Corr track number:
Model name: x
LBH: xx m x xx m x xx m
Rescue boat: Yes/No
Occupancy: xxPOB
New or modified design:
Name of Manufacturer:
Location of Manufacture:
Independent Lab:

PREAPPROVAL PLAN REVIEW	
46 CFR 160.135-9(d) *Plan quality.* The plans and specifications submitted to the Commandant under this section must— (1) Be provided in English, including all notes, inscriptions, and designations for configuration control; (2) Address each of the applicable items in paragraph (b) of this section in sufficient detail to show that the lifeboat meets the construction requirements of this subpart; (3) Accurately depict the proposed lifeboat; (4) Be internally consistent; (5) Be legible; and (6) If reviewed by an independent laboratory under paragraph (c) of this section, include the independent laboratory's attestation that the plans meet the quality requirements of this section.	
46CFR 160.135-9(b)---- (1) A list of drawings, specifications, manuals, and any other documentation submitted, with each document identified by number, title, revision issue, and date;	
(2) General arrangement and assembly drawings, including principal dimensions;	
(3) Seating arrangement plan, including a dimensioned seat form to scale;	
(4) A complete material list, with each material referenced to a U.S. national standard or, if a copy is provided in English, an equivalent international standard;	
(5) Plans for carriage and, in detail, stowage of equipment;	
(6) Hull, canopy, and critical parts lay-up schedule for a Fiber Reinforced Plastic (FRP) lifeboat;	
(7) Hull and canopy construction drawings, including particulars of joints, welds, seams, and other fabricating details;	
(8) Weights and thickness of each major FRP structural component, including the hull, canopy, and inner liners, before outfitting;	
(9) Specification and identification of materials such as steel, aluminum, resin, foam, fiberglass, cloth, and plastic used in the lifeboat's manufacture;	
(10) Fabrication details for each major structural component, including details of each welded joint;	
(11) Lines plans;	
(12) Propulsion system specifications and arrangement and installation drawings;	
(13) Steering system drawings and specifications;	
(14) Release mechanism installation drawings and the mechanism's Coast Guard approval number;	
(15) Air and water spray systems drawings and specifications,	

if installed;	
(16) Plans for critical subassemblies;	
(17) Hydraulic systems drawings and specifications, if installed;	
(18) Electrical system schematics and specifications;	
(19) Stability data, including righting arm curves in the light and loaded condition for both intact and flooded stability;	
(20) Drawings of all signs and placards, showing actual inscription, format, color, size, and location on the lifeboat;	
(21) Complete data pertinent to the installation and use of the proposed lifeboat, including the light load (condition A) and full load (condition B) weights;	
(22) Specifications for the required launching ramp length and angle, and the height of free-fall lifeboat installation above the water;	
(23) An operation, maintenance, and training manual as described in §§ 160.135–19 and 160.135–21 of this subpart;	
(24) A description of the quality control procedures and record keeping that will apply to the production of the lifeboat, which must include but is not limited to— (i) The system for checking material certifications received from suppliers; (ii) The method for controlling the inventory of materials; (iii) The method for checking quality of fabrication, seams, and joints, including welding inspection procedures; and (iv) The inspection checklists used during various stages of fabrication to assure that the approved lifeboat complies with the approved plans and the requirements of this subpart;	
(25) Full details of any other unique capability;	
(26) Any other drawing(s) necessary to show that the lifeboat complies with the requirements of this subpart;	
(27) The location or address of all manufacturing sites, including the name and address of any subcontractors, where the lifeboat will be constructed;	
(28) The name of the independent laboratory that will perform the duties prescribed in §§ 160.135–11 and 160.135–15 of this subpart.	
(c) At the request of the manufacturer and discretion of the Commandant, an independent laboratory may conduct preapproval review required by this section so long as the preapproval review is conducted in accordance with the procedures agreed upon between the independent laboratory and Commandant under 46 CFR part 159, subpart 159.010.	
DESIGN AND CONSTRUCTION	
Compliance with ASTM F1166. Design limits should be based on a range from the fifth percentile female to the 95th percentile male values for critical body dimensions and functional capabilities as described in ASTM F 1166. The dimensions for a person wearing an immersion suit correspond to the arctic clothed dimensions of ASTM F 1166.	
