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Subpart 58.05—Main Propulsion Machinery

§ 58.05–1 Material, design and construction.

(a) The material, design, construction, workmanship, and arrangement of main propulsion machinery and of each auxiliary, directly connected to the engine and supplied as such, must be at least equivalent to the standards established by the ABS Steel Vessel Rules (incorporated by reference, see 46 CFR 58.03–1), except as otherwise provided by this subchapter.

(b) When main and auxiliary machinery is to be installed without classification society review, the builder shall submit in quadruplicate to the cognizant Officer in Charge, Marine Inspection, such drawings and particulars of the installation as are required by the American Bureau of Shipping Rules for Building and Classing Steel Vessels, Part 4 Vessel Systems and Machinery (2003) for similar installations on classed vessels.

[USCG–2003–16630, 73 FR 65186, Oct. 31, 2008]

§ 58.05–5 Astern power.

(a) All vessels shall have sufficient power for going astern to secure proper control of the ship in all normal circumstances.

§ 58.05–10 Automatic shut-off.

Main propulsion machinery must be provided with automatic shut-off controls in accordance with part 62 of this subchapter. These controls must shut down main propulsion machinery in case of a failure, such as failure of the lubricating-oil supply, that could lead rapidly to complete breakdown, serious damage, or explosion.

[CGD 83–043, 60 FR 24776, May 10, 1995]

Subpart 58.10—Internal Combustion Engine Installations

§ 58.10–5 Gasoline engine installations.

(a) *Engine design.* All installations shall be of marine type engines suitable for the intended service, designed and constructed in conformance with the requirements of this subchapter.

(b) *Carburetors.* (1) Drip collectors shall be fitted under all carburetors, except the down-draft type, to prevent fuel leakage from reaching the bilges and so arranged as to permit ready removal of such fuel leakage. Drip collectors shall be covered with flame screens.

NOTE: It is recommended that drip collectors be drained by a device for automatic return of all drip to engine air intakes.

(2) All gasoline engines must be equipped with an acceptable means of backfire flame control. Installations of backfire flame arresters bearing basic Approval Nos. 162.015 or 162.041 or engine air and fuel induction systems bearing basic Approval Nos. 162.015 or 162.042 may be continued in use as long as they are serviceable and in good condition. New installations or replacements must meet the applicable requirements of this section.

(3) The following are acceptable means of backfire flame control for gasoline engines:

(i) A backfire flame arrester complying with SAE J–1928 (incorporated by reference; see 46 CFR 58.03–1) or UL 1111 (incorporated by reference; see 46 CFR 58.03–1) and marked accordingly. The flame arrester must be suitably secured to the air intake with a flametight connection.

(ii) An engine air and fuel induction system which provides adequate protection from propagation of backfire flame to the atmosphere equivalent to that provided by an acceptable backfire flame arrester. A gasoline engine utilizing an air and fuel induction system, and operated without an approved backfire flame arrester, must either include a reed valve assembly or be installed in accordance with SAE J–1928.

(iii) An arrangement of the carburetor or engine air induction system that will disperse any flames caused by engine backfire. The flames must be dispersed to the atmosphere outside the vessel in such a manner that the flames will not endanger the vessel, persons, on board, or nearby vessels and structures. Flame dispersion may be achieved by attachments to the carburetor or location of the engine air induction system. All attachments must be of metallic construction with

flametight connections and firmly secured to withstand vibration, shock, and engine backfire. Such installations do not require formal approval and labeling but must comply with this subpart.

(c) *Exhaust manifold.* The exhaust manifold shall either be water-jacketed and cooled by discharge from a pump which operates whenever the engine is running, or woodwork within nine inches shall be protected by ¼-inch asbestos board covered with not less than No. 22 USSG (U.S. standard gage) galvanized sheet iron or nonferrous metal. A dead air space of ¼-inch shall be left between the protecting asbestos and the wood, and a clearance of not less than two inches maintained between the manifold and the surface of such protection.

(d) *Exhaust pipe.* (1) Exhaust pipe installations must conform to the requirements of ABYC P–1 and part 1, section 23 of NFPA 302 (both incorporated by reference; see 46 CFR 58.03–1) and the following additional requirements:

(i) All exhaust installations with pressures in excess of 15 pounds per square inch gage or employing runs passing through living or working spaces shall meet the material requirements of part 56 of this subchapter.

(ii) Horizontal dry exhaust pipes are permitted only if they do not pass through living or berthing spaces, they terminate above the deepest load waterline and are so arranged as to prevent entry of cold water from rough or boarding seas, and they are constructed of corrosion resisting material ''at the hull penetration.''

[CGFR 68–82, 33 FR 18878, Dec. 18, 1968, as amended by CGD 88–032, 56 FR 35824, July 29, 1991; USCG–2003–16630, 73 FR 65187, Oct. 31, 2008]

§58.10–10 Diesel engine installations.

(a) The requirements of §58.10–5 (a), (c), and (d) shall apply to diesel engine installations.

(b) A diesel engine air intake on a mobile offshore drilling unit must not be in a classified location.[1]

(c) A diesel engine exhaust on a mobile offshore drilling unit must not discharge into a classified location.[1]

[CGFR 68–82, 33 FR 18878, Dec. 18, 1968, as amended by CGD 73–251, 43 FR 56801, Dec. 4, 1978; CGD 95–028, 62 FR 51202, Sept. 30, 1997]

§58.10–15 Gas turbine installations.

(a) *Standards.* The design, construction, workmanship and tests of gas turbines and their associated machinery shall be at least equivalent to the standards of the ABS Steel Vessel Rules (incorporated by reference, see 46 CFR 58.03–1).

(b) *Materials.* The materials used for gas turbine installations shall have properties suitable for the intended service. When materials not conforming to standard ASTM specifications are employed, data concerning their properties, including high temperature strength data, where applicable, shall be furnished.

(c) *Exhausts.* (1) Where piping is used for gas turbine exhaust lines, Class II is required as a minimum. (See subpart 56.04 of this subchapter.) Where the exhaust pressure exceeds 150 pounds per square inch, such as in closed cycle systems, Class I shall be used. Where ducting other than pipe is employed, the drawings and design data shall be submitted to substantiate suitability and safety for the intended service.

(2) Where considered necessary, gas turbines and associated exhaust systems shall be suitably insulated or cooled, by means of lagging, water spray, or a combination thereof.

(3) Gas turbine exhausts shall not be interconnected with boiler uptakes except for gas turbines used for emergency power and lighting or for emergency propulsion. Dampers or other suitable means shall be installed to prevent backflow of boiler exhaust gases through the turbine. Interconnected exhausts must be specifically approved by the Commandant.

(4) A gas turbine exhaust on a mobile offshore drilling unit must not discharge in a classified location.[1]

(d) *Air inlets.* Air inlets must be designed as follows:

[1] Sections 108.171 to 108.175 of this chapter define classified locations for mobile offshore drilling units.