NOAA SMALL BOAT PROGRAM

Class III & SRV

Annual Inspection Book

Name of Boat:		
NOAA Number:		
Line Office:		
Date Completed:	**Location:**	
Route:		
☐ Oceans	☐ Coastwise	☐ Coastal Waters
☐ Lakes/Bays/Sounds	☐ Rivers	
Vessel Type:	☐ Class III	☐ SRV

Built Date:	Does the vessel ever carry non-government personnel defined in NAO 217-106	☐ Yes	☐ No
Overall Length (in feet):			
Maximum Number of Persons Allowed:			
Maximum Number of Overnight Accommodations:			
Inspectors:			

Rev. 08/12

Table of Contents:

Task 1: Administrative, Certificates, and Document Review

Step	Action	Ref
1.1	☐ Review previous Annual Inspection	
1.2	☐ Review Vessel Operations Manual content.	SBSPM Appendix E
1.3	☐ Review Vessel Risk Assessments ☐ Confirm Annual Review by VOC is Completed.	SBSPM Section 19
1.4	☐ Verify that station bill is posted. • Emergency duties (Over 65 ft with total crew of 4 or more)	46CFR 185.514
1.5	☐ Review stability information. ☐ Drainage (scuppers/freeing ports) ☐ Major changes/modifications affecting wind/heel sail area or weight ☐ Solid fixed ballast secure and documented ☐ Maximum personnel carried documented in VOM ☐ Verify minimum stability information is available onboard vessel	46 CFR 176.306 46 CFR 178.230 SBSPM Section 14
1.6	☐ Examine the waste management plan. (≥ 40 ft and ocean-going) Verify MARPOL V placard posted (≥ 26 ft)	33 CFR 151.57 33 CFR 151.59
1.7	☐ Examine life raft servicing certificates.	46 CFR 185.730 46 CFR 160.151-57(p)
1.8	☐ Examine fixed gas fire extinguishing system servicing certificates.	46 CFR 176.810

Notes:

Task 2: Crew Requirements

Step	Action	Ref
2.1	☐ Examine Captain's License. ☐ Original on board ☐ Expiration date ☐ Route ☐ Tonnage ☐ Endorsements	46 CFR 185.402
2.2 2.3	☐ NOAA Corps Officer OOD Qual (in lieu of Master's License) ☐ Examine Operator Qualifications. ☐ Operator Course Completed ☐ Component Course Completed ☐ Current CPR and First Aid Training ☐ Boat Specific PQS Completed ☐ Boat Specific Training Documented ☐ Knowledge of boat and equipment	SBSPM Section 4
2.4	☐ Examine Crewmembers Qualifications. ☐ Designated in writing ☐ Boat Specific Training Documented ☐ Knowledge of boat and equipment	SBSPM Section 4

Notes:

Task 3: Logs and Manuals

Step		Action	Ref
3.1	☐	Examine current training records/logs. • Date and general description of training topics • Training record/log for each crewmember	SBSPM Section 4
3.2	☐	Examine emergency training and drills logs. • Fire – Man Overboard – Abandon ship • Date of drill and training with general description	SBSPM Section 9
3.3	☐	Examine lifesaving equipment maintenance.	SBSPM Section 9
	☐	Required maintenance documented	
	☐	Manufacturer's Instructions on board for liferaft.	
	☐	Monthly maintenance inspections for appliances.	46 CFR 185.726 (c-e)
	☐	Annual inspections; davit, winch, falls, or other launching appliance thoroughly inspected	
	☐	Maintenance report for EPIRB	46 CFR 185.728
	☐	Steering gear test and drill	
	☐	Monthly test of EPIRB	
3.4	☐	Examine official logbook.	SBSPM Sec. 6 46 CFR 185.280
3.5	☐	Verify crew and passenger list maintained.	SBSPM Sec. 6 46 CFR 185.502
3.6	☐	Verify float plan prepared and maintained.	SBSPM Sec. 6
3.7	☐	Verify passenger count recorded in log.	SBSPM Sec. 6 46 CFR 185.504
3.8	☐	Verify safety orientation.	SBSPM Sec. 6 46 CFR 185.506
3.9	☐	Vessel General Permit Inspection Logs =>79'	EPA

Notes:

Task 4: Navigation Safety Systems

Step		Action	Ref
4.1	☐	Verify navigation publications and charts. ☐ Current and corrected charts (large enough for safe navigation) ☐ U.S. Coast Pilot ☐ Coast Guard Light List ☐ Tide tables ☐ Tidal current tables ☐ Rules of the Road (COLREGS	46 CFR 184.420
4.2	☐	Test navigation lights and signals (Vessels>65 feet must meet UL 1104).	46 CFR 183.420 33 CFR Part 84
4.3	☐	Test radar(s).	SBSPM Appendix C 46 CFR 184.404
4.4	☐	Inspect magnetic compass. (Except rivers and short restricted routes) ☐ Compass light operational	46 CFR 184.402
4.5	☐	Inspect Sound Signaling devices ☐ Whistle/horn ☐ Bell proper size	33 CFR 86

Notes:

Step	Action	Ref
4.6	☐ Inspect Signaling devices (distress) ☐ Flares and day smokes (correct number and expiration) ☐ Stowed in brightly colored, portable watertight container ☐ Marked “Distress Signals” ☐ Substitutions with proper expiration date	46 CFR 28.145 46 CFR 185.614

IF vessel travels — THEN it MUST carry:

Oceans / Coastwise /Coastal / Great Lakes Route	3 parachute flares plus 6 red hand held flares and 3 smoke signals
Lakes, Bays, Sounds / Rivers Route	1 electric distress light or 3 red hand flares and 3 orange day smokes

4.7 ☐ Test internal communications. — 46 CFR 184.602

- ☐ A fixed means of two-way communication from:
  - Operating station to machinery space (single screw vessels)
  - Operating station to auxiliary steering (single screw vessels)
  - Handheld radios acceptable

4.8 ☐ Test public address system. — 46 CFR 184.610

IF vessels is:	**AND** carries:	**THEN** vessel MUST have:
> 65 feet in length	→	Fixed installation
≤ 65 feet in length	> 49 passengers	Battery bullhorn
≤ 65 feet in length	≤ 49 passengers	NONE required

Notes:

Step	Action	Ref
4.9	☐ Verify propulsion engine control. ☐ Two independent means of controlling each propulsion engine ☐ Multiple engine vessel with independent remote propulsion control for each engine does not need a second means ☐ Must have engine shutdowns at the operating station	46 CFR 184.620
4.10	☐ Engine operating gauges, rpm, jacket water, and lube oil pressure readily visible at the operating station	46 CFR 182.410 (b)
4.11	☐ Verify radio equipment operation	SBSPM Appendix C 47 CFR 80.905

IF vessel travels	THEN it MUST carry:
Up to 20 NM from shore	2 VHF
20 NM to 100 NM	2 VHF and 1 MF or SSB or Sat Phone

Vessels 65 ft and over and operating in VTS waters, one radio must be tuned to the VTS frequency under 33 CFR 161.12 as per 33 CFR 26.03(f)

☐ Verify at least one fixed VHF Radio is receiving GPS position feed.