Visibility from operator's station. (i) The operator's station must be designed such that the operator, when seated at the control station, has visibility 360 degrees around the lifeboat, with any areas obstructed by the lifeboat structure or its fittings visible by moving the operator's head and torso. (ii) The operator, while still being able to steer and control the speed of the lifeboat, must be able to see the water— (A) Over a 90 degree arc within 3 m (9 ft, 10 in) of each side	

of the lifeboat; (B) Over a 30 degree arc within 1 m (3 ft, 3 in) of each side of the lifeboat; and (C) Within 0.5 m (1 ft, 8 in) of the entrances designated for recovering persons from the water. (iii) In order to see a person in the water during recovery or docking operations, a hatch must be provided so that the operator can stand with his or her head outside the lifeboat for increased visibility, provided the operator can still steer and control the speed of the lifeboat.	
Construction. Each major rigid structural component of each lifeboat must be constructed of steel, aluminum, Fiber Reinforced Plastic (FRP), or materials accepted by the Commandant as equivalent or superior.	
METALS	
General. Metals in contact with each other must be either galvanically compatible or insulated with suitable non-porous materials. Provisions must also be made to prevent loosening or tightening resulting from differences of thermal expansion, freezing, buckling of parts, galvanic corrosion, or other incompatibilities.	
Steel. Sheet steel and plate must be low carbon, commercial quality, either corrosion resistant or galvanized as per ASTM A 653, coating designation G90. Structural steel plates and shapes must be carbon steel as per ASTM A 36, or an equivalent or superior steel accepted by the Commandant. All steel products, except corrosion resistant steel, must be galvanized to provide high quality zinc coatings suitable for the intended service life in a marine environment. Corrosion resistant steel must be a type 302 stainless steel per ASTM A 276, ASTM A 313 or ASTM A 314 or another corrosion resistant stainless steel of equal or superior corrosion resistant characteristics.	
Aluminum. Aluminum and aluminum alloys must conform to ASTM B 209 and be high purity for good marine corrosion resistance, free of iron, and containing not more than 0.6 percent copper.	
Welding. Welding must be performed by welders certified by the Commandant, a classification society recognized by the Commandant in accordance with 46 CFR 8.220, the U.S. Navy, or the national body where the lifeboat is constructed or the national body's designated recognized organization. Only electrodes intended for use with the material being welded may be used. All welds must be checked using appropriate non-destructive tests.	
ACCESS, SEATING, ACCOMMODATION AND INTERIOR LAYOUT	
Seating shall be provided on thwarts, benches or fixed chairs	
The vertical distance between the floor surface and the interior of the enclosure or canopy over 50 % of the floor area shall be: .1 not less than 1.3 m for a lifeboat permitted to accommodate nine persons or less; .2 not less than 1.7 m for a lifeboat permitted to accommodate 24 persons or more; and .3 not less than the distance as determined by linear interpolation between 1.3 m and 1.7 m for a lifeboat permitted to accommodate between nine and 24 persons.	
No lifeboat shall be approved to accommodate more than 150 persons	
The number of persons which a lifeboat to be launched by falls shall be permitted to accommodate shall be equal to the lesser of:	

.1 the number of persons having an average mass of 75 kg (FOR PASSENGER VESSELS ONLY) or 82.5 kg (ALL OTHER VESSELS AND RESCUE BOATS), all wearing lifejackets, that can be seated in a normal position without interfering with the means of propulsion or the operation of any of the lifeboat's equipment: or .2 the number of spaces that can be provided on the seating arrangements in accordance with the seating dimension of figure 1 of MSC.48(66). The shapes may be overlapped as shown, provided footrests are fitted and there is sufficient room for legs and the vertical separation between the upper and lower seat is not less than 350 mm.	
Each seating position shall be clearly indicated in the lifeboat	
Lifeboats shall have a boarding ladder that can be used at any boarding entrance of the lifeboat to enable persons in the water to board the lifeboat. The lowest step of the ladder shall be not less than 0.4 m below the lifeboat's light waterline.	
