheelchair space dispersion and line-of-sight requirements of 221* and 802*.

206.7.3 Incidental Spaces. Wheelchair (platform) lifts shall be permitted to provide an accessible route to incidental occupiable spaces and rooms which are not open to the general public and which are occupied by five persons maximum, including but not limited to equipment control rooms and projection booths.

206.7.4 Decks Less Than 3,000 Square Feet. Wheelchair (platform) lifts shall be permitted to provide an accessible route to a deck which is less than 3,000 square feet (280 m^2) in size.

TECHNICAL

401 General

401.1 Scope. Accessible routes required by this report shall comply with the applicable provisions of this chapter.

402 Accessible Routes

402.1 General. Accessible routes shall comply with 402.

402.2 Components. Accessible routes shall consist of one or more of the following components:

a. Walking surfaces with a slope not steeper than 1:20;
b. doorways;
c. ramps, (note: includes curb ramps);
d. elevators; and
e. platform (wheelchair) lifts.

All components of an accessible route shall comply with the applicable portions of this chapter.

403 Walking Surfaces

403.1 General. Walking surfaces that are a part of an accessible route shall comply with 403.

403.2 Deck Surface. Finished deck surfaces shall comply with 302.

403.3 Slope. The running slope of walking surfaces shall not be steeper than 1:20. The cross slope of walking surfaces shall not be steeper than 1:20.

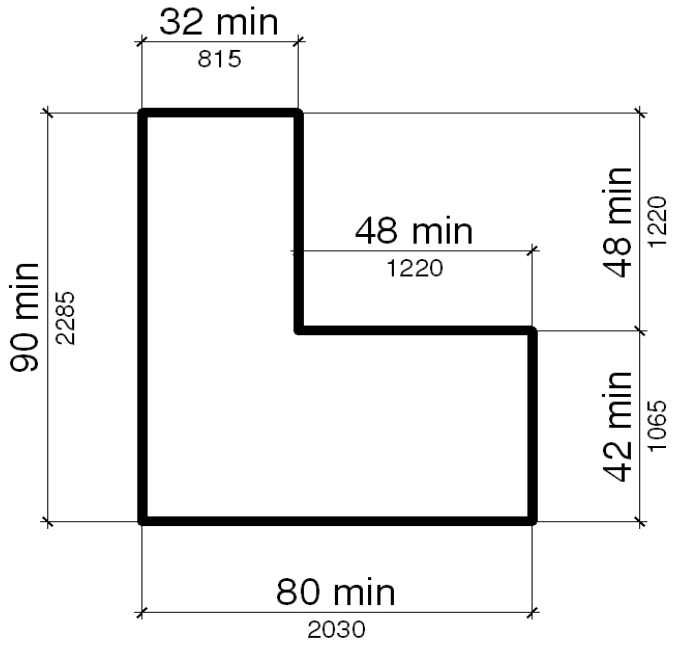
403.4 Changes in Level. Changes in level shall comply with 303.

403.5 Clear Width. The clear width of walking surfaces shall be 36 inches (915 mm) minimum.

EXCEPTION 1. The clear width shall be 32 inches (815 mm) minimum for a length of 24 inches (610 mm) maximum, provided that multiple 32 inch (815 mm) wide segments are separated by segments that are 48 inches (1220 mm) minimum in length and 36 inches (915 mm) minimum in width.

EXCEPTION 2. Where a main deck of a passenger vessel is less than 3,000 square feet (280 m^2) in size, the walking surface shall be permitted to have a clear width of 32 inches (815 mm) minimum.

403.5.1 Clear Width at Turn. Where the accessible route makes a 180 degree turn around an object which is less than 48 inches (1220 mm) wide, clear width shall be 42 inches (1065 mm) minimum approaching the turn, 48 inches (1220 mm) minimum during the turn and 42 inches (1065 mm) minimum leaving the turn. Where the accessible route makes a 90 degree turn around an object, an L-shaped space with one stroke 90 inches (2285 mm) minimum in length having a width of 32 inches (815 mm) minimum and the other stroke with a 80 inches (2030 mm) minimum length having a width of 42 inches (1065 mm) minimum shall be provided.



L-Shaped Space

403.5.2 Passing Spaces. An accessible route with a clear width less than 60 inches (1525 mm) shall provide passing spaces at intervals of 200 feet (61 m) maximum. Passing spaces shall be either a 60 inches (1525 mm) minimum by 60 inches (1525 mm) minimum space, or an intersection of two walking surfaces which provide a T-shaped space complying with 304.

403.5.3 Protruding Objects. Protruding objects shall comply with 307. Protruding objects shall not reduce the required clear width.

404 Doors and Doorways

404.1 General. Doors and doorways that are part of an accessible route shall comply with 404.

404.2 Manual Doors and Doorways. Manual doors and doorways and manual gates, including ticket gates, shall comply with 404.2.1 through 404.2.11.

404.2.1 Revolving Doors and Turnstiles. Revolving doors and revolving turnstiles shall not be part of an accessible route.

404.2.2 Double-Leaf Doors. At least one of the active leaves of doorways with two independently operated leaves shall comply with 404.2.3 and 404.2.4.

404.2.3 Clear Width. Doorways shall have a clear opening of 32 inches (815 mm) minimum. Clear openings of doorways with swinging doors shall be measured between the face of the door and the stop, with the door open 90 degrees. Openings more than 24 inches (610 mm) in depth shall provide a clear opening of 36 inches (915 mm) minimum. There shall be no projections into the required clear opening width lower than 34 inches (865 mm) above the finished deck surface. Projections into the clear opening width between 34 inches (865 mm) and 80 inches (2030 mm) above the finished deck surface shall not exceed 4 inches (100 mm).

Advisory - The present ADAAG allows equipment to be on an accessible door that creates a "key-hole" situation where the lower portion of the door opening is 32 inches (815 mm) clear, but the upper portion of the accessible door reduces the clear path of travel to 25 inches (635 mm)(reduce the path of travel on each side of the doorway up to 4 inches). If the ADAAG criteria for accessible doors was meant to allow for projecting door hardware, it should be clearly stated.

404.2.4 Maneuvering Clearances.

404.2.4.1 Swinging Doors. Approaches to swinging doors shall have maneuvering clearances complying with Table 404.2.4.1.

Table 404.2.4.1 Maneuvering Clearances at Manual Swinging Doors.

TYPE OF USE		MINIMUM MANEUVERING CLEARANCE [1]	
Approach Direction	Door Side	Perpendicular to Doorway	Parallel to Doorway [2] (beyond latch side unless noted)
From front	Pull	60 inches (1525 mm)	18 inches (455 mm), 24 inches (610 mm) preferred
From front	Push	48 inches (1220 mm)	0 inches (0 mm) [3]

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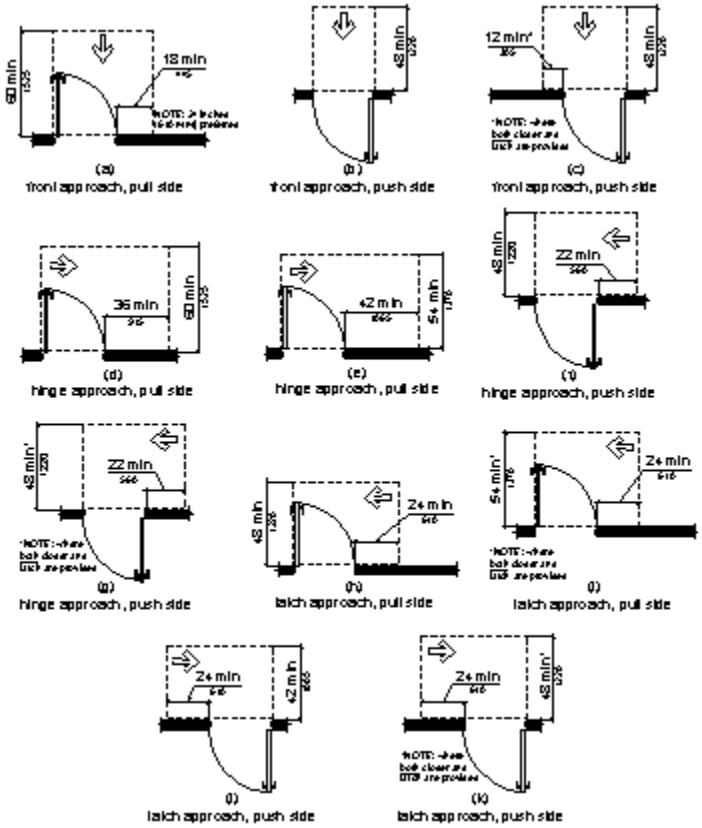
TYPE OF USE		MINIMUM MANEUVERING CLEARANCE [1]	
Approach Direction	Door Side	Perpendicular to Doorway	Parallel to Doorway [2] (beyond latch side unless noted)
From hinge side	Pull	60 inches (1525 mm)	36 inches (915 mm)
From hinge side	Pull	54 inches (1370 mm)	42 inches (1065 mm)
From hinge side	Push	48 inches (1220 mm) [4]	22 inches (560 mm) beyond hinge side
From latch side	Pull	48 inches (1220 mm) [5]	24 inches (610 mm)
From latch side	Push	42 inches (1065 mm) [5]	24 inches (610 mm)

Notes:

1. Maneuvering clearance shall include the full width of the doorway.
2. Doors to hospital patient sleeping rooms are exempt from the clearance beyond the latch side of the door provided the door is 44 inches (1120 mm) wide minimum.
3. Add 12 inches (305 mm) if closer and latch are provided.
4. Add 6 inches (150 mm) if closer and latch are provided.
5. Add 6 inches (150 mm) if closer and latch are provided.



404.2.4.2 Doorways without Doors, Sliding Doors and Folding Doors. Approaches to doorways without doors which are less than 36 inches (915 mm) wide and approaches to sliding and folding doors shall have maneuvering clearances complying with Table 404.2.4.2.

Table 404.2.4.2 Maneuvering Clearances at Doorways without Doors, Manual Sliding Doors, and Manual Folding Doors.

	MINIMUM MANEUVERING CLEARANCE [1]	
Approach Direction	Perpendicular to Doorway	Parallel to Doorway [2] (beyond stop/latch side unless noted)
From Front	48 inches (1220 mm)	0 inches (0 mm)
From side (doorway with no door only)	42 inches (1065 mm)	0 inches (0 mm)
From pocket/hinge side	42 inches (1065 mm)	22 inches (560 mm) beyond pocket/hinge side
From stop/latch side	42 inches(1065 mm)	24 inches (610 mm)

Notes:
1. Maneuvering clearance shall include the full width of the doorway.
2. Doors to hospital patient sleeping rooms are exempt from the clearance beyond the stop/latch side of the door provided the door is 44 inches (1120 mm) wide minimum.

404.2.4.3 Doors in Alcoves. Doors in alcoves where the plane of the doorway is offset more than 8 inches (205 mm) from the plane of the wall shall provide maneuvering clearances for front approach.

404.2.4.4 Deck Surface. Finished deck surface within required maneuvering clearances shall have a slope of 1:48 maximum and shall comply with 302. Changes in level are not permitted.

404.2.5 Thresholds. Thresholds, if provided at doorways, shall be ½ inch (13 mm) maximum in height. Raised thresholds and changes in level at doorways shall comply with 302 and 303.

404.2.6 Two Doors in Series. The distance between two hinged or pivoted doors in series shall be 48 inches (1220 mm) minimum plus the width of any door swinging into the space. Doors in series shall swing either in the same direction or away from the space between the doors.

404.2.7 Door Hardware. Handles, pulls, latches, locks, and other operable parts on accessible doors shall comply with 309.4. Such hardware shall be 30 inches (760 mm) minimum and 44 inches (1120 mm) maximum above the finished deck surface. When sliding doors operated by passengers are in the fully open position, operating hardware shall be exposed and usable from both sides.

EXCEPTION: Locks used only for security purposes and not used for normal operation are permitted in any location.

404.2.8 Closing Speed.

404.2.8.1 Door Closers. Door closers shall be adjusted so that from an open position of 90 degrees, the time required to move the door to an open position of 12 degrees is 5 seconds minimum.

404.2.8.2 Spring Hinges. Door spring hinges shall be adjusted so that from the open position of 70 degrees, the door shall move to the closed position in 1.5 seconds minimum, measured under ambient conditions.

404.2.9 Door Opening Force. Fire doors and water tight doors shall have a minimum opening force allowable by the appropriate administrative authority. The required force for pushing or pulling open a door other than fire doors and water tight doors shall be as follows:

1. Interior hinged doors: 5 lbs (22.2 N) maximum under normal operating conditions.
2. Sliding or folding doors: 5 lbs (22.2 N) maximum under normal operating conditions.

These forces do not apply to the force required to retract latch bolts or disengage other devices that hold the door in a closed position.

EXCEPTION: Section 404.2.9 does not apply to sailing vessels.

404.2.10 Door Surface. The bottom 10 inches (255 mm) of all swinging doors shall have a smooth surface on the push side and extending the full width of the door. Parts creating horizontal or vertical joints in such surface shall be within 1/16 inch (1.6 mm) of the same plane as the other. Cavities created by added kick plates shall be capped.

EXCEPTION 1. This requirement shall not apply to sliding doors.

EXCEPTION 2. Tempered glass doors without stiles and having a bottom rail or shoe with the top leading edge tapered at 60 degrees minimum from the horizontal shall not be required to meet the 10 inch (255 mm) bottom rail height requirement.

EXCEPTION 3. This requirement shall not apply to doors that do not extend to within 10 inches (255 mm) of the finished deck surface.

404.2.11 Vision Lites. Doors, and sidelites adjacent to doors, containing one or more glazing panels that permit viewing through the panels shall have the bottom of at least one glazed panel located 43 inches (1090 mm) maximum above the finished deck surface.

404.3 Automatic Doors. Automatic doors and automatic gates shall comply with 404.3.1 through 404.3.6. Full-powered automatic doors shall comply with ANSI/BHMA A156.10*. Low-energy and power-assisted doors shall comply with ANSI/BHMA A156.19*.

404.3.1 Clear Width. Doorways shall have a clear opening of 32 inches (815 mm) minimum in power-on and power-failure mode. The minimum clear width for automatic door systems shall be based on the clear opening provided by all leafs in the open position.

404.3.2 Maneuvering Clearance. Clearances at power-assisted doors shall comply with 404.2.4.

404.3.3 Thresholds. Thresholds and changes in level at doorways shall comply with 404.2.5.

404.3.4 Two Doors in Series. Doors in series shall comply with 404.2.6.

404.3.5 Controls and Operating Mechanisms. Control switches shall comply with 309.

404.3.6 Signs. Labels and warnings for automatic doors shall comply with 703.4*.

404.4 Doors with Coamings. Doors such as weathertight and watertight doors, that have coamings which exceed ½ inch (13 mm) in height shall comply with 404.2 (manual accessible doors) or 404.3 (automatic and power assisted accessible doors) unless modified by 404.4, and shall comply with the applicable sections of 405 (ramps), unless modified by 404.4.

Note: Coaming Definition. The vertical plating bounding a hatch or located at the base of a door for the purpose of stiffening the edges of the opening and resisting entry of water. Coamings may be required by U.S. Coast Guard regulations or provided as part of good design practice.

404.4.1 Double Ramp Access.

a. Automatic. The doors shall be automatic.

b. Thresholds. Thresholds on each side of the doors shall have the minimum height allowed by the Coast Guard or established by the design professional.

c. Not Used**.**

d. Slope. Running slopes on both sides of the doors shall not exceed 1:12.

e. Handrails. Where handrails are required by 405.8, handrail extensions are not required at the top of the ramps.

f. Landings. Where 405 applies, landings are not required at the top of the two ramps.

404.4.2 Single Ramp Access.

a. Ramp Side Threshold. The ramp side of the doors shall have the minimum threshold height allowed by Coast Guard coaming regulations or established by the design professional.

b. Ramp Side Maneuvering Clearance. The maneuvering clearance on the ramp side of the doors shall have a running slope complying with 403 (walking surfaces) or 405 (ramps).

EXCEPTION: Where the door is automatic, the maneuvering clearance is not required.

c. Landing Side Thresholds and Maneuvering Clearances. Thresholds on the landing side of the doors shall comply with 404.2.5, and shall have a maneuvering clearance 48 inches (1220 mm) minimum in length perpendicular to the doorway.

EXCEPTION: Where the door is automatic, the maneuvering clearance is not required.

d. Handrail Extensions. Where handrails are required by 405.8, handrail extensions are not required at the top of the ramp.

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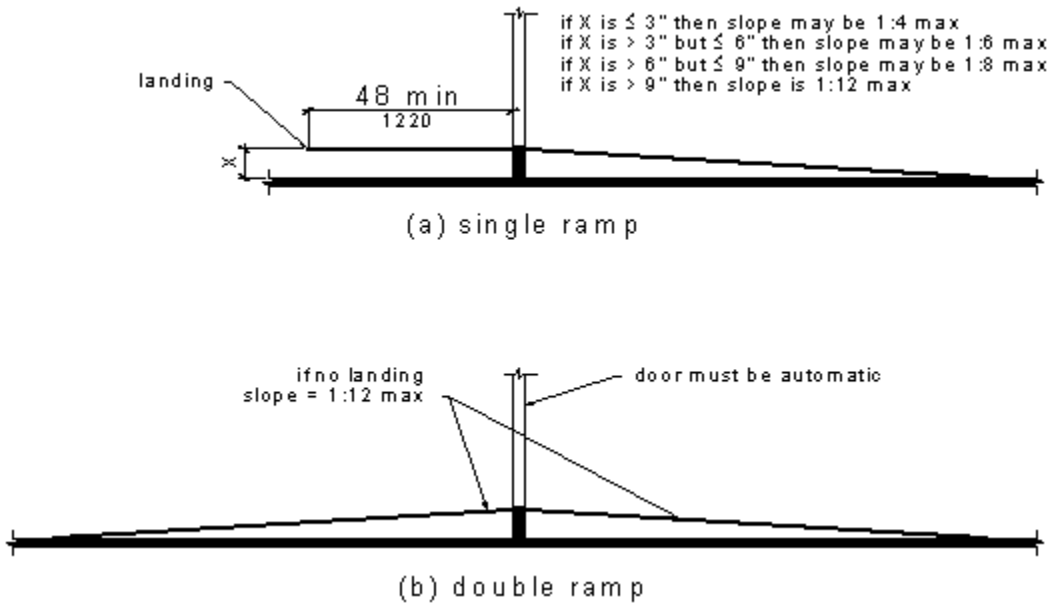

405 Ramps

405.1 General. Walking surfaces on accessible routes with a running slope steeper than 1:20 are ramps and shall comply with 405.

405.2 Slope. Ramp runs shall have a running slope not steeper than:

a. 1:4 if the rise is 3 inches (75 mm) maximum;
b. 1:6 if the rise is 6 inches (150 mm) maximum;
c. 1:8 if the rise is 9 inches (230 mm) maximum; or
d. 1:12 if the rise is greater than 9 inches (230 mm).

405.3 Cross Slope. Cross slope of ramp runs shall not be steeper than 1:48.

405.4 Deck Surfaces. Finished deck surfaces of ramp runs shall comply with 302. Changes in level other than the running slope and cross slope are not permitted on ramp runs.

405.5 Clear Width. The clear width of a ramp run and the clear width between handrails, if provided, shall be 36 inches (915 mm) minimum.

EXCEPTION: Where a main deck of a passenger vessel is less than 3,000 square feet (280 m^2) in size, the width of ramp runs and the distance between handrails, if provided, shall be permitted to have clear widths of 32 inches (815 mm) minimum.

405.6 Rise. The rise for any ramp run shall be 30 inches (760 mm) maximum.

405.7 Landings. Ramps shall have landings at the bottom and top of each ramp run. Landings shall comply with 405.7.1 through 405.7.5.

405.7.1 Slope. Landings shall have a slope not steeper than 1:48 and shall comply with 302. Changes in level are not permitted.

405.7.2 Width. The landing shall be at least as wide as the widest ramp run leading to the landing.

405.7.3 Length. The landing length shall be 48 inches (1220 mm) minimum.

405.7.4 Change in Direction. Ramps that change direction between runs at landings shall have a 60 inches (1525 mm) minimum by 60 inches (1525 mm) minimum landing.

405.7.5 Doorways. Where doorways are located adjacent to a ramp landing, maneuvering clearances required by 404.2.4 and 404.3.2 shall be permitted to overlap the required landing area.

405.8 Handrails. Ramp runs with a rise greater than 6 inches (150 mm) shall have handrails complying with 505*.

405.9 Edge Protection. Edge protection complying with 405.9.1 or 405.9.2 shall be provided on each side of ramp runs and at each side of ramp landings.

EXCEPTION 1. Edge protection is not required on ramps that are not required to have handrails and have sides complying with 406.3.

EXCEPTION 2. Edge protection is not required on the sides of ramp landings serving an adjoining ramp run or stairway.

EXCEPTION 3. Edge protection is not required on the sides of ramp landings having a vertical drop-off of ½ inch (13 mm) maximum within 10 inches (255 mm) horizontally of the minimum landing area.

405.9.1 Extended Deck Surface. The finished deck surface of the ramp run or landing shall extend 12 inches (305 mm) minimum beyond the inside face of a handrail complying with 505*.

405.9.2 Guard, Curb or Barrier. A guard, curb, or barrier shall be provided that prevents the passage of a 4 inches (100 mm) diameter sphere, where any portion of the sphere is within 4 inches (100 mm) of the finished deck surface.

405.10 Outdoor Conditions. Outdoor ramps and outdoor approaches to ramps shall be designed so that water will not accumulate on walking surfaces.

406 Curb Ramps

406.1 General. Curb ramps on accessible routes shall comply with 406 and with 405.2, 405.4, 405.5 and 405.10.

406.2 Counter Slope. Counter slopes of adjoining gutters and road surfaces immediately adjacent to the curb ramp shall not be steeper than 1:20. The adjacent surfaces at transitions at curb ramps to walks, gutters and streets shall be at the same level.

406.3 Sides of Curb Ramps. Curb ramps located where pedestrians must walk across the ramp shall have flared sides. Slope of the flares shall not be steeper than 1:10. Where the width of the walking surface at the top of the ramp and parallel to the run of the ramp is less than 48 inches (1220 mm) wide, the flared sides shall have a slope not steeper than 1:12. Curb ramps with returned curbs shall be permitted where pedestrians would not normally walk across the ramp.

406.4 Handrails. Handrails are not required on curb ramps.

406.5 Not Used.

406.6 Not Used.

406.7 Not Used.

407 Elevators

407.1 General. New elevators required to be accessible shall comply with 407.2. New destination-oriented elevators required to be accessible shall comply with 407.3. New limited use/limited application elevators required to be accessible shall comply with 407.4. Altered elements of existing elevators shall comply with 407.5.

407.2 New Elevators. New accessible elevators shall comply with 407.2.1 through 407.2.13 and with ASME/ANSI A17.1*. They shall be passenger elevators as classified by ASME/ANSI A17.1*.

407.2.1 Automatic Operation. Elevator operation shall be automatic. Each car shall be equipped with a self-leveling feature that will automatically bring and maintain the car at finished deck surface landings within a tolerance of ½ inch (13 mm) under rated loading to zero loading conditions.

407.2.2 Call Buttons. Call buttons in elevator lobbies and halls shall be located vertically between 35 inches (890 mm) and 48 inches (1220 mm) above the finished deck surface, measured to the centerline of the button. A clear deck space complying with 305 shall be provided. Such call buttons shall have visible signals consisting of a white light to indicate when each call is registered and when each call is answered. Call buttons shall be 3/4 inch (19 mm) minimum in the smallest dimension. The button that designates the up direction shall be located above the button that designates the down direction. Buttons shall be raised or flush. If the button is flush, a tactile distinction shall be placed on the button to differentiate it from the surrounding surface. No protruding objects shall be located within the space beneath the hall call button measuring 6 inches (150 mm) minimum to the right and left of the button center.

407.2.3 Hall Signals. A visible and audible signal shall be provided at each hoistway entrance to indicate which car is answering a call and the direction of travel. Alternatively, in-car signals shall be located in cars, visible from the deck area adjacent to the hall call buttons, and shall comply with the requirements of this section.

407.2.3.1 Audible Signals. Audible signals shall sound once for the up direction and twice for the down direction, or shall have verbal annunciators that state which direction the car is traveling. Audible signals or verbal annunciators shall have a frequency of 1500 Hz maximum. The audible signal or verbal annunciator shall be 20 dBA minimum and 80 dBA maximum, measured at the annunciator.

407.2.3.2 Visible Signals. Visible signals shall comply with 407.2.3.2.1 through 407.2.3.2.3.

407.2.3.2.1 Height. Hall signal fixtures shall be centered at 72 inches (1830 mm) minimum above the finished deck surface.

407.2.3.2.2 Size. The visible signal elements shall be 2-1/2 inches (64 mm) minimum in the smallest dimension.

407.2.3.2.3 Visibility. Signals shall be visible from the deck area adjacent to the hall call button.

407.2.4 Tactile Signs on Hoistway Entrances. Tactile character and Braille deck designations shall be provided on both jambs of elevator hoistway entrances and shall be 60 inches (1525 mm) above the finished deck surface, measured from the baseline of the characters. Where vessel entry points are provided on only one deck of the vessel, a tactile star shall also be provided on both jambs at the entry deck. Such characters shall be 2 inches (51 mm) high and shall comply with 703.2*.

Advisory - Any panel containing Braille and/or tactile characters meant to be touched with the hand should be no more than 48 inches (1220 mm) above the finished deck surface measure from the center of the panel. This will ensure that the panel is accessible to people with visual and mobility impairments.

407.2.5 Doors. Elevator doors shall be the horizontal type. Elevator hoistway and car doors shall open and close automatically. Elevator doors shall be provided with a reopening device that shall stop and reopen a car door and hoistway door automatically if the door becomes obstructed by an object or person. The device shall be activated by sensing an obstruction passing through the opening at 5 inches (125 mm) and 29 inches (735 mm) above the finished deck surface. The device shall not require physical contact to be activated, although contact may occur before the door reverses. Door reopening devices shall remain effective for 20 seconds minimum.

407.2.6 Door and Signal Timing for Hall Calls. The minimum acceptable time from notification that a car is answering a call or designation of which car is assigned to a lobby destination deck entry until the doors of that car start to close shall be calculated from the following equation:

$$T = D/(1.5 \text{ ft/s}) \text{ or}$$
$$T = D/(455 \text{ mm/s}) = 5 \text{ seconds minimum}$$

where T equals the total time in seconds and D equals the distance (in feet or millimeters) from the point in the lobby or corridor 60 inches (1525 mm) directly in front of the farthest call button controlling that car to the centerline of its hoistway door. For cars with in-car lanterns, T begins when the signal is visible from the point 60 inches (1525 mm) directly in front of the farthest hall call button and the audible signal is sounded.

407.2.7 Door Delay for Car Calls. Elevator doors shall remain fully open in response to a car call for 3 seconds minimum.

407.2.8 Inside Dimensions of Elevator Cars. Clear width of elevator doors and inside dimensions of elevator cars shall comply with Table 407.2.8.

Table 407.2.8 Elevator Door and Car Sizes

	Minimum Dimensions			
Door Location	Door Clear Width	Inside Car, Side to Side	Inside Car, Back Wall to Front Return	Inside Car, Back Wall to Inside Face of Door
Centered	36 inches (915 mm)[1]	54 inches (1370 mm)	65 inches (1650 mm)	68 inches (1725 mm)
Centered	36 inches[1] (915 mm)	65 inches (1650 mm)	54 inches (1370 mm)	57 inches (1450 mm)
Centered	42 inches (1065 mm)	80 inches (2030 mm)	51 inches (1295 mm)	54 inches (1370 mm)
Side (Off-centered)	36 inches (915 mm)[1]	68 inches (1725 mm)	51 inches (1295 mm)	54 inches (1370 mm)
Any	36 inches (915 mm)[1]	54 inches (1370 mm)	80 inches (2030 mm)	80 inches (2030 mm)
Any	36 inches (915 mm)[1]	60 inches (1525 mm)[2]	60 inches (1525 mm)[2]	60 inches (1525 mm)[2]

Notes:
1. A tolerance of minus 5/8 inch (16 mm) is permitted.
2. Other car configurations that provide a wheelchair turning space complying with 304 with the door closed are permitted.