☐ Verify MMSI number is entered into all VHF's connected to a GPS

Notes:

Task 4: Navigation Safety Systems (Continued)

Step	Action	Ref
4.12	☐ Verify emergency broadcast placard is posted next to all radio installations.	46 CFR 184.506
4.13	☐ Verify that the vessel emergency instructions are posted.	46 CFR 185.510
4.14	☐ Witness operation of electronic position fixing device.	46 CFR 184.410
4.15	☐ Inspect EPIRB (>3 nautical miles from shore on any body of water.)	SBSPM Section 9
	• Hydrostatic release date – 2yrs	46 CFR 185.740 (b)
	• NOAA Registration – 2yrs	46 CFR 185.604 (c)
	• Battery - per manufacture	47 CFR 80.1061 (f)
	• Name of vessel	
4.16	☐ Inspect bridge windows.	46 CFR 177.1010
4.17	☐ Test bridge steering system and steering gear.	46 CFR 182.600

Notes:

Task 5: Structural Integrity

Step	Action	Ref
5.1	☐ Examine external hull structure. ☐ Decks ☐ Shell ☐ Bulkheads ☐ Strength members ☐ Visible damage ☐ Bulwarks, rails, and guards ☐ Welds	46 CFR 176.802 Aluminum NVIC 11-80 FRP NVIC 8-87 Steel NVIC 7-68
5.2	☐ Review stability information. ☐ Drainage (scuppers/freeing ports) ☐ Major changes/modifications affecting wind/heel sail area or weight ☐ Solid fixed ballast secure and documented	SBSPM Section 14 46 CFR 171 H
5.3	☐ Examine hull markings. ☐ Draft marks and load marks (>65 feet) ☐ Name/NOAA Symbol/ NOAA Number	46 CFR 185.602 SBSPM Section 17
5.4	☐ Examine deck cranes, A-Frames, Lifting gear ☐ OSHA Quadrennial weight test and inspection records ☐ Annual Inspection documented ☐ All devices stenciled with Safe Working Load (SWL) ☐ Operating controls clearly labeled	SBSPM Section 20

Notes:

Task 5: Structural Integrity (Continued)

Step		Action	Ref
5.5	☐	Examine internal compartment structures.	46 CFR 176.802
		☐ Frames	Aluminum NVIC 11-80
		☐ Floors	FRP NVIC 8-87
		☐ Shelves, brackets, clamps	Steel NVIC 7-68
		☐ Bulkheads	
		☐ Ventilation	
5.6	☐	Examine watertight integrity.	46 CFR 176.802
		☐ Hull openings and closures	46 CFR 179.360
		☐ Deadlight covers	46 CFR 171.24
		☐ Deck openings and closures	
		☐ Sill heights, combings, knife edges, gaskets, hardware	NVIC 2-62
		☐ Watertight doors and subdivision bulkheads	46 CFR 182.720 (d)
		☐ Piping	46CFR 182.40-1
		☐ Free of sluice valves	46 CFR 179.320 (d)
5.7	☐	Examine Scuppers / Freeing ports	
		☐ Vessels with cockpit	46 CFR 171.145
		☐ Vessels with well deck	46 CFR 171.150
5.8	☐	Examine dead light covers on port lights below main deck	46 CFR 171.117 46 CFR 179.350
5.9	☐	Inspect rails.	
		☐ Deck rails (39.5 Inches minimum and 200 pound point load minimum)	46 CFR 177.900
		☐ Storm rails	46 CFR 177.920

Notes:

Task 6: General Health and Safety Systems

Step		Action	Ref
6.1	☐	Test general alarms (vessels with overnight accommodations).	46 CFR 183.550
6.2	☐	Verify upper decks marked for maximum number of persons as per stability letter.	46 CFR 185.602g
6.3	☐	Inspect crew spaces. • Overnight accommodations	46 CFR 177.700 46 CFR 177.710 46 CFR 177.25
6.4	☐	Inspect accommodations. • Overnight accommodations • Seating	46 CFR 177.800 46 CFR 177.30
6.5	☐	Verify means of escape. ☐ Two widely separated ☐ Adequate size ☐ Operable for either side ☐ Open towards expected escape direction ☐ Properly Marked	46 CFR 177.500 46 CFR 185.606
6.6	☐	Inspect cooking and heating system. ☐ Clear of combustible materials ☐ Properly fitted/installed for use in heavy seas ☐ No open flames without approval certification ☐ Grease trap ☐ Remote shutoff valve for gas systems ☐ No continuous pilot lights or glow plugs ☐ Ventilation ducts above frying vats or grills constructed of >11 gage steel ☐ Gas systems ☐ Cooking equipment, grab rails/sea rails	46 CFR 177.410 46 CFR 184.210 46 CFR 184.240 46 CFR 184.220

Notes:

Task 6: General Health and Safety Systems (Continued)

Step		Action	Ref
6.7	☐	Conduct sanitation inspection. ☐ Quarters ☐ Toilets/washrooms ☐ Galleys ☐ Pantries ☐ Lockers and similar spaces	46 CFR 176.818
6.8	☐	Verify presence of first aid kit. ☐ Marked “First Aid Kit” ☐ Watertight container ☐ Easily visible and readily available to crew ☐ Must be Coast Guard Approved	46 CFR 184.710 46 CFR 160.041
6.9	☐	Inspect ventilation systems. ☐ Adequate ventilation to enclosed spaces normally occupied ☐ Must be capable of being shut down from the pilot house	46 CFR 177.600
6.10	☐	Inspect portable lights. ☐ At least two on board ☐ Located at operating station and at access to propulsion machinery space	46 CFR 183.430
6.11	☐	Ensure no unsafe conditions or practices exist. ☐ Slips, trips, and falls ☐ Sharp edges ☐ Swinging loads/gear adrift	46 CFR 176.830
6.12	☐	Ensure proper ground tackle	46 CFR 184.300 46 CFR 184.10

Notes:

Task 7: Lifesaving Equipment

Step		Action	Ref
7.1	☐	**TYPE I PFD** Inspect life preservers.	SBSPM Section 9
	☐	Adequate number of PFDs	
	☐	PFDs are USCG-approved	
	☐	PFDs are serviceable and in good repair	46 CFR 180.71 a
	☐	Inflatable PFDs are serviced annually	
	☐	PFDs are marked with vessel's name	
	☐	PFDs are correctly marked with retro-reflective tape	
	☐	PFDs are correctly fitted with approved serviceable lights	46 CFR 185.604
	☐	Light batteries are in working order and not expired	VIB 01-09
	☐	Each PFD is fitted with a whistle	
7.2	☐	**IMMERSION SUITS** Inspect immersion suits	*SBSPM Section 9*
	☐	Adequate number and appropriately sized	NVIC 01-08
	☐	USCG-SOLAS Approved	
	☐	Suits inspected monthly and logged	
	☐	Suits are marked with vessel's name	VIB 01-09
	☐	Suits are correctly fitted with approved serviceable lights and whistle	
	☐	Light batteries are in working order and not expired	
	☐	Suits air tested over 10yrs old	VIB 04-10
7.3	☐	**TYPE I PFD** Inspect life preserver stowage.	46 CFR 180.78
	☐	Life preservers readily accessible and distributed throughout accommodation spaces	
	☐	Stowage containers are not capable of being locked and when practical allow life preservers to float free	
	☐	Overhead PFDs stowed for quick release	
	☐	Stowage space clearly marked with "Life Preservers," "Child or Adult," and quantity	
	☐	Child-size PFDs stowed separately. If not carried, VOM must restrict the carriage of persons weighing less than 90lbs.	

Notes:

Task 7: Lifesaving Equipment (Continued)

Step	Action	Ref
7.4	☐ Inspect work vests. ☐ Work PFDs must be USCG approved ☐ Work PFDs are in serviceable condition ☐ Work PFDs have light and whistle	SBSPM Section 9 46 CFR 180.72 (b)
7.5	☐ Inspect work vest stowage. ☐ Stowed separately and in a manner so as not to be confused with TYPE I PFDs	SBSPM Section 9 46 CFR 180.78 (b)
7.6	☐ Verify that lifejacket donning placards are properly posted or available to the passengers.	46 CFR 185.516
7.7	☐ Examine ring lifebuoys and water lights. ☐ Appropriate number of USCG-approved ring life buoys on board ☐ Must be orange on ocean or coastal route ☐ In serviceable condition ☐ Properly marked with vessel's name in block capital letters ☐ Properly marked with retro-reflective tape ☐ At least one fitted with approved water light ☐ Water lights are serviceable and batteries are replaced by their marked expiration date or if not marked, replaced annually and date recorded ☐ Water light is attached with a lanyard at least 3 feet in length and secured around the body of the buoy ☐ If only one is carried, water light is to be attached to lanyard with a corrosion resistant clip to allow quick disconnect ☐ Stowage not permanently secured	SBSPM Section 9 46 CFR 180.70 46 CFR 185.604 46 CFR 160.50 46 CFR 180.75

Notes:

Task 7: Lifesaving Equipment (Continued)