All surfaces on which persons might walk shall have a non skid finish	
FIBER REINFORCED PLASTIC	
Hulls and rigid covers shall be fire retardant or non-combustible.	
Resin. Any resin used for the hull, canopy, hatches, rigid covers, and enclosures for the engine, transmission, and engine accessories, must be fire retardant and accepted by the Commandant in accordance with 46 CFR part 164, subpart 164.120.	
Glass reinforcement. Any glass reinforcement used must have good laminated wet strength retention and must meet the appropriate specification in this paragraph. Glass cloth must be a finished fabric woven from ‘‘E’’ electrical glass fiber yarns meeting ASTM D 4029 commercial style designation 1564. Woven roving must conform to MIL–C–19663D. Other glass materials equivalent or superior in strength, design, wet out, and efficiency will be given consideration on specific request to the Commandant.	
Laminate. All exposed surfaces of any finished laminate must present a smooth finish, and there must be no protruding surface fibers, open voids, pits, cracks, bubbles, or blisters. The laminate must be essentially free from resin-starved or overimpregnated areas, and no foreign matter must remain in the finished laminate. The entire laminate must be fully cured and free of tackiness, and must show no tendency to delaminate, peel, or craze in any overlay. The laminate must not be released from the mold until a Barcol hardness reading of not less than 40–55 is obtained from at least 10 places on the non-gel coated surface, including all interior inner and outer hull surfaces and built-in lockers. The mechanical properties of the laminate must meet the requirements for a Grade 3 laminate in Table I of MIL–P–17549D(SH). Other grades will be given consideration on specific request to the Commandant.	
BUOYANCY AND STABILITY	
All lifeboats shall have inherent buoyancy or shall be fitted with inherently buoyant material which shall not be adversely affected by seawater, oil or oil products, sufficient to float the lifeboat with all its equipment on board when flooded and open to the sea. Additional inherently buoyant material, equal to 280 N of buoyant force per person shall be provided for the number of persons the lifeboat is permitted to accommodate. Buoyant	

material, unless in addition to that required above, shall not be installed external to the hull of the lifeboat.	
All lifeboats shall be stable and have a positive GM value when loaded with 50 % of the number of persons the lifeboat is permitted to accommodate in their normal positions to one side of the centerline.	
Lifeboat buoyancy. (i) The buoyancy material must be accepted by the Commandant as meeting the performance requirements of the IMO Revised recommendation on testing, part 1, 6.2.2 to 6.2.7, with a density of 32 ± 8 kg/m3 (2 ± 0.5 lb/ft3). The buoyancy foam or lifeboat manufacturer must certify the results of the testing to IMO Revised recommendation on testing, part 1, 6.2.2 to 6.2.7 and submit those results to the Commandant. A list of accepted buoyancy foams may be obtained from the Commandant upon request and online at http://cgmix.uscg.mil. (ii) All voids in the hull and canopy required to provide buoyancy for positive stability and self righting must be completely filled with Coast Guard accepted buoyancy material.	
PROPULSION AND FUEL SYSTEMS	
Engines Every lifeboat shall be powered by a compression ignition engine. No engine shall be used for any lifeboat if its fuel has a flashpoint of 43ºC or less (closed cup test).. In order to be accepted by the Commandant, any compression ignition engine fitted to an approved lifeboat must meet the U.S. Environmental Protection Agency emission requirements in 40 CFR part 89, part 94, or part 1042, as applicable, and have reports containing the same information as recommended by MSC Circ. 980 certified and witnessed by a U.S. Coast Guard inspector or an independent laboratory.	
Air cooled engines fitted in fully enclosed lifeboats must have a duct system to take in cooling air from, and exhaust it to, the outside of the lifeboat. Manually operated dampers shall be provided to enable cooling air to be taken in from, and exhausted to, the interior of the lifeboat.	
Starting System. The engine shall be provided with either a manual starting system, or a power starting system with two independent rechargeable energy sources. Any necessary starting aids shall also be provided. The starting systems shall not be impeded by the engine casing, seating or other obstructions.	