407.2.9 Deck Surfaces. Finished deck surfaces in elevator cars shall comply with 302. The clearance between the car platform sill and the edge of any hoistway landing shall be 1-1/4 inches (32 mm) maximum.

407.2.10 Illumination Levels. The level of illumination at the car controls, platform, car threshold and car landing sill shall be 5 footcandles (54 lux) minimum.

407.2.11 Car Controls. Elevator controls shall comply with 407.2.11.1 through 407.2.11.4.

407.2.11.1 Buttons. Buttons shall be 3/4 inch (19 mm) minimum in their smallest dimension. Buttons shall be raised or flush. If the button is flush, a tactile distinction shall be placed on the button to differentiate it from the surrounding surface. Buttons shall be arranged with numbers in ascending order. When two or more columns of buttons are provided they shall read from left to right. Keypads, where provided, shall be in a standard telephone keypad arrangement.

407.2.11.2 Designations and Indicators for Control Buttons. Control buttons shall be identified by tactile characters complying with 703.2*. Characters and Braille shall be placed immediately to the left of the button to which the designations apply. The control button for the main entry deck and control buttons, other than remaining buttons with deck designations, shall be identified with tactile symbols as shown in Table 407.2.11.2. Buttons with deck designations shall be provided with visible indicators consisting of a white light to show that a call has been registered. The visible indication shall extinguish when the car arrives at the designated deck. Where provided, telephone-style keypad buttons shall be identified by tactile characters complying with 703.2* except that Braille is not required. Characters shall be centered on the corresponding keypad button.

EXCEPTION: Where a vessel entry point is provided on more than one deck of the vessel, the star symbol as shown in table 407.2.11.2 is not required.

Table 407.2.11.2 Elevator Control Button Identification

Control Button	Tactile Symbol	Braille Message
Emergency Stop	insert symbol	insert symbol “ST”OP Three cells
Alarm	insert symbol	insert symbol AL”AR”M Four cells
Door Open	insert symbol	insert symbol OP”EN” Three cells
Door Close	insert symbol	insert symbol CLOSE Five cells
Entry Deck	insert symbol	insert symbol MA”IN” Three cells
Phone	insert symbol	insert symbol PH”ONE” Four cells

407.2.11.3 Height. Buttons with deck designations shall be located 48 inches (1220 mm) maximum above the finished deck surface. Emergency controls, including the emergency alarm, shall be grouped at the bottom of the panel. Emergency control buttons shall have their centerlines 35 inches (890 mm) minimum above the finished deck surface.

EXCEPTION: Where the elevator serves more than 16 openings and parallel approach is provided, buttons with deck designations shall be located 54 inches (1370 mm) maximum above the finished deck surface.

407.2.11.4 Location. Controls shall be located to accommodate a forward reach or side reach as specified in 308.

407.2.12 Car Position Indicators. In elevator cars, audible and visible car location indicators shall be provided.

407.2.12.1 Visible Indicators. Indicators shall be located above the car control panel or above the door. Numerals shall be ½ inch (13 mm) high minimum. As the car passes a deck and when a car stops at a deck served by the elevator, the corresponding character shall illuminate.

407.2.12.2 Audible Indicators. The audible signal shall be 20 dBA minimum and 80 dBA maximum, measured at the annunciator, and shall have a frequency of 1500 Hz maximum. The signal shall be an automatic verbal announcement which announces the deck at which the car has stopped except an audible signal which sounds as the car passes or stops at a deck served by the elevator shall be acceptable for elevators with a rated speed of 200 feet per minute (1.02 m/s) or less.

407.2.13 Emergency Communications. Emergency two-way communication systems between the elevator car and a point outside the hoistway shall comply with ASME/ANSI A17.1*. The highest operable part of a two-way communication system shall be 48 inches (1220 mm) maximum above the finished deck surface. The device shall be identified by tactile characters complying with 703.2 located adjacent to the device. If the system uses a handset, the handset shall be hearing-aid compatible and the cord from the panel to the handset shall be at least 29 inches (735 mm) minimum. The car emergency signaling device shall not be limited to voice communication. If instructions for use are provided, essential information shall be presented in both tactile (i.e., raised characters and Braille) and visual form.

407.3 New Destination-Oriented Elevators. New accessible destination-oriented elevators shall comply with 407.2.1, 407.2.4 through 407.2.10, and 407.2.13. Such elevators shall also comply with 407.3.1 through 407.3.5 and ASME/ANSI A17.1*. They shall be passenger elevators as classified by ASME/ANSI A17.1*.

407.3.1 Call Buttons. Call buttons shall be located vertically between 35 inches (890 mm) and 48 inches (1220 mm) above the finished deck surface, measured to the centerline of the button. A clear deck space complying with 305 shall be provided. Call buttons shall be 3/4 inch (19 mm) minimum in the smallest dimension. Buttons shall be raised or flush. If the button is flush, a tactile distinction shall be placed on the button to differentiate it from the surrounding surface. No protruding objects

shall be located within the space beneath the hall call button measuring 6 inches (150 mm) minimum to the right and left of the button center. A keypad or other means for the entry of destination information shall be provided. Keypads, where provided, shall be in a standard telephone keypad arrangement. Visible, consisting of a white light, and audible signals which indicate which elevator car to enter shall be provided.

407.3.2 Hall Signals. A visible and audible signal shall be provided to indicate a car destination corresponding with 407.3.1. The audible tone and verbal announcement shall be the same as those given at the call button or call button keypad. Each elevator in a bank shall have audible and visible means for differentiation.

407.3.2.1 Visible Signals. Visible signals shall comply with 407.3.2.1.1 through 407.3.2.1.3.

407.3.2.1.1 Height. Hall signal fixtures shall be centered at 72 inches (1830 mm) minimum above the finished deck surface.

407.3.2.1.2 Size. The visible signal elements shall be 2-1/2 inches (64 mm) minimum in the smallest dimension.

407.3.2.1.3 Visibility. Signals shall be visible from the deck area adjacent to the hoistway entrance.

407.3.3 Car Controls. Emergency controls, including the emergency alarm, shall have their centerlines 35 inches (890 mm) minimum and 48 inches (1220 mm) maximum above the finished deck surface. Buttons shall be 3/4 inch (19 mm) minimum in their smallest dimension. Buttons shall be raised or flush. If the button is flush, a tactile distinction shall be placed on the button to differentiate it from the surrounding surface. Controls shall be located to accommodate a forward reach or side reach as specified in 308.

407.3.4 Car Position Indicators. In elevator cars, audible and visible car location indicators shall be provided.

407.3.4.1 Visible Indicators. Indicators shall be located above the car control panel or above the door. Numerals shall be ½ inch (13 mm) high minimum. A display shall be provided in the car with visible indicators to show car destinations. The visible indicators shall extinguish when the call has been answered.

407.3.4.2 Audible Indicators. An automatic verbal announcement which announces the deck at which the car has stopped shall be provided. The announcement shall be 20 dBA minimum and 80 dBA maximum, measured at the annunciator.

407.3.5 Elevator Car Identification. In addition to the tactile signs required by 407.2.4, a tactile (i.e., raising characters and Braille) elevator car identification shall be placed immediately below the hoistway entrance deck designation. The characters shall be 2 inches (51 mm) high and shall comply with 703.2*.

407.4 New Limited-Use/Limited-Application Elevators. New accessible limited-use/limited application elevators shall comply with 407.4.1 through 407.4.10 and shall comply with ASME/ANSI A17.1, Part XXV*.

407.4.1 Automatic Operations. Elevator operation shall be automatic. Each car shall automatically stop at a finished deck surface landing within a tolerance of ½ inch (13 mm) under rated loading to zero loading conditions.

407.4.2 Call Buttons. Call buttons in elevator lobbies and halls shall be located vertically between 35 inches (890 mm) and 48 inches (1220 mm) above the finished deck surface, measured to the centerline of the button. Such call buttons shall have visible signals, consisting of a white light, to indicate when each call is registered and when each call is answered. Call buttons shall be 3/4 inch (19 mm) minimum in the smallest dimension, and shall be raised or flush. The button that designates the up direction shall be located above the button that designates the down direction. If the button is flush, a tactile distinction shall be placed on the button to differentiate it from the surrounding surface. No protruding objects shall be located within the space beneath the hall call button measuring 6 inches (150 mm) minimum to the right and left of the button center.

407.4.3 Hall Signals. A visible and audible signal complying with 407.2.3 shall be provided in the car or at each hoistway entrance to indicate the direction of travel.

407.4.4 Tactile Signs on Hoistway Entrances. Tactile character and Braille deck designations shall be provided on both jambs of elevator hoistway entrances and shall be 60 inches (1525 mm) above the finished deck surface measured from the baseline of the characters. Such characters shall be 2 inches (51 mm) high and shall comply with 703.2*.

407.4.5 Doors. Elevator hoistway doors shall be either swinging or horizontally sliding type. Elevator hoistway and car doors shall open and close automatically. Horizontally sliding type hoistway and car doors shall comply with 407.2.5. Swinging hoistway doors shall conform to 404. Swinging doors shall be low energy power-operated and shall comply with ANSI/BHMA A156.19*. Power operated swing doors shall remain open for 20 seconds minimum when activated.

407.4.6 Inside Dimensions of Elevator Cars. Elevator cars shall provide a clear width of 42 inches (1065 mm) minimum and a clear depth of 54 inches (1370 mm) minimum. Car doors shall be positioned at the narrow end of the car and shall provide a clear width of 32 inches (815 mm) minimum.

EXCEPTION 1. Ferries less than 1000 ITC are permitted to have elevators with a width of 36 inches (915 mm) minimum.

EXCEPTION 2. Passenger vessels less than 1000 ITC are permitted to have elevators with a width of 36 inches (915 mm) minimum provided they have straight through travel.

407.4.7 Deck Surfaces. Finished deck surfaces in elevator cars shall comply with 302. The horizontal distance between the car platform sill and the edge of any hoistway landing shall be 1-1/4 inches (32 mm) maximum.

407.4.8 Illumination Levels. The level of illumination at the car controls, platform, and car threshold and landing sill shall be 5 footcandles (53.8 lux) minimum.

407.4.9 Car Controls. Elevator controls shall comply with 407.2.11.1 through 407.2.11.3. Controls shall be centered on both side walls and shall comply with 309.

407.4.10 Emergency Communications. Car emergency signaling devices complying with 407.2.13 shall be provided.

408 Wheelchair (Platform) Lifts

408.1 General. Wheelchair (platform) lifts shall comply with ASME/ANSI A17.1* and with 302, 305 and 309. Wheelchair (platform) lifts shall not be attendant-operated and shall provide unassisted entry and exit from the lift.

408.2 Doors and Gates. Where a lift does not allow a user to pass through the lift, the lift shall have power-operated doors or gates. Where automatic doors or gates are provided, they shall be low energy power-operated and shall comply with ANSI/BHMA A156.19*. Power operated doors and gates shall remain open for 20 seconds minimum when activated.

NOTE: THIS REPORT IS A SET OF RECOMMENDATIONS FROM THE PASSENGER VESSEL ACCESS ADVISORY COMMITTEE TO THE US ACCESS BOARD. ANY PROPOSED RULE CONCERNING PASSENGER VESSEL ACCESS WILL BE MADE THROUGH THE FEDERAL RULEMAKING PROCESS. THIS REPORT IS NOT PART OF ANY RULEMAKING.

Chapter 2 On/Off Accessible Routes

*Sections from the ADAAG Review Report referenced in this report that have not been reviewed or approved by the committee.

Note: This chapter only applies to passenger vessels subject to subchapters K or H, except where sections are referenced by chapter 12 which addresses subchapters C and T vessels.

SCOPING

1001 General. Where passenger vessels are positioned to embark/disembark passengers, the means of embarking/disembarking shall comply with the requirements of this chapter.

EXCEPTION: This chapter does not apply to embarkation/disembarkation between:

a. two or more vessels;
b. a vessel and the water;
c. a vessel and undeveloped land.

1002 Scope. At least one accessible means of embarking/disembarking passengers shall be provided to an entry/departure point of a passenger vessel and shall comply with 1003.

1003 Accessible Means of Embarkation and Disembarkation. Each accessible means of embarking and disembarking a passenger vessel shall consist of one or more of the following components:

a. walking surfaces complying with 403;
b. doors and doorways complying with 404;
c. ramps complying with 405;
d. elevators complying with 407;
e. platform (wheelchair) lifts complying with 408;
f. transfer spans complying with 1004; and
g. gangways complying with 1005.

TECHNICAL

1004 Transfer Spans

1004.1 General. A transfer span will typically bridge from the side of the vessel to a landing on essentially the same level. The purpose of the transfer span is to accommodate the motion differences between the vessel and the float or dock.

1004.2 Slope. The slope of the transfer span shall not exceed 1:20 at a static condition.

1004.3 Cross Slope. The cross slope shall not exceed 1:48.

1004.4 Deck Surfaces. The finished deck surface of the transfer span shall be continuous and slip resistant, and shall not have protrusions from the surface greater than 1/4 inch (6.4 mm) high. Openings shall be of a size that does not permit passage of a ½ inch (13 mm) diameter sphere. Elongated openings shall be placed so that the long dimension is perpendicular to the dominant direction of travel.

1004.5 Clear Width. The clear width of transfer spans shall be no less than 36 inches (915 mm).
EXCEPTION: Where the main deck area of the vessel is less than 3,000 square feet (280 m^2), a transfer span shall be permitted to have a clear width of 32 inches (815 mm) minimum.

1004.6 Handrails. Transfer spans longer than 24 inches (610 mm) shall have handrails complying with 505*.

1004.7 Edge Protection. Edge protection complying with 405.9.1 or 405.9.2 shall be provided on each side of the transfer spans.

1004.8 Design. Transfer spans 30 inches (760 mm) or longer shall support a minimum load of 600 lbs (272 kg). Placed at the centroid of the span distributed over an area of 26 inches (660 mm) by 26 inches (660 mm), with a safety factor of at least 3 based on the ultimate strength of the material. Transfer spans shorter than 30 inches (760 mm) shall support a minimum load of 300 lbs (136 kg).

1005 Gangways

1005.1 General. Gangways which are part of an accessible means of embarking\disembarking a vessel shall comply with this section. Gangways shall be permitted to have transition plates complying with 1006 at the top and bottom.

1005.2 Slope. The slope of a gangway provided at a pier shall comply with 1005.2.1 and the slope of a gangway carried on a vessel shall comply with 1005.2.2.

1005.2.1 Pier Provided Gangway - Slope. (See advisory comment in appendix to this chapter.)

1005.2.2 Vessel Carried Gangway - Slope. (See advisory comment in appendix to this chapter.)

Note: Slope measured when vessel is in a static condition at a particular water level.

1005.3 Cross Slope. Cross slope of gangways shall not be steeper than 1:48.

1005.4 Deck Surfaces. Finished deck surfaces of gangways shall comply with 302.

1005.5 Clear Width. The clear width between handrails shall be 36 inches (915 mm) minimum.
EXCEPTION: Where the main deck area of the vessel is less than 3,000 square feet (280 m^2), a gangway shall be permitted to have a clear width of 32 inches (815 mm) minimum.

1005.6 Horizontal Gap. The horizontal gap between the transition plate and the ramp, or the deck edge and the ramp shall be no greater than 3 inches (75 mm).

1005.7 Handrails. Gangways shall have handrails complying with 505*.

1005.8 Edge Protection. Edge protection complying with 405.9.1 or 405.9.2 shall be provided on each side of gangways.

1005.9 Outdoor Conditions. Gangways shall be designed so that water will not accumulate on walking surfaces.

1006 Transition Plate

1006.1 Slope. The maximum slope of the transition plate is 1:12.

1006.2 Clear Width. The clear width shall be 32 inches (815 mm) minimum.

1006.3 Handrails. If the run of the transition plate exceeds 24 inches (610 mm), it shall have handrails complying with 505*. Where such handrails are provided, a sleeved chain will connect the gripping surface of the gangway handrails with the gripping surface of the transition plate handrails.

1006.4 Thresholds. The transition from the landing surface to the transition plate may be vertical without edge treatment up to 1/4 inch (6.4 mm). Changes in level between 1/4 inch (6.4 mm) and ½ inch (13 mm) shall be beveled with a slope no greater than 1:2.

1006.5 Edge Protection. If the run of the transition plate exceeds 24 inches a guard, curb, or barrier complying with 405.9.2 shall be provided.

1006.6 Design. Where a transition plate is 36 inches (915 mm) or less in length, the transition plate shall support a minimum load of 300 lbs (136 kg). Where the length of a transition plate is greater than 36 inches (915 mm), the transition plate shall support a minimum load of 100 lbs per square foot (4.8 kg/m^2).

Chapter 2, Appendix A:

A1005.2 Gangway Slope

Definitions

Mean Accessible Low Water (MALW): *Lowest water level designated for designing accessible paths of travel connecting vessels with piers or undeveloped shore landings. MALW is to be established for each location based on an annual compliance percentage that is to be established for water level change categories that are to be established based on economic data (see footnote next page) yet to be developed.*

Mean Accessible High Water (MAHW): *Highest water level designated for designing accessible paths of travel connecting vessels with piers or undeveloped shore landings. MAHW is to be established for each location based on an annual compliance percentage that is to be established for water level change categories that are to be established based on economic data[1] yet to be developed.*

Gangway: *That portion of a path of travel which changes slope to accommodate changes in water level other than wave, surge, and heel action. (From the C & T Final Report.)*

Accessible Gangway Slope Design Range: *The vertical change in water level, during periods of use, between MALW and MAHW.*

Advisory note: *This section is advisory regarding a proposed design criteria for the design of gangways (specifically length and slope). The committee, upon review of the issues involved, determined that the necessary economic and physical data to further develop this proposed design criteria were not readily available.*

Gangway Design Criteria:

- *Gangways may exceed a rise of 30 inches (760 mm) between level landings. Landings are not required within gangways.*
- *Gangways may exceed a length of 30 feet (9145 mm) between level landings, provided the gangway slope at MALW and MAHW does not exceed that allowed in figure on page 25 (e.g., the proposed graph of gangway length vs. gangway slope). (Note: The allowable slope of gangways should be related to the allowable length, such that shorter gangways may be steeper than longer gangways.)*
- *There should be an exception to the allowable slope of gangways that are permanently attached to, or carried aboard vessels (such as riverboat stages), when the gangway is used to span between the vessel and undeveloped shore landings. (Proposed advisory: Vessel operators should make reasonable efforts to use shore locations that will result in the least gangway slope feasible.)*
- *At water levels above and below the accessible gangway slope design range, the gangway slope shall not exceed 1:8 (12.5 %) during periods of use. (Advisory: The maximum allowable slope for non-accessible ramps in U.S. model building codes is 1:8 (12.5 %).*
  Exception: Water levels above Ordinary High Water (OHW), (such as is established by the U.S. Army Corps of Engineers) of inland waterways are exempt from this requirement and are not required to be included in water levels above the accessible gangway slope design range.

This will be impacted by operational restrictions based on high and low water situations. (For example, extreme low water may prevent safe navigation to and from the vessel loading location, due to inadequate water depth or other navigational clearance issues such as clearance below fixed structures such as bridges.)

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[*]The economic analysis should evaluate and be based on the difference in cost of similarly constructed accessible and non-accessible gangways and ramps for a given location and accessible gangway slope design range. This cost difference should then be compared to and related to the value (not the size) of the facilities the gangway / ramp system serves. The current ADAAG vertical access requirement differences between Title II and Title III facilities should also be maintained.

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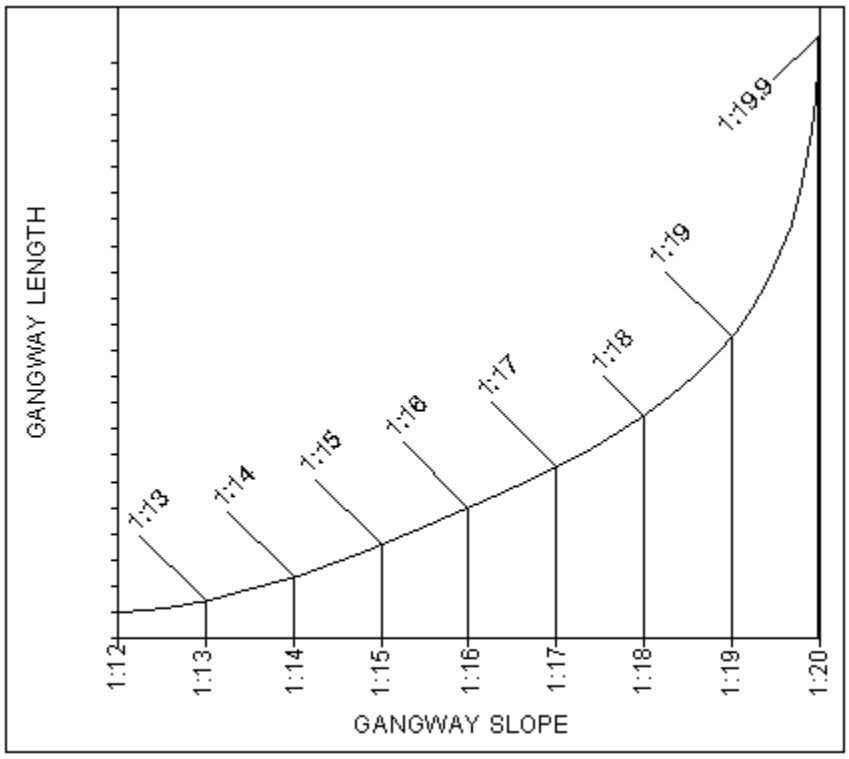
Note: A new section defining and allowing inclined gangway lifts should be added to the guidelines. This would include such systems as the Ramp Rider or other similar equipment that provide accessible means to accommodate variable level changes.



GANGWAY SLOPE vs. GANGWAYLENGTH

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Chapter 3 Egress

*Standards and sections from the ADAAG Review Report referenced in this report that have not been reviewed or approved by the committee.

Note: This chapter only applies to passenger vessels subject to subchapters K or H, except where sections are referenced by chapter 12 which addresses subchapters C and T vessels.

In producing its report, the committee applied sections 207, 409, and 410 of the ADAAG Review Advisory Committee Report (ADAAG-R) to passenger vessels inspected under Coast Guard regulations contained in subchapters K and H. A number of committee report provisions are only triggered when a requirement (not related to accessibility) is mandated by the Coast Guard. The committee realizes that not all passenger vessels fall under Coast Guard jurisdiction, however, due to time limitations the committee selected to only develop recommendations for subchapter K and H Coast Guard inspected vessels. However, the small passenger vessel subcommittee has adopted 207.2 and its exception for application to subchapter C and subchapter T vessels under 100 tons.

Because of the reference to Coast Guard requirements, a number of ADAAG-R terms have been replaced with Coast Guard terms or changed for clarity reasons. For example, the ADAAG-R term "Accessible Means of Egress" was changed to "Accessible Means of Escape." Likewise, the ADAAG-R term "Area of Refuge" was changed to "Area of Temporary Refuge."

Advisory - Both the US Coast Guard regulations and the regulations found in the International Convention for the Safety of Life at Sea (SOLAS) (1974 as amended), require safety systems that provide an equivalent level of safety to the areas of safe refuge and the means of escape required by these recommendations.

These safety systems can include: supervised and monitored sprinkler systems in all public and crew accommodations throughout the ship; segregated multiple fire zones; supervised smoke detectors with centralized alarm centers; protected routes of egress from muster stations to lifeboats; ventilation system dampers to prevent the spread of smoke and fire; limited use of combustibles in construction; and limitations on the combustible loading in each space.

Therefore, it is deemed that passenger vessels that comply with the requirements of SOLAS and/or with US Coast Guard regulations 46 CFR subchapters H and K, fully comply with these recommendations.

Note: Several recommendations incorporate engineering standards published by ASME, ANSI, BHMA and other engineering standards setting organizations. The committee did not review these standards, which were included by reference. Therefore, the committee recommends that the competent regulatory drafting authorities and others specifically review all referenced industry standards to determine their suitability in designing equipment for use onboard ships in the marine environment.

Note: The committee recognizes that these recommendations may apply to vessels not built or constructed in U.S. shipyards, and to systems not manufactured in the United States. Therefore, the committee recommends that the final regulations recognize and accept the use of other equivalent

standards, such as the International Standards Organization standards and recommendations, International Electro-Technical Commission Engineering standards and recommendations, Japan Engineering Standards, etc.

106.5 Defined Terms

Area of Temporary Refuge. An area where people who are unable to use stairs may remain temporarily to await further instructions or assistance during emergency evacuation.

Comment: Under Coast Guard regulations, an area of refuge is a large fire protected space which could hold hundreds of passengers, similar to a horizontal exit in the building environment. However, the area of refuge required by ADAAG-R would typically be a space capable of holding one or two wheelchairs. To avoid confusion between the Coast Guard's "area of refuge" and ADAAG-R's "area of refuge" and still retain the access objective of ADAAG-R, the committee changed the ADAAG-R term to "Areas of Temporary Refuge" and kept the ADAAG-R definition for areas of refuge found in section 106.5.

SCOPING

207 Accessible Means of Escape

Comment: Section title changed from "Accessible Means of Egress" to Accessible Means of Escape" for consistency with Coast Guard terminology.

Summary of Coast Guard Requirements: Note: Some regulations which may apply to specific cases have been omitted for simplicity, and some minor interpretations have been made. Refer questions to Kevin Kiefer, 202-267-0144, US Coast Guard.

Means of escape (MOE) from areas accessible to passengers or where crew may be quartered or normally employed to the embarkation point (place where passengers/crew disembark the vessel in an emergency). This route includes any intermediate evacuation areas if the location of muster stations or refuge areas differs from the location of embarkation areas. The two exits should be as widely separated so as to minimize the possibility of one incident blocking both escapes.

Vessel Type - Subchapter H (46CFR72.10)
Total MOE - 2

- At least one MOE must be: 1. independent of watertight doors (72.10-5(a)), 2. a protected stairway (72.05-20(e)).
- MOE can be: 1. normal exits; 2. emergency exits; 3. passageways/corridors; 4. stairways.
- MOE cannot be: 1. elevators (72.10-5(b)); 2. stairways serving only a space and a balcony to a space (72.10-5(c)); 3. vertical ladders; 4. deck scuttles. Note - A vertical ladder/scuttle may be used as the secondary MOE for crew only, where it can be demonstrated that the installation of a stairway would be impractical (72.10-15(a)).

Vessel Type - Subchapter K (46CFR116.500)
Total MOE - 2

- At least one MOE must be: 1. independent of watertight doors (116.500(a)); 2. a protected stairway if it spans more than two deck levels (116.438(m)) or if carrying more than 600 passengers (more than 49 overnight) (116.438(a)).
- MOE can be: 1. normal exits (116.500(c)); 2. emergency exits; 3. passageways/corridors; 4. stairways; 5. ladders; 6. deck scuttles; 7. windows.
- MOE cannot be: 1. elevators; 2. stairways serving only a space and a balcony to a space (116.438(l)).

Vessel Type - Subchapter T (46CFR177.500)
Total MOE - 2

- At least one MOE must be: 1. independent of watertight doors (117.500(a)).
- MOE can be: 1. normal exits (177.500(c)); 2. emergency exits; 3. passageways/corridors; 4. stairways; 5. ladders; 6. deck scuttles; 7. windows.
- MOE cannot be: 1. elevators.

Vessel Type - SOLAS (II-2 reg. 28).
Total MOE - 2.

