

§ 62.35–35

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(2) Operated by the programming control or combustion control sub-systems, as applicable.

(f) *Master fuel oil valves.* Each boiler must be provided with a master fuel oil valve to stop fuel to the boiler automatically upon actuation by the boiler safety trip control system.

(g) *Valve closure time.* The valves described in paragraphs (e) and (f) of this section must close within 4 seconds of automatic detection of unsafe trip conditions.

(h) *Burner safety trip control system.* (1) Each burner must be provided with at least one flame detector.

(2) The burner valve must automatically close when—

- (i) Loss of burner flame occurs;
- (ii) Actuated by the boiler safety trip control system;
- (iii) The burner is not properly seated or in place; or
- (iv) Trial for ignition fails, if a programming control is provided.

(i) *Boiler safety trip control system.* (1) Each boiler must be provided with a safety trip control system that automatically closes the master and all burner fuel oil valves upon—

- (i) Boiler low-low water level;
- (ii) Inadequate boiler air flow to support complete combustion;
- (iii) Loss of boiler control power;
- (iv) Manual safety trip operation; or
- (v) Loss of flame at all burners.

(2) The low-low water level safety trip control must account for normal vessel motions and operating transients.

[CGD 81–030, 53 FR 17838, May 18, 1988, as amended by USCG–2002–13058, 67 FR 61278, Sept. 30, 2002]

§ 62.35–35 **Starting systems for internal-combustion engines.**

The starting systems for propulsion engines and for prime movers of ships'

service generators required to start automatically must meet sections 4–6–5/9.5 and 4–8–2/11.11 of the ABS Steel Vessel Rules (incorporated by reference; see 46 CFR 62.05–1).

[USCG–2003–16630, 73 FR 65189, Oct. 31, 2008]

§ 62.35–40 **Fuel systems.**

(a) *Level alarms.* Where high or low fuel tank level alarms are required, they must be located to allow the operator adequate time to prevent an unsafe condition.

(b) *Coal fuels.* (1) Controls and instrumentation for coal systems require special consideration by the Commandant CG–521.

(2) Interlocks must be provided to ensure a safe transfer of machinery operation from one fuel to another.

(c) *Automatic fuel heating.* Automatic fuel heating must meet section 4–9–3/15.1 of the ABS Steel Vessel Rules (incorporated by reference; see 46 CFR 62.05–1).

(d) *Overflow prevention.* Fuel oil day tanks, settlers, and similar fuel oil service tanks that are filled automatically or by remote control must be provided with a high level alarm that annunciates in the machinery spaces and either an automatic safety trip control or an overflow arrangement.

[CGD 81–030, 53 FR 17838, May 18, 1988, as amended by CGD 95–072, 60 FR 50463, Sept. 29, 1995; CGD 96–041, 61 FR 50728, Sept. 27, 1996; USCG–2003–16630, 73 FR 65190, Oct. 31, 2008; USCG–2009–0702, 74 FR 49229, Sept. 25, 2009]

§ 62.35–50 **Tabulated monitoring and safety control requirements for specific systems.**

The minimum instrumentation, alarms, and safety controls required for specific types of systems are listed in Table 62.35–50.

TABLE 62.35–50—MINIMUM SYSTEM MONITORING AND SAFETY CONTROL REQUIREMENTS FOR SPECIFIC SYSTEMS (NOTE 1)

System	Service	Instrumentation	Alarm	Safety control	Notes
Main (Propulsion) boiler	(1) ..... Supply casing and uptakes.	(1) ..... .....	(1) ..... Fire.	.....	(2)
	Burner flame .....	Status .....	Failure .....	Burner auto trip .....	(3)
	Burner seating .....	.....	Failure .....	.....ditto .....	(3)
	Trial for ignition .....	Status .....	Failure .....	.....ditto.	
	Control power .....	Available (pressure) .....	Failure (low) .....	.....ditto .....	(3)
	.....	.....	.....	Manual trip .....	(3)