

Section 28

Watercraft and Dredging

This section sets forth the requirements for watercraft and dredging. The requirements for actual watercraft and dredging equipment are discussed, as well as the requirements for personnel performing such watercraft and dredging operations. Inspection, training, certification, and various operating activities are discussed in detail.

28.1 General Requirements for Watercraft Operations

28.1.1 Requirement. Construct all watercraft and perform all watercraft operations according to the requirements of these standards, as well as applicable U.S. Coast Guard (USCG), Department of the Interior, State, and local requirements.

28.1.2 Inspection and Certification. Inspect, certify, license, and number all watercraft and equipment according to applicable regulations of USCG and other jurisdictional entities before placing them in service.

28.1.3 Capacity Plates. Plainly mark on all watercraft the maximum occupancy and carrying capacity allowed onboard for safe passage (i.e., USCG maximum capacities). Do not exceed this maximum occupancy or carrying capacity.

28.1.4 Loading. Make sure each boat has enough room, freeboard, and stability to safely carry the maximum cargo and passengers under various weather and water conditions.

28.1.5 Flame Arresters. Equip gasoline engines, except for outboard types, with a USCG-approved backfire flame arrestor. Make sure the arrestor is attached to the air intake with a flame-tight connection. It must be kept clean and in serviceable condition.

28.1.6 Fire Extinguishers. For watercraft less than 65 feet in length, at least one USCG-approved fire extinguisher, rated 2-A:40-B:C or greater, must be carried onboard. Watercraft 65 feet or larger must carry sufficient fire extinguishers to meet USCG requirements. Watercraft with gasoline or liquid petroleum gas powerplants located in a compartment or confined location must have a fixed automatic carbon dioxide (or equivalent) fire-extinguishing system.

28.1.7 Ventilation. Watercraft with permanently installed gasoline engines must have powered ventilation systems to remove gasoline vapors from the vessel.

28.1.8 Fuel. Store fuel in approved containers suitable for marine use. Fuel lines must be equipped with a valve to cut off fuel flow. In addition, if the watercraft will not be in use for a period of 8 hours or longer, then the valve must be closed.

28.1.9 Navigation Lights. Watercraft must be able to display navigation lights required by USCG. Display navigation lights between sunset and sunrise and any other time visibility is reduced (fog, haze, rain, etc.).

28.1.10 Operator Training and Qualification. Reclamation employees and others who operate a Reclamation-owned watercraft must first be certified or licensed to operate watercraft in accordance with DOI 485 DM 22. Non-Reclamation employees who operate watercraft owned by others must be qualified in accordance with USCG, State, and local regulations.

28.1.11 Float Plans. If the operator expects watercraft activities to take longer than 4 hours from time of departure until time of return, a float plan must be prepared. The float plan must include the following information:

- Watercraft information (vessel make/model or local identifier)
- Personnel onboard
- Activity to be performed
- Expected time of departure, route, and time of return
- Means of communication (if any)

28.1.12 Personal Flotation Devices (PFD) Equip watercraft with one USCG-approved PFD for each occupant, and once USCG-approved throwable device onboard the watercraft. Wear a PFD whenever you are onboard a watercraft or working around bodies of water where a drowning hazard exists. Refer to the section on "Personal Protective Equipment."

28.1.13 Safety Equipment. Equip all watercraft with adequate safety equipment to meet USCG requirements and any hazards that may be encountered during normal operations.

28.1.14 Swimming. You must not swim from watercraft or any floating equipment unless you are a certified diver whose duties require such swimming.

28.2 Dredging Operations

28.2.1 Inspections. A qualified person must inspect dredges and related equipment before they are entered into service, and at least yearly thereafter, to make sure they are in safe operating condition. The inspector must have a recognized degree, certificate, or license, or professional standing, as well as extensive knowledge, training, and experience in solving problems related to the work. Inspections must be documented and accessible to personnel.

28.2.2 Maintenance and Repair. Before performing repair or maintenance work on the pump, suction, or discharge lines below the water line, or within the hull, in addition to the normal process of securing hoisting machinery, you must raise the ladder (or drag arm) above the water line and positively secure it. Set blank or block plates in suction or discharge lines as appropriate. Also see the section on "Control of Hazardous Energy (Lockout/Tagout)."

28.2.3 Pipeline Marking. Dredge pipelines that float or are supported on trestles must display appropriate lights at night and when visibility is restricted, in accordance with USCG regulations and 33 CFR 88.15.

28.2.4 Public Notification. Issue public notices where dredging activity may pose hazards to navigation or to the public.

28.2.5 Safety Plans. Prepare a comprehensive safety plan for each dredging operation. Make the plan location specific and include provisions for communications and emergency response.

28.2.6 Submerged Dredge Pipeline

- a. Where a pipeline crosses a navigation channel or other area subject to boat traffic, submerged pipeline must rest on the channel bottom. The top of the pipeline and any anchor securing the pipe must be no higher than the maximum draft of traffic expected in the area where pipe is placed.
- b. When buoyant or semibuoyant pipeline is used, the dredge operator must make sure the pipeline remains fully submerged and on the bottom. When raising the pipeline, warn boat traffic of the pipeline hazard. Adequately mark the entire length of the pipeline as required by the USCG.
- c. Mark the entire location of the submerged pipeline with signs, buoys, lights, or flags as required by USCG and as approved by the authority having jurisdiction.
- d. Conduct routine inspections of the submerged pipe to ensure anchorage.
- e. Remove all anchors and related materials when removing the submerged pipe.

28.2.7 Floating Pipeline. Floating pipeline is any pipeline not anchored on the channel bottom. Clearly mark floating pipeline, including rubber discharge hoses. Do not allow pipelines to fluctuate between the water surface and the channel bottom or to lie partially submerged.

- a. If floating pipelines are used as accessways, equip them with a walkway and handrail on one side. Personnel using the walkway or working on the pipeline must wear an approved PFD.

28.2.8 Dredge Design. Design dredges so that a failure or rupture of any of the dredge pump components (including dredge pipe) will not cause the dredge to sink.

a. Dredge Pumps. Any dredge with a dredge pump below the water line must have a bilge alarm or automatically shut down in the event of a pump leak.

b. Fall Protection. Provide guardrails, bulwarks, or taut cable guard lines for deck openings, elevated surfaces, or other locations where a person may slip or fall from them. Guardrails and taut cable guard lines must comply with the requirements for standard guardrails.

c. Walking and Working Surfaces

1. Provide anti-slip surfaces on all working decks, stair treads, vessel ladders, and other walking or working surfaces that may become wet during operations.
2. Remove obstructions in walking and working surfaces if possible. Where obstructions cannot be removed, post appropriate warning signs or distinctively mark them in accordance with section 9 and ANSI Z535.1.
3. Where the distance between the vessel and docks or landings exceeds 18 inches horizontal or 12 inches vertical, provide gangways. Gangways must be at least 22 inches wide, with standard railings, and be able to support 250 pounds (with a safety factor of 4:1) at its midpoint.

28.2.9 Relocation. A qualified person must directly supervise any mobilization, demobilization, or relocation of dredges, support barges, or other support equipment.