Step	Action	Ref
7.8	☐ Verify number and type of survival craft. ☐ Examine VOM to ensure vessel capacity matches survival craft quantity.	SBSPM Section 9
7.9	☐ Inspect inflatable life rafts and inflatable buoyant apparatus (IBA). ☐ USCG-approved ☐ Meets approved capacity as noted on approval plate ☐ Properly equipped ☐ Has been serviced during the previous 12 months or immediately if container is damaged, or seals or straps are broken ☐ Marked with vessel's name and port of registry ☐ L/R-SOLAS A or B pack; IBA-per manufacturer's outfit	SBSPM Section 9 46 CFR 180.175 NVIC 2-63
7.10	☐ Inspect life floats. ☐ USCG-approved ☐ Has sufficient capacity as noted on approved label ☐ In serviceable condition ☐ Marked clearly with vessel's name and capacity ☐ Properly outfitted, pendants, painters, and lights ☐ Marked with retro-reflective tape	46 CFR 180.175 NVIC 4-86 46 CFR 185.700 46 CFR 185.604 46 CFR 160.010-8 NVIC 1-83
7.11	☐ Verify that lifesaving placards are posted. ☐ Inflatable survival craft placards	46 CFR 185.518

Notes:

Step	Action	Ref
7.12	☐ Rescue platforms. **Note:** *Vessels are required to carry a rescue platform. If the vessel is configured in such a manner as to be able to recover a person from the water without a platform, no platform is required.*	46 CFR 180.210
7.13	☐ Ensure adequate means are provided for transferring a victim from a rescue platform to the deck of the vessel.	46 CFR176.808 (g)
7.14	☐ Inspect survival craft stowage. Ensure each survival craft is: ☐ Secured to vessel by a painter with a weak link ☐ Stowed in a float-free arrangement (hydrostatic release unit needed when tied down) ☐ Automatically inflates where applicable ☐ Readily accessible to crew for quick launch ☐ Fully equipped as required ☐ Sheltered from breaking seas and fire damage ☐ Stowed to prevent shifting	46 CFR 180.137 46 CFR 180.130 46 CFR 180.150

Notes:

Step	Action	Ref
7.15	☐ Ensure hydrostatic release units (HRUs) used in float-free arrangements are CG-approved.	46 CFR 160.062

If HRU is	Then they must be...
Non-disposable	• Serviced annually. • Installed with body of HRU not making contact with survival craft or any other structure.
Disposable	• Not expired. • Installed right side up.

7.16	☐ Ensure launching device is provided for any survival craft weighing more than 200 lb that requires lifting more than 1 vertical foot to launch.	NVIC 4-86

Notes:

Task 7: Lifesaving Equipment (Continued)

Step		Action	Ref
7.17	☐	Ensure stowage of each life float and buoyant apparatus also meets each of the following:	46 CFR 180.137 (e)(1)
		☐ Secured with a CG-approved weak link (160.073) that is of proper strength for the capacity of the survival craft and that is attached at one end to the painter and at the other end to the vessel	46 CFR 180.175 (e)(3)(ii)
		☐ Means to secure weak link to vessel must have a breaking strength at least equal to strength of painter; if synthetic, be dark colored or UV resistant; and if metal, be corrosion resistant	46 CFR 180.137 (f)
		☐ If painter attachment fitting is not provided, a means to attach the painter must be provided by a wire or line that encircles the device's body; will not slip off; has breaking strength that is at least the breaking strength of the painter; and is dark colored or UV resistant	
		☐ If a single painter is used for 2 or more life floats/buoyant apparatus, ensure that:	
		• The total weight of the devices does not exceed 400 lb.	
		• Each device is attached to the painter with a line long enough (and of differing lengths) to ensure devices can float without contacting one another and that each device can be launched independently of the other(s).	
		• The strength of the weak link and the breaking strength of the painter (1,500 lb or, for 50 and more persons - 3,000 lb) is determined by the combined capacity of the devices attached to that painter.	
		• If stowed in tiers, ensure tiers are not more than 4' high and that spacers are used between devices.	

Notes:

Task 7: Lifesaving Equipment (Continued)

Step	Action	Ref
7.18	Inspect survival craft embarkation arrangements.	46 CFR 185.700 (a)
	☐ Ensure a CG-approved launching appliance (160.175) is provided for each inflatable life raft and IBA when either:	46 CFR 180.150 (a)(1) & (2)
	☐ The craft is to be boarding prior to being placed in the water	
	☐ Ensure a CG-approved embarkation ladder (160.017) is provided at every embarkation station whose deck is more than 10' above the waterline.	46 CFR 185.704 (c)
	☐ Ensure ladder is in satisfactory condition (lines & steps not excessively worn or rotted, steps securely fitted to lines, etc.) and securely fastened to vessel (attachment points and shackles not wasted)	46 CFR 185.700 (a)
	☐ Ensure deck area in vicinity of ladder is clear of any obstructions that may interfere with boarding or launching of survival craft	46 CFR 185.700 (b)

Notes:

Task 8: Fire Protection Systems

Step	Action	Ref
8.1	☐ Verify fire detection system is installed in the required spaces. ☐ Propulsion machinery space ☐ A space containing an internal combustion engine of more than 50 hp ☐ Space containing an oil-fired boiler ☐ Space containing machinery powered by gasoline or other fuel with a flash point of 110°F or lower ☐ Space containing a fuel tank for gasoline or other fuel with a flash point of 110°F or lower ☐ A paint locker ☐ A storeroom containing flammable liquids (including liquors of 80 proof or more, packed in individual containers of 2.5 gal or more)	46 CFR 181.400 46 CFR 181.400 (a)(8) 46 CFR 181.400 (f)
8.2	☐ Verify fire detection has been serviced or tested annually.	46 CFR 176.810 (a)(7)
8.3	☐ Verify smoke detection systems are installed in the required areas (overnight passenger accommodation spaces). ☐ Properly installed	46 CFR 181.400 (e) 46 CFR 181.400 (c) 46 CFR 76.27
8.4	☐ Verify proper operation of fire and smoke detectors.	46 CFR 176.810(a)(7) 46 CFR 181.450

Notes:

Step	Action	Ref
8.5	☐ Inspect fixed gas fire extinguishing systems.	46 CFR 176.810 46 CFR 185.612 NVIC 6-72 CH 1 NVIC 3-95
	☐ Complete operating instructions	
	☐ Verify cylinders are weighted	
	☐ Verify cylinders are hydro-tested	
	☐ Testing or renewal of flexible connections/hoses (47 CFR 147.65)	46 CFR 176.180 (a)(5)
	☐ Must have manual ventilation closures on protected space	46 CFR 182.15-45
	☐ Controls and valves must be located outside the protected space	46 CFR 182.20-45
	☐ Must have local manual controls at the storage cylinders	46 CFR 181.410
	☐ Must have remotes in a break glass enclosure	46 CFR 182.465 (h)
	☐ Piping	46 CFR 181.20-35
	• Pre-engineered –	
	• automatic shut down for power ventilation	46 CFR 181.410 (b)
	• properly installed as per manufacture instruction	
	• light to indicate discharge	46 CFR 181.410 (d)
	• audio alarm	
	• means to reset	
	• only one pre-engineered system per protected space	46 CFR 181.420 46 CFR 181.20

Notes:

Task 8: Fire Protection Systems (Continued)

Step		Action	Ref
8.6	☐	Verify fixed gas fire extinguishing system has been serviced or tested annually.	46 CFR 176.810 (b)(2)
8.7	☐	Portable and semiportable fire extinguishers	46 CFR 176.810
		☐ Annual service IAW NFPA 10	NVIC 6-72 CH 1
		☐ Cylinders hydrotested	
		☐ Testing or renewal of flexible connections/hoses (46 CFR 147.65)	46 CFR 176.180 (a)(5)
		☐ Required number and location	46 CFR 181.500
8.8	☐	Inspect fire main and hydrants.	46 CFR 181.310 46 CFR 181.15
8.9	☐	Inspect fire axes (65’ and over)	46 CFR 181.600 46 CFR 181.15-10
8.10	☐	Inspect fire pump.	46 CFR 181.300 46 CFR 181.10

Notes:

Step	Action	Ref
8.11	☐ Test pump (all vessels) ☐ Vessel < 65ft & > 49 passengers & vessels > 65ft ☐ No excessive leaking ☐ Manual priming not required ☐ Pump is operable from main operating station and locally at the pump. ☐ Meets required capacity 50 gpm and pressure of 60psi ☐ Pump must have a pressure gauge	46 CFR 181.300
8.12	☐ Inspect fire hoses and nozzles. ☐ Vessel < 65ft & > 49 passengers & vessels > 65ft ☐ Commercial lined fire hose (UL 19) ☐ 1.5 inches in diameter & 50 ft in length ☐ Fittings of brass or other suitable material (NFPA) ☐ Nozzle must be approved under 46 CFR 162.027 or type recognized by Commandant. ☐ Vessel < 65ft & < 49 passengers ☐ May have a garden type hose > .0625 inches in diameter and >25 ft but < 50 ft ☐ Fittings must be corrosion resistant material ☐ Nozzle must be corrosion resistant and be able to switch from stream to spray.	46 CFR 181.320

Notes:

Step		Action	Ref
8.13	☐	Test fire hoses using installed fire pump.	46 CFR 176.810
		☐ Piping	46 CFR 181.310
		☐ Valves	46 CFR 181.320
		☐ Fittings	
8.14	☐	Inspect structural fire protection.	46 CFR 177.405
		☐ Noncombustible trim	46 CFR 177.410
		☐ Fire-resistant furnishing	
8.15	☐	Inspect paint lockers.	46 CFR 177.405
		☐ Constructed of steel or equivalent material	
		☐ Protected by fire extinguishing system	

Notes:

Task 9: *Machinery and Auxiliary Machinery*

Step	Action	Ref
9.1	Inspect propulsion machinery.	
	☐ Ensure propulsion machinery is suitable and capable of operating at constant marine loads	46 CFR 182.200 (a)
	☐ Ensure propulsion machinery has not been changed out since last inspection (change in center of gravity and weight may adversely affect stability).	46 CFR 176.702 46 CFR 176.402 (d)(3) & (4)
	☐ Ensure all engines have at least two means for stopping the engine(s), one of which may be the shutoff valves required in fuel lines.	46 CFR 182.200 (b) 46 CFR 184.620 (a)
	☐ Ensure there is a reliable means of shutting down a propulsion engine at the main pilothouse control station.	46 CFR 175.10-29
	☐ Ensure machinery guards are installed over exposed gears, belts or other rotating machinery	46 CFR 184.620 (b) 46 CFR 177.960 46 CFR 177.35-15
9.2	☐ Inspect internal combustion engines (diesel and gasoline powered).	
	☐ Ensure all starting motors, generators, and spark-producing devices are mounted as high above bilges as practicable	46 CFR 182.410 (a)
	☐ Ensure gauges for rpm, jacket water discharge temperature, and lubricating oil pressure are provided and are readily visible at the operating station (rpm gauge not required for existing vessels)	46 CFR 182.410 (b) 46 CFR 182.15-5 46 CFR 182.20-5
	☐ Ensure all flexible hoses are clamped at each end with two corrosion-resistant metal hose clamps where practicable (a single clamp is allowed when pipe end is expanded or beaded) o Hose meets SAE J-1942 standards and has end fittings that comply with SAE J-1475 standards which have been installed IAW the manufacturer's instructions.	46 CFR 182.410 (d) 46 CFR 182.720

Task 9: *Machinery and Auxiliary Machinery (Continued)*

Step		Action	Ref
9.3	☐	Inspect engine cooling system as follows:	
	☐	Ensure the engine head, block, and exhaust manifold are cooled by water from a pump that operates whenever the engine operates.	46 CFR 182.420 (a)(1)
	☐	Ensure a suitable strainer is installed on the raw water intake line of the cooling system.	46 CFR 182.420 (a)(2)
	☐	On vessels ≤ 65 ft and carrying ≤ 12 passengers, a propulsion or auxiliary gasoline engine may be air cooled if in compliance with ABYC P-4.	46 CFR 182.420 (c)&(d)
	☐	An auxiliary gasoline engine may be air cooled if it is installed on an open deck and has a self-contained fuel system.	46 CFR 182.420 (d)(1)
	☐	A diesel engine may be air cooled or employ an air cooled jacket water radiator when sufficient ventilation is available, or is installed on vessels ≤ 65 ft and carrying ≤ 12 passengers and is in compliance with ABYC P-4.	46 CFR 182.420 (e) 46 CFR 182.465 (b)
9.4	☐	Ensure keel coolers are provided with a shutoff valve where the cooler penetrates the hull (not required for integral keel coolers).	46 CFR 182.422 (b)
	☐	Ensure all piping outboard of the shutoff valves is at least Schedule 80 and that any flexible hoses used at the machinery connections is approved hose and double hose clamped	46 CFR 182.422 (c)&(d)
	☐	Ensure all integral keel coolers are fabricated with material of the same thickness and quality of the hull using full penetration welds and with a slope at each end not greater than 4 to 1.	46 CFR 182.422 (e)

Notes:

Step		Action	Ref
9.5	☐	Inspect engine exhaust systems as follows (as an alternative, vessels may instead comply with ABYC P-1): ☐ Ensure dry exhaust pipes are clear of and suitably insulated from combustible materials and suitably insulated to prevent injuries. ☐ Ensure dry exhaust pipes installed on wood and FRP boats are installed IAW ABYC P-1 (designed to arrest sparks; metallic connections are flanged, threaded, or welded; and flexible sections are seamless stainless steel).	46 CFR 182.425 (c) 46 CFR 182.430 (k) 46 CFR 182.425 (a)(1) & (2)(v) 46 CFR 177.405 (b)
9.6	☐	Ensure horizontal dry exhaust pipes: ☐ Do not pass through living or berthing spaces. ☐ Terminate above the deepest load waterline. ☐ Are arranged to prevent entry of cold water from rough or boarding seas (i.e., flaps installed over exhaust outlet). ☐ Are constructed of corrosion-resisting material at the hull penetration.	46 CFR 182.425 (a)(2)

Notes:

Step	Action	Ref
9.7	☐ Ensure that exhaust pipe systems cooled by water are:	
	☐ Provided with cooling water obtained from the engine cooling system or from a separate engine driven pump.	46 CFR 182.425 (b)(1)
	☐ Fitted so that cooling water is injected into the exhaust system as close as possible to the engine exhaust manifold and so that water passes through the entire length of the exhaust pipe.	46 CFR 182.425 (b)(2)
	☐ Fitted with insulation or be water-jacketed between the exhaust manifold and the point of cooling water injection.	46 CFR 182.425 (b)(3)
	☐ Either water-jacketed or insulated, if a vertical exhaust pipe, to ensure no water is mixed with exhaust gases.	46 CFR 182.425 (b)(4)
	☐ Provided with a suitable warning device, visual or audible, installed at the operating station to indicate any reduction in water flow when the cooling water is provided from a source other than the engine cooling water system.	46 CFR 182.425 (b)(5) 46 CFR 182.15-15 (b)(5) 46 CFR 182.425 (b)(6)
	☐ Provided with a suitable strainer in the intake line.	46 CFR 182.430 (b) 46 CFR 182.15-20 (a)
9.8	☐ Ensure there are two independent means to control speed and direction of rotation for each propulsion engine (not required for vessels with multiple propulsion engines with independent control for each engine).	46 CFR 184.620 (a)

Notes:

Task 9: *Machinery and Auxiliary Machinery (Continued)*

Step		Action	Ref
9.9	☐	Ensure there is a fixed means of two-way communications from the operating station to the location of the means to control the engine (not required for multi-engine vessels with pilothouse controls for each engine).	46 CFR 184.602 (a)
	☐	Two-way communications may be satisfied with handheld portable radios or, if locations are sufficiently close together, with direct voice communications (test while underway at full power).	46 CFR 184.602 (d) & (e)
9.10	☐	Ensure machinery and boilers for steam and electrically propelled vessels comply with subchapter F (Marine Engineering) and subchapter J (Electrical Engineering).	46 CFR 182.220 (b)

Notes:

Step	Action	Ref
9.11	☐ Inspect auxiliary machinery.	
	☐ Ensure heating boilers are tested or examined every 3 years	46 CFR 182.310
	☐ Ensure water heaters comply with 46 CFR Parts 53 & 63 except:	46 CFR 182.310 (c)
	☐ Electric water heaters rated at not more than 100 psi and 250°F are acceptable if:	
	☐ Capacity ≤ 120 gallons;	46 CFR 182.320 (a) & (b)
	☐ Heat input ≤ 200,000 Btu per hour;	
	☐ UL listed (UL 174 or UL 1453); AND	
	☐ Protected by pressure-temperature relief device	46 CFR 182.320 (a)
9.12	☐ Ensure water heaters are installed and secured from rolling and movement.	46 CFR 182.320 (c)
9.13	☐ Ensure unfired pressure vessels (Air Receivers) comply with subchapter F (Marine Engineering).	46 CFR 182.330

Notes:

Step	Action	Ref
9.14	☐ Conduct tests & inspections of UNFIRED pressure vessels IAW 46 CFR 61.10.	46 CFR 176.812
	☐ Complete external and internal visual inspection at least every 5 years, except:	46 CFR 182.15-25(b)(4)
	☐ Internal inspection is not required on Class I and II pressure vessels (see 46 CFR table 54.01-5(b)) with a volume of <5 cu ft which do not contain hazardous materials and are stamped with either the ASME "U" or "UM" symbols	46 CFR 61.10-5 (b) 46 CFR 54.01-5 (c)(3)
	☐ Complete hydrostatic test (water, not air) if visual inspection reveals defect which may affect safety of pressure vessel. Test pressure shall be 1-1/2 times the vessel's MAWP	46 CFR 61.10-5 (b) (3)
	☐ Complete check of safety or relief valves settings at least twice in 5 years and not more than every 3 years	46 CFR 61.10-5 (i)
	☐ Ensure safety or relief valve setting does not exceed the pressure vessel's MAWP and that valve does not relieve at a pressure greater than the vessel's MAWP	46 CFR 54.15-10 (a)
	☐ Ensure safety or relief valve relieves at a pressure not more than 10% above or below the valve's marked pressure	46 CFR 54.15-10 (g)

Service	Working Pressure	Relief Valve Setting	Date Tested or Examined

Notes:

Step	Action	Ref
9.15	☐ Ensure independent fuel tank(s) has not been replaced with a different sized tank or relocated since last inspection (change in center of gravity and weight may adversely affect stability).	46 CFR 176.702 46 CFR 176.402 (d)(3) & (4)
	☐ Ensure fuel tank(s) is free of excessive corrosion, that no fittings are leaking, that independent fuel tanks are properly secured in place to prevent movement, and that tank is insulated from braces and supports by a nonabrasive and nonabsorbent material.	46 CFR 176.804 (d) 46 CFR 182.440 (b)(3) 46 CFR 176.804 (c)(1)
	☐ When the structural integrity of a fuel tank is in question, ensure the tank is replaced or, as an alternative, witness a satisfactory hydrostatic (use liquid only, not air) pressure test of the tank to 5 psig or 1-½ times the max pressure head the tank may be subjected to, whichever is greater.	

Notes:

Step		Action	Ref
9.16	☐	Ensure all fuel tanks are electrically bonded to a common ground.	46 CFR 182.440 (b)(4) 46 CFR 182.15-25(b)(4)
9.17	☐	Ensure there is a means to accurately determine the amount of fuel in each tank.	46 CFR 182.445 (b)
9.18	☐	Ensure fill pipes and sounding pipes are so arranged that overflow of liquid or vapor cannot escape to the inside of the vessel.	46 CFR 182.445 (d)
9.19	☐	Ensure all fuel tank fill pipes and sounding pipes are suitably marked.	46 CFR 182.445 (e)
9.20	☐	Each fuel tank is fitted with a vent pipe connected to its highest point (tanks without a vent line must be inspected as a pressure vessel). ☐ Ensure net cross sectional area of vent pipes are at least: ☐ .625 inches if fill pipe terminates at top of the tank; ☐ .75 inches if fill pipe extends into tank; or ☐ The cross sectional area of the fill pipe if the tank is filled under pressure. ☐ Ensure tank space is properly vented ☐ >500 cubic feet = gooseneck >2.5 inches ☐ <500 cubic fee = gooseneck >1.5 inches	46 CFR 182.440 (c)(3) 46 CFR 182.450 (b)&(c) 46 CFR 182.450 (d) 46 CFR 182.450 (e) 46 CFR 182.15-35 46 CFR 182.460 46 CFR 182.470 46 CFR 182.15-45 46 CFR 182.20-50

Notes:

Step	Action	Ref
9.21	☐ Ensure discharge ends of vent pipes terminate outside of vessel, either on the hull exterior or in U-bends as high above the weather deck as possible.	
	☐ Ensure discharge ends of vent pipes are fitted with a flame screen or flame arrester of such design and size as to not reduce the net cross sectional diameter of the vent pipe and to permit cleaning or renewal (flame screens must consist of a single screen of corrosion resistant wire of at least 30 x 30 mesh).	46 CFR 182.450 (e)
9.22	☐ Verify when flexible hose is used in the vent pipe:	46 CFR 182.450 (g)
	☐ Hose has high resistance to salt water, petroleum oils, heat, and vibration.	
	☐ Hose overlaps metal pipe ends at least 1-½ times the pipe diameter and is secured with 2 hose clamps.	
9.23	☐ Vent pipes are installed with an upward gradient in a manner to prevent fuel from being trapped in the line.	46 CFR 182.450 (h)

Notes:

Step	Action	Ref
9.24	Inspect fuel piping as follows:	
	☐ Ensure fuel lines are of one of the following materials:	
	☐ Annealed tubing of copper, copper-nickel, or nickel-copper having wall thickness of at least 0.035 inches; or	46 CFR 182.455 (a)(1)
	☐ For diesel fuels, piping which provides equivalent safety such as seamless steel pipe or tubing may be used; or	46 CFR 182.455 (a)(1)(iii)
	☐ For diesels fuels on aluminum hulled vessels, aluminum piping of at least schedule 80 may be used.	
	☐ Flexible hose meets the following requirements:	46 CFR 182.720 (e)
	☐ Hose meets SAE J-1942 standards and has end fittings that comply with SAE J-1475 standards which have been installed IAW the manufacturer's instructions.	46 CFR 182.40 46 CFR 182.720 (e)(1)
	☐ Hose runs are visible, easily accessible, protected from mechanical damage, and do not penetrate watertight decks or bulkheads	46 CFR 182.720 (e)(3)
	☐ Hose used only for the purpose of flexibility in lengths ≤ 30 inches and subject to pressures ≤ 5 psig (normally used to connect metallic fuel pipe runs to the engine to eliminate effects of engine vibration) may meet the following requirements:	46 CFR 182.720 (e)(3)(v)
	☐ Suitable compression-type connection fittings may be used or hose may be installed with two hose clamps at each end of the hose; and	
	☐ USCG Type A1, A2, B1, or B2 may be accepted instead of hose meeting SAE Standard J-1942	

Notes:

Step	Action	Ref
9.25	☐ Ensure no cock-type valves are in fuel lines except for the solid bottom type.	46 CFR 182.455 (b)(3) 46 CFR 182.15-40(a)(5) 46 CFR 182.20-40(a)(4)
9.26	☐ Ensure all fuel lines are accessible for inspection, protected from mechanical injury, and secured against excessive movement and vibration. ☐ Ensure fuel line securing straps are of soft, nonferrous metal which have no sharp edges and are insulated to protect against corrosion ☐ Ensure fuel lines passing through bulkheads are protected from damage by close fitting ferrules or stuffing boxes	46 CFR 182.455 (b)(3)
9.27	☐ Ensure manually operated shutoff valves are installed in the fuel supply lines at the fuel tank connection and the engine end of the fuel line. ☐ Ensure that the shutoff valve at the fuel tank connection (also known as the emergency fuel shutoff valve) can be manually operated from outside the compartment in which the valve is located. ☐ If the handle of the emergency fuel shutoff valve is located inside the machinery space, it must be located so operator does not have to reach more than 12 inches into space and must be shielded from flames. ☐ Ensure electric solenoid shutoff valves are used only if used in addition to the manual valves. ☐ Ensure remote fuel shutoff stations are marked indicating direction of turn	46 CFR 182.455 (b)(4) 46 CFR 182.15-40(b)(3) 46 CFR 182.20-40(b)(3) 46 CFR 185.608 46 CFR 185.30-20