Propeller. The propeller shafting shall be so arranged that the propeller can be disengaged from the engine. Provision shall be made for ahead and astern propulsion of the lifeboat. **Propeller guard**. Each propeller on a lifeboat must be fitted with a propeller guard with a maximum opening of 76 mm (3 in) on all sides on which a person is likely to be exposed.	
The exhaust pipe shall be so arranged as to prevent water from entering the engine in normal operation.	
All lifeboats shall be designed with due regard to the safety of persons in the water and to the possibility of damage to the propulsion system by floating debris.	
The lifeboat engine, transmission and engine accessories shall be enclosed in a fire retardant casing or other suitable arrangements providing similar protection. Such arrangements shall also protect persons from coming into accidental contact with hot or moving parts and protect the engine from exposure	

to weather and sea. Adequate means shall be provided to reduce the engine noise so that a shouted order can be heard. Starter batteries shall be provided with casings which form a watertight enclosure around the bottom and sides of the batteries. The battery casings shall have a tight fitting top which provides for necessary gas venting.	
The lifeboat engine and accessories shall be designed to limit electromagnetic emissions so that engine operation does not interfere with the operation of radio life saving appliances used in the lifeboat.	
Means shall be provided for recharging all engine starting, radio and searchlight batteries. Radio batteries shall not be used to provide power for engine starting. Means shall be provided for recharging lifeboat batteries from the ship's power supply at a supply voltage not exceeding 50V (Refer to IEC 92-101) which can be disconnected at the lifeboat embarkation station, or by means of a solar battery charger.	
Water resistant instructions for starting and operating the engine shall be provided and mounted in a conspicuous place near the engine starting controls.	
A **hydraulic starting system**, if installed, must be in accordance with 46 CFR part 58, subpart 58.30, with hose and fittings in accordance with 46 CFR part 56, subpart 56.60, except that— (A) Push-on type fittings such as Aeroquip 1525–X, 25156–X, and FC332–X are not permitted; and (B) The length of nonmetallic flexible hose is limited to 760 mm (30 in). Longer, nonmetallic flexible hoses may be allowed in emergency steering systems at the discretion of the Commandant. (iii) If a hand pump is provided, or if the engine has a manual starting system, adequate space must be provided for the hand pump or hand start operation.	
Fuel system. (i) The fuel system must meet 46 CFR 56.50–75(b) and, except as specified in this paragraph, the fuel tank must meet 46 CFR 58.50–10.	
Fuel Tanks constructed with— (A) Aluminum must be at least 5 mm (0.20 in) thick of ASTM B 209 or 5086 alloy; (B) Nickel-copper must be at least 0.9 mm (0.0375 in) thick of ASTM B 127 hot-rolled sheet or plate; (C) Steel or iron must be at least 1.9 mm (0.0747 in) thick. Diesel tanks of steel or iron must not have interior galvanizing; (D) Fiberglass reinforced plastic must be at least 5 mm (0.187 in) thick; be sealed against porosity by at least one ply of chopped strand mat; be reinforced in the way of tank openings; be fitted with corrosion-resistant fittings; have each joint at the top of the tank; and have each joint bonded and through-bolted; or (E) Roto-molded plastic must be at least 5 mm thick; must meet the requirements of 33 CFR 183.510 (a), (b), and (e) regardless of tank capacity; must be able to pass all static pressure tests as required in 33 CFR 183.510 at a minimum pressure of 5 psi; and be fitted with corrosion-resistant fittings. (iii) Each fuel tank over 0.75 m (30 in) long must be baffled at intervals not exceeding 0.45 m (18 in). (iv) A fuel level indicator must be provided for each fuel tank. (v) Any fuel tank vent piping must be	

at least 6 mm (0.25 in) outside diameter tubing.	
A shut-off valve must be provided at the fuel tank and must not be provided at the fuel pump. The valve must be clearly labeled. The position of the valve must be clearly indicated by a permanent marking inside the lifeboat. The marking must be an arrow pointing in the direction of the valve, and the words ''Fuel Shut-Off Valve'' must be in a color that contrasts with their background. The marking must be legible to a person within the vicinity of the engine.	
Starting system batteries. Any battery fitted in a totally enclosed lifeboat must be stored in a sealed compartment with exterior venting. If the lifeboat has more than one engine, then only one starting battery is required per engine.	