- At least one MOE must be: 1. independent of watertight doors (II-2/28.1.1); 2. a protected stairway (II-2/28.1.5).
- MOE can be: 1. normal exits; 2. emergency exits; 3. passageways/corridors; 4. stairways; 5. ladders in machinery spaces only. Note: A steel ladder providing a continuous fire shelter may be used in machinery spaces (II-2/28.3.1.1).
- MOE cannot be: 1. elevators; 2. stairways serving only a space and a balcony to a space (II-2/28.1.7).

207.1 General. Accessible means of escape shall be provided in accordance with 207.

207.2 Number Required. All spaces required to be accessible shall be provided with not less than one accessible means of escape complying with Coast Guard requirements. Where more than one means of escape is required by the Coast Guard from any accessible space, each accessible space shall be served by not less than two accessible means of escape. Each required accessible means of escape shall comply with 409 and shall be a continuous and unobstructed way of exit travel to an area of refuge complying with Coast Guard requirements, then, if applicable, to mustering and lifeboat embarkation locations, or alternatively to the point of disembarking the vessel.

EXCEPTION: Where a required means of escape is permitted by the Coast Guard to include a ladder, go through a window, or go through a deck scuttle, the corresponding accessible means of escape is not required.

Comment: ADAAG-R section 207.1 is titled "General" and determines the required number of accessible means of egress. For clarity, the committee added a charging statement to section 207.1, similar to what is found in ADAAG-R section 206.1 which addresses accessible routes, and kept the title as "General." A second section, 207.2, titled "Required Number" was added, and it determines how many accessible means of escape (MOE) are required from a space required to be accessible. The committee was

uncomfortable with the words "each accessible portion of the space" in the phrase "each accessible portion of the space shall be served by not less than two accessible MOE." Therefore, the words "portion of the" was removed.

Comment: The committee was concerned that because an accessible means of escape may not coincide with a means of escape required by the Coast Guard, the degree of protection would not be the same. To rectify this problem, the committee added at the end of the first sentence a requirement that the accessible means of escape comply with Coast Guard requirements.

Comment: In the last sentence of 207.2, the committee added a phrasing which identifies the point to which the accessible means of escape must connect -- an area of refuge (AOR) complying with Coast Guard requirements. The committee realized that a Coast Guard required MOE may continue beyond an AOR to a point where passengers could disembark the vessel in an emergency and therefore believed that the accessible MOE should also connect to such a point. In some cases, the point of emergency embarkation is clearly designated, such as a life boat station. In other cases, the point of emergency embarkation is not specifically designated and may be anywhere along the sides of the vessel.

Comment: The exceptions that existed under ADAAG-R 207.1 were moved to other sections or deleted for clarity reasons. A new exception under 207.2 was added to address situations where the committee felt it was unreasonable to require an accessible MOE where the Coast Guard's required MOE went through a major barrier.

> Example: A passenger vessel inspected by the Coast Guard under subchapter K has a central passageway running nearly the length of the vessel. Passenger cabins, for two occupants each, are provided on both sides of the passageway and an enclosed stairway connecting the main deck above is located at both ends. An accessible elevator, which does not conform to 409.3, provides vertical access to the main deck and opens to the passageway at its midpoint. Two cabins are accessible and are located at the forward and after end of the passageway. For purposes of this example, except for these cabins, no other spaces on this deck are accessible. Under 46 CFR 116.500, the Coast Guard requires that each cabin along this passageway (including the accessible cabins) be provided with two MOE. Thus, for each cabin, one MOE starting at the cabin doors uses the forward stairway and the second MOE starting at the cabin doors uses the after stairway. Therefore, under 207.2, two accessible MOE must be provided from each accessible cabin and connect to an area of refuge complying with Coast Guard requirements. From the area of refuge, the two accessible MOE must connect to mustering and lifeboat embarkation locations, if such locations are provided, or to a point of disembarking the vessel per a Coast Guard approved emergency evacuation plan. The two accessible MOE may connect to the same AOR, but these two accessible MOE should be as widely separated so as to minimize the possibility of one incident blocking both escape paths.

Comment: The committee considered requiring the accessible MOE to coincide with the Coast Guard required MOE. In some situations, the accessible MOE may have to deviate from the Coast Guard MOE, for example, when accessing an accessible evacuation elevator complying with 407 and 409.3. The committee decided to indicate in its report that the two paths should coincide where feasible.

207.3 Elevators. Where an accessible means of escape, from a space required to be accessible, travels vertically four or more decks, at least one accessible means of escape shall contain an elevator complying with 407 and 409.3.

EXCEPTION: This section does not apply where a means of vertical access is not required.

Comment: Excluding the exception, the committee basically adopted the language from ADAAG-R section 207.2. Note: Access Board staff and Coast Guard support staff investigating whether the Coast Guard would allow an accessible MOE to be an elevator. The committee developed its recommendation based on the assumption that an elevator will be allowed to be used as an accessible MOE.

207.4 Signs. At exit stairways and elevators serving a required accessible space, but not serving as an accessible means of escape, directional signs indicating the location of the accessible means of escape shall be provided. Such signs shall comply with 703.4*.

TECHNICAL

409 Accessible Means of Escape

409.1 General. Each required accessible means of escape shall be a continuous and unobstructed way of exit travel to an area of refuge complying with Coast Guard requirements, then, if applicable, to mustering and lifeboat embarkation locations, or alternatively to the point of disembarking the vessel, and shall consist of one or more of the following components:

a. walking surfaces complying with 403;
b. doors and doorways complying with 404;
c. ramps complying with 405;
d. curb ramps complying with 406;
e. exit stairways complying with 409.2; and
f. elevators complying with 407 and 409.3.

Comment: New 409.1 basically follows ADAAG-R section 409.1. Subsections were added for clarity reasons. In addition, language has been included which is similar to 207.2 regarding the emergency embarkation point.

409.2 Exit Stairways. An exit stairway to be considered part of an accessible means of escape:

a. shall be enclosed, where at least one of the corresponding means of escape from the accessible space is required by the Coast Guard to be enclosed;

b. shall have stairs complying with 504* and shall have a clear width of 48 inches (1220 mm) minimum between handrails; and

c. shall either incorporate an area of temporary refuge complying with 410 within an enlarged deck-level landing, accessed either from an area of temporary refuge complying with 410, or accessed from an area of refuge complying with Coast Guard requirements.

EXCEPTION 1. This requirement shall not apply to exit stairways serving only one stateroom.

EXCEPTION 2. This requirement shall not apply to exit stairways in vessels protected by a Coast Guard approved sprinkler system, or having a fire load of less than 3 lbs per sq. ft.

EXCEPTION 3. The clear width of 48 inches (1220 mm) between handrails is not required for exit stairways accessed from an area of refuge complying with Coast Guard requirements.
EXCEPTION 4. This requirement shall not apply to exit stairways serving open decks.
EXCEPTION 5. Subchapter K vessels shall be permitted to have exit stairways with a clear width of 36 inches (915 mm) minimum between handrails.

Comment regarding Subsection (a): In subchapter H, the Coast Guard requires at least one MOE to be a protected stairway (see summary). In subchapter K, at least one protected stairway is required if it spans more than two deck levels or if carrying more than 600 passengers or more than 49 overnight passengers. Therefore, where the Coast Guard requires a MOE to travel through a protected stairway, subsection (a) requires that at least one accessible MOE serving an accessible space also travel through a protected stairway. Because the second Coast Guard MOE is permitted to travel through an open stairway, subsection (a) permits the second accessible MOE to also travel through an open stairway.

This provision did not exist in ADAAG-R 409.2 because in the building environment "exit stairways" are typically enclosed. Since the Coast Guard does not require all exit stairways to be enclosed, the committee added this subsection to indicate when an accessible MOE stairway must be enclosed. Although an open stair may be permitted, areas of temporary refuge may still be required -- see section 409.2 regarding technical provisions for exit stairways and associated areas of temporary refuge.

Comment: Subsection (b) is consistent with a similar requirement in ADAAG-R 409.2. The committee notes that ADAAG-R section 504 needs to be reviewed.

Comment: Subsection (c) is consistent with similar requirements in ADAAG-R 409.2. A Coast Guard "area of refuge" is similar to a "horizontal exit" in the building environment.

Comment: Exception 1 is consistent with ADAAG-R 409.2 Exception 1.

Comment Exception 2: In Coast Guard inspected vessels, fire alarms sound at a central control station, generally the bridge, whereupon crew investigates the cause of the alarm and activates (if needed) sprinkler systems. The committee believes that the degree of protection provided by a Coast Guard approved sprinkler system is similar to the supervised automatic sprinkler systems found in the building environment. The word "throughout" was removed because of the confusion over the meaning of "throughout" a vessel. The committee also added a fire load provision, believing that if the fire load was less than 3 lbs per square feet, an equivalent level of fire protection exists as provided with a sprinkler system. The 3 lbs fire load value is from 46 CFR 116.427 which applies to low risk spaces.

Comment: Exception 3 is consistent with similar requirements in ADAAG-R 409.2 Exception 3. A Coast Guard "area of refuge" is similar to a "horizontal exit" in the building environment.

Comment: Exception 4 is modified to refer to open decks instead of open parking garages. The committee believes that the same degree of fire protection is present on open decks of passenger vessels as in open parking garages.

409.3 Elevators. An elevator to be considered part of an accessible means of escape shall comply with the requirements of Rule 211* of ASME/ANSI A17.1, or an equivalent marine standard, and emergency power shall be provided. The elevators shall be accessed from either an area of temporary refuge complying with 410 or an area of refuge complying with Coast Guard requirements.

EXCEPTION 1. Elevators are not required to be accessed from an area of temporary refuge or an area of refuge complying with Coast Guard requirements in open air spaces.

EXCEPTION 2. Elevators are not required to be accessed from an area of temporary refuge or an area of refuge complying with Coast Guard requirements in vessels protected by a Coast Guard approved sprinkler system, or having a fire load of less than 3 lbs per sq. ft.

Comment: As the words "emergency power" are more appropriate for the maritime environment, the committee replaced the words "standby power" with "emergency power".

410 Areas of Temporary Refuge

410.1 General. Where areas of temporary refuge are required, they shall comply with 410.

410.2 Location. Each area of temporary refuge shall be accessed from the space it serves by an accessible route which serves as an accessible means of escape. The maximum travel distance to an area of temporary refuge shall not exceed the travel distance permitted for the occupancy by the Coast Guard. Every area of temporary refuge shall have direct access to an exit stairway complying with 409.2 or an elevator complying with 409.3.

410.3 Size. Each area of temporary refuge shall be sized to accommodate one wheelchair space complying with 305.3 for each 200 occupants or portion thereof, based on the occupant load of the area of temporary refuge and all areas served by the area of temporary refuge. Such wheelchair spaces shall not overlap the required means of escape width set by the Coast Guard. Access to any required wheelchair space shall not be through more than one adjoining wheelchair space.

410.4 Construction. Each area of temporary refuge shall comply with Coast Guard construction requirements for an area of refuge.

Comment: The committee believes that Coast Guard construction requirements for an area of refuge provides an equivalent degree of protection as the requirements in 410.4.

410.5 Smoke Resistance. Every area of temporary refuge shall comply with Coast Guard smoke resistance requirements for an area of refuge.

Comment: The committee believes that Coast Guard construction requirements for an area of refuge provides an equivalent degree of protection as the requirements in 410.4. The exceptions were removed due to confusion. Section 410.5.1 was removed because in emergency situations on board Coast Guard inspected vessels, unlike buildings, elevator shafts are not pressurized.

410.6 (Option #1) Communication System. Every area of temporary refuge shall be provided with an accessible two-way communication system between the area of temporary refuge and the bridge or other continuously manned station. The communication system shall have both audible and visible signals.

410.6 (Option #2) Communication System. Every area of temporary refuge shall be provided with a two-way communication system between the area of temporary refuge and the bridge or other continuously manned station. The minimum requirements of this system include:

a. a mechanism to signal from the area of temporary refuge to the central control station that fact that the area of temporary refuge is occupied. The mechanism must operate in one physical motion (i.e., push button or lever handle); and

b. a mechanism to acknowledge from the central control station to the area of temporary refuge the fact that a signal from the area of temporary refuge has been received. This mechanism must result in a visible and audible signal at the area of temporary refuge.

Comment: Two options were provided. One is more detailed than the other.

410.7 Instructions. In each area of temporary refuge provided with a two-way communication system, instructions on the use of the area under emergency conditions shall be posted adjacent to the communications system. The instructions shall include:

1. Directions to other means of escape;
2. Advice that persons able to use the stair towers do so as soon as possible unless they are assisting others;
3. Information on planned availability of assistance in the use of stairs or supervised operation of elevators and how to summon such assistance; and
4. Directions for use of emergency communications system.

Comment: The committee discussed whether such instructions should be in Braille and large/raised print. It was decided that due to the number of words such instructions would contain, and the minimum size requirement of 5/8 inch for the raised letters (see 703.2.3.4), an entire wall may be covered with Braille and raised letters. Such a situation may be unusable for persons who would need these accommodations.

410.8 Identification. Each area of temporary refuge shall be identified by a tactile sign stating "Area of temporary refuge" complying with 703.2* and including the International Symbol of Accessibility complying with *703.7. A sign shall be located at each door providing access to the area of temporary refuge. The sign shall be illuminated as required for exit signs where exit sign illumination is required.

Chapter 4 Emergency Alarms

Note: This chapter only applies to passenger vessels subject to subchapters K or H, except where sections are referenced by chapter 12 which addresses subchapters C and T vessels.

SCOPING

215 Emergency Alarm Systems

215.1 Emergency Alarms. Where emergency alarm systems are provided in public use or common use areas, the alarm shall provide a system with both audible and visual signals complying with 702. Staterooms required by 224 to have accessible alarms shall comply with 702.3.6.

Advisory 215.1 - Unlike audible alarms, visual alarms must be located within the space they serve so that the signal is visible.

TECHNICAL

702 Emergency Alarm Systems

702.1 General. Emergency alarm systems required to be accessible shall have audible alarms complying with 702.2 and visual alarms complying with 702.3.

702.2 Audible Alarms. Audible alarms shall produce a sound that exceeds the prevailing equivalent sound level in the room or space by 15 dBA minimum or exceeds any maximum sound level with a duration of 60 seconds by 5 dBA, whichever is louder. Sound levels for alarm signals shall not exceed 110 dBA.

Advisory - The committee has noted a conflict between ADAAG requirements for audible alarms and SOLAS/USCG audible alarm systems (46 CFR subchapter J Electrical Engineering 113.25-12(c) Alarm Signals). The committee recommends that the appropriate regulatory bodies reconcile this conflict.

702.3 Visual Alarms. Visual alarms shall comply with 702.3.

Advisory - The committee notes that international requirements are silent in regards to visual alarm signals in passenger spaces. The committee supports the concept of providing visual alarms in passenger spaces. The Coast Guard should evaluate how ADAAG requirements for visual alarms can be adapted for maritime application.

702.3.1 Light Pulse Characteristics.

702.3.1.1 Type. The lamp shall be a xenon strobe type or equivalent.

702.3.1.2 Color. The color shall be clear or nominal white.

702.3.1.3 Flash Rate. The flash rate for an individual appliance shall be 1 Hz minimum and 2 Hz maximum over its rated voltage range.

Advisory 702.3.1.3 - Flash rates that exceed five flashes per second may be disturbing to persons with a photosensitivity, particularly those with certain forms of epilepsy. Multiple, unsynchronized visual signals within a single space may produce a composite flash rate that could trigger a photoconvulsive response in such persons. Therefore, installations that may produce a composite rate in excess of 5 Hz should be avoided by decreasing the number of fixtures and raising the intensity of lamps they contain, by decreasing the flash rate of multiple lamps, or by synchronizing the flash rates of multiple fixtures.

702.3.1.4 Pulse Duration. The maximum pulse duration shall be two-tenths of one second with a maximum duty cycle of 40 percent. The pulse duration is defined as the time interval between initial and final points of 10 percent of maximum signal.

702.3.2 Dispersion. Light dispersion of wall installed appliances shall comply with Table 702.3.2.1. Light dispersion of ceiling installed appliances shall comply with Table 702.3.2.2.

Table 702.3.2.1 Light Dispersion for Wall-Installed Visual Alarm Appliances

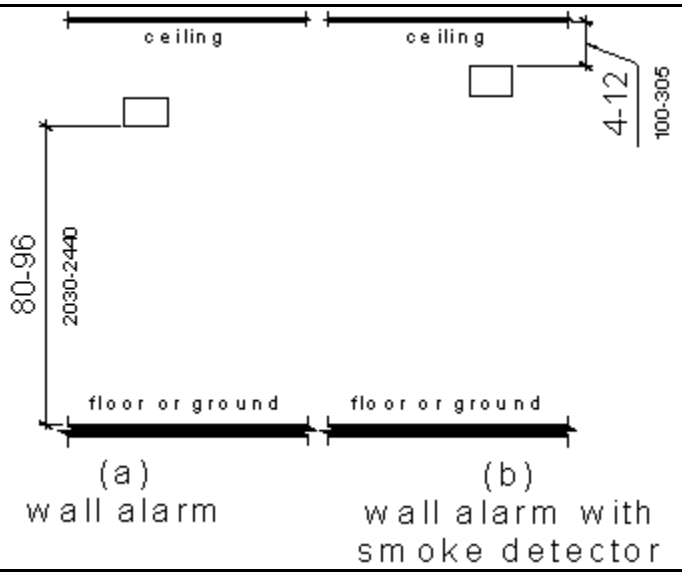
Vertical Dispersion		Horizontal Dispersion	
Degrees from Horizontal	**Percent of Rated**	**Degrees from Vertical**	**Percent of Rated**
0	100	0	100
5-30	90	5-25	90
35	65	30-45	75
40	46	50	55
45	34	55	45
50	27	60	40
55	22	65	35
60	18	70	35
65	16	75	30
70	15	80	30
75	13	85	25
80	12	90	25
85	12		
90	12		

Table 702.3.2.2 Light Dispersion for Ceiling-Installed Visual Alarm Appliances

Degrees from Vertical	Percent of Rated
0	100
5-25	90
30-45	75
50	55
55	45
60	40
65	35
70	35
75	30
80	30
85	25
90	25

702.3.3 Location. Appliances shall be located in accordance with 702.3.3.1 or 702.3.3.2.
EXCEPTION: Appliances in guest rooms shall comply with 702.3.6.

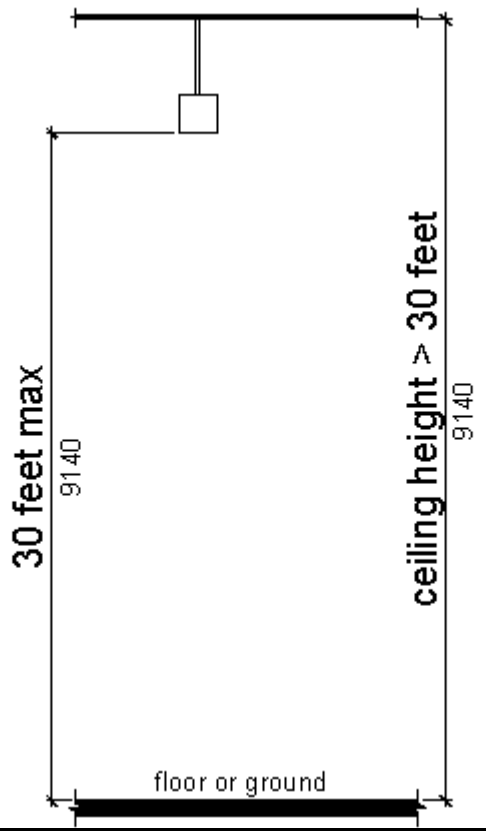
702.3.3.1 Wall Installed Appliances. Appliances shall be located 80 inches (2030 mm) minimum and 96 inches (2440 mm) maximum above the finished deck surface measured to the bottom of the appliance.



Advisory - Chapter 9 of this report, in section 307.4, contains an exception where the main deck is less than 3,000 square feet, the minimum vertical clearance is permitted to be reduced to 78 inches (1980 mm). In such situations, the appliances shall be located 78 inches (1980 mm) above the finished deck surface.

EXCEPTION: Wall installed appliances which are part of a smoke detector shall be located 4 inches (100 mm) minimum and 12 inches (305 mm) maximum below the ceiling measured to the top of the smoke detector.

702.3.3.2 Ceiling-Installed Appliances. Appliances shall be on the ceiling. Where ceiling height exceeds 30 feet (9140 mm), appliances shall be suspended from the ceiling to a height of 30 feet (9140 mm) maximum above the finished deck surface.



702.3.4 Spacing Allocation and Minimum Intensity. Spacing and minimum effective intensity for appliances shall comply with 702.3.4.

EXCEPTION 1. Appliances in corridors not more than 20 feet (6100 mm) in width shall comply with 702.3.5.

EXCEPTION 2. Appliances in passenger staterooms shall comply with 702.3.6.

702.3.4.1 General. The signal provided by the appliance or appliances shall be visible either by direct view or by reflection from all parts of the covered area. Multiple appliances within an area are permitted only where size, shape, passenger vessel construction or furnishings prohibit total coverage by a single appliance. Where multiple appliances are provided in a single area to provide total area coverage, the appliances shall comply with one of the following: a maximum of two appliances located on opposite walls; the appliances shall have synchronized flashes; or, in rooms 80 feet (24 m) by 80 feet (24 m) or greater in size, more than two appliances located such that all appliances in any 135-degree field of view are spaced a minimum of 55 feet (17 m) from each other.

702.3.4.2 Wall Installed Appliances. Spacing and minimum effective intensity for wall installed appliances shall be in accordance with Table 702.3.4.2 provided the appliance is located at the midpoint of the longest side of the area served. Where the appliance is not located at the midpoint, the minimum effective intensity shall be based on a maximum area of coverage equal to the distance to the opposite side of the area served or double the distance to the farthest adjacent side of the area served, whichever is greater.

Table 702.3.4.2 Spacing Allocation for Wall-Installed Visual Alarm Appliances

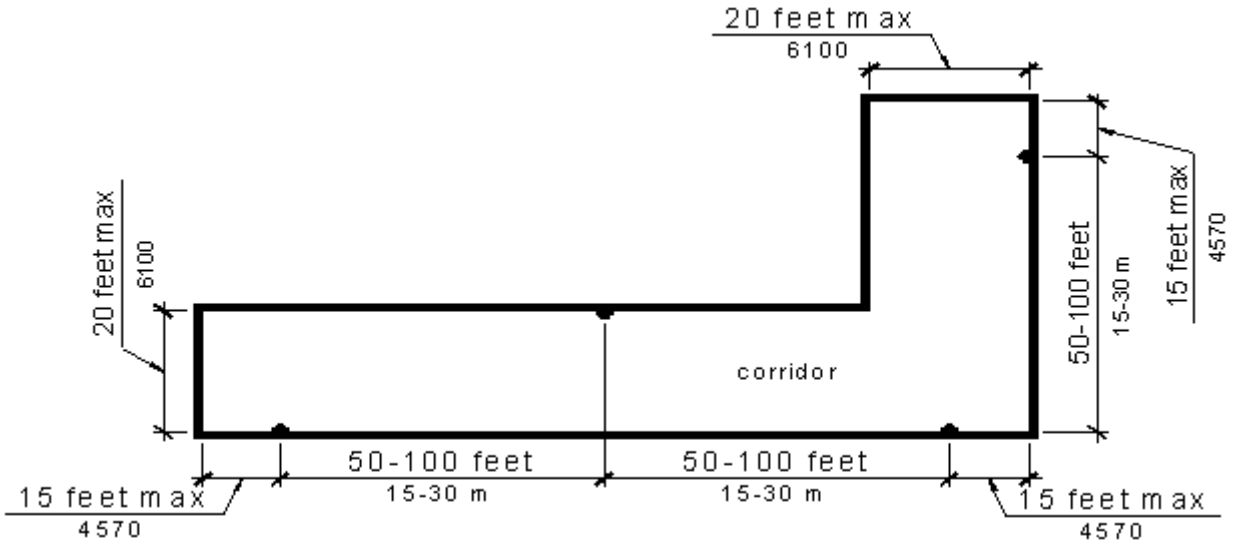
Maximum Area of Coverage in Feet	Minimum Required Light Output (Effective Intensity) (candela)		
	One Light Per Area	Two Lights Per Area	Four Lights Per Area
20 X 20 (6100 X 6100 mm)	15	Not Permitted	Not Permitted
30 X 30 (9140 X 9140 mm)	30	15	Not Permitted
40 X 40 (12 X 12 m)	60	30	Not Permitted
50 X 50 (15 X 15 m)	95	60	Not Permitted
60 X 60 (18 X 18 m)	135	95	Not Permitted
70 X 70 (21 X 21 m)	185	95	Not Permitted
80 X 80 (24 X 24 m)	240	135	60
90 X 90 (27 X 27 m)	305	185	95
100 X 100 (30 X 30 m)	375	240	95
110 X 110 (34 X 34 m)	455	240	135
120 X 120 (37 X 37 m)	540	305	135
130 X 130 (40 X 40 m)	635	375	185

702.3.4.3 Ceiling Installed Appliances. Spacing and minimum effective intensity for ceiling installed appliances shall be in accordance with Table 702.3.4.3 provided the appliance is located at the centerpoint of the area served. Where the appliance is not located at the centerpoint, the minimum effective intensity shall be based on a maximum area of coverage equal to two times the distance from the appliance to the farthest side of the area served.

Table 702.3.4.3 Spacing Allocation for Ceiling-Installed Visual Alarm Appliances

Maximum Area of Coverage in Feet	Minimum Required Light Output (Effective Intensity) (candela)	
	Maximum Ceiling Height in Feet	One Light
20 X 20 (6100 X 6100 mm)	10 (3050 mm)	15
30 X 30 (9140 X 9140 mm)	10 (3050 mm)	30
40 X 40 (12 X 12 m)	10 (3050 mm)	60
50 X 50 (15 X 15 m)	10 (3050 mm)	95
20 X 20 (6100 X 6100 mm)	20 (6100 mm)	30
30 X 30 (9140 X 9140 mm)	20 (6100 mm)	45
40 X 40 (12 X 12 m)	20 (6100 mm)	80
50 X 50 (15 X 15 m)	20 (6100 mm)	115
20 X 20 (6100 X 6100 mm)	30 (9140 mm)	55
30 X 30 (9140 X 9140 mm)	30 (9140 mm)	75
40 X 40 (12 X 12 m)	30 (9140 mm)	115
50 X 50 (15 X 15 m)	30 (9140 mm)	150

702.3.5 Corridor Spacing Allocation and Minimum Intensity. Appliances in corridors that are 20 feet (6100 mm) maximum in width shall comply with 702.3.5. Corridors exceeding 20 feet (6100 mm) in width shall comply with 702.3.4.



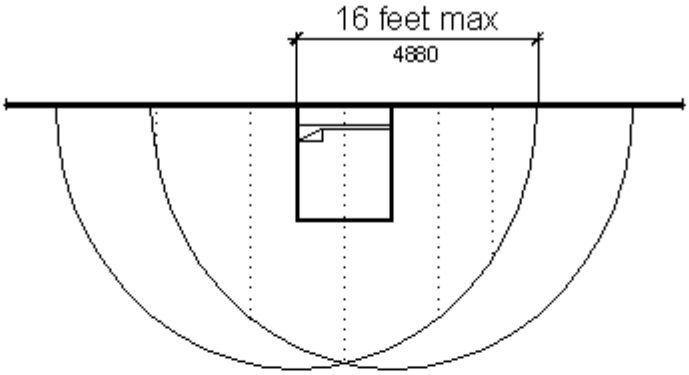
702.3.5.1 Appliance Spacing. Appliances shall be located 15 feet (4570 mm) maximum from each end of the corridor and shall be located 50 feet (15 m) minimum and 100 feet (30 m) maximum apart along the corridor. Interruptions to the concentrated viewing path by doors, elevation changes or other obstructions shall constitute the end of a corridor for purposes of this section.