Notes:

Step	Action	Ref
9.28	☐ Ensure a loop of copper tubing or flexible hose is installed in the fuel supply line where it connects to the engine.	46 CFR 182.455 (b)(5)
9.29	☐ Ensure that a suitable metal marine type strainer is fitted in the fuel supply line in the engine compartment and meets the following: ☐ Is leak free; and ☐ Fuel filters fitted with bowls of other than steel construction (such as Racor filter with clear bowls) must be approved by COMDT, be protected from mechanical damage, and be fitted with a flame shield if specified when approved by COMDT.	46 CFR 182.455 (b)(6) 46 CFR 182.20-40(b)(5) 46 CFR 182.15-40(b)(5)
9.30	☐ Ensure any accessory installed in the fuel line is independently supported.	46 CFR 182.455 (b)(7)
9.31	☐ Ensure any valves for removing water or impurities from diesel fuel water traps or strainers are fitted with caps or plugs.	46 CFR 182.455 (b)(9)
9.32	☐ Ensure portable fuel tanks are not used except when used for portable dewatering pumps and outboard engines.	46 CFR 182.458 (a)
9.33	☐ Ensure portable fuel tanks and any related fuel lines and accessories meet ABYC H-25 standards.	46 CFR 182.458 (b)

Notes:

Step	Action	Ref
9.34	☐ Inspect the following on vessels equipped with GASOLINE-powered internal combustion engines ONLY:	46 CFR 182.410 (a)
	☐ Ensure electrical equipment in spaces containing machinery powered by and fuel tanks for gasoline are explosion-proof, intrinsically safe, or ignition protected for use in a gasoline atmosphere.	46 CFR 182.410 (c)
	☐ Ensure enclosed spaces containing machinery powered by gasoline are equipped with a flammable vapor detection system.	46 CFR 182.480 (a)
	☐ Ensure flammable vapor detection system meets UL Standard 1110 “Marine Combustible Gas Indicators”	
	☐ Ensure system is operational for at least 30 seconds prior to engine startup and continues sensing the entire engine is running	46 CFR 182.480 (c)
	☐ Ensure system provides a visual and audible alarm at the operating station	46 CFR 182.480 (d)
	☐ Ensure a system sensor is located in the lowest part of a machinery space and a fuel tank space above expected bilge water levels	46 CFR 182.480 (e)
	☐ Ensure that system operating instructions are posted at the operating station and that the system's operations and maintenance manual is onboard	46 CFR 182.480 (b)&(h)
	☐ Ensure all carburetors (except downdraft types) are equipped with an integral or externally fitted drip collector of adequate capacity.	46 CFR 182.415 (a)

Notes:

Step		Action	Ref
9.34 (Con't)	☐	Ensure all gasoline engines (except outboard engines) are fitted with an acceptable means of backfire flame control as follows: ☐ A clean backfire flame arrester complying with, and marked, SAE J-1928 or UL 1111 secured to the air intake with a flametight connection ☐ An engine air and fuel induction system that provides adequate protection equivalent to a backfire flame arrester ☐ An arrangement of the carburetor or engine air induction system that will disperse any flames to the atmosphere outside the vessel in a safe manner, or ☐ An air induction system approved, marked, and tested under 46 CFR 162.043	46 CFR 182.415 (c)
9.35	☐	Ensure gasoline is stored only in fuel tanks that are independent of the hull.	46 CFR 182.435 (a)
9.36	☐	Ensure fill pipes and sounding pipes for gasoline fuel tanks extend to within one-half of their diameter from the bottom of the tank.	46 CFR 182.445 (e)
9.37	☐	Ensure valves in gasoline fuel lines are of a suitable nonferrous type.	46 CFR 182.455 (a)(4)
9.38	☐	Ensure all gasoline fuel lines are connected at the top of the tank and run at or above the level of the tank top to a point as close as possible to the engine connection (fuel lines may be run below the level of the tank top if fitted with anti-siphon protection).	46 CFR 182.455 (b)(1)

Notes:

Step		Action	Ref
9.39	☐	Ensure a drip pan fitted with a flame screen is installed under each gasoline strainer.	46 CFR 182.455 (b)(6)
9.40	☐	Ensure no outlets to permit drawing of fuel below deck are present in gasoline fuel lines.	46 CFR 182.455 (b)(8)
9.41	☐	Ensure flexible hose used for alcohol-gasoline blend fuels meets the permeability requirements of 33 CFR 183, subpart J (SAE Class 1 or Class 2 hose or USCG A1, A2, B1 or B2 hose).	46 CFR 182.720 (e)(3)(iv**)** 46 CFR 182.455 (g) 46 CFR 182.20-30 (d)
9.42	☐	Operational test of all overboard discharge and intake valves and watertight bulkhead pipe penetration valves;	46 CFR 176.804 (g)
	☐	Operational test of the means provided for pumping bilges; and (i) Test of machinery alarms including bilge high level alarms.	46 CFR 176.804 (h)
	☐	Ensure vessel has been provided with bilge pumps in accordance with Table 182.520(a).	46 CFR 182.520 (a)
	☐	If there is a portable hand bilge pump must be:	
		☐ Capable of pumping water, but not necessarily simultaneously, from all watertight compartments; and	46 CFR 182.520 (b)
		☐ Provided with suitable suction hose capable of reaching the bilge of each watertight compartment and discharging overboard.	46 CFR 182.25-5(d)

Notes:

Step	Action	Ref
9.43	☐ Ensure that a vessel of at least 26 feet in length, has a visual and audible alarm at the operating station to indicate a high water level in each of the normally unmanned spaces	46 CFR 182.530 (a)
	☐ Ensure that a vessel of at least 26 feet in length has been provided with individual bilge lines and bilge suctions for each watertight compartment, the arrangement of the vessel is such that ordinary leakage may be removed from this compartment by the use of a hand portable bilge pump or other equipment, and such equipment is provided.	46 CFR 182.510 (a) 46 CFR 182.25-5(d)
	☐ Ensure a bilge pipe in a vessel of not more than 65 feet in length must be not less than 1 inch nominal pipe size. • A bilge pipe in a vessel of more than 65 feet in length must be not less than 1.5 inches nominal pipe size. • A bilge suction must be fitted with a suitable strainer having an open area not less than three times the area of the bilge pipe.	46 CFR 182.510 (b)
9.44	☐ Ensure all vital systems piping is appropriate and meet subpart F	46 CFR 182.710 46 CFR 182.40-5

Notes:

Task 10: Electrical

Step	Action	Ref
10.1	☐ Inspect independent generators.	46 CFR 183.310 (b)
	☐ Ensure that when a ship service generator driven by a propulsion engine is used as a source of electrical power, a vessel speed change, throttle movement or change in direction of the propeller shaft rotation must not interrupt power to any of the loads specified in paragraph (a)(1) of this section.	
10.2	☐ Inspect batteries and alternator (if required).	46 CFR 183.310 (a)(2)
	☐ Ensure a vessel with batteries of adequate capacity to supply the loads specified in paragraph (a)(1) of this section for three hours, and a generator or alternator driven by a propulsion engine, complies with the requirement in paragraph (a)(1) of this section.	
	☐ Inspect of batteries for condition and security of stowage	46 CFR 176.806 (f)
	☐ All batteries must be located as high above the bilge as practicable, secured to protect against shifting with the roll and pitch of the vessel, and free from exposure to water splash or spray	46 CFR 183.350
	☐ All batteries must be mounted in trays lined with, or constructed of, a material that is resistant to damage by the electrolyte	46 CFR 183.350 (d)
	☐ Battery charger with ammeter connected to charging circuit	46 CFR 183.05-20

Notes:

Step	Action	Ref
10.3	☐ Inspect switchboards and distribution panels.	46 CFR 183.330
	☐ Ensure location is dry, adequately ventilated, totally enclosed, has drip shield, non-conducting mat or grating, and over current	46 CFR 183.380 46 CFR 183.376 (a)
	☐ Check that if a grounded distribution system is provided, there must be only one connection to ground, regardless of the number of power sources. This ground connection must be at the switchboard or at the common ground plate, which must be accessible	
	☐ Ensure each propulsion, power, lighting, or distribution system having a neutral bus or conductor must have the neutral grounded	46 CFR 183.376 (b)
	☐ The neutral bus must be permanently connected to the neutral bus on the main switchboard;	46 CFR 183.376 (c)
	☐ No switch, circuit breaker, or fuse in the neutral conductor of the bus-tie feeder connecting the emergency switchboard to the main switchboard	
	☐ Ensure on a metallic vessel, a grounded alternating current system must be grounded to the hull. On a nonmetallic vessel, the neutral must be connected to the common ground, except that aluminum grounding conductors must not be used.	46 CFR 183.376 (d)

Notes:

Step	Action	Ref
10.3 (cont)	☐ Ensure all metallic enclosures and frames of electrical equipment are permanently grounded to the hull on a metallic vessel. On a nonmetallic vessel, the enclosures and frames of electrical equipment must be bonded together to a common ground by a normally non-current carrying conductor. Metallic cases of instruments and secondary windings of instrument transformers must be grounded.	46 CFR 183.372 (a)
	☐ Ensure that on a nonmetallic vessel, where a ground plate is provided for radio equipment, it must be connected to the common ground.	46 CFR 183.372 (b)
10.4	☐ Inspect radios fused at the main panel (INSPECT RADIO POWER SUPPLY).	46 CFR 183.392
10.5	☐ Inspect cable, wiring, receptacles, outlets, and accessories.	
	☐ Inspect all cable as far as practicable without undue disturbance of the cable or electrical apparatus	46 CFR 176.806 (a)
	☐ Test all circuit breakers by manual operation;	46 CFR 176.806 (b)
	☐ Inspect fuses including ensuring the ratings of fuses are suitable for the service intended;	46 CFR 176.806 (c)
10.6	☐ Inspect lighting fixtures.	46 CFR 183.410 46 CFR 183.30-1

Notes:

Task 10: Electrical (Continued)

Step	Action	Ref
10.7	☐ Inspect portable lighting.	46 CFR 183.430
10.8	☐ Test emergency lighting.	
	☐ Ensure each vessel has adequate emergency lighting fitted along the line of escape to the main deck from all passenger and crew accommodation spaces located below the main deck	46 CFR 183.432 (a) 46 CFR 183.30
	☐ The emergency lighting required by 46 CFR 183.432 paragraph (a) of this section must automatically actuate upon failure of the main lighting system. If a vessel is not equipped with a single source of power for emergency lighting, it must have individual battery powered lights that:	
	☐ Are connected to an automatic battery charger; and Have sufficient capacity for a minimum of 2 hours of continuous operation	46 CFR 183.432 (b)

Notes:

Step	Action	Ref
10.09	☐ Inspect general electrical installation.	
	☐ If individual wires, rather than cable, are used in systems greater than 50 volts, the wire must be in conduit.	46 CFR 183.340 46 CFR 183.05-40
	☐ All cable and wire must have stranded copper conductors with sufficient current carrying capacity for the circuit in which they are used;	46 CFR 183.05-45 46 CFR 183.05-50
	☐ Be protected from the weather;	46 CFR 183.10-20
	☐ Be installed with metal supports spaced not more than 24 inches apart, and in such a manner as to avoid chafing and other damage.	
	☐ Operationally test electrical apparatus, which operates as part of or in conjunction with a fire detection or alarms system installed on board the vessel, by simulating, as closely as practicable, the actual operation in case of fire; and	46 CFR 176.806 (g)
	☐ Operationally test of all emergency electrical systems	
	☐ A portable or temporary electric cord or cable must be constructed and used in compliance with the requirements of Sec. 111.60-13 in subchapter J of this chapter for a flexible electric cord or cable	46 CFR 176.806 (h) 46 CFR 183.340 (r)
10.10	☐ Inspect over current protection.	46 CFR 183.380

Notes:

Task 11: Pollution Prevention Systems

Step	Action	Ref
11.1	Verify oil pollution placard posted. (Vsl >26 ft in length)	33 CFR 155.450
11.2	☐ Verify garbage placard. (Vsl >26 ft in length) ☐ Prominent locations: readable by crew and passengers	33 CFR 151.59
11.3	☐ Examine marine sanitation device. • Operable • Labeled type I, II, or III (not required for type IIIs that store affluent at ambient air pressure and temperature)	33 CFR 159.7
11.4	☐ Verify bilges are free of debris and excessive amounts of oil.	46 CFR 176.830

Notes:

Task 12: Fire Drill

Step	Y	N	Action
12.1	☐	☐	Advise crew smoke and flames coming from a space.
12.2	☐	☐	Did crewmember sound alarm?
12.3	☐	☐	Did crewmember attempt an initial action?
12.4	☐	☐	Did the Master turn the vessel into the wind, slow down, etc, and make announcements to crew/passengers and make the call to local CG or vessels in the surrounding area?
12.5	☐	☐	Did Master control situation from helm, make announcements, and communicate effectively with crew?
12.6	☐	☐	Did crewmembers take control of situation and direct passengers as appropriate?
12.7	☐	☐	Did crewmembers communicate effectively with Master, other crewmembers, and passengers?
12.8	☐	☐	Was a charged firemain or fire buckets provided?
12.9	☐	☐	Did crewmember effectively fight the fire with portable fire extinguishers, close off ventilation closures, secure power and fuel?
12.10	☐	☐	If available, did the crew know how to operate and deploy the Fixed Fire Extinguishing System and/or fire pump?
12.11	☐	☐	Did the crew understand what agent they were using?
12.12	☐	☐	Did the drill follow the training and operations manual, the emergency instructions, or other placards posted?
12.13	☐	☐	Was the drill satisfactory?

Notes:

Task 13: Abandon Ship Drill

Step	Y	N	Action
13.1	☐	☐	Advise crew the vessel is sinking and cannot be saved.
13.2	☐	☐	Did the Master simulate broadcasting a mayday on the VHF radio and provide the vessels position, number of persons on board, and type of distress?
13.3	☐	☐	Were life preservers properly donned by crew and passengers?
13.4	☐	☐	Did the crew have a plan (demonstrate as necessary) on how to deploy and marshal the vessel's primary lifesaving devices?
13.5	☐	☐	Did the Master simulate activating the vessel's 406 EPIRB?
13.6	☐	☐	Did the drill following the Vessel Operations Manual (VOM) or emergency instructions or other placards posted?
13.7	☐	☐	Was the drill satisfactory?

Notes:

Task 14: Man Overboard Drill

Step	Y	N	Action
14.1	☐	☐	Did the crew throw Oscar or fender overboard?
14.2	☐	☐	Did the crewmember call out “man overboard” and which side of the vessel the victim fell over, throw ring life buoy or PFD, fender, or other flotsam overboard and begin pointing to victim?
14.3	☐	☐	Did crewmember throw ring life buoy, PFD, fender, or other flotsam over?
14.4	☐	☐	If at night, was the waterlight attached to the life ring buoy and, was it deployed immediately?
14.5	☐	☐	Did the Master mark vessel’s position, and conduct a Williamson turn to get on reciprocal course (if man overboard is not in sight) or a destroyer turn (if man overboard is still in sight)?
14.6	☐	☐	Did the Master sound danger signal, mark position, course and speed, announce situation to crew/passengers and make the call to local CG or vessels in surrounding area?
14.7	☐	☐	Did the Master control situation from helm, make announcements, and communicate effectively with crew?
14.8	☐	☐	Did the Master approach the victim with a plan and was he successful?
14.9	☐	☐	Did the crewmembers properly don PFDs, take control of the situation, and direct passengers as appropriate?

