

## **PART 8 Control Engineering Systems**

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## CHAPTER 1 General

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## SECTION 1 General requirements

### 1.1 General

1.1.1 The requirements of this Chapter are applicable to small craft over 24 m where it is intended to assign the "UMS" notation for operation with the machinery space unattended.

1.1.2 The control engineering installations for small craft over 24 m are to be arranged and installed as far as it is practicable in accordance with the relevant Sections of Part 8, Chapter 1 of the *Rules and Regulations for the Classification and Construction of Steel Ships*.

1.1.3 The Committee is prepared to give consideration to alternative arrangements.

1.1.4 In any case additional requirements of the national Authority of the country in which the ship is to be registered and to the relevant regulations of SOLAS, Torremolinos, International Convention for the safety of fishing vessels, or International Code of safety for High-Speed Craft (H.S.C.) have to be satisfied with as applicable.

1.1.5 For existing and new yachts with the notation "COMMERCIAL YACHT" that operate with periodically unattended machinery spaces, the machinery and its installation shall meet the standards of SOLAS II-1/Part E - "Additional requirements for periodically unattended machinery spaces", so far as is reasonable and practicable to do so.

### 1.2 Documentation to be submitted

1.2.1 Plans required by [1.2.2](#), [1.2.3](#), [1.2.4](#) and [1.2.5](#) are to be submitted in triplicate (and/or electronically).

1.2.2 Where control, alarm and safety systems are intended for the machinery or equipment as listed in [1.2.3](#) the following is to be submitted:

- (a) Description of operation with explanatory diagrams
- (b) Line diagrams of control circuits
- (c) List of alarm points
- (d) Test schedules which should include methods of testing and test facilities provided.

1.2.3 Plans for the control, alarm and safety systems of the following are to be submitted where applicable:

- (a) Air compressors.
- (b) Controllable pitch propeller.
- (c) Electric generating plant.
- (d) Fire detection systems.
- (e) Main propelling machinery including essential auxiliaries.
- (f) Oil fuel transfer and storage systems.
- (g) Steam raising plant (boilers and their ancillary equipment)

1.2.4 **Alarm systems.** Details of the overall alarm system linking control stations, the bridge area and accommodation are to be submitted.

1.2.5 **Control station.** Location and details of control stations are to be submitted, e.g. control panels and consoles.

## 1.3 Alterations or additions

1.3.1 When an alteration or addition to the approved systems is provided, plans are to be submitted for approval. The alterations or additions are to be carried out under survey and the inspection, testing and installation are to be to the Surveyor's satisfaction.

## SECTION 2 Essential safety features

### 2.1 General

2.1.1 Where it is proposed to operate the small craft above 24 m with the machinery space unattended no matter what period is envisaged, the safety features specified in [2.2](#), [2.3](#), [2.4](#), [2.5](#), [2.6](#), [2.7](#) and [2.8](#) are to be installed. For guidance, the relevant requirements of Part 8, Chapter 1 of the *Rules and Regulations for the Classification and Construction of Steel Ships* should be considered in respect of control, alarm and safety system design and the extent of the installation.

### 2.2 Alarm system

2.2.1 An alarm system is to be installed which will warn the engineering staff, or the bridge personnel or both of fault conditions which are a potential hazard to the machinery or the craft.

### 2.3 Bridge control

2.3.1 Means are to be provided to ensure satisfactory control of the propulsion machinery from the bridge. Sufficient instrumentation is to be provided on the bridge to indicate that the bridge command has been carried out.

### 2.4 Fire detection

2.4.1 An automatic fire detection and alarm system is to be fitted in the machinery space.

### 2.5 Fire prevention

2.5.1 Means are to be provided to prevent leaks from high pressure oil fuel injection piping for main and auxiliary engines dripping or spraying onto hot surfaces or into machinery air inlets. Such leakage, where practical, should be lead to collector tank(s) fitted in a safe position with an alarm to indicate that leakage is taken place.

### 2.6 Bilge level alarm

2.6.1 Means are to be provided to warn that water in the machinery space bilges has reached a predetermined high level.

### 2.7 Control station for machinery

2.7.1 A station is to be provided which indicates alarms for fault conditions in the machinery and which allows easy access to controls for starting, stopping and generally controlling essential machinery.

## 2.8 Local manual controls

2.8.1 It shall be possible to operate the essential machinery with control systems out of action

## SECTION 3 Testing

### 3.1 Trials

3.1.1 Before a new installation, or any alternation or addition to an existing installation, is put into service, trials are to be carried out. These trials are in addition to any acceptance tests which may have been carried out at the manufacturers' works and are to be based on the approved test schedules as required by [1.2.2](#).