702.3.5.2 Minimum Effective Intensity. Appliances shall have a minimum effective intensity of 15 candela.

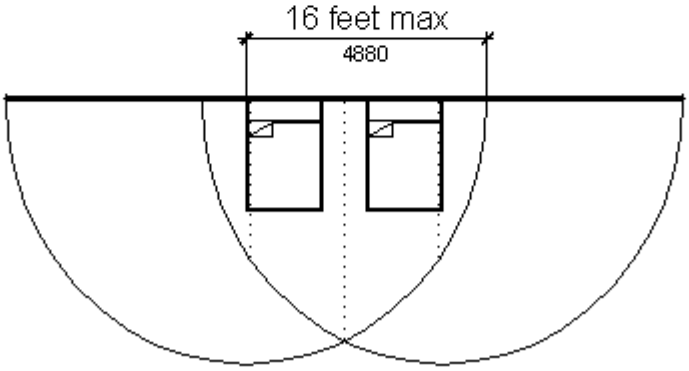
702.3.6 Alarms in Staterooms. Passenger staterooms required to have visual alarms shall comply with 702.3.6.1 through 702.3.6.3.

702.3.6.1 Activation. Activation of such installed alarms shall be an integral part of a supervised alarm system in accordance with the regulations of the administrative authority having jurisdiction.

702.3.6.2 Location. In sleeping rooms or suites having a linear dimension exceeding 16 feet (4880 mm), the appliance shall be located 16 feet (4880 mm) maximum from the head end of the bed location, measured horizontally. An appliance shall be provided in each sleeping room/stateroom. The alarm signal shall be visible from all parts of each sleeping room.



(a)



(b)

702.3.6.3 Minimum Effective Intensity and Mounting Height. Wall mounted appliances located 24 inches (610 mm) minimum below the ceiling shall have a minimum effective intensity of 110 candela. Ceiling mounted appliances and wall mounted appliances located less than 24 inches (610 mm) below the ceiling shall have a minimum effective intensity of 177 candela.

NOTE: THIS REPORT IS A SET OF RECOMMENDATIONS FROM THE PASSENGER VESSEL ACCESS ADVISORY COMMITTEE TO THE US ACCESS BOARD. ANY PROPOSED RULE CONCERNING PASSENGER VESSEL ACCESS WILL BE MADE THROUGH THE FEDERAL RULEMAKING PROCESS. THIS REPORT IS NOT PART OF ANY RULEMAKING.

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Chapter 5 Toilet and Bathing

*Sections from the ADAAG-R included in this report that have not been reviewed or approved by the committee.

Note: This chapter only applies to passenger vessels subject to subchapters K or H, except where sections are referenced by chapter 12 which addresses subchapters C and T vessels.

SCOPING

213.1 General. Where toilet or bathing facilities are provided, they shall comply with 213. Where toilet or bathing facilities are provided on an inaccessible level, toilet and bathing facilities shall also be provided on an accessible level.

213.2 Toilet and Bathing Rooms. Where toilet rooms are provided, each toilet room shall comply with 603. Where bathing rooms are provided, each bathing room shall comply with 603.

EXCEPTION 1. In alterations where it is technically infeasible to comply with 603, altering existing toilet or bathing rooms is not required where a single unisex toilet room or bathing room complying with 213.2.1 is provided and is located in the same area and on the same deck as existing inaccessible toilet or bathing rooms.

EXCEPTION 2. Where alternative requirements are permitted by 202.6 in alterations to qualified historic vessels and toilet rooms are provided, not less than one toilet room complying with 603 or a unisex room complying with 213.2.1 shall be provided.

EXCEPTION 3. Where multiple single user portable toilet or bathing units are clustered at a single location, at least 5 percent, but not less than one toilet unit or bathing unit at each cluster shall comply with 603. Accessible units shall be identified by the International Symbol of Accessibility complying with 703.7*.

EXCEPTION 4. Where multiple single user toilet rooms are clustered at a single location and contain fixtures in excess of the minimum required number of plumbing fixtures, at least 5 percent, but not less than one room for each use at each cluster shall comply with 603. Accessible rooms shall be identified by the International Symbol of Accessibility complying with 703.7*.

213.2.1 Unisex Toilet and Bathing Rooms. A unisex toilet room shall comply with 603, shall contain one water closet and one lavatory, and the door shall have a privacy latch. A unisex bathing room shall comply with 603 and shall contain at least one shower or bathtub.

213.2.2 Signs. Where existing toilet or bathing rooms are altered and not made accessible, directional signs indicating the location of the nearest accessible toilet or bathing room within the vessel shall be provided. Such signs shall comply with 703.4* and shall include the International Symbol of Accessibility complying with 703.7*. Where existing toilet or bathing rooms are altered and are not made accessible, the accessible toilet or bathing room shall be identified by the International Symbol of Accessibility complying with 703.7*.

213.3 Fixtures and Accessories. Plumbing fixtures and accessories provided in toilet or bathing rooms required to be accessible by 213.2 shall comply with 213.3.1 through 213.3.7.

213.3.1 Toilet Compartments. Where toilet compartments are provided, at least one shall be a wheelchair accessible compartment complying with 604.8.1. Where six or more toilet compartments are provided, an ambulatory accessible compartment complying with 604.8.2 shall be provided in addition to the compartment complying with 604.8.1. Water closets in such compartments shall comply with 604.

213.3.2 Water Closets. Where water closets are provided, but are not in toilet compartments, at least one shall comply with 604.

213.3.3 Urinals. Where urinals are provided, at least one shall comply with 605.

213.3.4 Lavatories. Where lavatories are provided, at least one shall comply with 606. Where only one accessible lavatory is provided, it shall not be located in a toilet compartment.

213.3.5 Mirrors. Where mirrors are provided, at least one shall comply with 603.3.

213.3.6 Controls and Dispensers. Where controls, dispensers, receptacles or other equipment is provided, at least one of each type shall comply with 309.

213.3.7 Bathing Facilities. Where bathtubs or showers are provided, at least one bathtub complying with 607 or at least one shower complying with 608 shall be provided.

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230 Outdoor Rinsing Showers

230 Rinsing Showers. Where one or more outdoor rinsing showers are provided at a location, at least one will be a low shower complying with 608.9.1 and at least one shall be a high shower complying with 608.9.2. Where only one rinsing shower is provided, it shall comply with 608.9.1 and 608.9.2.

Comment: Rinsing shower provisions incorporated from similar provisions (although renumbered) in the Outdoor Developed Areas Regulatory Negotiation Committee report, September 1999 (www.access-board.gov/outdoor/outdoor-rec-rpt.htm).

TECHNICAL

601 General

601.1 Scope. Plumbing elements and facilities required to be accessible shall comply with the applicable provisions of this chapter.

602 Drinking Fountains and Water Coolers (see chapter 6)

603 Toilet and Bathing Rooms

603.1 General. Toilet and bathing rooms required to be accessible shall comply with 603.

603.2 Clear Deck Space.

603.2.1 Wheelchair Turning Space. Wheelchair turning space complying with 304 shall be provided within the room.

603.2.2 Overlap. Required clear deck spaces, clearance around water closets, and wheelchair turning space shall be permitted to overlap.

603.2.3 Doors. Doors shall not swing into the clear deck space or clearance required for any fixture.
EXCEPTION 1. Doors to a toilet and bathing room for a single occupant, accessed only through a private office and not for common or public use shall be permitted to swing into the clear deck space provided the swing of the door can be reversed to meet 603.2.3.
EXCEPTION 2. This requirement shall not apply where the toilet and bathing room is for individual use and a clear deck space complying with 305 is provided within the room, beyond the arc of the door swing.

603.3 Mirrors. Mirrors shall be mounted with the bottom edge of the reflecting surface 40 inches (1015 mm) maximum above the finish deck surface.

603.4 Coat Hooks and Shelves. Accessible coat hooks provided within toilet rooms shall be located within one of the reach ranges specified in 308. Where provided, a fold-down shelf shall be located 40 inches (1015 mm) minimum and 48 inches (1220 mm) maximum above the finished deck surface.

604 Water Closets and Toilet Compartments

604.1 General. Water closets and toilet compartments required to be accessible shall comply with 604.

604.2 Location. The water closet shall be located with a wall or partition to the rear and to one side. The centerline of the water closet shall be 16 inches (405 mm) minimum to 18 inches (455 mm) maximum from the side wall or partition, except that the water closet shall be centered in the ambulatory accessible toilet compartment specified in 604.8.2.

604.3 Clear Deck Space.

604.3.1 Clearance. Clearance around a water closet shall be 60 inches (1525 mm) minimum measured perpendicular from the side wall and 56 inches (1420 mm) minimum measured perpendicular from the rear wall. No other fixtures or obstructions shall be located within the required water closet clearance.

604.3.2 Overlap. The required clearance around the water closet shall be permitted to overlap the fixture, associated grab bars, tissue dispensers, accessible routes, clear deck space required at other fixtures, and the wheelchair turning space, except as modified herein.

604.4 Height. The height of water closets shall be 17 inches (430 mm) minimum to 19 inches (485 mm) maximum measured to the top of the toilet seat. Seats shall not be sprung to return to a lifted position.

EXCEPTION: The height requirement shall not apply to a water closet in a toilet room for a single occupant, accessed only through a private office and not for common or public use.

604.5 Grab Bars. Grab bars for water closets shall comply with 609. Grab bars shall be provided on the rear wall and on the side wall closest to the water closet.

EXCEPTION: Grab bars are not required to be installed in a toilet room for a single occupant, accessed only through a private office and not for common use or public use provided that reinforcement has been installed in walls and located so as to permit the installation of such grab bars.

604.5.1 Side Wall. Side wall grab bars shall be 42 inches (1065 mm) long minimum, located 12 inches (305 mm) maximum from the rear wall and extending 54 inches (1370 mm) minimum from the rear wall.

604.5.2 Rear Wall. The rear wall grab bar shall be 24 inches (610 mm) long minimum, centered on the water closet. Where space permits, the bar shall be 36 inches (915 mm) long minimum with the additional length provided on the transfer side of the water closet.

EXCEPTION: If administrative authorities require flush controls for flush valves to be located in a position that conflicts with the location of the rear grab bar, then that grab bar may be split or shifted to the open side of the toilet area.

604.6 Flush Controls. Flush controls shall be hand operated or automatic. Hand operated flush controls shall comply with 309.

604.7 Dispensers. Toilet paper dispensers shall comply with 309.4 and shall be 7 inches (180 mm) minimum and 9 inches (230 mm) maximum in front of the water closet. The outlet of the dispenser shall be 15 inches (380 mm) minimum and 48 inches (1220 mm) maximum above the finished deck surface. There shall be a clearance of 1-1/2 inches (38 mm) minimum below and 12 inches (305 mm) minimum above the grab bar. Dispensers shall not be of a type that control delivery or that do not allow continuous paper flow.

604.8 Toilet Compartments. Accessible toilet compartments shall meet the requirements of 604.8.1 through 604.8.5. Compartments containing more than one plumbing fixture shall comply with 603.

604.8.1 Wheelchair Accessible Compartments.

604.8.1.1 Size. Wheelchair accessible compartments shall be 60 inches (1525 mm) wide minimum measured perpendicular to the side wall, and 56 inches (1420 mm) deep minimum for wall hung water closets and 59 inches (1500 mm) deep minimum for deck mounted water closets measured perpendicular to the rear wall.

604.8.1.2 Doors. Toilet compartment doors, including door hardware, shall comply with 404 except that if the approach is to the latch side of the compartment door, clearance between the door side of the stall and any obstruction shall be a minimum of 42 inches (1065 mm). The door shall be hinged 4 inches (100 mm) maximum from the side wall or partition farthest from the water closet. The door shall be self-closing. A door pull complying with 404.2.7 shall be placed on both sides of the door near the latch. Compartment doors shall not swing into the minimum required compartment area.

604.8.1.3 Approach. Compartments shall be arranged for left-hand or right-hand approach.

604.8.1.4 Toe Clearance. In wheelchair accessible compartments, the front partition and at least one side partition shall provide a toe clearance of 9 inches (230 mm) minimum above the finished deck surface and 6 inches (150 mm) deep minimum beyond the compartment-side face of the partition, exclusive of partition support members. Toe clearance at the front partition is not required in a compartment greater than 62 inches (1575 mm) deep with a wall-hung water closet or 65 inches (1650 mm) deep with a deck-mounted water closet. Toe clearance at the side partition is not required in a compartment greater than 66 inches (1675 mm) wide.

604.8.2 Ambulatory Accessible Compartments. Ambulatory accessible compartments shall be 60 inches (1525 mm) deep minimum and 36 inches (915 mm) wide. Compartment doors shall not swing into the minimum required compartment area.

604.8.3 Doors. Toilet compartment doors, including door hardware, shall comply with 404 except that if the approach is to the latch side of the compartment door, clearance between the door side of the stall and any obstruction shall be a minimum of 42 inches (1065 mm). The door shall be hinged 4 inches (100 mm) maximum from the side wall or partition farthest from the water closet. The door shall be self-closing. A door pull complying with 404.2.7 shall be placed on both sides of the door near the latch.

604.8.4 Grab Bars. Grab bars in toilet compartments shall comply with 609.

604.8.4.1 Wheelchair Accessible Compartments. A side-wall grab bar complying with 604.5.1 located on the wall closest to the water closet and a rear-wall grab bar complying with 604.5.2 shall be provided.

604.8.4.2 Ambulatory Accessible Compartments. A side-wall grab bar complying with 604.5.1 shall be provided on both sides of the compartment.

604.8.5 Coat Hooks and Shelves. Accessible coat hooks provided within toilet compartments shall be located within one of the reach ranges specified in 308. When provided, a fold-down shelf shall be located 40 inches (1015 mm) minimum and 48 inches (1220 mm) maximum above the finished deck surface.

605 Urinals

605.1 General. Urinals required to be accessible shall comply with 605.

605.2 Height. Urinals shall be wall-hung type with the rim 17 inches (430 mm) maximum above the finished deck surface or the stall-type. Urinals shall provide a minimum depth of 13-1/2 inches (345mm) measured from the outer face of the urinal rim to the back of the fixture.

605.3 Clear Deck Space. A clear deck space complying with 305 positioned for forward approach shall be provided. This clear space shall adjoin or overlap an accessible route.

605.4 Flush Controls. Flush controls shall be hand operated or automatic. Hand operated flush controls shall comply with 309.4 and shall be 44 inches (1120 mm) maximum above the finished deck surface.

606 Lavatories and Sinks

606.1 General. Sinks, lavatory fixtures, vanities and built-in lavatories required to be accessible shall comply with 606.

606.2 Clear Deck Space. A clear deck space complying with 305 positioned for forward approach shall be provided. Knee and toe clearance complying with 306 shall be provided.

EXCEPTION 1. A parallel approach shall be permitted to a kitchen sink in a space where a cook top or conventional range is not provided.

EXCEPTION 2. The dip of the overflow shall not be considered in determining knee and toe clearances.

EXCEPTION 3. The requirement for knee and toe clearance shall not apply to a lavatory in a toilet and bathing facility for a single occupant, accessed only through a private office and not for common or public use.

606.3 Height. Lavatories and sinks shall be mounted with the front of the higher of the rim or counter surface 34 inches (865 mm) maximum above the finish deck surface.

EXCEPTION: This requirement shall not apply to a lavatory in a toilet and bathing facility for a single occupant, accessed only through a private office and not for common or public use.

606.4 Faucets. Faucets shall comply with 309. Hand-operated, self-closing faucets shall remain open for at least 10 seconds.

606.5 Bowl Depth. The bowl shall be 6-1/2 inches (165 mm) deep maximum. Multiple compartment sinks shall have at least one compartment complying with this requirement.

606.6 Exposed Pipes and Surfaces. Water supply and drain pipes under lavatories and sinks shall be insulated or otherwise configured to protect against contact. There shall be no sharp or abrasive surfaces under lavatories and sinks.

607 Bathtubs

607.1 General. Bathtubs required to be accessible shall comply with 607.

607.2 Clear Deck Space. Clearance in front of bathtubs shall extend the length of the tub and shall be 30 inches (760 mm) wide minimum. A lavatory complying with 606 shall be permitted at the foot end of the clear deck space. Where a permanent seat is provided at the head end of the tub, the clear deck space shall extend a minimum of 12 inches (305 mm) beyond the seat.

607.3 Seat. A permanent seat at the head end of the tub or a removable in-tub seat shall be provided. Seats shall comply with 610.

607.4 Grab Bars. Grab bars for bathtubs shall comply with 609 and shall be provided in accordance with 607.4.1 and 607.4.2.

EXCEPTION: Grab bars are not required to be installed in a bathing facility for a single occupant accessed only through a private office and not for common or public use, provided that reinforcement has been installed in walls and located so as to permit the installation of such grab bars.

607.4.1 Bathtubs With Permanent Seats. For bathtubs with permanent seats, grab bars shall be provided in accordance with 607.4.1.1 and 607.4.1.2.

607.4.1.1 Back Wall. Two grab bars shall be installed on the back wall, one located in accordance with 609.3 and the other located 9 inches (230 mm) above the rim of the tub. Each grab bar shall be installed 15 inches (380 mm) maximum from the head end wall and 12 inches (305 mm) maximum from the foot end wall.

607.4.1.2 Foot End Wall. A grab bar 24 inches (610 mm) long minimum shall be installed on the foot end wall at the front edge of the tub.

607.4.2 Bathtubs Without Permanent Seats. For bathtubs without permanent seats, grab bars shall be provided in accordance with 607.4.2.1 through 607.4.2.3.

607.4.2.1 Back Wall. Two grab bars shall be installed on the back wall, one located in accordance with 609.3 and the other located 9 inches (230 mm) above the rim of the tub. Each grab bar shall be 24 inches (610 mm) long minimum and shall be installed 24 inches (610 mm) maximum from the head end wall and 12 inches (305 mm) maximum from the foot end wall.

607.4.2.2 Foot End Wall. A grab bar 24 inches (610 mm) long minimum shall be installed on the foot end wall at the front edge of the tub.

607.4.2.3 Head End Wall. A grab bar 12 inches (305 mm) long minimum shall be installed on the head end wall at the front edge of the tub.

607.5 Controls. Controls, other than drain stoppers, shall be located on an end wall above the tub rim and below the grab bars, and between the front edge of the tub and the mid-point of the width of the tub. Controls shall comply with 309.4.

607.6 Shower Unit. A shower spray unit with a hose at least 59 inches (1500 mm) long that can be used both as a fixed shower head and as a hand-held shower shall be provided. If an adjustable-height shower head mounted on a vertical bar is used, the bar shall be installed so as not to obstruct the use of grab bars.

607.7 Bathtub Enclosures. Enclosures for bathtubs shall not obstruct controls or transfer from wheelchairs onto bathtub seats or into tubs. Enclosures on bathtubs shall not have tracks mounted on the rim of the open face of the tub.

608 Bathing Shower Compartments and Outdoor Rinsing Showers

608.1 General. Bathing shower compartments required to be accessible shall comply with 608.2 through 608.8. Outdoor rinsing showers required to be accessible shall comply with 608.9.

608.2 Size and Clearances for Shower Compartments.

608.2.1 Transfer Type Shower Compartments. Transfer-type shower compartments shall be 36 inches (915 mm) by 36 inches (915 mm) inside finished dimension measured at the center point of opposing sides and shall have a minimum 36 inch (915 mm) wide entry on the face of the shower compartment. Clear deck space of 36 inches (915 mm) wide minimum by 48 inches (1220 mm) long minimum measured from the control wall shall be provided.

608.2.2 Standard Roll-In Type Shower Compartment. Standard roll-in type shower compartments shall be 30 inches (760 mm) minimum by 60 inches (1525 mm) minimum clear inside dimension measured at the centerpoint of opposing sides and shall have a minimum 60 inches (1525 mm) wide entry on the face of the shower compartment. A 30 inches (760 mm) wide minimum by 60 inches (1525 mm) long minimum clear deck space shall be provided adjacent to the open face of the shower compartment. A lavatory complying with 606 shall be permitted at the end of the clear space, opposite the shower compartment end where the seat is mounted and opposite the shower compartment side where shower controls are located.

608.2.3 Alternate Roll-In Type Shower Compartment. Alternate roll-in shower compartments shall be 36 inches (915 mm) in width and 60 inches (1220 mm) minimum in depth. A 36 inch (915 mm) wide minimum entry shall be provided to one side of the stall. The shower unit and controls shall be mounted on the end wall furthest from the compartment entry.

608.3 Grab Bars. Grab bars shall comply with 609 and shall be provided in accordance with 608.3.1 and 608.3.2. Where multiple grab bars are used, they shall be installed at the same height.

EXCEPTION: Grab bars are not required to be installed in a shower facility for a single occupant, accessed only through a private office and not for common or public use provided that reinforcement has been installed in walls and located so as to permit the installation of such grab bars.

608.3.1 Transfer Type Showers. Grab bars shall be extended across the control wall and back wall to a point 18 inches (455 mm) from the control wall.

608.3.2 Roll-In Type Showers. Grab bars shall be provided on the three walls of the shower. Grab bars shall be mounted 6 inches (150 mm) maximum from the adjacent wall.

EXCEPTION 1. Where a seat is provided in a roll-in type shower, grab bars shall not extend over the seat at the control wall and shall not be located behind the seat.

EXCEPTION 2. In alternate roll-in type showers, grab bars shall not be required on the side wall opposite the control wall and shall not be located behind the seat.

608.4 Seats. An attachable or integral seat shall be provided in transfer-type shower compartments. A folding seat shall be provided in roll-in showers used in accessible passenger staterooms. Seats shall comply with 610.

608.5 Controls. Shower or tub/shower facilities shall deliver water that is thermal shock protected to 120°F maximum. Controls shall comply with 309.4. Controls in roll-in showers shall be located above the grab bar but no higher than 48 inches (1220 mm) above the finished shower deck surface. In transfer-type shower compartments, controls, faucets and the shower spray unit shall be mounted on the side wall opposite the seat 38 inches (965 mm) minimum to 48 inches (1220 mm) maximum above the finished shower deck surface.

608.6 Shower Spray Unit. A shower spray unit with a hose at least 59 inches (1500 mm) long that can be used both as a fixed shower head and as a hand-held shower shall be provided. In transfer type showers, the controls and shower unit shall be located on the control wall within 15 inches (380 mm) left or right of the centerline of the seat. In roll-in type showers, shower spray units mounted on the back wall shall be mounted 27 inches (685 mm) maximum from the side wall. If an adjustable-height shower head mounted on a vertical bar is used, the bar shall be installed so as not to obstruct the use of grab bars. The shower spray unit shall have a water-on and water-off control.

608.7 Curbs. Thresholds in shower compartments shall be ½ inch (13 mm) high maximum in accordance with 303.

608.8 Shower Enclosures. Enclosures for shower compartments shall not obstruct controls or obstruct transfer from wheelchairs onto shower seats.

608.9 Outdoor Rinsing Showers. Outdoor rinsing showers required to be accessible shall comply with 608.9.

608.9.1 Low Outdoor Rinsing Shower.

608.9.1.1 Height. A fixed shower head shall be provided and located 48 inches (1220 mm) minimum to 54 inches (1370 mm) maximum above the finished deck surface.

EXCEPTION: A hand held shower spray unit complying with 608.6 is permitted.

608.9.1.2 Grab Bar. Grab bars shall be provided and shall comply with 609. In addition, at least one grab bar shall comply with one of the following provisions.

608.9.1.3 Vertical Grab Bar. Where the shower head is mounted on a post, a vertical grab bar shall be provided under the shower head and shall start 33 inches (840 mm) maximum above the finished deck surface and extend to within at least 3 inches (75 mm) of the shower head.

608.9.1.4 Circular Grab Bar. Where the shower head is mounted on a post, a grab bar that surrounds the usable part of the post shall be provided. The grab bar shall be provided 33 inches (840 mm) minimum to 36 inches (915 mm) maximum above the finished deck surface.

608.9.1.5 Horizontal Grab Bar. A horizontal grab bar extending 18 inches (455 mm) minimum in both directions from the center line of the shower head shall be provided under the shower head. The grab bar shall be provided 33 inches (840 mm) minimum to 36 inches (915 mm) maximum above the finished deck surface.

608.9.1.6 Controls. Controls shall comply with 309. If self-closing controls are used, the controls shall remain open for at least 10 seconds.

608.9.1.7 Clear Deck Space. A clear deck space of 60 inches (1525 mm) diameter minimum shall be provided and shall be located so that the water from the shower head is directed toward the center of the clear space.

608.9.1.8 Slope. Where surface conditions require a slope greater than 1:50 for proper drainage, a 1:33 maximum slope is allowed.

608.9.2 High Outdoor Rinsing Shower.

608.9.2.1 Height. A fixed shower head shall be provided and shall be located a minimum of 72 inches (1830 mm) above the finished deck surface.

EXCEPTION: A hand held shower spray unit complying with 608.6 is permitted.

608.9.2.2 Grab Bar. Grab bars shall be provided and shall comply with 609. In addition, at least one of the grab bars shall comply with the following provisions.

608.9.2.3 Vertical Grab Bar. Where the shower head is mounted on a post, a vertical grab bar shall be provided under the shower head and shall be provided 33 inches (840 mm) maximum above the finished deck surface and extend to within at least 3 inches (75 mm) of the shower head.

608.9.2.4 Circular Grab Bar. Where the shower head is mounted on a post, a grab bar surrounding the usable part of the post shall be provided. The grab bar shall be provided 33 inches (840 mm) minimum to 36 inches (915 mm) maximum above the finished deck surface.

608.9.2.5 Horizontal Grab Bar. A horizontal grab bar extending 18 inches (455 mm) minimum in both directions from the center line of the shower head shall be provided under the shower head. The grab bar shall be provided 33 inches (840 mm) minimum to 36 inches (915 mm) maximum above the finished deck surface.

608.9.2.6 Controls. Controls shall comply with 309.4. If self-closing controls are used, the controls shall remain open for at least 10 seconds.

609 Grab Bars

609.1 General. Grab bars in accessible toilet or bathing facilities shall comply with 609.

609.2 Size and Spacing of Grab Bars. The diameter or width of grab bars shall be 1-1/4 inches (32 mm) minimum to 1-1/2 inches (38 mm) maximum. If not round, the shape shall provide equivalent graspability with a maximum cross-section dimension of 2 inches (51 mm) and perimeter dimension of 4 inches (100 mm) minimum and 4-11/16 inches (120 mm) maximum and with edges having a 1/8 inch (3.2 mm) minimum radius. The space between the wall and the grab bar shall be 1-1/2 inches (38 mm). The space between the grab bar and projecting objects above shall be 15 inches (380 mm) minimum.

EXCEPTION: The space between the grab bars and shower controls, shower fittings and other grab bars above shall be 1-1/2 inches (38 mm) minimum.

609.3 Position of Grab Bars. Grab bars shall be mounted in a horizontal position, 33 inches (840 mm) minimum to 36 inches (915 mm) maximum above the finished deck surface.

609.4 Surface Hazards. Grab bars and any wall or other surfaces adjacent to grab bars shall be free of sharp or abrasive elements. Edges shall have a radius of 1/8 inch (3.2 mm) minimum.

609.5 Fittings. Grab bars shall not rotate within their fittings.

609.6 Method of Mounting. Grab bars shall be mounted in any manner that provides a gripping surface at the locations specified in this chapter and that does not obstruct the required clear deck space.

609.7 Structural Strength. Allowable stresses shall not be exceeded for materials used when a vertical or horizontal force of 250 lbs(1112 N) is applied at any point on the grab bar, fastener mounting device or supporting structure.

610 Seats

610.1 General. Seats in accessible bathtubs and shower compartments shall comply with 610.

610.2 Bathtub Seats. The depth of a removable in-tub seat shall be 15 inches (380 mm) minimum to 16 inches (405 mm) maximum. The seat shall be capable of secure placement. The depth of a permanent seat at the head end of the bathtub shall be 15 inches (380 mm) minimum. The top of bathtub seats shall be 17 inches (430 mm) minimum to 19 inches (485 mm) maximum above the bathroom finished deck surface.