Notes:

Task 14: Man Overboard Drill (Continued)

Step	Y	N	Action
14.10	☐	☐	Did crewmembers communicate effectively with Master, other crewmembers, and passengers?
14.11	☐	☐	When alongside, did the crew members have a plan for retrieving the victim?
			☐Y☐N Did they use a boat hook or fish gaff to retrieve the victim?
			☐Y☐N Did they use a ring life buoy or other safe lifesaving device to reign in the victim?
14.12	☐	☐	When the victim was recovered, did the crew complete basic first aid that included the ABCs?
14.13	☐	☐	Did the drill follow the training and operations manual, or emergency instructions?
14.14	☐	☐	Was the drill satisfactory?

Notes:

Task 15: Plan Review for Modifications

Step	Action	Ref
15.1	☐ Verify that vessel's construction/equipment remains unchanged. • Wind profile • Stability characteristics • Engines • Ballast has not been added/deleted/moved • Tankage capacity has not increased/ decreased/moved	46 CFR 178.320 (d)
15.2	☐ Verify that vessel meets subdivision requirements (if applicable). • Watertight bulkheads have not been moved or removed • No unauthorized openings have been placed in watertight bulkheads	46 CFR 179.210
15.3	☐ Verify that the Small Boat Program (SBP) has approved all repairs and/or alterations that affect the safety of the vessel. • Replacement, repair, or refastening of deck or hull planking, plating, and structural members • Repair of plate or frame cracks • Damage repair or replacement, other than replacement in kind, of electrical wiring, fuel lines, tanks, boilers and other pressure vessels, and steering, propulsion, and power supply systems • Alterations affecting stability • Repair or alteration of lifesaving, fire detecting, or fire extinguishing equipment	SBSPM Section16

Notes:

Step	Action	Ref
15.4	☐ Determine if any of the following have been installed or replaced onboard a vessel.	SBSPM Section 9 SBSPM Section 14

If item is...	Then conduct...
launching appliance; survival craft; rescue boat; fixed gas fire extinguishing system; machinery; fuel tank; or pressure vessel.	Examination of VOM to ensure vessel personnel capacity is accurate and any emergency instructions are still accurate for the newly installed equipment. Evaluate stability against requirements in SBSPM

15.5 ☐ Ensure vessel's current status is properly documented in the SBP's Master Vessel Inventory.

Notes:

Task 16: Drydock and Ground Tackle

Step		Action	Ref
16.2	☐	Inspect external structural members. ☐ Shell ☐ Keel and bilge keel ☐ High stress locations ☐ Caulking ☐ Welds	46 CFR 176.610 Aluminum NVIC 11-80 FRP NVIC 8-87 Steel NVIC 7-68
16.3	☐	Inspect running gear. ☐ Rudders ☐ Propellers ☐ Tailshaft(s)	46 CFR 176.610
16.4	☐	Inspect fastenings. ☐ Hull fastenings ☐ Keel bolts ☐ Attachments/appendages	46 CFR 176.610
16.5	☐	Examine Hull Markings. ☐ Draft marks (>65 feet or SOLAS) ☐ Load marks (>65 feet or SOLAS) ☐ Load line (vsl>79 feet) ☐ Name/ hailing port/ state number	46 CFR 185.602

Notes:

Step		Action	Ref
16.6	☐	Airports below weatherdecks	46 CFR 179.350
		☐ Dogs or other securing appliance	
		☐ Rims or seats	
		☐ Glass	
		☐ Dead covers	
		☐ Hinges and lugs	
16.7	☐	Self-bailers and cockpit freeing ports	46 CFR 178.420
		☐ Check valves	
		☐ Required area	
16.8	☐	Compartment or inner bottom drains (drydocking drains)	
		☐ Secure plugs	
16.9	☐	Inspect thru-hull fittings.	46 CFR 171.119
		☐ Sea chests	
		☐ Sea valves (must be fitted on all fittings within 6 inches of deepest load waterlight)	46 CFR 176.610 46 CFR 176.630
		☐ Keel/grid coolers	
		☐ Bow/stern thrusters	
		☐ Transducers	
		☐ Shaft packings	
		☐ Rudder packings	

Notes:

Step		Action	Ref
16.10	☐	Inspect internal structural members.	46 CFR 176.610 FRP NVIC 8-87 Steel NVIC 7-68
		☐ Frames	
		☐ Floors	
		☐ Shelves, brackets, clamps	
		☐ Bulkheads	
		☐ Tank tops	
16.11	☐	Inspect for watertight integrity.	46 CFR 176.802 46 CFR 176.124
		☐ Hull openings and closures	
		☐ Deck openings and closures	
		☐ Watertight doors	
		☐ Watertight subdivisions/bulkheads	
16.12	☐	Inspect for stability.	46 CFR 171 (H)
		☐ Drainage	
		☐ Major changes/modifications	
		☐ Solid fixed ballast	
16.13	☐	Inspect ground tackle.	46 CFR 184.300 46 CFR 184.10
		☐ Anchor	
		☐ Cable	

Notes:

Deficiency Summary Worksheet

Name of Vessel **HULL Number**

Deficiency	Req't Issued/ Date Completed

Deficiency	Req't Issued/ Date Completed

Notes:

Notes:

Conversions:

STEEL PLATE			
Fractions	Decimal	MM Standard Plate	Wastage Standard / MM @ 25
1/8	.125	3.175mm	.0938 / 2.381
¼	.250	6.35mm	.1875 / 4.7625
3/8	.375	9.52mm	.2812 / 7.14
½	.500	12.70mm	.3750 / 9.525
5/8	.625	15.78mm	.4688 / 11.906
¾	.750	19.05mm	.5625 / 14.287
7/8	.875	22.22mm	.6566 / 16.66
1	1.00	25.40mm	.7500 / 19.05

ALUMINUM PLATE			
Decimal	MM Standard Plate	Wastage MM @ 25	Aluminum Wastage Allowances, Conventional Vessels Under 90 M (295 Feet) built to ABS Class
.1969	5mm	3.75mm	Main Deck Plating 15%
.2362	6mm	4.50mm	Bottom Plating 15%
.2756	7mm	5.25mm	Keel Plating 15%
.3150	8mm	6.00mm	Sheer Strake 15%
.3543	9mm	6.75mm	Bilge Strake 15%
.3937	10mm	7.50mm	Side Shell Plating 20%
.4331	11mm	8.25mm	Forecastle 20%
.4724	12mm	9.00mm	Internals and Bulkheads 20%
.5118	13mm	9.75mm	
.5519	14mm	10.50mm	

Conversions:

Distance and Energy

Kilowatts (kW)	X	1,341	=	Horsepower (hp)
Feet (ft)	X	3.281	=	Meters (m)
Long Ton (LT)	X	.98421	=	Metric Ton (t)

Liquid (NOTE: Values are approximate.)

Liquid	bbl/LT	m^3/t	bbl/m^3	bbl/t
Freshwater	6.40	1.00	6.29	6.29
Saltwater	6.24	.975	6.13	5.98
Heave Oil	6.77	1.06	6.66	7.06
DFM	6.60	1.19	7.48	8.91
Lube Oil	7.66	1.20	7.54	9.05

Weight

1 Long Ton	= 2240 lb	1 Metric Ton	= 2204 lb
1 Short Ton	= 2000 lb	1 Cubic Foot	= 7.48 gal
1 Barrel (oil)	= 5.61 ft = 42 gal = 6.29	1 psi	=.06895 Bar = 2.3106 ft of water

Temperature: Fahrenheit = Celsius (F= 9/5 C+32 and C=5/9 (F-32))

0	=	-17.8	80	=	26.7	200	=	93.3
32	=	0	90	=	32.2	250	=	121.1
40	=	4.4	100	=	37.8	300	=	148.9
50	=	10.0	110	=	43.3	400	=	204.4
60	=	15.6	120	=	48.9	500	=	260
70	=	21.1	150	=	65.6	1000	=	537.8

Pressure:

1 Bar	=	14.5 psi	5 Bars	=	72.5 psi	9 Bars	=	130.5 psi
2 Bars	=	29.0 psi	6 Bars	=	87.0 psi	10 Bars	=	145.0 psi
3 Bars	=	43.5 psi	7 Bars	=	101.5 psi			
4 Bars	=	58.0 psi	8 Bars	=	116.0 psi			