

SC134 Essential Services and Arrangements of Sources of Power, Supply, Control and Monitoring to the different Categories of Essential Services (SOLAS Regulations II-1/40 & 41)

(June 2002)

1. Classification of electrical services
 - 1.1 Essential Services are those services essential for propulsion and steering, and safety of the ship, which are made up of "Primary Essential Services" and "Secondary Essential Services".
Definitions and examples of such services are given in 2 and 3 below.
 - 1.2 Services to ensure minimum comfortable conditions of habitability are those services such as defined in 4 below.
2. Primary Essential Services
Primary Essential Services are those services which need to be in continuous operation to maintain propulsion and steering. Examples of equipment for primary essential services are as follows:
 - Steering gears
 - Pumps for controllable pitch propellers
 - Scavenging air blower, fuel oil supply pumps, fuel valve cooling pumps, lubricating oil pumps and cooling water pumps for main and auxiliary engines and turbines necessary for propulsion
 - Forced draught fans, feed water pumps, water circulating pumps, vacuum pumps and condensate pumps for steam plants on steam turbine ships, and also for auxiliary boilers on ships where steam is used for equipment supplying primary essential services
 - Oil burning installations for steam plants on steam turbine ships and for auxiliary boilers where steam is used for equipment supplying primary essential services
 - Azimuth thrusters which are the sole means for propulsion/steering with lubricating oil pumps, cooling water pumps
 - Electrical equipment for electric propulsion plant with lubricating oil pumps and cooling water pumps
 - Electric generators and associated power sources supplying the above equipment
 - Hydraulic pumps supplying the above equipment
 - Viscosity control equipment for heavy fuel oil
 - Control, monitoring and safety devices/systems for equipment to primary essential services.
3. Secondary Essential Services
Secondary Essential Services are those services which need not necessarily be in continuous operation to maintain propulsion and steering but which are necessary for maintaining the vessel's safety. Examples of equipment for secondary essential services are as follows:
 - Windlass
 - Fuel oil transfer pumps and fuel oil treatment equipment
 - Lubrication oil transfer pumps and lubrication oil treatment equipment
 - Pre-heaters for heavy fuel oil
 - Starting air and control air compressors
 - Bilge, ballast and heeling pumps
 - Fire pumps and other fire extinguishing medium pumps
 - Ventilating fans for engine and boiler rooms

Note: 1.This UI SC 134 is to be uniformly implemented by IACS Members and Associates from 1 January 2003.

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- Services considered necessary to maintain dangerous spaces in a safe condition
 - Navigation lights, aids and signals
 - Internal safety communication equipment
 - Fire detection and alarm system
 - Lighting system
 - Electrical Equipment for watertight closing appliances
 - Electric generators and associated power sources supplying the above equipment
 - Hydraulic pumps supplying the above equipment
 - Control, monitoring and safety systems for cargo containment systems
 - Control, monitoring and safety devices/systems for equipment to secondary essential services.
4. Services for habitability
Services for habitability are those services which need to be in operation for maintaining the vessel's minimum comfort conditions for the crew and passengers. Examples of equipment for maintaining conditions of habitability are as follows:
- Cooking
 - Heating
 - Domestic refrigeration
 - Mechanical ventilation
 - Sanitary and fresh water
 - Electric generators and associated power sources supplying the above equipment
5. Regulation II-1/40.1.1 and Regulation II-1/41.1.1 – For the purposes of these regulations, the services as included in paragraphs 2 to 4 are to be considered.
6. Regulation II-1/40.1.2 – For the purposes of this regulation, the services as included in paragraphs 2 and 3 and the services in the Regulation II-1/42 or II-1/43, as applicable, are to be considered.
7. Regulation II-1/41.1.2 – For the purposes of this regulation, the services as included in paragraphs 2 to 4, except for those also listed in UI SC2, are to be considered.
8. Regulation II-1/41.1.5 – For the purposes of this regulation, the services as included in paragraphs 2, 3 and 4 are to be considered. See also UI SC83.
9. (void)
10. Regulation II-1/41.5.1.2 - For the purposes of this regulation, the following interpretations are applicable.
- 10.1 Services in paragraph 2 are not to be included in any load shedding or other equivalent arrangements.
- 10.2 Services in paragraph 3 may be included in the automatic load shedding or other equivalent arrangement provided disconnection will not:
- (a) cause immediate disruption of systems required for safety, e.g.:
 - Lighting systems,
 - Navigation lights, aids and signals,
 - Internal safety communication equipment.
 - (b) Prevent services required for safety being immediately available when the power supply is restored to normal operating conditions, e.g.:
 - Fire pumps, and other extinguishing medium pumps,
 - Bilge pumps,
 - Ventilating fans for engine and boiler rooms.



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Examples of equipment in the paragraph 3, for which the automatic load shedding or other equivalent arrangement is normally allowed, includes:

- Fuel oil transfer pumps and fuel oil treatment equipment
- Lubrication oil transfer pumps and lubrication oil treatment equipment
- Pre-heaters for heavy fuel oil
- Starting air and control air compressors (except for control air compressors for propulsion control and its safety systems)
- Services listed in UI SC2

- 10.3 Services for habitability in the paragraph 4 may be included in the automatic load shedding or other equivalent arrangement.