610.3 Shower Compartment Seats. Where a seat is provided in a roll-in shower compartment, it shall be a folding type and shall be mounted on the wall adjacent to the controls. Seats shall be L-shaped or rectangular. The top of the seat shall be 17 inches (430 mm) minimum to 19 inches (485 mm) maximum above the bathroom finished deck surface. In a transfer-type shower, the seat shall extend from the back wall to a point within 3 inches (75 mm) of the compartment entry. In a roll-in-type shower, the seat shall be located adjacent to the compartment entry and shall extend from the control wall to a point within 3 inches (75 mm) of the compartment entry.

610.3.1 Rectangular Seats. The rear edge of the seat shall be 2-1/2 inches (64 mm) maximum and the front edge 15 inches (380 mm) minimum to 16 inches (405 mm) maximum from the seat wall. The side edge of the seat shall be 1-1/2 inches (38 mm) maximum from the back wall of a transfer-type shower and 1-1/2 inches (38 mm) maximum from the control wall of a roll-in-type shower.

610.3.2 L-Shaped Seats. The rear edge of the seat shall be 2-1/2 inches (64 mm) maximum and the front edge 15 inches (380 mm) minimum to 16 inches (405 mm) maximum from the seat wall. The rear edge of the "L" portion of the seat shall be 1-1/2 inches (38 mm) maximum from the wall and the front edge shall be 14 inches (355 mm) minimum to 15 inches (380 mm) maximum from the wall. The end of the "L" shall be 22 inches (560 mm) minimum to 23 inches maximum (585 mm) from the main seat wall.

610.4 Structural Strength. Allowable stresses shall not be exceeded for materials used when a vertical or horizontal force of 250 lbs (1112 N) is applied at any point on the seat, fastener mounting device or supporting structure.

Chapter 6 Drinking Fountains and Water Coolers

Note: This chapter only applies to passenger vessels subject to subchapters K or H, except where sections are referenced by chapter 12 which addresses subchapters C and T vessels.

SCOPING

211 Drinking Fountains and Water Coolers

211.1 General. Where fixed drinking fountains or water coolers are provided, at least 50 percent, but not less than one, of such units provided on each deck shall comply with 602.

TECHNICAL

602 Drinking Fountains and Water Coolers

602.1 General. Fixed drinking fountains and water coolers required to be accessible shall comply with 307 and 602.

602.2 Clear Deck Space. Units shall have a clear deck space complying with 305.

602.2.1 Forward Approach. Where a forward approach is provided, the clear deck space shall be centered on the unit and shall include knee and toe clearance complying with 306.

602.2.2 Parallel Approach. Where a parallel approach is provided, the clear deck space shall be centered on the unit.

602.3 Controls and Operating Mechanisms. Controls and operating mechanisms shall comply with 309.

602.4 Spout Height. Spout outlets shall be 36 inches (915 mm) maximum above the finished deck surface.

602.5 Spout Location. Units with a parallel approach shall have the spout located 3-1/2 inches (90 mm) maximum from the front edge of the unit, including bumpers. Units with a forward approach shall have the spout located 15 inches (380 mm) minimum from the vertical support and 5 inches (125 mm) maximum from the front edge of the unit, including bumpers.

602.6 Water Flow. The spout shall provide a flow of water at least 4 inches (100 mm) high so as to allow the insertion of a cup or glass under the flow of water. Measured horizontally relative to the front face of the unit, the angle of the water stream from spouts located within 3 inches (75 mm) of the front of the unit shall be 30 degrees maximum and from spouts located between 3 inches (75 mm) and 5 inches (125 mm) from the front shall be 15 degrees maximum.

NOTE: THIS REPORT IS A SET OF RECOMMENDATIONS FROM THE PASSENGER VESSEL ACCESS ADVISORY COMMITTEE TO THE US ACCESS BOARD. ANY PROPOSED RULE CONCERNING PASSENGER VESSEL ACCESS WILL BE MADE THROUGH THE FEDERAL RULEMAKING PROCESS. THIS REPORT IS NOT PART OF ANY RULEMAKING.

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Chapter 7 Lodging

Note: This chapter only applies to passenger vessels subject to subchapters K or H, except where sections are referenced by chapter 12 which addresses subchapters C and T vessels.

SCOPING

224 Passenger Staterooms

224.1 General. Passenger vessels shall provide passenger staterooms in accordance with 224.

224.1.1 Alterations. Where staterooms are altered or added, the requirements of 224 shall apply only to the staterooms being altered or added.

EXCEPTION: The requirement for making altered staterooms accessible may be met by altering staterooms in other locations in the vessel if equivalent or greater access is provided. Staterooms that are substituted in lieu of the altered staterooms must comply with dispersion requirements of 224.5.

224.1.2 Staterooms Doors and Doorways. Entrance and passage doors and doorways into and within all staterooms shall provide clear width complying with 404.2.3.

EXCEPTION: On each deck, staterooms narrower than the width of the smallest accessible stateroom are not required to comply with this section, where (1) at least one accessible hospitality room is provided per 100 staterooms on the vessel or at least one accessible hospitality room is provided on each stateroom deck with stateroom doors not complying with 404.2.3; and (2) all passenger staterooms in the vessel required to comply with 805.2 (wheelchair accessible room) have at least one door complying with 404.2.3 which provides access directly into an adjacent passenger stateroom which is not required to comply with 805.2. Each accessible hospitality room, provided under this exception, shall comply with 805.4 and must have a size equal to or greater than the size of an average passenger stateroom in the vessel and must contain an accessible toilet room equipped with at least a water closet and lavatory, if other staterooms on the deck have toilet rooms. Stateroom width is the largest interior dimension of a stateroom measured parallel to the corridor from which the stateroom is entered.

Advisory 224.1.2 - Doors not requiring full user passage, such as shallow closets, are not covered by this provision. However, shower doors would be covered.

224.2 Accessible Staterooms. In passenger vessels, accessible staterooms shall be provided in accordance with Table 224.2 and shall comply with 805.2.

EXCEPTION: This section does not apply where at least five percent of the passenger staterooms comply with 805.2 and at least 33 percent of these accessible staterooms are provided with roll-in showers.

Comment: Because the table produces, in some cases, a percentage higher than 5 percent, a five percent cap was established by adding the exception. For example, under the table, a vessel with 101 staterooms would be required to have 7 accessible staterooms which equals 6.9 percent. However, under the exception, the above vessel would need 6 (5.05 rounded up) accessible staterooms. This exception only impacts results in the 4rd through 6th row of the table.

Table 224.2 Accessible Staterooms

Total Number of Staterooms Provided	Minimum Required Number of Accessible Rooms With Transfer Showers, Roll-In Showers, or Tubs	Minimum Required Number of Accessible Rooms With Roll-In Showers	Total Number of Required Accessible Rooms
1 to 25	1	0	1
26 to 50	2	0	2
51 to 75	3	1	4
76 to 100	4	1	5
101 to 150	5	2	7
151 to 200	6	2	8
201 to 300	7	3	10
301 to 400	8	4	12
401 to 500	9	4	13
501 to 1000	2% of total	1% of total	3% of total
1001 and over	20 plus 1 for each 100 over 1000	10 plus 1 for each 100 over 1000	30 plus 2 for each 100 over 1000

224.3 Accessible Beds. In staterooms required to comply with 805.2 having four or more beds, the number of beds in the room or space required to have clear deck space complying with 805.2.3 shall comply with Table 224.3.

Table 224.3 Accessible Beds

Total Number of Beds in a Stateroom	Minimum Required Number of Accessible Beds
4 to 25	1
26 to 50	2
51 to 75	4
76 to 100	5
101 to 150	7
151 to 200	8
201 to 300	10
301 to 400	12
401 to 500	13
501 to 1000	3% of total
1001 and over	30 plus 2 for each 100 over 1000

224.4 Communication Features.

224.4.1 Visual Alarms. In passenger vessels, all passenger staterooms shall have permanently installed visual alarms complying with 702.3.6, where such staterooms are served by audible alarms.

224.4.2 Notification Devices. Passenger staterooms with accessible notification devices shall be provided in accordance with Table 224.4 and shall comply with 805.3. The accessible notification devices are permitted to be portable.

Table 224.4 Staterooms with Accessible Notification Devices

Total Number of Staterooms Provided	Minimum Required Number of Staterooms with Accessible Notification Devices
1 to 25	2
26 to 50	4
51 to 75	7
76 to 100	9
101 to 150	12
151 to 200	14
201 to 300	17
301 to 400	20
401 to 500	22
501 to 1000	5% of total
1001 and over	50 plus 3 for each 100 over 1000

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224.5 Dispersion. Where notification devices are permanently installed, no more than ten percent, but not less than one, of the staterooms required to comply with 805.2 (mobility accessible) shall also comply with 805.3 (notification device accessible). Staterooms required to comply with 805.2 and staterooms required to comply with 805.3 shall be dispersed among the various categories of staterooms and shall provide choices of categories of staterooms, types of beds, and other amenities comparable to the choices provided to other passengers. Where the minimum number of staterooms or beds required to be accessible is not sufficient to allow for complete dispersion, rooms or beds shall be dispersed in the following priority: stateroom category, bed type, and amenities.

Advisory 224.5 - Factors to be considered in providing an equivalent range of options may include, but are not limited to, stateroom size, bed size, cost, view, bathroom fixtures such as hot tubs and spas, smoking and nonsmoking, the number of beds, and the number of staterooms provided.

TECHNICAL

805 Passenger Staterooms

805.1 General. Passenger staterooms required to be accessible shall comply with 805.2. Passenger staterooms required to have accessible communication features shall comply with 805.3.

805.2 Accessible Rooms. Accessible staterooms shall comply with 805.2.1 through 805.2.6.

805.2.1 Living and Dining Areas. Living and dining areas shall be accessible.

805.2.2 Exterior Spaces. Exterior spaces, including patios, terraces and balconies, that are a part of the stateroom shall be accessible.

805.2.3 Sleeping Areas. Not less than one sleeping area shall provide a clear deck space complying with 305 on both sides of a bed. The clear deck space shall be positioned for parallel approach to the side of the bed.

EXCEPTION 1. This requirement shall not apply where a single clear deck space complying with 305 positioned for parallel approach is provided between two beds.

EXCEPTION 2. This requirement shall not apply to subchapter K vessels where technically infeasible, where a single clear deck space complying with 305 positioned for parallel approach is provided on one side of built-in beds (berths).

EXCEPTION 3. This requirement shall not apply to subchapter C&T vessels where a single clear deck space complying with 305 positioned for parallel approach is provided on one side of built-in beds (berths).

805.2.4 Toilet and Bathing Facilities. Not less than one water closet, one lavatory, and one bathtub or shower shall comply with the applicable provisions of chapter 5 of this report. Required roll-in shower compartments shall comply with 608.2.2 or 608.2.3.

805.2.5 Kitchens, Kitchenettes and Wet Bars. Kitchens, kitchenettes and wet bars shall comply with 805.2.5.1 through 805.2.5.4.

805.2.5.1 Clear Deck Space. A clear deck space complying with 305 shall be provided at sinks, appliances, cabinets and counters.

805.2.5.2 Cabinets. At least 50 percent of shelf space in cabinets shall comply with 905.

805.2.5.3 Sinks. Sinks shall comply with 606.

EXCEPTION: Where a cook top or conventional oven is not provided, a forward approach with knee and toe clearance is not required.

805.2.5.4 Appliances. Controls and operating mechanisms of appliances shall comply with 309. At least 50 percent of shelf space in refrigerators and freezers shall be within at least one of the reach ranges in 308.

Advisory 805.2.5.4 - Vessel operators should place tactile labels on the controls which identify the name and function of the controls on appliances and the thermostats in all sleeping rooms for use by persons with visual impairments. Additionally, vessel operators should provide operating instructions in each sleeping room for items such as telephones, televisions, alarm clocks and radios. These instructions should be made available in a number of formats including Braille, large print, and audio tape.

805.2.6 Windows. Where operable windows are provided, at least one window shall comply with 309. Each window required to be operable by local code or regulation shall comply with 309.

805.3 Notification Devices. Visual notification devices shall be provided to alert room occupants of incoming telephone calls and a door knock or bell. Notification devices shall not be connected to visual alarm signal appliances. Permanently installed telephones shall have volume controls complying with 704.3 and shall have an electrical outlet complying with 309 located within 48 inches (1220 mm) of the telephone to facilitate the use of a TTY.

805.4 Accessible Hospitality Room. A fully accessible reserved room which includes: (1) a 32 inch (815 mm) clear entrance door; (2) a 32 inch (815 mm) bathroom door; (3) accessible turning areas in both the hospitality room and bathroom; (4) accessible lavatory and toilet; (5) accessible hardware including controls and operating mechanisms; (6) furnishings similar to public area lounges on the vessel; and (7) amenities that are similar to those found in non-accessible staterooms on that deck. The hospitality room will be equivalent in size to the other non-accessible stateroom on that deck. A hospitality room does not necessarily contain any sleeping facilities, but if provided, shall be accessible as per Section 805.2.3. The accessible hospitality room will be used only by passengers with mobility disabilities who are unable to enter inaccessible staterooms or those non-disabled passengers unable to invite passengers with mobility disabilities into their non-accessible stateroom. Passenger vessel operators must provide a means of entry to the accessible hospitality rooms that ensure passengers with mobility disabilities have similar spontaneous social experiences that they would get if the non-accessible staterooms were accessible.

Comment: Whereas the committee recognizes that this provision is operational in scope, the exception for the requirement for 32 inch minimum doors is contingent upon this specific operational requirement.

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702.3.6 Alarms in Staterooms. Passenger staterooms required to have visual alarms shall comply with 702.3.6.1 through 702.3.6.3.

702.3.6.1 Activation. Activation of such installed alarms shall be an integral part of a supervised alarm system in accordance with the regulations of the administrative authority having jurisdiction.

702.3.6.2 Location. In sleeping rooms or suites having a linear dimension exceeding 16 feet (4880 mm), the appliance shall be located 16 feet (4880 mm) maximum from the head end of the bed location, measured horizontally. An appliance shall be provided in each sleeping room/stateroom. The alarm signal shall be visible from all parts of each sleeping room.

702.3.6.3 Minimum Effective Intensity and Mounting Height. Wall mounted appliances located 24 inches (610 mm) minimum below the ceiling shall have a minimum effective intensity of 110 candela. Ceiling mounted appliances and wall mounted appliances located less than 24 inches (610 mm) below the ceiling shall have a minimum effective intensity of 177 candela.

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704.3 Volume Control Telephones. Public telephones required to have volume controls shall be equipped with a receive volume control that provides 12 dB of gain minimum and up to 20 dB of gain maximum. An automatic reset shall be provided.

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905 Storage

905.1 General. Storage facilities required to be accessible shall comply with 905.

905.2 Clear Deck Space. A clear deck space complying with 305 shall be provided.

905.3 Height. Storage facilities shall comply with at least one of the reach ranges specified in 308. Clothes rods shall be 54 inches (1370 mm) maximum above the finished deck surface.

905.4 Hardware. Hardware for storage facilities shall comply with 309.

Chapter 8 Vehicle Parking

Note: This chapter only applies to passenger vessels subject to subchapters K or H, except where sections are referenced by chapter 12 which addresses subchapters C and T vessels.

Comment: The committee discussed the parking process that occurs on a vehicle ferry. Parking on a typical ferry is a highly controlled activity versus the undirected parking which normally occurs in a city lot. Unlike landside parking lots, vehicles typically queue up in preparation to enter the ferry at a set time, with space generally provided on a first-come-first-serve basis. Vehicles entering the ferry are often directed by the crew to a particular lane and are required to fill the lane starting at the front of the ferry. Depending on the number of vehicles loaded and each vehicle's weight, vehicles may also be directed to certain areas (particularly heavy trucks) to reduce their weight impact on the trim and stability of the ferry. When ferry demand is high, crew members ensure the spacing between vehicles is at a minimum thereby maximizing the carrying capacity of the ferry. Because of these factors, individual parking spaces are not designated on a ferry as in a city lot. Although lane markings are generally provided to assist drivers and crew members in alining the vehicles in rows, parking lanes are seldom further demarcated into individual parking boxes because vehicle lengths vary and unused space is not acceptable during times of high demand.

Comment: The committee agreed that providing accessible parking on a ferry required an effective parking management plan plus design and construction requirements. The design and construction requirements must ensure the vehicle deck has the space available so that accessible parking can be provided when the need arises. The management plan must ensure that the need is identified before the loading process begins and that vehicles are arranged on the deck so that access aisles and accessible routes are provided. The committee noted that the access aisles must adjoin an accessible route which connects to all other accessible elements and spaces on the ferry. This allows individuals with disabilities to depart their vehicles and travel to any part of the ferry that is required to be accessible, just as other passengers are permitted to walk to other parts of the ferry.

SCOPING

208 Parking Spaces on Passenger Vessels Which Carry Vehicles

208.1 General. Where public parking is provided on passenger vessels, accessible parking spaces shall be provided in accordance with 208.

EXCEPTION: Where a passenger vessel does not have public toilet facilities and passengers are not required to leave their vehicles, this section does not apply.

Comment: The committee recognized that in small ferries, with short trip duration, the provision of accessible parking spaces might be difficult or impossible. The committee noted that on some small ferries, toilet facilities are not provided and passengers normally remain in their vehicles. For these reasons and because these small ferries usually have short crossings, the committee added an exception.

208.2 Number Required. Accessible parking spaces shall be provided in accordance with Table 208.2 and shall comply with 502.

Table 208.2 Accessible Parking Spaces

Total Parking Capacity Provided For the Public on the Passenger Vessel	Minimum Required Number of Accessible Parking Spaces
1 to 25	1
26 to 50	2
51 to 75	3
76 to 100	4
101 to 150	5
151 to 200	6
201 to 300	7
301 to 400	8
401 to 500	9
501 to 1000	2 percent of total
1001 and over	20, plus 1 for each 100 over 1000

208.2.1 Not Used.

Comment: Not on ferries.

208.2.2 Van Parking Spaces. For every eight or fraction of eight accessible parking spaces required by 208.2, at least one shall be a van parking space complying with 502.

208.3 Not Used.

Comment: As crew members direct drivers to the positions in which they will park, identification signs are not needed and may cause confusion. In trips where no passengers need accessible parking, deck space that is used as access aisles and associated accessible routes may be occupied by vehicles. In such cases, identification signs and markings typically found in a landside parking lot could cause confusion to drivers who believe they are illegally parking in areas "reserved" for persons with disabilities. Vessel operators shall arrange vehicles requiring accessible loading areas and related accessible paths of travel to other accessible areas of the vessel. The arrangement of the vehicles is to result in the required loading areas and aisle as required in the fixed parking requirements of this chapter for cars, vans and buses.

Comment: It was noted that on ferries that load from both ends, the orientation of the vehicle must be accounted for in configuring the adjacent door swing, lift operating area and maneuvering clearances on the deck within the accessible loading area.

208.4 Location. Accessible parking spaces shall be located on the shortest accessible route to an accessible elevator, or if no elevator is provided, to accessible public areas on the same deck.

EXCEPTION: All van parking spaces shall be permitted to be grouped on one level of a parking structure.

Comment: Bus accommodation: For ferry vessels that carry over-the-road, transit and paratransit buses, if passengers are permitted to exit and enter the vehicle while onboard the vessel, an accessible path shall be provided from the vehicle to the other accessible facilities aboard the vessel.

209 Not Used.

Comment: Passenger loading zones are not provided on passenger vessels. They may be on the pier that serves a vessel but not on the vessel itself, therefore, section 209 has been marked as "not used."

TECHNICAL

502 Parking Spaces

502.1 General. Bus, car and van parking spaces required to be accessible shall comply with 502.

502.2 Accessible Parking Spaces. Vehicle parking spaces shall be 156 inches (3965 mm) wide minimum and shall be 240 inches (6100 mm) in length minimum. Van parking spaces shall be 192 inches (4880 mm) wide minimum and shall be 240 inches (6100 mm) in length minimum. Over-the-road buses, transit and paratransit bus parking spaces shall provide an adjacent accessible loading area that is 96 inches (2440 mm) wide minimum and shall be 72 inches (1829 mm) long minimum. (Such as in the Access Board's vehicle guidelines.)

Comment: Unlike land based parking lots, an accessible parking space on a ferry will be a rectangle which contains both the space for a vehicle and the space for an accessible aisle. Marking is principally provided to remind crew members where to position vehicles that need accessible parking. The 156 inch width of the vehicle parking space equates to 96 inches for the vehicle and 60 inches for an access aisle which is consistent with the car parking space dimensions in a land based parking lot. Likewise, the 192 inch width of the van parking space provides 96 inches for the vehicle and 96 inches for an access aisle. It is also non-directional, allowing for vehicles to drive on from opposite ends of the ferry.

502.3 Not Used.

Comment: As the accessible parking space contains both the space for a vehicle and the space for the access aisle, section 502.3 is marked as "not used", and section 502.3.1 through 502.3.3 have been deleted.

502.4 Deck Surfaces. Accessible parking spaces shall have surface slopes not steeper than 1:48 in all directions and shall comply with 302. Changes in level are not permitted.

EXCEPTION: This section shall not apply to vehicle tie-downs which are flush with the deck.

Comment: Compliance to section 302 was added because the original reference to 302 was located in section 502.3, which now is marked as not used.

Comment: Some ferries are designed so that vehicles can be secured to the deck. Often the securement device is connected to the deck at a point which is somewhat recessed. As the typical tie-down spot would not comply with section 302 and would also constitute a change in level on the surface, an exception was added to allow tie-downs in accessible parking spaces which are flush with the deck.

502.5 Vertical Clearance. Van parking spaces and a vehicular route to van parking spaces, shall provide a vertical clearance of 98 inches (2490 mm) minimum. Transit and paratransit bus parking spaces, and a vehicular route to such parking spaces, shall provide a vertical clearance of 114 inches (2895 mm) minimum. Over-the-road bus parking spaces, and a vehicular route to such parking spaces, shall provide a vertical clearance in accordance with other national standards.

Comment: It was noted that, for drive-through ferries, the vertical clearance needs to be maintained for one lane width along the entire path of travel of the vehicle, during loading and unloading.

Comment: See 208.3.

502.6 Marking. The surface of the accessible parking spaces shall be marked to distinguish them from parking areas which do not contain accessible parking spaces.

Comment: As this marking requirement is provide primarily to assist crew members, the area within the parking space containing the access aisle is not required to be marked so as to distinguish it from the area where the vehicle will be located.

503 Not Used.

Comment: See 209.

Chapter 9 "Building" Blocks

Note: This chapter only applies to passenger vessels subject to subchapters K or H, except where sections are referenced by chapter 12 which addresses subchapters C and T vessels.

Note: The passenger vessel access committee did not review or evaluate the feasibility of applying the technical provisions of this chapter for access in every situation but only those situations expressly covered in chapters 1-12 of this report.

301 General

301.1 Scope. The applicable provisions of this chapter apply where required by sections in this report.

302 Finished Deck Surfaces

302.1 General. Finished deck surfaces shall be stable, firm, and slip resistant and shall comply with 302.

302.2 Carpet. Carpet or carpet tile shall be securely attached and shall have a firm cushion, pad, or backing or no cushion or pad. Carpet or carpet tile shall have a level loop, textured loop, level cut pile, or level cut/uncut pile texture. Pile height shall be ½ inch (13 mm) maximum. Exposed edges of carpet shall be fastened to finished deck surfaces and shall have trim along the entire length of the exposed edge. Carpet edge trim shall comply with 303.

302.3 Openings. Openings in finished deck surfaces shall be of a size that does not permit passage of a ½ inch (13 mm) diameter sphere, except as allowed in 407 and 408. Elongated openings shall be placed so that the long dimension is perpendicular to the dominant direction of travel.

EXCEPTION: This requirement does not apply to the vehicle tie-downs which are flush with the deck surface.

303 Changes in Level

Advisory 303 - Vessel operators should consider placing detectable warning strips complying with ADAAG 705 on walking surfaces at the top and bottom of each ramp or stairway in order to provide passengers with visual impairments with information about an approaching level change.

303.1 General. Where changes in level are permitted in finished deck surfaces, they shall comply with 303.

EXCEPTION: This requirement does not apply to the vehicle tie-downs which are flush with the deck surface.

303.2 Vertical. Changes in level of 1/4 inch (6.4 mm) high maximum shall be permitted to be vertical.

303.3 Beveled. Changes in level between 1/4 inch (6.4 mm) high minimum and ½ inch (13 mm) high maximum shall be beveled with a slope not steeper than 1:2.

303.4 Ramps. Changes in level greater than ½ inch (13 mm) high shall be ramped, and shall comply with 405 or 406.

304 Wheelchair Turning Space

304.1 General. Wheelchair turning space shall comply with 304.

304.2 Deck Surface. Finished deck surfaces of a wheelchair turning space shall have a slope not steeper than 1:48 and shall comply with 302. Changes in level are not permitted.

304.3 Size. Wheelchair turning space shall comply with 304.3.1 or 304.3.2.

304.3.1 Circular Space. The wheelchair turning space shall be a space of 60 inches (1525 mm) diameter minimum. The space shall be permitted to include knee and toe clearance complying with 306.

304.3.2 T-Shaped Space. The wheelchair turning space shall be a T-shaped space within a 60- inch (1525 mm) minimum square with arms and base 36 inches (915 mm) wide minimum. Each arm of the T shall be clear of obstructions 12 inches (305 mm) minimum in each direction and the base shall be clear of obstructions 24 inches (610 mm) minimum. Such space shall be permitted to include knee and toe clearance complying with 306 only at the end of either the base or one arm.

304.4 Doors. Unless otherwise specified, doors shall not be prohibited from swinging into a wheelchair turning space.

305 Clear Deck Space

305.1 General. Clear deck space shall comply with 305.

305.2 Deck Surfaces. Finished deck surfaces of a clear deck space shall have a slope not steeper than 1:48 and shall comply with 302. Changes in level are not permitted.

305.3 Size. The clear deck space shall be 30 inches (760 mm) minimum by 48 inches (1220 mm) minimum.

305.4 Knee and Toe Clearance. Unless otherwise specified, clear deck space shall be permitted to include knee and toe clearance complying with 306.

305.5 Position. Unless otherwise specified, clear deck space shall be positioned for either forward or parallel approach to an element.

305.6 Approach. One full unobstructed side of the clear deck space shall adjoin or overlap an accessible route or adjoin another clear deck space.

305.7 Maneuvering Clearance. Where a clear deck space is located in an alcove or otherwise confined on all or part of three sides, additional maneuvering clearance complying with 305 shall be provided in accordance with 305.7.1 and 305.7.2.

305.7.1 Forward Approach. Where the depth of the alcove or other restriction exceeds 24 inches (610 mm), the width of the clear deck space shall be 36 inches (915 mm) minimum.

305.7.2 Parallel Approach. Where the depth of the alcove or other restriction exceeds 15 inches (380 mm), the length of the clear deck space shall be 60 inches (1525 mm) minimum.

306 Knee and Toe Clearance

306.1 General. Where space beneath an object is included as part of clear deck space or wheelchair turning space, the space shall comply with 306. Additional space shall not be prohibited beneath an object; however, such additional space shall not be considered as part of the clear deck space or wheelchair turning space.

306.2 Toe Clearance.

306.2.1 General. Space under an object between the finished deck surface and 9 inches (230 mm) above the finished deck surface shall be considered toe clearance and shall comply with 306.2.

306.2.2 Maximum Depth. Toe clearance shall extend 25 inches (635 mm) maximum under an object.

306.2.3 Minimum Required Depth. Where toe clearance is required at an element as part of a clear deck space, the toe clearance shall extend 17 inches (430 mm) minimum beneath the element.

306.2.4 Additional Clearance. Space extending greater than 6 inches (150 mm) beyond the available knee clearance at 9 inches (230 mm) above the finished deck surface shall not be considered toe clearance.

306.2.5 Width. Toe clearance shall be 30 inches (760 mm) minimum in width.

306.3 Knee Clearance.

306.3.1 General. Space under an object between 9 inches (230 mm) and 27 inches (685 mm) above the finished deck surface shall be considered knee clearance and shall comply with 306.3.