Exhaust. Engine exhaust must be routed away from bilge and potential oil drips. Any paint used on engines, manifolds, or exhaust must not give off fumes when heated. All exhaust lagging must be non-absorbent.	
CONTROL AND STEERING	
General. The operator's control and steering station must have complete lifeboat lowering and launching, hook release, engine throttle, steering controls, and if applicable, an air system and water spray system. (i) The throttle must be a continuous manual control and must be able to be set and locked at any position. (ii) The control and steering station must be designed and laid out in accordance with ASTM F 1166 sections 9 and 10, so that controls and displays are unambiguous, accessible, and easy to reach and use from the operator's normal seated position, while wearing an immersion suit or a lifejacket. Each control, gauge, or display must be identified by a marking posted on, above, or adjacent to the respective item. Each control must operate in a logical manner and be marked with an arrow to show direction of movement of control which will cause an increased response. Each gauge must be marked with the normal operating range and indicate danger or abnormal conditions. Each marking must be permanent and weatherproof. (iv) Gauges, and audio and visual alarms must be provided to monitor at least the following parameters— (A) Coolant temperature, for a liquid cooled engine; (B) Oil pressure, for an engine with an oil pump; (C) Tachometer, for an engine not provided with over-speed protection; and (D) State of charge, or rate of charge, for each rechargeable engine starting power source	
All lifeboats shall be provided with a rudder and tiller. When a wheel or other remote steering mechanism is also provided the tiller shall be capable of controlling the rudder in case of failure of the steering mechanism. The rudder shall be permanently attached to the lifeboat. The tiller shall be permanently installed on, or linked to, the rudder stock; however, if the lifeboat has a remote steering mechanism, the tiller may be removable and securely stowed near the rudder stock. The rudder and tiller shall be so arranged as not to be damaged by operation of the release mechanism or the propeller.	
Remote steering. The procedure to change over from remote to local steering must be simple, not require the use of tools,	

and be clearly posted. There must be sufficient clear space to install, operate, remove, and stow the removable tiller arm. The tiller arm and its connection to the rudder stock must be of sufficient strength so that there is no slippage or bending of the tiller arm. Rudder stops or other means must be provided to prevent the rudder from turning too far on either side.	
FITTINGS AND OTHER PERMANENTLY INSTALLED EQUIPMENT	
Hull drain plug. All lifeboats except free fall lifeboats shall be provided with at least one drain valve fitted near the lowest point in the hull, which shall automatically open to drain water from the hull when the lifeboat is not waterborne and shall automatically close to prevent entry of water when the lifeboat is waterborne. Each drain valve shall be provided with a cap or plug to close the valve, which shall be attached to the lifeboat by a lanyard, a chain, or other suitable means. Drain valves shall be readily accessible from inside the lifeboat and their position shall be clearly indicated. The position of each drain plug must be clearly indicated by a permanent marking inside the lifeboat. The marking must be an arrow pointing in the direction of the plug, and the words ''Drain Plug'' must be 76 mm (3 in) high and have letters of a color that contrast with their background. The marking must be clearly visible to a person within the vicinity of the drain plug.	
Lifelines. Buoyant lifelines must be of ultraviolet resistant material.	
Handholds. Except in the vicinity of the rudder and propeller, suitable handholds shall be provided or a buoyant lifeline shall be becketed around the outside of the lifeboat above the waterline and within reach of a person in the water. Lifeboats which are not self righting when capsized shall have suitable handholds on the underside of the hull to enable persons to cling to the lifeboat. The handholds shall be fastened to the lifeboat in such a way that, when subjected to an impact sufficient to cause them to break away from the lifeboat, they break away without damaging the lifeboat. **Rails** provided as handholds. Rails provided as handholds to cling when the lifeboat is overturned must extend for half the length of the lifeboat on both sides of the hull, and the clearance between the rail and hull must also be at least 38 mm (1.5 in). The rails must be attached to the hull below the chine or turn of the bilge, must be faired to prevent any fouling, and not project beyond the widest part of the lifeboat.	
