§ 62.25–1

Automation is designed to meet the environmental design standards of §62.25–30. Plan review, shipboard testing, or independent testing to these standards is not required.

(b) [Reserved]

NOTE: Self-certification should normally accompany plan submittal.

Subpart 62.25—General Requirements for All Automated Vital Systems

§ 62.25–1 General.

(a) Vital systems that are automatically or remotely controlled must be provided with—

(1) An effective primary control system;
(2) A manual alternate control system;
(3) A safety control system, if required by §62.25–15;
(4) Instrumentation to monitor system parameters necessary for the safe and effective operation of the system; and
(5) An alarm system if instrumentation is not continuously monitored or is inappropriate for detection of a failure or unsafe condition.

(b) Automation systems or sub-systems that control or monitor more than one safety control, interlock, or operating sequence must perform all assigned tasks continuously, i.e., the detection of unsafe conditions must not prevent control or monitoring of other conditions.

(c) Each console for a vital control or alarm system and any similar enclosure that relies upon forced cooling for proper operation of the system must have a backup means of providing cooling. It must also have an alarm activated by the failure of the temperature-control system.


§ 62.25–10 Manual alternate control systems.

(a) Manual alternate control systems must—

(1) Be operable in an emergency and after a remote or automatic primary control system failure;
(2) Be suitable for manual control for prolonged periods;
(3) Be readily accessible and operable; and
(4) Include means to override automatic controls and interlocks, as applicable.

(b) Permanent communications must be provided between primary remote control locations and manual alternate control locations if operator attendance is necessary to maintain safe alternate control.

NOTE: Typically, this includes main boiler fronts and local propulsion control.

§ 62.25–15 Safety control systems.

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

(b) Automatic control systems must be stable over the entire range of normal operation.

(c) Inadvertent grounding of an electrical or electronic safety control system must not cause safety control operation or safety control bypassing.