306.3.2 Maximum Depth. Knee clearance shall extend 25 inches (635 mm) maximum under an object at 9 inches (230 mm) above the finished deck surface.

306.3.3 Minimum Required Depth. Where knee clearance is required beneath an element as part of a clear deck space, the knee clearance shall be 11 inches (280 mm) minimum in depth at 9 inches (230 mm) above the finished deck surface, and 8 inches (205 mm) minimum in depth at 27 inches (685 mm) above the finished deck surface.

306.3.4 Clearance Reduction. Between 9 inches (230 mm) and 27 inches (685 mm) above the finished deck surface, the knee clearance shall be permitted to reduce at a rate of 1 inch (25 mm) for each 6 inches (150 mm) in height.

306.3.5 Width. Knee clearance shall be 30 inches (760 mm) minimum in width.

307 Protruding Objects

307.1 General. Protruding objects shall comply with 307.

EXCEPTION: The requirements of 307.2 through 307.4 do not apply to the exterior decks of sailing vessels.

307.2 Protrusion Limits. Objects with leading edges located more than 6 inches (150 mm) and not more than 80 inches (2030 mm) above the finished deck surface shall protrude from the wall 4 inches (100 mm) maximum into the circulation path.

EXCEPTION: Handrails serving stairs and ramps shall protrude 4-1/2 inches (115 mm) maximum from the wall.

307.3 Post-Mounted Objects. Free-standing objects mounted on posts or pylons shall overhang 12 inches (305 mm) maximum when located 6 inches (150 mm) minimum and 80 inches (2030 mm) maximum above the finished deck surface. Where a sign or other obstruction is mounted between posts or pylons and the clear distance between the posts or pylons is greater than 12 inches (305 mm), the lowest edge of such sign or obstruction shall be 6 inches (150 mm) maximum or 80 inches (2030 mm) minimum above the finished deck surface.

EXCEPTION: This requirement shall not apply to sloping portions of handrails serving stairs and ramps.

307.4 Reduced Vertical Clearance. Guardrails or other barriers shall be provided where the vertical clearance is less than 80 inches (2030 mm) high. The leading edge of such guardrail or barrier shall be located 27 inches (685 mm) maximum above the finished deck surface.

EXCEPTION: Where the main deck is less than 3,000 square feet (280 m^2), the minimum vertical clearance is permitted to be reduced to 78 inches (1980 mm) without requiring guardrails or other barriers.

307.5 Required Clear Width. Protruding objects shall not reduce the clear width required for accessible routes.

308 Reach Ranges

308.1 General. Reach ranges shall comply with 308.

308.2 Forward Reach.

308.2.1 Unobstructed. Where a clear deck space allows only a forward approach to an object and is unobstructed, the high forward reach shall be 48 inches (1220 mm) maximum and the low forward reach shall be 15 inches (380 mm) minimum above the finished deck surface.

308.2.2 Obstructed High Reach. Where a clear deck space allows only a forward approach to an object and the high forward reach is over an obstruction, the clear deck space shall extend beneath the object for a distance not less than the required reach depth over the obstruction. The high forward reach shall be 48 inches (1220 mm) maximum for a reach depth of 20 inches (510 mm) maximum. Where the reach depth exceeds 20 inches (510 mm), the high forward reach shall be 44 inches (1120 mm) maximum for a reach depth of 25 inches (635 mm) maximum.

308.3 Side Reach.

308.3.1 Unobstructed. Where a clear deck space allows a parallel approach to an object and the depth of any obstruction between the clear deck space and the object is 10 inches (255 mm) maximum, the high side reach shall be 48 inches (1220 mm) maximum and the low side reach shall be 15 inches (380 mm) minimum above the finished deck surface.

308.3.2 Obstructed High Reach. Where a clear deck space allows a parallel approach to an object and the high side reach is over an obstruction, the height of the obstruction shall be 34 inches (865 mm) maximum and the depth of the obstruction shall be 24 inches (610 mm) maximum. The high side reach shall be 48 inches (1220 mm) maximum for a reach depth of 10 inches (255 mm) maximum. Where the reach depth exceeds 10 inches (255 mm), the high side reach shall be 46 inches (1170 mm) maximum for a reach depth of 24 inches (610 mm) maximum.

309 Controls and Operating Mechanisms

309.1 General. Controls and operating mechanisms shall comply with 309.

309.2 Clear Deck Space. A clear deck space complying with 305 shall be provided.

309.3 Height. Controls and operating mechanisms shall be placed within one or more of the reach ranges specified in 308.

EXCEPTION: This requirement does not apply where the use of special equipment dictates otherwise or where electrical and communications systems receptacles are not normally intended for use by vessel passengers and crew.

309.4 Operation. Controls and operating mechanisms shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist. The force required to activate controls and operating mechanisms shall be 5 lbs (22.2 N) maximum.

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Chapter 10 Employee Areas

Note: This chapter only applies to passenger vessels subject to subchapters K or H, except where sections are referenced by chapter 12 which addresses subchapters C and T vessels.

106 Definitions

106.4 Interchangeability. Words, terms and phrases used in the singular includes the plural and the plural the singular.

106.5 Defined Terms.

Bulkhead Deck. The uppermost deck to which watertight bulkheads and the watertight shell extend.

Employee Work Areas. Employee spaces on vessels not open to passengers.

Machinery Spaces. Machinery spaces will be considered as including but not limited to the following spaces: (1) Main machinery spaces, including trunks and casings, alleyways, gratings, and stairways part of and for the exclusive use of these spaces, auxiliary machinery spaces containing internal combustion machinery or other oil burning, heating or pumping units, and fuel oil filling stations. (2) Auxiliary machinery spaces: spaces containing only pumps, tanks, electrical machinery, ventilation or air conditioning equipment, resistors, steering machinery, stabilizer machinery, thruster machinery, etc.

Note: Definition from 46 CFR 72.05-5 (subchapter H) with two insertions.

SCOPING

203 General Exceptions

203.1 General. Passenger vessels shall be exempt from the provisions of this report to the extent specified by 203.

203.2 Employee Cabins. Where employee cabins are provided, employee cabins shall comply with 203.2.1 or 203.2.2.

EXCEPTION: Section 203.2 does not apply to passenger vessels without overnight passenger cabins and 15 or less employee cabins.

203.8.1 (Option A). One and a half (1.5) percent, but not less than one employee cabin, shall be accessible.

203.8.2 (Option B). (1) One percent, but not less than one employee cabin, shall be accessible, and (2) where 50 or more employee cabins are provided, an additional one percent of the employee cabins shall be connected to an accessible route and shall have an entry door and bathroom door which comply with 404.

203.3 Employee Work Areas. Except for employee work areas covered by 203.2, employee work areas are not required to be accessible but shall be located on an accessible route where:

a. the work areas are on or above the bulkhead deck; and

b. the work areas are located on a deck where there is a passenger space to which access is required.

EXCEPTION 1. Work areas on the bulkhead deck that primarily contain stairs or ladders which connect to work areas below the deck are not required to be connected by an accessible route.

EXCEPTION 2. Work areas on the weather decks of sailing vessels are not required to be connected by an accessible route.

203.3.1 Employee Work Area - Approach, Enter, and Exit. Employee work areas required to be located on an accessible route by 203.3 shall be designed and constructed so that individuals with disabilities can approach, enter, and exit the areas but are not required to be constructed to permit maneuvering within the work area or to be constructed or equipped to be accessible.

203.3.2 Work Station - Approach, Enter, and Exit. In addition to the requirement of 203.3.1, work stations in employee work areas covered by 203.3.1 shall be designed and constructed so that individuals with disabilities can approach, enter, and exit, the stations but are not required to be constructed to permit maneuvering within the work station or be constructed or equipped to be accessible.

EXCEPTION: Where at least one of each type of work station, in the total area covered by all the employee work areas subject to 203.3.1, complies with the approach, enter and exit requirements of 203.3.2, additional work stations in such the employee work areas are not required to comply with 203.3.2.

Examples of Employee Work Station Type. An example of a type of employee work station is within a galley (work area) where there are stations for food preparation, cooking, serving (plating and finishing) and scullery. Another example is a bar with three mixing stations. The point of sale is one work station type and the mixing station is another work station type. At least one of each type of work station as described above shall comply with the approach, enter, and exit requirements of 203.3.2.

203.4 Not Used.

203.5 Limited Access Spaces. Spaces accessed only by vertical or horizontal trunks, ladders, catwalks, crawl spaces, through manholes, or very narrow passageways are not required to be accessible. Such spaces include, but are not limited to, fuel and water tanks and voids.

203.6 Equipment Spaces. Spaces frequented only by service personnel for maintenance, repair, or occasional monitoring of equipment are not required to be accessible. Such spaces include, but are not limited to, elevator pits, elevator penthouses, mechanical, electrical, or communications equipment rooms, piping or equipment catwalks, water or sewage treatment pump rooms and stations, electric substations and transformer vaults.

203.7 Machinery Spaces. Machinery spaces are not required to be accessible. Spaces include, but are not limited to, engine rooms, fan rooms, pump rooms, electrical closets, and steering gear flats.

203.8 Other Spaces. Davit launched raft stations, rescue boat stations, anchor and anchor handling rooms, emergency squad lockers, boatswain's storerooms, firefighting equipment spaces, battery rooms, paint and hazardous material lockers, line handling platforms, mooring spaces, mooring flats, mooring areas, and mooring decks are not required to be accessible.

NOTE: THIS REPORT IS A SET OF RECOMMENDATIONS FROM THE PASSENGER VESSEL ACCESS ADVISORY COMMITTEE TO THE US ACCESS BOARD. ANY PROPOSED RULE CONCERNING PASSENGER VESSEL ACCESS WILL BE MADE THROUGH THE FEDERAL RULEMAKING PROCESS. THIS REPORT IS NOT PART OF ANY RULEMAKING.

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Chapter 11 Alterations

*Standards and sections from the ADAAG Review Report referenced in this report that have not been reviewed or approved by the committee.

Note: This chapter only applies to passenger vessels subject to subchapters K or H, except where sections are referenced by chapter 12 which addresses subchapters C and T vessels.

Note: Although the report focuses on alterations to existing passenger vessels, some applicable vessel new construction provisions have been included to help the reader understand the context of particular alteration provisions.

106 Definitions

Admeasure. The process by which an authority determines the regulatory tonnage of a vessel.

Alteration. A change to a passenger vessel that affects or could affect the usability of the passenger vessel or part thereof. Alterations include, but are not limited to, remodeling, renovation, rehabilitation, reconstruction, historic restoration, changes or rearrangement of the structural parts or elements, and changes or rearrangement in the plan configuration of bulkheads and partitions. Normal maintenance, repair or redecoration (such as painting or wall papering), or changes to propulsion, mechanical and electrical systems are not alterations unless they affect the usability of the passenger vessel.

Structural Members. The components of the vessel that give it its inherent strength, integrity, and resistance to damage. Examples include, but are not limited to, the keel, keelson, stem and stern posts, frames, longitudinals, structural decks, structural and fire protection bulkheads, gussets, floors, stanchions, columns, girders, beams, knees, trusses and hull plating and planking.

Comment: This definition focuses on terms with well-defined meanings in the ship design and building industry.

Technically Infeasible. With respect to an alteration of a passenger vessel, something that has little likelihood of being accomplished because existing structural conditions would require removing or altering a structural member; or because other existing physical or vessel constraints prohibit modification or addition of elements, spaces, or features which are in full and strict compliance with the minimum requirements for new construction and which are necessary to provide accessibility.

SCOPING

201 Application

201.1 Scope. All areas of newly designed or newly constructed passenger vessels and altered portions of existing passenger vessels shall comply with the applicable provisions of this report.

201.2 Not Used.

Comment: Section was removed because it was confusing.

201.3 Not Used.

Comment: Section was removed because temporary structures are not provided on passenger vessels.

202 Application to Existing Passenger Vessels

202.1 General. Additions and alterations to existing passenger vessels, including qualified historic passenger vessels, shall comply with the applicable provisions of this report except as modified by 202.

202.2 Additions. Each addition to an existing passenger vessel shall comply with the requirements for new construction. Each addition that affects or could affect the usability of an area containing a primary function shall comply with 202.4.

202.3 Alterations. Where existing elements or spaces are altered, each altered element or space shall comply with the applicable provisions of this report.

EXCEPTION 1. Altered elements or spaces are not required to be located on an accessible route, unless required by 202.4.

EXCEPTION 2. In alterations, where compliance with applicable provisions is technically infeasible, the alteration shall provide accessibility to the maximum extent feasible. Any elements or spaces of the passenger vessel that are being altered and can be made accessible shall be made accessible within the scope of the alteration.

EXCEPTION 3. In alterations, where compliance with applicable provisions, as determined by the U.S. Coast Guard, would result in:

a. a readmeasured tonnage that changes the regulatory classification;
b. changes in the stability of the vessel not meeting the applicable regulatory standards;
c. modifications that reduce the integrity (e.g., strength, and fire resistance) of a Class A or B bulkhead or deck; or
d. an increase in power load in excess of the existing power supply,

the alterations shall provide accessibility to the maximum extent feasible. Any elements or spaces of the passenger vessel that are being altered and can be made accessible shall be made accessible within the scope of the alteration.

202.3.1 Prohibited Reduction in Access. An alteration that decreases or has the effect of decreasing the accessibility of a passenger vessel below the requirements for new construction at the time of alteration is prohibited.

202.3.2 Extent of Application. An alteration of an existing element, space, or area of a passenger vessel shall not impose a requirement for greater accessibility than that which would be required for new construction.

202.4 Alterations Affecting Primary Function Areas. In addition to the requirements of 202.3, an alteration that affects or could affect the usability of or access to an area containing a primary function shall be made so as to ensure that, to the maximum extent feasible, the path of travel to the altered area and the restrooms, telephones, and drinking fountains serving the altered area, are readily accessible to and usable by individuals with disabilities, unless such alterations are disproportionate to the overall alterations in terms of cost and scope as determined under criteria established by the Attorney General.

EXCEPTION 1. This requirement does not apply where the alteration work is limited solely to the electrical, mechanical, or plumbing system, or to hazardous material abatement, or automatic sprinkler retrofitting, and does not involve the alteration of any elements or spaces required to be accessible under the applicable provisions of this report.

EXCEPTION 2. Any elements or spaces required by this provision to be altered shall be made accessible, in accordance with this provision, unless technically infeasible. The alterations shall provide accessibility to the maximum extent feasible.

EXCEPTION 3. This requirement does not apply where the alteration would result in:

a. a readmeasured tonnage that changes the regulatory classification;
b. changes in the stability of the vessel not meeting the applicable regulatory standards;
c. modifications that reduce the integrity (e.g., strength, and fire resistance) of a Class A or B bulkhead or deck; or
d. an increase in power load in excess of the existing power supply,

as determined by the U.S. Coast Guard. The alterations shall provide accessibility to the maximum extent feasible.

Advisory - Where section 202.4 applies, accessibility improvements required by this provision shall be made up to the point that something is technically infeasible as stated by exception 2 or at least one of the four constraints listed in exception 3 is triggered. For example, an alteration is made to a primary function area. This alteration is large enough (using DOJ criteria found in 28 CFR 36.403) to trigger accessibility improvements to the path of travel and to the toilet rooms which serve the altered primary function area. However, if exception 3 limits the improvements required on the path of travel, only that portion of the path unaffected by exception 3 and the toilet rooms would have to be made accessible. Because the entire path of travel was not made accessible, it is probable that funds are available to make accessibility improvements on other items listed in DOJ's priority list, until the available funds are used up. It should be noted that although DOJ's current criteria were used in this example, neither DOJ nor DOT have not made any decision on what criteria shall apply to passenger vessels.

202.5 Major Conversions. Coast Guard classified major conversions only require accessibility improvements to the degree required by the alteration provisions of this report.

Advisory - The Coast Guard should reevaluate its method of admeasuring vessels, particularly with regard to tonnage openings, when a passenger vessel is trying to provide access for passengers with disabilities. Specifically, the committee is concerned that improved accessibility may be denied due to a change in applicability of subchapters T, K, or H based on increase in tonnage solely due to the loss of a tonnage opening.

Comment: This is to ensure that the Coast Guard definition of major conversion does not trigger more onerous accessibility requirements than those that this committee recommends.

202.6 Alterations to Qualified Historic Passenger Vessels. Alterations to a qualified historic passenger vessel shall comply with 202.3 and 202.4.

EXCEPTION 1. Where the State Historic Preservation Officer or Advisory Council on Historic Preservation determines that compliance with the requirements for accessible routes, or toilet facilities would threaten or destroy the historic significance of the passenger vessel, the exceptions for alterations to qualified historic passenger vessels for that element shall be permitted to apply.

EXCEPTION 2. Where the State Historic Preservation Officer or Advisory Council on Historic Preservation determines that compliance with applicable provisions would threaten or destroy the historic significance of the passenger vessel, the alterations shall provide accessibility to the maximum extent feasible.

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206 Onboard Accessible Routes

206.2.3 Multi-Level Passenger Vessels. At least one accessible route shall connect each level required to be accessible, including mezzanines, onboard multi-deck passenger vessels.

EXCEPTION 1. An accessible route is not required to levels located above or below the accessible level in passenger vessels that are less than three decks or that have less than 3,000 square feet (280 m^2) per deck.

Note 1: The DOT may revisit the application of the elevator exception to the vessels based on comments received in response to future rulemaking.

Note 2: The elevator exception does not apply to State and local governments. (See 28 CFR 35.151(c))

Note 3: This is the minimum baseline. The DOJ, DOT, or the Access Board (or PVAAC) may expand the exception or develop additional exceptions.

EXCEPTION 2. An accessible route is not required between decks on a high speed ferry with only two passenger decks where all types of passenger facilities are available on the accessible deck.

EXCEPTION 3. An accessible route is not required to a deck which is less than 300 square feet (28 m^2) in size.

EXCEPTION 4. In alterations to qualified historic passenger vessels where alternative requirements are permitted by 202.6, an accessible route from an accessible entry and departure point to all publicly used spaces on at least the level of the accessible entry and departure point shall be provided.

206.2.3.1 Stairs and Escalators in Existing Passenger Vessels. In alterations and additions, where an escalator or stair is provided where none existed previously and major structural modifications are necessary for such installation, an accessible route shall be provided between the levels served by the escalator or stair, unless exempted by 206.2.3.

Example: An existing three deck passenger vessel (which has at least one deck greater than 3,000 square feet) does not have a means of vertical access between all three decks. If a set of new stairs was installed between the first and second deck, and major structural modifications were necessary for the stair installation, then a means of vertical access must be provided between the two decks. If the installation of

the new stairs did not require major structural modifications or if the vessel was exempted by 206.2.3 from requiring vertical access, this section would not apply.

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206.2.5 Dining Areas. An accessible route shall be provided to all dining areas, including raised or sunken dining areas, and outdoor seating areas.

EXCEPTION 1. In passenger vessels without elevators, an accessible route to a mezzanine dining area is not required, provided that the mezzanine contains less than 25 percent of the total area for seating and dining and the same services are provided in the accessible area.

EXCEPTION 2. In alterations, accessibility to raised or sunken dining areas, or to all parts of outdoor seating areas is not required provided that the same services and decor are provided in an accessible space usable by the general public and not restricted to use by people with disabilities.

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206.6 Elevators. New passenger elevators shall comply with 407.2 or 407.3. Where multiple elevators are provided, each passenger elevator shall comply with 407.2 or 407.3.

EXCEPTION 1. Where an elevator is provided in a passenger vessel eligible for the exceptions to 206.2.3, the elevator shall comply with 407.2, 407.3 or 407.4.

EXCEPTION 2. Where each deck of a ferry is less than 3,000 square feet (280 m^2), elevators are permitted to comply with 407.4.

EXCEPTION 3. Where a passenger vessel is less than 5,000 International Tonnage Convention (ITC), elevators are permitted to comply with 407.4.

EXCEPTION 4. Where a passenger vessel is less than 10,000 ITC and multiple elevators are provided, only one elevator is required to comply with 407.2 or 407.3 and all other elevators are permitted to comply with 407.4.

206.6.1 Existing Elevators. Altered elements of existing elevators shall comply with 407.5. Such elements shall also be altered in all elevators that are programmed to respond to the same hall call control as the altered elevator and shall comply with the requirements of 407.5.

Example: A passenger vessel has four existing elevators located in a bank. If the car controls in one elevator were altered, under this section, the elevator car controls in the three other elevators must be altered. However, if an alteration is performed on one elevator, alterations would not be required to any other elevator where at least one of the exceptions in 202.3 applies.

206.7 Wheelchair (Platform) Lifts. Wheelchair (platform) lifts shall be permitted as a component of an accessible route in new construction as permitted by 206.7.1 through 206.7.4, and shall comply with 408. Wheelchair (platform) lifts provided as a component of an accessible route in an existing passenger vessel shall comply with 408.

207 Accessible Means of Escape

207.1 General. Accessible means of escape shall be provided in accordance with 207.

EXCEPTION: Accessible means of escape are not required in alterations to existing passenger vessels.

207.2 Number Required. All spaces required to be accessible shall be provided with not less than one accessible means of escape complying with Coast Guard requirements. Where more than one means of escape is required by the Coast Guard from any accessible space, each accessible space shall be served by not less than two accessible means of escape. Each required accessible means of escape shall comply with 409 and shall be a continuous and unobstructed way of exit travel to an area of refuge complying with Coast Guard requirements, then, if applicable, to mustering and lifeboat embarkation locations, or alternatively to the point of disembarking the vessel.

EXCEPTION: Where a required means of escape is permitted by the Coast Guard to include a ladder, go through a window, or go through a deck scuttle, the corresponding accessible means of escape is not required

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213 Toilet and Bathing Facilities

213.2 Toilet and Bathing Rooms. Where toilet rooms are provided, each toilet room shall comply with 603. Where bathing rooms are provided, each bathing room shall comply with 603.

EXCEPTION 1. In alterations where it is technically infeasible to comply with 603, or at least one of the four conditions in 202.3 exception 3 applies, altering existing toilet or bathing rooms is not required where a single unisex toilet room or bathing room complying with 213.2.1 is provided and located in the same area and on the same deck as existing inaccessible toilet or bathing rooms.

EXCEPTION 2. Where alternative requirements are permitted by 202.6 in alterations to qualified historic passenger vessels and toilet rooms are provided, not less than one toilet room complying with 603 or a unisex room complying with 213.2.1 shall be provided.

EXCEPTION 3. Where multiple single user portable toilet or bathing units are clustered at a single location, at least 5 percent, but not less than one toilet unit or bathing unit at each cluster shall comply with 603. Accessible units shall be identified by the International Symbol of Accessibility complying with 703.7*.

EXCEPTION 4. Where multiple single user toilet rooms are clustered at a single location and contain fixtures in excess of the minimum required number of plumbing fixtures, at least 5 percent, but not less than one room for each use at each cluster shall comply with 603. Accessible rooms shall be identified by the International Symbol of Accessibility complying with 703.7*.

213.2.1 Unisex Toilet and Bathing Rooms. A unisex toilet room shall comply with 603, shall contain one water closet and one lavatory, and the door shall have a privacy latch. A unisex bathing room shall comply with 603 and shall contain at least one shower or bathtub.

213.2.2 Signs. Where existing toilet or bathing rooms are altered and not made accessible, directional signs indicating the location of the nearest accessible toilet or bathing room within the vessel shall be provided. Such signs shall comply with 703.4* and shall include the International Symbol of Accessibility complying with 703.7*. Where existing toilet or bathing rooms are altered and not made accessible, the accessible toilet or bathing room shall be identified by the International Symbol of Accessibility complying with 703.7*.

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215 Emergency Alarm Systems

215.1 Emergency Alarms. Where emergency alarm systems are provided in public-use or common-use areas to alert occupants, the alarm shall provide both audible and visual signals complying with 702. Staterooms required by 224 to have accessible alarms shall comply with 702.3.6.

EXCEPTION: Visual alarms complying with 702 are not required in alterations, except where an existing emergency alarm system is upgraded or replaced, or a new emergency alarm system is installed.

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224 Passenger Staterooms

224.1 General. Passenger vessels shall provide passenger staterooms in accordance with 224.

224.1.1 Alterations. Where staterooms are altered or added, the requirements of 224 shall apply only to the staterooms being altered or added.

EXCEPTION: The requirement for making altered staterooms accessible may be met by altering staterooms in other locations in the vessel if equivalent or greater access is provided. Staterooms that are substituted in lieu of the altered staterooms must comply with dispersion requirements of 224.5.

TECHNICAL

404 Doors and Doorways

404.2.3 Clear Width. Doorways shall have a clear opening of 32 inches (815 mm) minimum. Clear openings of doorways with swinging doors shall be measured between the face of the door and the stop, with the door open 90 degrees. Openings more than 24 inches (610 mm) in depth shall provide a clear opening of 36 inches (915 mm) minimum. There shall be no projections into the required clear opening width lower than 34 inches (865 mm) above the finished deck surface. Projections into the clear opening width between 34 inches (865 mm) and 80 inches (2030 mm) above the finished deck surface shall not exceed 4 inches (100 mm).

EXCEPTION: In alterations where it is technically infeasible to comply with clear opening width requirements, a projection of 5/8 inch (16 mm) maximum into the required clear width shall be permitted for the latch side stop.

404.2.4 Maneuvering Clearances.

EXCEPTION: In alterations, maneuvering clearances are not required on the outboard side of accessible doors at accessible entry and departure points.

404.2.4.1 Swinging Doors. Approaches to swinging doors shall have maneuvering clearances complying with Table 404.2.4.1.

404.2.4.2 Doorways without Doors, Sliding Doors and Folding Doors. Approaches to doorways without doors which are less than 36 inches (915 mm) wide and approaches to sliding and folding doors shall have maneuvering clearances complying with Table 404.2.4.2.

404.2.5 Thresholds. Thresholds if provided at doorways shall be ½ inch (13 mm) maximum in height. Raised thresholds and changes in level at doorways shall comply with 302 and 303.

EXCEPTION: This requirement shall not apply to existing or altered thresholds 3/4 inch (19 mm) high maximum that have a beveled edge on each side.

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407 Elevators

407.1 General. New elevators required to be accessible shall comply with 407.2. New destination-oriented elevators required to be accessible shall comply with 407.3. New limited use/limited application elevators required to be accessible shall comply with 407.4. Altered elements of existing elevators shall comply with 407.5.

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407.4.6 Inside Dimensions of Elevator Cars. Elevator cars shall provide a clear width of 42 inches (1065 mm) minimum and a clear depth of 54 inches (1370 mm) minimum. Car doors shall be positioned at the narrow end of the car and shall provide a clear width of 32 inches (815 mm) minimum. For installations in existing passenger vessels, elevator cars shall provide a clear width of 36 inches (915 mm) minimum, a clear depth of 54 inches (1370 mm) minimum, and a net clear platform area of 15 square feet (1.4 m^2) minimum. Car doors shall be positioned at the narrow end of the car and shall provide a clear width of 32 inches (815 mm) minimum.

EXCEPTION 1. Ferries less than 1,000 ITC are permitted to have elevators with a width of 36 inches (915 mm) minimum.

EXCEPTION 2. Passenger vessels less than 1,000 ITC are permitted to have elevators with a width of 36 inches (915 mm) minimum provided they have straight through travel.

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407.5 Existing Elevators. Altered elements of existing destination-oriented elevators shall comply with 407.3. Altered elements of existing limited-use/limited-application elevators shall comply with 407.4. Altered elements of all other existing elevators shall comply with 407.2.1, 407.2.4, 407.2.6, 407.2.7, 407.2.9, 407.2.10 and 407.2.13 and with 407.5.1 through 407.5.7 or shall comply with 407.2. They shall be passenger elevators as classified by ASME/ANSI A17.1*.