Storage compartments and collection and storage of rainwater. All lifeboats shall be fitted with sufficient watertight lockers or compartments to provide for the storage of the small items of equipment, water and provisions required by paragraph 4.4.8. The lifeboat shall be equipped with a means for collecting rain water, and in addition if required by the Administration a means for producing drinking water from seawater with a manually powered desalinator. The desalinator must not be dependent upon solar heat, nor on chemicals other than seawater. Means shall be provided for the storage of collected water. (i) Each storage compartment must be supported and secured against movement. It must have adequate hand access for	

removing and storing the required equipment, provisions, or water, and for cleaning the inside of the compartment. (ii) The rain water collecting device may be incorporated into the design of the canopy or may be a separate unit to be mounted outside the lifeboat. The device must have a projected horizontal area of at least 1 m2 (10.7 ft2) collection area and be designed to function unattended. (iii) Provision must be made to continue to collect water in the storage compartment while drawing water to fill a cup. The compartment must have a means of drainage and adequate access to allow filling the graduated drinking cup required to be carried as part of the lifeboat equipment.	
Release mechanism. Each release mechanism must be identified at the application for approval of the prototype lifeboat and must be approved under 46 CFR part 160, subpart 160.133. The release lever or control in the lifeboat must be red in color, and the area immediately surrounding the control must be a sharply contrasting light color. An illustrated operating instruction plate or placard showing the correct off-load and emergency on-load release procedure and recovery procedure must be posted so that it is visible and legible from the helmsman's normal operating position. The plate or placard must be corrosion resistant and weatherproof and must be marked with the word ''Danger''.	
Painter release. Any painter release must be located such that the lifeboat operator can readily release the painter from the operator's control and steering station.	
Canopy lamp. Any exterior lifeboat position-indicating light must be approved by the Commandant under approval series 161.101.	
Navigating lights. Each lifeboat must have navigation lights that are in compliance with the applicable sections of the International and Inland Navigation Rules and meet 46 CFR111.75–17.	
A manually controlled exterior light or source of light shall be fitted inside the lifeboat to provide illumination for not less than 12h to permit reading of survival and equipment instructions; however, oil lamps shall not be permitted for this purpose.	
A manually controlled lamp shall be fitted. The light shall be white and be capable of operating continuously for at least 12 h with a luminous intensity of not less than 4.3 cd in all directions of the upper hemisphere. However if the light is a flashing light it shall flash at a rate of not less than 50 flashes and not more than 70 flashes per min for the 12 h operating period with an equivalent effective luminous intensity.	
Lifeboat equipment. Each lifeboat must be designed to accommodate and carry the equipment as specified in 46 CFR 199.175.	
Oars. Oars are not required on a lifeboat with more than one engine, provided one engine can be operated while the other is disabled.	
Bilge pump. Each lifeboat that is not automatically self-bailing, must be fitted with a manual bilge pump approved under 46 CFR part 160, subpart 160.044. Each such lifeboat with a capacity of 100 persons or more must carry an additional approved manual bilge pump or an engine-powered bilge pump.	
Exterior color. The primary color of the exterior of the canopy and interior of partially enclosed lifeboats visible from	

the air must be a highly visible color equivalent to vivid reddish orange color number 12197 of FED–STD–595C, or a durable fluorescent color of a similar hue.	
Retroreflective material. The exterior of each lifeboat and its canopy must be marked with Type II retroreflective material approved under 46 CFR part 164, subpart 164.018. The arrangement of the retroreflective material must comply with IMO Res. A.658(16) (incorporated by reference, see § 160.135–5 of this subpart).	
Permanently attached foldable canopy. For a partially enclosed lifeboat, the foldable canopy cloth material must meet the specifications for Type II, Class 1 requirements of A–A–55308 (incorporated by reference, see § 160.135–5 of this subpart), or be accepted by the Commandant as equivalent or superior.	
Labels and notices. Any labels, caution and danger notices, and operating, maintenance, or general instructions, must be in accordance with ASTM F 1166, Section 15, in terms of format, content, lettering size and spacing, color, and posted location. They must be illustrated with symbols in accordance with IMO Res. A.760(18) , as applicable. Information and instruction plates, not specifically mentioned in this section, must not be posted in the vicinity of the control and steering station without prior approval from the Commandant. Identification label plates, if required, must be posted on or above the component or equipment to be identified.	
