§ 62.30–10 Testing.

(a) Automated vital systems must be tested in accordance with subpart 61.40 of this chapter.

(b) On-line built-in test equipment must not lock out or override safety trip control systems. This equipment must indicate when it is active.

Subpart 62.35—Requirements for Specific Types of Automated Vital Systems

§ 62.35–1 General.

(a) Minimum instrumentation, alarms, and safety controls required for specific types of automated vital systems are listed in Table 62.35–50.

(b) Automatic propulsion systems, automated electric power management systems, and all associated subsystems and equipment must be capable of meeting load demands from standby to full system rated load, under steady state and maneuvering conditions, without need for manual adjustment or manipulation.

(a) Manual propulsion control. All vessels having remote propulsion control from the navigating bridge, an ECC or maneuvering platform, or elsewhere must have a manual alternate propulsion control located at the equipment.

(b) Centralized propulsion control equipment. Navigating bridge, ECC, maneuvering platform, and manual alternate control locations must include—

(1) Control of the speed and direction of thrust for each independent propeller controlled;

(2) A guarded manually actuated safety trip control (which stops the propelling machinery) for each independent propeller controlled;

(3) Shaft speed and thrust direction indicators for each independent propeller controlled;

(4) The means to pass propulsion orders required by §§113.30–5 and §113.35–3 of this chapter; and

(5) The means required by paragraph (d) of this section to achieve control location transfer and independence.
must be limited to reserve 50% of the required starting capability.

(d) **Transfer of control location.** Transfer of control location must meet section 4–9–2/5.11 of the ABS Steel Vessel Rules (incorporated by reference; see 46 CFR 62.05–1). Manual alternative-propulsion-control locations must be capable of overriding, and of operating independent of, all remote and automatic propulsion-control locations.

(e) **Control system details.**

(1) Each operator control device must have a detent at the zero thrust position.

(2) Propulsion machinery automatic safety trip control operation must only occur when continued operation could result in serious damage, complete breakdown, or explosion of the equipment. Other than the overrides mentioned in §62.25–10(a)(4) and temporary overrides located at the main navigating bridge control location, overrides of these safety trip controls are prohibited. Operation of permitted overrides must be alarmed at the navigating bridge and at the maneuvering platform or ECC, as applicable, and must be guarded against inadvertent operation.

(3) Remote propulsion control systems must be failsafe by maintaining the preset (as is) speed and direction of thrust until local manual or alternate manual control is in operation, or the manual safety trip control operates. Failure must activate alarms on the navigating bridge and in the machinery spaces.

§ 62.35–15 Fire safety.

(a) All required fire pump remote control locations must include the controls necessary to charge the firemain and—

(1) A firemain pressure indicator; or

(2) A firemain low pressure alarm.

§ 62.35–20 Oil-fired main boilers.

(a) **General.**

(1) All main boilers, regardless of intended mode of operation, must be provided with the automatic safety trip control system(s) of paragraphs (h)(1), (h)(2)(i), (h)(2) (ii), and (i) of this section to prevent unsafe conditions after light off.

(2) Manual alternate control of boilers must be located at the boiler front.

(3) A fully automatic main boiler must include—

(i) Automatic combustion control;

(ii) Programing control;

(iii) Automatic feedwater control;

(iv) Safety controls; and

(v) An alarm system.

(4) Following system line-up and starting of auxiliaries, fully automatic main boilers must only require the operator to initiate the following sequences:

(i) Boiler pre-purge.

(ii) Trial for ignition of burners subsequent to successful initial burner light-off.

(iii) Normal shutdown.

(iv) Manual safety trip control operation.

(v) Adjustment of primary control setpoints.

(5) All requirements for programing control subsystems and safety control systems must be met when a boiler—

(i) Automatically sequences burners;

(ii) Is operated from a location remote from the boiler front; or

(iii) Is fully automatic.

(6) Where light oil pilots are used, the programing control and burner safety trip controls must be provided for the light oil system. Trial for ignition must not exceed 15 seconds and the