407.5.1 Call Buttons. Call buttons in elevator lobbies and halls shall be located vertically between 35 inches (890 mm) and 54 inches (1370 mm) above the finished deck surface, measured to the centerline of the button. A clear deck space complying with 305 shall be provided. The button that designates the up direction shall be located above the button that designates the down direction. Keypad controls, if provided, shall comply with 407.2.11.

407.5.2 Hall Signals. A visible and audible signal at each hoistway entrance to indicate which car is answering a call or in-car signals complying with 407.2.3 shall be provided. Audible signals shall sound once for the up direction and twice for the down direction, or shall have verbal annunciators that state which direction the car is traveling. If new hall signals are installed, they shall comply with 407.2.3.

407.5.3 Door Operation. Power operated horizontally sliding car and hoistway doors opened and closed by automatic means shall comply with 407.2.5. Existing manually operated hoistway swing doors shall comply with 404.2.3 and 404.2.9. A power operated car door that opens and maintains a 32 inch (815 mm) minimum clear width shall be provided. Closing of the car door shall not be initiated until the hoistway door is closed. Car gates are prohibited.

407.5.4 Inside Dimensions of Elevator Cars. The inside dimensions of elevator cars shall comply with 407.2.8.

EXCEPTION: This requirement shall not apply to existing elevator car configurations that provide a clear deck area of 16 square feet (1.5 m^2) minimum, and provide 48 inches (1220 mm) minimum inside clear depth and 36 inches (915 mm) minimum clear width.

407.5.5 Car Controls. Elevator controls shall comply with 407.5.5.1 through 407.5.5.4.

407.5.5.1 Buttons. Control buttons shall be 3/4 inch (19 mm) minimum in their smallest dimension. Control buttons shall be raised, flush or recessed. Where the car operating panel is changed, control buttons shall comply with 407.2.11.1.

407.5.5.2 Designations and Indicators for Control Buttons. Control buttons shall comply with 407.2.11.2.

EXCEPTION: Where space on an existing car operating panel precludes tactile markings to the left of the controls, markings shall be placed above controls or as near to the controls, as possible.

407.5.5.3 Height. Deck buttons shall be located 54 inches (1370 mm) maximum above the finished deck surface for parallel approach and 48 inches (1220 mm) maximum for front approach. Where the panel is changed, it shall comply with 407.2.11.3.

407.5.5.4 Operating Panels. Where a new car operating panel complying with 407.2.11 is provided, existing car operating panels not conforming to 407.2.11 shall not be required to be removed.

407.5.6 Car Position Indicators. Where a new car position indicator is provided, the indicator shall comply with 407.2.12.

407.5.7 Identification. Accessible elevators shall be clearly identified with the International Symbol of Accessibility complying with 703.7* unless all elevators in the passenger vessel are accessible.

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505 Handrails

505.10 Handrail Extensions. Handrails shall extend beyond stair runs and ramp runs in accordance with 505.10.1 through 505.10.3.

EXCEPTION 1. Extensions are not required for continuous handrails at the inside turn of switchback or dogleg stairs and ramps.

EXCEPTION 2. Extensions are not required for handrails in aisles serving seating where the handrails are necessarily discontinuous to provide access to seating and to permit crossovers within the aisle.

EXCEPTION 3. In alterations, full extension of handrails shall not be required where such extensions would be hazardous or impossible due to plan configuration.

505.10.1 Top and Bottom Extension at Ramps. Ramp handrails shall extend horizontally above the landing for 12 inches (305 mm) minimum beyond the top and bottom of ramp runs. Such extensions shall return to a wall, guard or the walking surface or shall be continuous to the handrail of an adjacent ramp run.

505.10.2 Top Extension at Stairs. At the top of a stair flight, handrails shall extend horizontally above the landing for 12 inches (305 mm) minimum beginning directly above the first riser nosing. Such extensions shall return to a wall, guard or the walking surface or shall be continuous to the handrail of an adjacent stair flight.

505.10.3 Bottom Extension at Stairs. At the bottom of a stair flight, handrails shall extend at the slope of the stair flight for a horizontal distance equal to one tread depth beyond the last riser nosing and an additional 12 inches (305 mm) minimum horizontally at a height equal to that of the sloping portion of the handrail as measured above the stair nosings. Such extensions shall return to a wall, guard or the walking surface or shall be continuous to the handrail of an adjacent stair flight.

Chapter 12 Subchapters C & T

New Construction Access Specifications for Small Passenger Vessels

Note: This chapter only applies to passenger vessels subject to subchapters C or T.

Measurements. All slopes are determined when the vessel has zero trim and list.

Definitions

Brow. A brow (also known as a transfer span) will typically bridge from the side of the vessel to a landing on essentially the same level. The purpose of the transfer span is to accommodate the motion differences between the vessel and the float or dock.

Gangway. That portion of the path of travel which changes slope to accommodate changes in water level other than wave surge and heel action.

LOD. Length on Deck.

Program Area. Area containing the primary commercial purpose of the vessel.

Sailing Vessel. A vessel principally equipped for propulsion by sail even if the vessel has an auxiliary means of propulsion (Subchapter T, 46 CFR 175.400).

Note: Exceptions are not mandatory. Exceptions provide other options for certain size vessels.

S1 Small Sailing Vessels. Passenger sailing vessels classified as subchapter C or T that are less than 100 gross tons, and uninspected vessels over 100 gross tons, shall comply with the small passenger sailing vessel requirements in sections S1.1 through S1.4.

Example 1. A subchapter C passenger sailing vessel greater than 100 gross tons would not be classified as a small sailing vessel and would comply with the provisions for "H and K" vessels.

Example 2. A passenger sailing vessel less than 100 gross tons and classified as a subchapter T vessel would comply with S1.1 through S1.4.

Comment: Some U.S. Coast Guard grand-fathered T boats are over 100 gross tons, so the committee added a reference to T boats. Therefore, even if a sailboat is greater than 100 gross tons, but is classified as a T boat by the Coast Guard, the sailboat would fall under these small boat access provisions.

Note: Gross tonnage is not weight but volume.

S1.1 Embarkation/Debarkation. At least one entry/departure point to the vessel shall have a minimum clear width of 32 inches (815 mm) and shall be provided through bulwarks, lifelines, deck rails, and toe rails, where such features are provided. An onboard maneuvering space shall be provided at the opening which is either (1) 60 inches (1525 mm) minimum by 60 inches (1525 mm) minimum or (2) 42 inches (1065 mm) minimum in depth and starting at one side of the opening and extending 80 inches (2030 mm) minimum in width across the opening (see figure on page 94). A door is permitted to be located in the opening through such features and such features are permitted to be readily removable to provide a clear passage for transfer purposes.

EXCEPTION: Instead of the minimum opening and maneuvering space, vessels less than 80 feet (24.3 m) LOD may provide a transfer platform complying with S10.2.1 through S10.2.3 or other auxiliary equipment sufficient to provide entry/departure to the vessel.

Advisory S1.1 - Readily removable features may require the assistance of another passenger or crew member.

Example 1. An 81 foot LOD passenger sailing vessel has a lifeline surrounding the deck. To meet the requirements of S1.1, a 32 inch minimum opening through the lifeline has been provided. When the vessel is underway, a readily removable lifeline is positioned in the opening for safety reasons, which is permitted by S1.1.

Example 2. A 40 foot LOD passenger sailing vessel has a lifeline surrounding the stern area. Under S1.1, three options are available, if the entry/departure point was provided on this stern area. (1) a 32 inch opening could be installed, (2) as allowed by the exception, a transfer platform could be provided on top of the life line, or (3) also allowed by the exception, auxiliary equipment (e.g., shipboard lift or bosun's chair) could be provided which will facilitate safe movement onto the vessel.

S1.2 Clear Deck Spaces - Required Number. Clear deck spaces, each 30 inches (760 mm) minimum by 48 inches (1220 mm) minimum, shall be provided in accordance with Table S1.2 and shall be dispersed among vessel program areas. Where more types of program areas exist than clear deck spaces are required by Table S1.2, each type of program area shall contain at least one clear deck space. Each clear deck space required by this section shall be provided with a tie-down system which complies with S3.

EXCEPTION 1. Not more than fifty percent of the requirement may be met with transfer seats complying with S4.

EXCEPTION 2. Vessels less than 65 feet (19.8 m) LOD may substitute one transfer seat complying with S4 for each clear deck space where providing the clear deck space is not structurally feasible.

EXCEPTION 3. This section does not apply to spaces reachable only by vertical or inclined ladders.

Table S1.2 Clear Deck Spaces

Passenger capacity of vessel	Minimum Number
50 or less	2
51 to 100	4
101 to 149	6

Advisory S1.2 - Type of program area refers to locations where each business service offered to passengers occurs. For example, a fishing program area in the bow or along the sides of the vessel is the same type of fishing area at the stern of the vessel. For a vessel providing overnight trips, one passenger stateroom would be the same type of program as another passenger stateroom.

S1.3 Toilet Rooms (Heads). Where at least one toilet room (head) is provided on the deck containing a program area, or on a deck connected by an accessible route complying with S5 to an accessible vessel entry point, at least one toilet room on board the vessel shall comply with the following provisions.

a. The entry door shall have a clear width of 32 inches (815 mm) minimum. The door shall be capable of being opened and closed by the occupant. If locking or latching hardware is provided, it must comply with S5.2.3. A maneuvering space 48 inches (1220 mm) minimum in depth and 80 inches (2030 mm) minimum in width shall be provided outside the entry door (see figure on page 94).

EXCEPTION: Where the entry door has a clear width of 42 inches (1065 mm) minimum, the maneuvering space at the door shall be at least 32 inches (815 mm) by 48 inches (1220 mm).

b. A horizontal grab bar 24 inches (610 mm) minimum in length and located 33 inches (840 mm) to 36 inches (915 mm) above the finished deck surface shall be provided.

c. The horizontal grab bar shall be located on the opposite side of the water closet from the clear deck space.

d. The water closet shall have a height of 17 inches (430 mm) to 19 inches (480 mm) above the finished deck surface.

e. Clear deck space 30 inches (760 mm) minimum by 48 inches (1220 mm) minimum shall be provided adjacent to the water closet.

EXCEPTION 1. No access will be required in spaces reachable only by vertical or inclined ladders.

EXCEPTION 2. Section S1.3 does not apply to vessels less than 65 feet (19.8 m) LOD.

Example 1. A 70 foot LOD sailing vessel has a weather deck and provides a head on the second deck which is located below the weather deck and accessed by stairs. Under S1.3, the toilet room has to meet the technical requirements of this section if a program area is on the second deck. If no program area is on the deck containing the head and because no accessible route connects the second deck (it is connected by stairs), the toilet room (head) does not have to be accessible.

Example 2. A 60 foot LOD sailing vessel has a toilet room located on the deck which contains a program area. Under exception 2, a vessel less than 65 feet LOD does not have to comply with S1.3. Therefore, the toilet room on this 60 foot vessel is not required to meet S1.3 requirements.

S1.4 Accessible Route. At least one accessible route complying with S5 shall connect each element (for example, transfer seat and clear deck space) and space (for example, toilet room) required by S1 to be accessible with the accessible entry/departure point.

EXCEPTION 1. Where providing an accessible route is not structurally or operationally feasible, a transfer system complying with S10 may be provided instead of the accessible route.

EXCEPTION 2. The accessible route is not required to connect elements and spaces required to be accessible, which are connected only by one or more vertical or inclined ladders.

EXCEPTION 3. Vessels less than 80 feet (24.4 m) LOD may replace all or portions of the accessible route with a transfer system complying with S10.

EXCEPTION 4. Where a deck or deck level is less than 300 square feet (28 m^2), a transfer system complying with S10 may be used instead of all or portions of an accessible route to connect the elements and spaces which are required to be accessible on that deck.

EXCEPTION 5. Accessible routes that comply with the accessible route provisions for subchapter K and H vessels may be used in lieu of S5 requirements.

S2 Small Power Vessels. Self-propelled passenger vessels having engines and (1) not principally equipped for propulsion by sail, (2) classified as Subchapter C or Subchapter T vessels, or are less than 100 gross tons and not classified as subchapter K vessels, and (3) meeting at least two of the following three factors shall comply with the small passenger power vessel requirements in sections S2.1 through S2.4.

a. Length on deck of the vessel is 65 feet (19.8 m) or less;

b. Maximum beam of the vessel is 16 feet (4875 mm) or less;

c. On the vessel's main deck, each of the following three areas is 750 square feet (70 m^2) or less in size:

- weather deck,
- major program area, and
- the boarding deck.

EXCEPTION: Square footage containing employee only areas, ship's gear, machinery, and cabin trunks shall not be included in determining the size of the above three areas.

Example. A 70 foot LOD subchapter T dinner boat has a maximum beam of 15 feet. On the main deck, the weather deck is 50 sq. ft., the major program area is 800 sq. ft., and the boarding deck is 20 sq. ft. The vessel would not be classified as a small passenger vessel, because only one of the three factors was met (i.e., the maximum beam is 15 feet). Therefore, the vessel would have to meet the new construction requirements for subchapters H or K.

S2.1 Embarkation/Debarkation. At least one entry/departure point to the vessel shall have a minimum clear width of 32 inches and shall be provided through bulwarks, lifelines, deck rails, and toe rails, where such features are provided. An onboard maneuvering space shall be provided which is either (1) 60 inches (1525 mm) minimum by 60 inches (1525 mm) minimum or (2) 42 inches (1065 mm) minimum in depth and starting at one side of the opening and extending 80 inches (2030 mm) minimum in width

across the opening (see figure on page 94). A door is permitted to be located in the opening through such features and such features are permitted to be readily removable to provide a clear passage for transfer purposes.

EXCEPTION: Vessels 30 feet (9145 mm) LOD or less may have a transfer platform 22 inches (560 mm) wide minimum to facilitate movement onto the vessel instead of the opening.

S2.2 Clear Deck Spaces - Required Number. Clear deck spaces, each 30 inches (760 mm) minimum by 48 inches (1220 mm) minimum, shall be provided in accordance with Table S2.2 and shall be dispersed among vessel program areas. Where more types of program areas exist than clear deck spaces are required by Table S2.2, each type of program area shall contain at least one clear deck space. Each clear deck space required by this section shall be provided with a tie-down system which complies with S3.

EXCEPTION 1. Not more than fifty percent of the requirement may be met with transfer seats complying with S4.

EXCEPTION 2. If providing a clear deck space is not structurally or operationally feasible, a transfer platform and transfer seat complying with S4 may be provided instead each clear deck space.

EXCEPTION 3. Vessels 30 feet (9145 mm) LOD or less may have a transfer seat complying with S4 in the vessel instead of the clear deck space.

EXCEPTION 4. This section does not apply to spaces reachable only by vertical or inclined ladder.

Table S2.2 Clear Deck Spaces

Passenger capacity of vessel	Minimum Number
50 or less	2
51 to 100	4
101 to 149	6

S2.3 Toilet Rooms (Heads). Where one or more passenger toilet rooms (heads) are provided on a passenger vessel, at least one toilet room complying with the following provisions shall be provided.

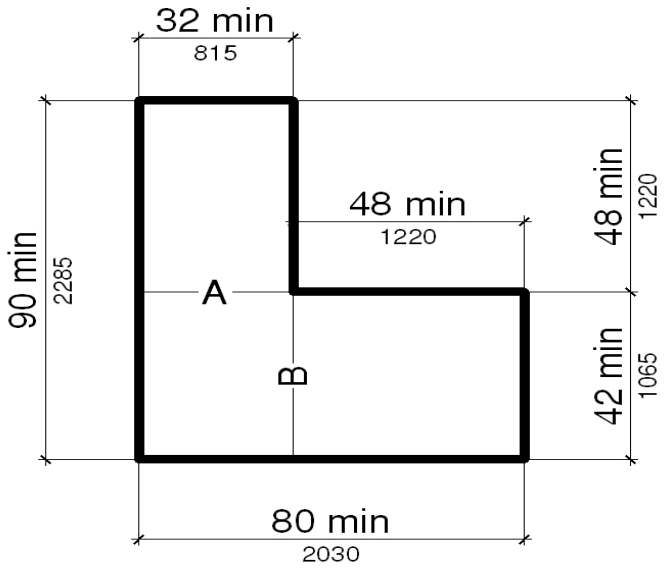
a. The entry door shall have a clear width of 32 inches (815 mm). The door shall be capable of being opened and closed by the occupant. If locking or latching hardware is provided, it must comply with S5.2.3. A maneuvering space 48 inches (1220 mm) minimum in depth and 80 inches (2030 mm) minimum in width shall be provided outside the entry door (see figure on page 94).

EXCEPTION 1. Where the entry door has a clear width of 42 inches (1065 mm) minimum, the maneuvering space at the door shall be at least 32 inches (815 mm) by 48 inches (1220 mm).

EXCEPTION 2. This section does not apply to vessels 48 feet (14.6 m) LOD or less.

b. A horizontal grab bar 24 inches (610 mm) minimum in length and located 33 inches (840 mm) to 36 inches (915 mm) above the finished deck surface shall be provided.

EXCEPTION: This section does not apply to vessels 48 feet (14.6 m) LOD or less.



NOTE: A and B = Door Locations

L-Shaped Space

c. The horizontal grab bar shall be located inside the toilet room door and adjacent to the water closet.

d. The water closet shall have a height of 17 inches (430 mm) to 19 inches (480 mm) above the finished deck surface.

e. Clear deck space 30 inches (760 mm) minimum by 48 inches (1220 mm) minimum shall be provided adjacent to the water closet.

S2.4 Accessible Route. At least one accessible route complying with S5 shall connect each element (for example, transfer seat and clear deck space) and space (for example, toilet room) required by S1 to be accessible with the accessible entry/departure point.

EXCEPTION 1. This section does not apply to vessels less than 30 feet (9145 mm) LOD.

EXCEPTION 2. The accessible route is not required to connect elements and spaces required to be accessible, but only connected by one or more vertical or inclined ladders.

EXCEPTION 3. Where a deck or deck level is less than 300 square feet (28 m^2), a transfer system complying with S10 may be used instead of all or portions of an accessible route to connect the elements and spaces which are required to be accessible on that deck.

EXCEPTION 4. Accessible routes that comply with the accessible route provisions for subchapter K and H vessels may be used in lieu of S5 requirements.

S3 Tie-Downs. Clear deck spaces required by S1 or S2 to have a tie-down systems shall comply with the following provisions:

a. Each tie down system will consist of four d-rings securely fastened to the deck;
b. Lashings shall be provided to secure the wheelchair to the d-rings;
c. Provisions for securing the passenger in their wheelchair shall be provided; and
d. The securing of passengers with disabilities shall be accomplished in a prudent and seamanlike manner.

Comment: Quantitative performance criteria should be researched and/or developed.

S4 Transfer Seat. Transfer seats required by S1 or S2 shall be 14 inches (355 mm) minimum to 18 inches (455 mm) maximum in depth and 24 inches (1065 mm) minimum in length. Seats shall be fixed and shall have back support. Back support shall be 24 inches (610 mm) minimum in length and shall extend from a point 2 inches (50 mm) maximum above the seat to a point 18 inches (455 mm) minimum above the seat. Transfer seats shall be provided with a means of securing the occupants in the seats, such as a lap belt.

S5 Small Vessel Accessible Routes (Technical).

S5.1 (403) Walking Surfaces.

S5.1.1 (403.2) Deck Surface. Deck surfaces that are part of an accessible route and accessible spaces shall be stable, firm, and slip resistant.

S5.1.2 Slope and Cross Slope. Deck surfaces that are part of an accessible route shall have a slope of 1:48 maximum in all directions.

EXCEPTION: Slopes may exceed 1:48 due to camber or sheer or design trim.

S5.1.3 Width. Accessible routes shall have a minimum clear width of 32 inches (815 mm).

S5.1.4 Openings. Openings in deck surfaces that are part of an accessible route shall be of a size that does not permit passage of a 1 inch (25 mm) diameter sphere.

S5.2 (404) Doors and Doorways. Doors and doorways on accessible routes shall comply with S5.2.
EXCEPTION: S5.2 shall not apply to vessels less than 45 feet (13.7 m) LOD.

S5.2.1 (404.2.3) Clear Width. Doorways shall have a clear opening of 32 inches (815 mm) exclusive of hardware.

S5.2.2 (404.2.4) Thresholds. In doors without coamings, thresholds, if provided, at doorways shall be ½ inch (13 mm) beveled or 1/4 inch (6 mm) unbeveled maximum in height.

S5.2.3 (404.2.7) Door Hardware. Handles, pulls, latches, locks and other operable parts of accessible doors shall be operable with one hand and shall not require tight grasping or pinching. The force required to activate them shall be 5 lbs (22.2N) maximum. Handles, pulls, latches and other operable parts of accessible doors shall be 34 inches (865 mm) minimum and 44 inches (1120 mm) maximum above the finished deck surface. When sliding doors are in the fully open position operating hardware shall be exposed and operable from both sides.

EXCEPTION: The activation force shall not apply to the actual sliding of sliding doors.

S5.2.4 (404.2.11) Vision Lights. Doors and sidelights adjacent to doors, containing one or more glazing panels that permit viewing through the panels shall have the bottom of at least one glazed panel located 43 inches (1090 mm) maximum above the finished deck surface.

S5.3 (307) Protruding Objects.

S5.3.1 (307.1) General. Protruding objects along an accessible route shall comply with S5.3.

EXCEPTION 1. S5.3 shall not apply to sailing vessels less than 80 feet (24.4 m) LOD.

EXCEPTION 2. S5.3 shall not apply to power vessels less than 48 feet (14.6 m) LOD.

S5.3.2 (307.2) Protrusion Limits. Objects with leading edges located more than 27 inches (685 mm) and not more than 80 inches (2030 mm) above the finished deck surface shall protrude from the bulkhead 4 inches (100 mm) maximum into the accessible route.

EXCEPTION: Handrails serving stairs or ramps shall protrude 4-1/2 inches (115 mm) maximum from the bulkhead.

S5.3.3 (307.3) Post-Mounted Objects. Free standing objects mounted on posts or pylons shall overhang 12 inches (305 mm) maximum when located 27 inches (685 mm) minimum and 80 inches (2030 mm) maximum above the finished deck surface. Where a sign or other obstruction is mounted between posts or pylons and the clear distance between posts or pylons is greater than 12 inches (305 mm), the lowest edge of such sign or obstruction shall be 27 inches (685 mm) maximum and 80 inches (2030 mm) minimum above the finished deck surface.

EXCEPTION: This requirement shall not apply to sloping portions of handrails serving stairs or ramps.

S5.3.4 (307.4) Reduced Vertical Clearance. Guardrails or other barriers shall be provided where vertical clearance is less than 60 inches (1525 mm) above the finished deck surface.

S5.3.5 (307.5) Requires Clear Width. Protruding objects shall not reduce clear width required for accessible routes.

S5.4 Brows and Gangways.

S5.4.1 Brows. Brows used for embarkation and debarkation shall comply with this section.

S5.4.1.1 Width. Brows shall be 36 inches (915 mm) wide minimum.

S5.4.1.2 Edge Protection. Brows shall have an edge protection no less than 2 inches (50 mm) from the walking surface of the brow.

S5.4.1.3 Slope. Brows to the vessel shall provide a slope no greater than 1:12.
EXCEPTION: The 1:12 slope may be exceed when the vertical height is less than 9 inches as in Table 1.

Table 1

Vertical Height	Slope
3 inches or less	1:4
3 - 6 inches	1:6
6 - 9 inches	1:8

S5.4.1.4 Personnel Lift. Where a brow slope exceeds 1:12, a personnel lift other than a wheelchair lift may be substituted.

S5.4.2 Gangways. Gangways used for embarkation and debarkation shall comply with 1005 (see chapter 2 of this report).

S5.4.3 Transition Plates. Transition plates shall comply with 1006 (see chapter 2 of this report).

S6 Means of Escape

S6.1 (207.2) Number Required. All spaces required to be accessible shall be provided with not less than one accessible means of escape complying with Coast Guard requirements. Where more than one means of escape is required by the Coast Guard from any accessible space, each accessible space shall be served by not less than two accessible means of escape. Each required accessible means of escape shall comply with S5 and shall be a continuous and unobstructed way of exit travel to an area of refuge complying with Coast Guard requirements, then, if applicable, to mustering and lifeboat embarkation locations, or alternatively to the point of disembarking the vessel.

EXCEPTION: Where a required means of escape is permitted by the Coast Guard to: include a ladder, go through a window, or go through a deck scuttle, the corresponding means of escape is not required by this section.

S7 Not Used.

S8 Not Used.

S9 Not Used.

S10 Transfer System

Comment: Concept and dimensions for the transfer system provisions in S10 came from the Access Board's proposed rule on playground access which allows a transfer system to provide some degree of access around play areas with less than 20 elevated play components.

S10.1 General. Transfer systems permitted to replace all or portions of a required accessible route shall comply with S10. Transfer systems are permitted to be portable or fixed.

S10.2 Transfer Platform. A transfer platform complying with 10.2.1 through 10.2.3 shall be located at the beginning and end of a transfer system.

EXCEPTION: Except at any entry/departure point which is required to be accessible, a transfer seat complying with S4 may be used instead of a transfer platform.

S10.2.1 Size. Transfer platforms shall have a surface 14 inches (335 mm) minimum in depth and 24 inches (610 mm) minimum in width.

S10.2.2 Clear Deck Space. Each transfer platform and transfer seat shall be provided with at least one adjacent clear deck space which is 30 inches (760 mm) minimum by 48 inches (1220 mm) minimum.

EXCEPTION 1. This section does not apply to transfer platforms which are used at an accessible entry/departure point and are connected to transfer steps.

EXCEPTION 2. This section does not apply to transfer seats used also to meet the requirements of S1.2 and S2.2.

S10.2.3 Height. Where clear deck space is required, the surface of the transfer platforms and transfer seats required by 10.2 shall be 11 inches (280 mm) minimum to 18 inches (455 mm) maximum above the finished deck surface containing the required adjacent clear deck space.

S10.3 Transfer Step. Where a transfer system provides vertical movement, transfer steps shall be provided between transfer platforms and transfer seats required by 10.2. Such transfer steps shall have a surface 14 inches (335 mm) minimum in depth and 24 inches (610 mm) minimum in width, and shall have a riser height of 8 inches (205 mm) maximum.

Communications. No hardware standard adopted.

NOTE: THIS REPORT IS A SET OF RECOMMENDATIONS FROM THE PASSENGER VESSEL ACCESS ADVISORY COMMITTEE TO THE US ACCESS BOARD. ANY PROPOSED RULE CONCERNING PASSENGER VESSEL ACCESS WILL BE MADE THROUGH THE FEDERAL RULEMAKING PROCESS. THIS REPORT IS NOT PART OF ANY RULEMAKING.

Chapter 13 US Coast Guard CFR Report

Part I Coast Guard CFR and SOLAS provisions which conflict with provisions in the ADAAG Review Advisory Committee Report (ADAAG-R).

Part II ADAAG-R provisions which may be problematic if applied to passenger vessels due to similar CFR or SOLAS provisions.

Part III Other subcommittee comments.

Index Completion of Coast Guard's initial review. References Part I through Part III.

Part I

The following sections from the Coast Guard's CFR, subchapters H and K, and SOLAS conflict with sections from the ADAAG Review Advisory Committee report (ADAAG-R).

Conflict 1 EGRESS ELEVATORS - ADAAG-R 207.2 requires that in certain situations at least one accessible means of egress shall be an elevator. In subchapter H, CFR 72.10-5(b) does not allow elevators to be used as a required means of escape. This conflict does not appear in subchapter K.

Coast Guard CFR Section

Subpart 72.10 Means of Escape

72.10-1 Application.

72.10-5 Two means required.

(a) There shall be at least two means of escape from all general areas accessible to the passengers or where the crew may be quartered or normally employed. At least one of these two means of escape shall be independent of watertight doors. For stairway continuity and general requirements for stairways see Sec.72.05-20.

(b) Elevators shall not be considered as one of the required means of escape.

(c) Stairways serving only a space and a balcony to a space shall not be considered as one of the required means of escape.