Painter. Every lifeboat shall be fitted with a device to secure a painter near its bow. The device shall be such that the lifeboat does not exhibit unsafe or unstable characteristics when being towed by the ship making headway at speeds up to 5 knots in calm water. Except for free fall lifeboats the painter securing device shall include a release device to enable the painter to be released from inside the lifeboat, with the ship making headway at speeds up to 5 knots in calm water.	
Every lifeboat which is fitted with a fixed two way VHF radiotelephone apparatus with an antenna which is separately mounted shall be provided with arrangements for siting and securing the antenna effectively in its operating position.	
Lifeboats intended for launching down the side of a ship shall have skates and fenders as necessary to facilitate launching and prevent damage to the lifeboat.	
Enclosure Every totally enclosed lifeboat shall be provided with a rigid watertight enclosure which completely encloses the lifeboat. The enclosure shall be so arranged that: .1 it provides shelter for the occupants; .2 access to the lifeboat is provided by hatches which can be closed to make the lifeboat watertight; .3 except for free fall lifeboats, hatches are positioned so as to allow launching and recovery operations to be performed without any occupant having to leave the enclosure; .4 access hatches are capable of being opened and closed from both inside and outside and are equipped with means to hold them securely in open positions; .5 except for a free fall lifeboat, it is possible to row the lifeboat; .6 it is capable, when the lifeboat is in the capsized position with the hatches closed and without significant leakage, of supporting the entire mass of the lifeboat, including all equipment, machinery and its full complement of persons; .7 it includes windows or translucent panels which admit sufficient daylight to the inside of the lifeboat with the	

hatches closed to make artificial light unnecessary; .8 its exterior is of a highly visible colour and its interior of a light colour which does not cause discomfort to the occupants; .9 handrails provide a secure handhold for persons moving about the exterior of the lifeboat, and aid embarkation and disembarkation; .10 persons have access to their seats from an entrance without having to climb over thwarts or other obstructions; and	
Fire protected lifeboats	
General. In addition to complying with the requirements of section 4.8, a fire protected lifeboat when waterborne shall be capable of protecting the number of persons it is permitted to accommodate when subjected to a continuous oil fire that envelops the lifeboat for a period of not less than 8 min.	
Water spray system A lifeboat which has a water spray fire protection system shall comply with the following: .1 water for the system shall be drawn from the sea by a self priming motor pump. It shall be possible to turn "on" and turn "off" the flow of water over the exterior of the lifeboat; .2 the seawater intake shall be so arranged as to prevent the intake of flammable liquids from the sea surface; and .3 the system shall be arranged for flushing with fresh water and allowing complete drainage.	
Self-contained air supply system and fire protection system operating instructions. Water-resistant instructions for starting the water spray and air supply, if fitted, must be provided and mounted in a conspicuous place near the system controls.	
Air bottles. Each compressed gas air cylinder must meet the requirements in 46 CFR 147.60. The cylinders must be accessible for removal and charging in place.	
§ 160.135–15 Production inspections, tests, quality control, and conformance of lifeboats.	
The manufacturer must— (1) Institute a quality control procedure to ensure that all production lifeboats are produced to the same standard, and in the same manner, as the prototype lifeboat approved by the Commandant. The manufacturer's quality control personnel must not work directly under the department or person responsible for either production or sales;	**See specifics for recordkeeping in 46 CFR 160.135-15**
MARKING AND LABELING OF THE LIFEBOAT 46 CFR 160.135-17	
(a) Each lifeboat must be marked with a plate or label permanently affixed to the hull in a conspicuous place readily accessible for inspection and sufficiently durable to withstand continuous exposure to environmental conditions at sea for the life of the lifeboat.. (b) The plate or label must be in English, but may also be in other languages. (c) The plate or label must contain the— (1) Manufacturer's name and model identification; (2) Name of the independent laboratory that witnessed the prototype or production tests; (3) Serial number of the release mechanism; (4) U.S. Coast Guard approval number; (5) Month and year of manufacture; (6) Safe working load of the release mechanism; and	

(7) the word ‘‘SOLAS.’’	