SOLAS Section

II-2-28.1.2 Means of Escape - Above the bulkhead deck there shall be at least two means of escape from each main vertical zone or similarly restricted space or group of spaces at least one of which shall give access to a stairway forming a vertical escape.

II-2-28.4 In no case shall lifts be considered as forming one of the required means of escape.

ADAAG Review Report Section

207 Accessible Means of Egress

207.1 General. All accessible spaces shall be provided with not less than one accessible means of egress. Where more than one means of egress is required from any accessible space, each accessible portion of the space shall be served by not less than two accessible means of egress. Accessible means of egress shall comply with 409.

EXCEPTIONS. 1. Areas of refuge are not required in buildings or facilities protected throughout by a supervised automatic sprinkler system.

2. Areas of refuge are not required in open parking garages.

3. Accessible means of egress and areas of refuge are not required in alterations to existing buildings.

207.2 Elevators. In buildings where a required accessible floor is four or more stories above or below a level of exit discharge, at least one required accessible means of egress shall be an elevator complying with 409.3.

207.3 Signs. At exit stairways and elevators serving a required accessible space, but not serving as an accessible means of egress, directional signs indicating the location of accessible means of egress shall be provided. Such signs shall comply with 703.4.

Conflict 2 COAMING - 46 CFR 116.1160(d) and 171.122(f) set coaming heights at 3 to 6 inches at some exterior doors. ADAAG-R 404.2.5 limits thresholds at doors required to be accessible to ½ inches high maximum, and 303.4 requires changes in level greater than ½ to be ramped.

Coast Guard CFR Sections

116.1160 Watertight integrity.

(d) A weathertight door must be provided for each opening located in a deck house or companionway. Permanent watertight coamings must be provided as follows:

(1) On a vessel on an exposed or partially protected route, a watertight coaming with a height of at least 150 millimeters (6 inches) must be provided under each weathertight door in a cockpit or a well, or on the main deck of a flush deck vessel.

(2) On a vessel on a protected route, a watertight coaming with a height of at least 75 millimeters (3 inches) must be provided under each weathertight door in a cockpit or a well.

(3) The height of the watertight coaming for a hinged watertight door, need only be sufficient to accommodate the door.

171.122 Watertight integrity above the margin line in a vessel of 100 gross tons or more.

(f) Each opening in an exposed weather deck must--

(1) Have a coaming that complies with the height requirements in table 171.124(d); and

(2) Have a means for closing it weathertight.

Table 171.124(d)

Route	Height of coaming
Exposed or partially protected	6 inches (15.2 centimeters
Protected	3 inches (7.6 centimeters

SOLAS Section

II - 1-20.2 All openings in the exposed weather deck shall have coamings of ample height and strength and shall be provided with efficient means for expeditiously closing them weathertight.

ADAAG Review Report Sections

206.5 Doors and Doorways. Accessible doors and doorways shall be provided in accordance with 206.5.1 and 206.5.2 and shall comply with 404.

206.5.1 Accessible Entrances. Each accessible entrance to a building or facility shall have at least one accessible door or doorway.

206.5.2 Accessible Rooms and Spaces. Within a building or facility, at least one door or doorway serving each accessible room or space shall be accessible.

404 Doors and Doorways

404.2.5 Thresholds. Thresholds if provided at doorways shall be ½ inch (13 mm) maximum in height. Raised thresholds and changes in level at doorways shall comply with 302 and 303.

302 Floor or Ground Surfaces

302.1 General. Floor and ground surfaces shall be stable, firm, and slip resistant and shall comply with 302.

302.2 Carpet. Carpet or carpet tile shall be securely attached and shall have a firm cushion, pad, or backing or no cushion or pad. Carpet or carpet tile shall have a level loop, textured loop, level cut pile, or level cut/uncut pile texture. Pile height shall be ½ inch (13 mm) maximum. Exposed edges of carpet shall be fastened to floor surfaces and shall have trim along the entire length of the exposed edge. Carpet edge trim shall comply with 303.

302.3 Openings. Openings in floor or ground surfaces shall be of a size that does not permit passage of a ½ inch (13 mm) diameter sphere, except as allowed in 407 and 408. Elongated openings shall be placed so that the long dimension is perpendicular to the dominant direction of travel.

303 Changes in Level

303.1 General. Where changes in level are permitted in floor or ground surfaces, they shall comply with 303.

303.2 Vertical. Changes in level of 1/4 inch (6.4 mm) high maximum shall be permitted to be vertical.

303.3 Beveled. Changes in level between 1/4 inch (6.4 mm) high minimum and ½ inch (13 mm) high maximum shall be beveled with a slope not steeper than 1:2.

303.4 Ramps. Changes in level greater than ½ inch (13 mm) high shall be ramped, and shall comply with 405 or 406

Part II

During the review of subchapters H and K of the Coast Guard's CFR and SOLAS, the following sections from the ADAAG Review Advisory Committee report (ADAAG-R) have been identified as being problematic. For example, in some situations, compliance with CFR or SOLAS minimum standards may result in non-compliance with ADAAG-R. The applicable sections have been noted below. In some cases, cryptic notes have been provided indicating some of the requirements. Page numbers from the ADAAG-R have also been provided.

1) CFR for Subchapter H and K requires instructions, markings, and alarms (in some cases) for controls of typically crew operated fire fighting systems. Such controls may be located in spaces open to passengers. Mounting heights and operating requirements, signage requirements, and visual and audible alarm requirements of ADAAG-R may be problematic if applied.

46 CFR

76.15-10	Controls - Carbon Dioxide Extinguishing Systems
76.17-10	Controls - Foam Extinguishing Systems
76.23-15	Controls - Manual Sprinkler System
76.25-25	Controls - Automatic Sprinkler System
118.400	Fire Protection Equipment
118.410	Fixed Gas Fire Extinguishing Systems
118.420	Pre-engineered Fixed Gas Fire Extinguishing Systems
120.550	General Alarm Systems

ADAAG-R

205.1	Controls and Operating Mechanisms - Scoping (p7)
309	Mounting Heights, Operating Force (48" max., 5 lbs force max.)(p21)
216.3	Directional and Informational Signs - Scoping (p12)
703.4	Visual Characters (p52)
215	Fire Alarm Systems (visual and audible alarms) - Scoping (p11)
702	Fire Alarm Systems (p47)

2) In some situations, ADAAG-R will require wider openings at doors to stairways, wider stair treads, reduced stair inclinations and higher handrail/mounting heights, than the CFR and SOLAS. Generally, crew-only areas are allowed by the CFR and SOLAS to have narrower doors/stairs and steeper stairs then passenger areas.

46 CFR

72.05-20(p)	Stair tread width and angle of inclination (24" min., 55 degree max.)
72.05-20(s)	Clear opening of doors to stairways (28" min.)
72.05-20 (k)	Mounting height for handrails (33" above nosing)
116.433 (n)(3)	Stair tread width (36" min)
116.438 (h)	Riser/Tread Combined Dimensions (17" min., 18" max. combined)
116.438 (i)	Landings for Stairways and Stairtowers

SOLAS

II-2-28.5.4	Angle of inclination shall not be > 45 degrees

ADAAG-R

207.1	General. Accessible Means of Egress - Scoping (p9)
409.2	Exit Stairways (48" min. between handrails) (p33)
210	Stairways - Scoping (p10)
504.2	Tread and Risers (4" - 7" riser/11" min. tread, < 33 degrees) (p36)
206.5	Doors and Doorways - Scoping (p8)
404.2.3	Clear Width (32" min.) (p23)
505.4	Mounting height for handrails (34" - 38" above nosing)
304	Wheelchair Turning Space (60" circle or "T" shaped space) (p19)

3) For wheelchair seating in assembly areas, ADAAG-R will require wider aisle width than the Subchapter K CFR requires for aisle widths when passenger seating is available. Size depends on length of aisle. When seats are in rows, distance from seat front to seat front must not be less than 30".

CFR

116.820	Seating in passenger accommodations (aisle < 15' - min width 24", aisle > 15' - min width 30")

ADAAG -R

221	Wheelchair Spaces in Assembly Seating - Scoping (p13)
802	General. Wheelchair Spaces in Assembly Areas (p59)
802.3	Width (single space 36", multiple adjacent spaces 33" min.) (p59)
802.4	Depth (space w/front or rear entrance 48" min., space w/side entrance 60" min.)(p59)
802.7	Companion Seating (one companion seat per wheelchair space) (p59)
206	Accessible Route - Scoping (p7)
402	Accessible Route (p23)
403.5	Clear Width (36" min.) (p23)

4) ADAAG-R requirements for Accessible Route, Parking Spaces and Passenger Loading Zones should be considered when Subchapter K CFR requirement states that the Master shall ensure that vehicles are distributed for stability.

CFR

122.340 (d)	Vessels carrying vehicles

ADAAG -R

206	Accessible Route - Scoping (p7)
402	Accessible Route (p23)
208	Parking Spaces - Scoping (p9)
502	Parking Spaces (p35)
209	Passenger Loading Zones - Scoping (p10)
503	Passenger Loading Zones (p35)

5) For Passenger/overnight accommodations for Subchapter K, ADAAG-R requirements for lodging, clear floor or ground space, and maneuvering clearance must be addressed.

CFR

116.810(c) - Passenger/overnight accommodations (aisle between berths must be 24" min.)

ADAAG-R

224	Transient Lodging Guest Rooms - Scoping (p15)
805.1	Transient Lodging Guest Rooms (p60)
305	Clear Floor or Ground Space (30" min. by 48" min.) (p19)
305.7	Maneuvering Clearance (60" circle or "T" shaped space) (p20)

6) For Subchapter K vessels, a ladder leading to a deck scuttle may not be used as a means of escape except when a vessel is less than 65' in length. For vessels less than 65' in length, a vertical ladder and deck scuttle or window may be used as one of the means of escape from a passenger accommodation space providing that each ladder is mounted at least 7" from the nearest permanent object in back of the ladder. ADAAG requirements for Accessible Means of Egress (Sec 409) must be addressed for this size vessel.

CFR

116.500(k) and (l)	Space accessible to passengers or used by crew on a regular basis must have two means of escape except when vessel is less than 65' in length.

ADAAG-R

409	Accessible Means of Egress (p33)

Part III

During the review of the Coast Guard's CFR subchapters H and K, and SOLAS, the following comments were made by subcommittee members.

1) ADAAG-R has specific requirements for handrails and edge protections on stairs and ramps. CFR for subchapters H and K also require guard rails, deck rails and storm rails in certain situations. ADAAG's underlying safety and accessibility issues should be considered when complying with CFR requirements for guard rails, deck rails and storm rails.

CFR

116.900	Deck Rails, 116.920 Storm Rails, 116.940 Guard Rails in Vehicle Spaces - Subchapter K
72.40-5	Where Rails Required - Subchapter H
72.40-10	Storm Rails - Subchapter H

ADAAG-R

505	Handrails (p36)

2) General alarms and other communication should be accessible for persons who are deaf or have hearing impairments.

CFR

76.15-30	Alarms - Spaces protected by CO2 systems shall be fitted with audible alarm. Subchapter H

SOLAS

II-2-36.1.1	Fixed Fire Detection & Fire Alarm Systems -- T Boat only audible
II-2-37.1.4.1	Protection of Special categories -- fire alarm -- vehicle carrying vessel only audible only.
II-2-40.5	Public Address Systems or other means of communication shall be available throughout the accommodation and service spaces and control stations and open decks.
III-8.2	Clear instructions to be followed in the event of an emergency shall be provided for every person on board.
III-50	General Emergency Alarm System -- The system shall be audible.

ADA AG-R

Chapter 7	Communication Elements and Features (p 47)

3) All critical communications such as posted emergency instructions and warning signs must be available in accessible formats for persons with visual impairments. In addition, all general communication must be accessible as well.

CFR

122.506	Emergency Broadcast Placard Subchapter K

SOLAS

II-2-28-1.1.6	Numbering of decks
II-2-28-1.1.7	Signage for escape routes on Ro-Ro vessels - simple mimic plans showing “you are here” signage position and escape routes marked by arrows, shall be prominently displayed on the inside of each cabin door and cabin spaces.
III-8.4	Illustrations and instructions in appropriate languages shall be posted in passenger cabins and be conspicuously displayed at muster stations and other passenger spaces to inform passengers of: 1. Muster station; 2 the essential actions they must take in an emergency; 3. The method of donning life jackets.

ADAAG-R

Chapter 7	Communication Elements and Features (p 47)

4) ADAAG-R has specific requirements for kitchen, kitchenettes and wet bars. These requirements may apply to cooking equipment requirements for Subchapter K vessels.

CFR

121.220(d)	Grab rails must be installed on a cooking appliance when determined by cognizant OCMI to be necessary for safety.

ADAAG-R

805.2.5	Kitchens, Kitchenettes and Wet Bars (p 60)

NOTE: THIS REPORT IS A SET OF RECOMMENDATIONS FROM THE PASSENGER VESSEL ACCESS ADVISORY COMMITTEE TO THE US ACCESS BOARD. ANY PROPOSED RULE CONCERNING PASSENGER VESSEL ACCESS WILL BE MADE THROUGH THE FEDERAL RULEMAKING PROCESS. THIS REPORT IS NOT PART OF ANY RULEMAKING.

ADAAG/Coast Guard Comparison Index

46 CFR Subchapter H, Parts 70 - 80 (Passenger Vessels) **April 23, 1999**
(Greater than 100 gross tons with more than 12 pax)

ADAAG	CFR	CONFLICT
407 Elevators	72.05-20 Stairways, Ladders and Elevators	See Part I, Item #1
505.4 Handrail (Height)	72.05-20(k)	See Part II, Item #2
504.2 Stairways (Treads and Risers)	72.05-20(o)	See Part II, Item #2
504.4 Stairways (Tread Surface)	72.05-20(p)	See Part II, Item #2
409.2 Accessible Means of Egress	Table 72.05-20(p)	See Part II, Item #2
404 Doors and Doorways	72.05-20 (s)	See Part II, Item #2
404 Doors and Doorways	72..05-25(a)(1),(9)(i) Doors, Other than Watertight	See Part I, Item #2
805.2.6 Wheelchair Spaces in Assembly Areas	72.05-30(d), (e) Windows and Airports	No apparent conflict
409 Accessible Means of Egress	72.10 Means of Escape	See Part 1, Item #1
409 Accessible Means of Egress	72.10-5 Two Means Required	See Part 1, Item #1
409 Accessible Means of Egress	72.10-10 Location	No apparent conflict
409 Accessible Means of Egress	72.10-15 Vertical Ladders Not Acceptable	No apparent conflict
409 Accessible Means of Egress	72.10-20 No Means for Locking Door	No apparent conflict
409 Accessible Means of Egress	72.10-25 Stairway Size	No apparent conflict
409 Accessible Means of Egress	72.10-35 Public Spaces	No apparent conflict
409 Accessible Means of Egress	72.10-40 Access to Lifeboats	No apparent conflict
409 Accessible Means of Egress	72.10-45 Weather deck Communication	No apparent conflict
805 Transient Lodging Guest Rooms	72.20 Accommodations for Officers and Crew	hold - crew
805.2.3 Transient Lodging Guest Rooms	72.20-20 Sleeping Accommodations	hold - crew
805.2.5.1 Transient Lodging Guest Rooms	72.20-20 Sleeping Accommodations	hold - crew
601 Plumbing Elements	72.20-25 Washrooms and Toilet Rooms	hold - crew
805.2.4 Transient Lodging Guest Rooms	72.20-25 Washrooms and Toilet Rooms	hold - crew
804 Medical Care Facility	72.20-35 Hospital Space	No apparent conflict
611 Laundry Equipment	72.20-40 Other Spaces	hold - crew

ADAAG	CFR	CONFLICT
803 Dressing, Fitting and Locker Rooms	72.20-40 Other Spaces	hold - crew
601 Plumbing Elements	72.25-15 Passenger Accommodations	No apparent conflict
805 Transient Lodging Guest Rooms	72.25-15 Passenger Accommodations	No apparent conflict
405.8 Ramps (Handrails)	72.40-5 Where Rails Required	See Part III, Item #1
505 Handrails	72.40-5 Where Rails Required	See Part III, Item #1
405.8 Ramps (Handrails)	72.40-10 Storm Rails	See Part III, Item #1
506 Handrails	72.40-10 Storm Rails	See Part III, Item #1
702 Fire Alarm Systems	76.05-5 Manual Alarm Systems	No apparent conflict
702 Fire Alarm Systems	76.15-30 Alarms	See Part III, Item #2
702 Fire Alarm Systems	76.35-10 Location and Spacing of Manual Alarm Boxes	No apparent conflict
309 Controls and Operating Mechanisms	76.15-10 Controls for Carbon Dioxide Extinguishing Systems	See Part II, Item #1
309 Controls and Operating Mechanisms	76.17-10 Controls for Foam Extinguishing Systems	See Part II, Item #1
309 Controls and Operating Mechanisms	76.23-15 (a) Controls for Manual Sprinkling Systems	See Part II, Item #1
309 Controls and Operating Mechanisms	76.25-25(a) Controls for Automatic Sprinkling Systems	See Part II, Item #1
702 Fire Alarm Systems	78.47-3 General (Markings - Fire and Emergency Equipment)	See Part III, Item #3
703 Signs	78.47-3 General (Markings - Fire and Emergency Equipment)	See Part III, Item #3
705 Detectable Warnings	78.47-3 General (Markings - Fire and Emergency Equipment)	See Part III, Item #3
703 Signs	78.47-3 General (Markings - Fire and Emergency Equipment)	See Part III, Item #3
702 Fire Alarm Systems	78.47-7 General Alarm Bells	See Part III, Item #3
703 Signs	78.47-9 Carbon Dioxide Alarm	See Part III, Item #3
703 Signs	78.47-10 Manual Alarm Boxes	See Part III, Item #3
703 Signs	78.47-13 Fire Detecting and Manual Alarm, Automatic Sprinkler, and Smoke Detecting Alarm Bells	See Part III, Item #3

ADAAG	CFR	CONFLICT
703 Signs	78.47-15 Fire Extinguishing System Branch Lines	See Part III, Item #3
703 Signs	78.47-17 Fire Extinguishing System Controls	See Part III, Item #3
703 Signs	78.47-20 Fire Hose Stations	See Part III, Item #3
703 Signs	78.47-25 Emergency Squad Equipment	See Part III, Item #3
703 Signs	78.47-27 Self Contained Breathing Apparatus	See Part III, Item #3
703 Signs	78.47-30 Hand Portable Fire Extinguishers	See Part III, Item #3
703 Signs	78.47-33 Emergency Lights	See Part III, Item #3
703 Signs	78.47-35 Fire Doors	See Part III, Item #3
703 Signs	78.47-37 Watertight Doors	See Part III, Item #3
703 Signs	78.47-38 Valves and Closing Appliances	See Part III, Item #3
703 Signs	78.47-40 Exit Signs	See Part III, Item #3
703 Signs	78.47-45 Markings for Lifesaving Appliances, Instructions to Passengers, and Stowage Locations	See Part III, Item #3
703 Signs	78.47-53 Automatic Ventilation Dampers	See Part III, Item #3
703 Signs	78.47-55 Instructions for Changing Steering Gear	See Part III, Item #3
703 Signs	78.47-57 Rudder Orders	See Part III, Item #3
703 Signs	78.47-70 Portable Magazine Chests	See Part III, Item #3
703 Signs	78.47-75 Ventilation Alarm Failure	See Part III, Item #3
703 Signs	78.70-5 Warning Notice Posted	See Part III, Item #3

46 CFR, Subchapter K, Parts 114-122 (Small Passenger Vessels)
(Less than 100 gross tons carrying more than 150 pax or with overnight accommodations for more than 49 pax)

ADAAG	CFR	CONFLICT
106.5 Definitions (Area of Refuge)	114.400 Area of Refuge	No apparent conflict
106.5 Definitions (Alteration)	114.400 Major Conversion	To be determined
305 Clear Floor and Ground Space	115.113 Passengers Permitted (Number of)	No apparent conflict
402 Accessible Routes	115.113 Passengers Permitted (Number of)	No apparent conflict
403 Walking Surfaces	115.113 Passengers Permitted (Number of)	No apparent conflict
409 Accessible Means of Egress	115.113 Passengers Permitted (Number of)	No apparent conflict
802 Wheelchair Spaces in Assembly Areas	115.113 Passengers Permitted (Number of)	No apparent conflict
302 Floor and Ground Surfaces	116.425 Deck Coverings	No apparent conflict
805.2.6 Transient Lodging Guest Rooms	116.433(b), (d2), (e) Windows and Airports	No apparent conflict
404 Doors and Doorways	116.435 Doors	No apparent conflict
407 Elevators	116.438 Stairtowers, Stairways, Ladders and Elevators	See Part II, Item #2
505.4 Handrail (Height)	116.438(c)	See Part III, Item #1
505.4.2 Stairways (Treads and Risers)	116.438(g), (h), (n)	No apparent conflict
304 Wheelchair Turning Space	116.438(i)	See Part II, Item #2
403.5 Walking Surfaces	116.438(n)(2)(iii)(D)	No apparent conflict
409.2 Accessible Means of Egress	116.438(n)(3)	No apparent conflict
404 Doors	116.438(n)(3)	No apparent conflict
409 Accessible Means of Egress	116.500 Means of Escape	See Part II, Item #6
409 Accessible Means of Egress	116.510 Embarkation Stations	No apparent conflict
601 Plumbing Elements	116.700 Crew Spaces (General Requirements)	Hold - crew
804 Medical Care Facility	115.730 Crew Accommodations	Hold - crew
805 Transient Lodging Guest Rooms	116.730 Crew Accommodations	Hold - crew
805 Transient Lodging Guest Rooms	116.810 Overnight Accommodations (passengers)	See Part II, Item #5
402 Accessible Routes	116.820 Seating	See Part II, Item #3

ADAAG	CFR	CONFLICT
409 Accessible Means of Egress	116.820 Seating	See Part II, Item #3
802 Wheelchair Spaces in Assembly Areas	116.820 Seating	See Part II, Item #3
405.8 Ramp (Handrails)	116.900 Deckrails	See Part III, Item #1
505.4 Handrails	(1966 Intl. Convention on Load Lines)	See Part III, Item #1
505.4 Handrails	116.920 Storm Rails	See Part III, Item #1
505.4 Handrails	116.940 Guards in Vehicle Spaces	See Part III, Item #1
302 Floor and Ground Surfaces	116.1160 Watertight Integrity	See Part I, Item #2
303 Changes in Level	116.1160 Watertight Integrity	See Part I, Item #2
402 Accessible Routes	116.1160 Watertight Integrity	See Part I, Item #2
409 Accessible Means of Egress	116.1160 Watertight Integrity	See Part I, Item #2
905 Storage	117.68 Distress Flares and Smoke Signals	Hold - Crew
905 Storage	117.70(b)(2), (b)(3) Ring Life Buoys	Hold - Crew
905 Storage	117.78 Stowage of Life Jackets	Hold - Crew
409 Accessible Means of Egress	117.130 Stowage of Survival Craft	Hold - Crew
702 Fire Alarm Systems	118.400(e)(2), (f) Fixed Fire Extinguishing, Detecting Systems	Part II, Item #1
702 Fire Alarm Systems	118.420(b) Pre-Engineered Fixed Gas Fire Extinguished Sys.	Part II, Item #1
309 Controls and Operating Mechanisms	118.400(b)(5)(iii) Fixed Fire Extinguishing, Detecting Systems	Part II, Item #1
309 Controls and Operating Mechanisms	118.410(b) Fixed Gas Fire Extinguishing Systems	Part II, Item #1
309 Controls and Operating Mechanisms	181.420 Pre-Engineered Fixed Gas Fire Extinguishing Systems	Part II, Item #1
905 Storage	118.520 Installation and Location (Portable F/E)	Hold- Crew only
703 Signs	120.220(e) General Safety Provisions (Electrical)	
407 Elevators	120.540 Elevators	ANSI A17.1 Safety Code
702 Fire Alarm Systems	120.550 General Alarm Systems	Part II, Item #1
805.3 Transient Lodging Guest Rooms	120.550 General Alarm Systems	Part II, Item #1

ADAAG	CFR	CONFLICT
805.2.5 Transient Lodging Guest Rooms	121.200 General (Cooking and Heating)	See Part III, Item #4
609 Grab Bars	121.220 (d) Cooking Equipment	See Part III, Item #4
805.2.5 Transient Lodging Guest Rooms	121.200(d) Cooking Equipment	See Part III, Item #4
703 Signs	121.506 Emergency Broadcast Placard	See Part III, Item #3
703 Signs	121.510 Recommended Emergency Broadcast Instructions	See Part III, Item #3
706 Assistive Listening Systems	121.610 Public Address Systems	See Part III, Item #2
703 Signs	121.710 First Aid Kits	See Part III, Item #3
403 Walking Surfaces	122.340 Vessels Carrying Vehicles	See Part II, Item #4
502 Parking Spaces	122.340 Vessels Carrying Vehicles	See Part II, Item #4
503 Passenger Loading Zones	122.340 Vessels Carrying Vehicles	See Part II, Item #4
703 Signs	122.340 Vessels Carrying Vehicles	See Part II, Item #4
703 Signs	122.506 Passenger Safety Orientation	See Part III, Item #3
703 Signs	122.510 Emergency Instructions	See Part III, Item #3
703 Signs	122.512 Recommended Emergency Instruction Format	See Part III, Item #3
703 Signs	122.515 Passenger Safety Bill	See Part III, Item #3
703 Signs	122.516 Life Jacket Placards	See Part III, Item #3
703 Signs	122.518 Inflatable Survival Craft Placard	See Part III, Item #3
703 Signs	122.606 Escape Hatches and Emergency Exits	See Part III, Item #3
703 Signs	122.608 Fuel Shutoff Valves	See Part III, Item #3
703 Signs	122.610 Watertight Doors and Watertight Hatches	See Part III, Item #3
703 Signs	122.612 Fire Protection Equipment	See Part III, Item #3
703 Signs	122.614 Portable Watertight Containers for Distress Flares and Smoke Signals	See Part III, Item #3
706 Assistive Listening Systems	122.700(b) Operational Readiness	cannot find.

ADAAG to SOLAS (Chapters II-1, II-2, & III)
(Vessels on an international voyage carrying more than 12 passengers)

ADAAG	SOLAS	CONFLICT
Accessible Routes	II-20.2 Watertight Integrity above Margin Line "coamings of ample height."	See Part I, Item #2
Accessible Means of Egress	II-2-28.1.2 Means of Escape (vertical escape)	See Part I, Item #1
409.2 Exit Stairways	II-2-28.1.5.1 Means of Escape (stairways NLT 900mm)	No Apparent conflict
Signs	II-2-28-1.1.6 Escape Routes on Ro-Ro-Passenger Vessels	See Part III, Item #3
Signs	II-2-28-1-1.7 (deck numbers & you are here escape signs)	See Part III, Item #3
Accessible Means of Egress	II-2-28-1.2.2 Escape Routes on Ro-Ro Passenger Vessels (… climb NMT 2 decks ...)	No Apparent conflict
Fire Alarm Systems	II-2-36.1.1 Fixed Fire Detection & Fire Alarm Systems (only audible)	See Part III, Item #2
Fire Alarm Systems	II-2-37.1.4.1 Protection of Special Category Spaces (only audible)	See Part III, Item #2
Fire Alarm Systems	II-2-38.1 Protection of Cargo Spaces ... Motor Vehicles (only audible)	See Part III, Item #2
Assistive Listening Systems	II-2-40.5 Public Address Systems	See Part III, Item #2
Assistive Listening Systems	III-6.5 Public Address Systems	See Part III, Item #2
Signs	III-8 Muster List and Emergency Instructions	See Part III, Item #3
Fire Alarm Systems	III-50 General Emergency Alarm System	See Part III, Item #2
	* Regulation III-24-2.2 -- "Details of persons who have declared a need for special care or assistance in emergency situations shall be recorded and communicate to the master prior to departure."	