

Installation attestation

Report on initial and periodical survey of:

1. **electrical systems with voltages of 50 V and below**
2. **smaller 230 V installations with power supply from shore**

Laid down by the Norwegian Maritime Directorate pursuant to the Survey Regulations of 15 June 1987 No. 506, Ch. X.

<input type="checkbox"/> To file Date: Signature	NMD's Case No.
Executive officer Date	File no.

Administrative procedures (to be filled in by the NMD)

IMO number	Signal letters	Name of ship	Port of registry	Gross tonnage
Owner:		Business address:		
Type of ship:		Material:	Year of construction	

On the use of the Installation Attestation	Installation Attestation 27 w/checklist must be filled in when the installation is completed and survey carried out and upon completion of the periodical survey every 5 years. It shall be issued in triplicate. One copy shall be kept on board and two copies forwarded to the Norwegian Maritime Directorate' station. An one-line diagram of the installation is also to be sent to the station showing, inter alia, outgoing circuits from the main switchboard and the distribution board and loads, cable cross sections and fuse sizes. At the periodical survey a new one-line diagram shall be sent to the station if changes have been made to the system.
---	--

<input type="checkbox"/> Initial survey (new installation)	<input type="checkbox"/> Periodical survey
1. <input type="checkbox"/>	The installation complies with Norw. regulations in force applicable to electrical install. in ships and marine install.
2. <input type="checkbox"/>	The installation complies with Norw. regulations in force applicable to electrical installations in ships and marine installations, its deficiencies being of a kind that does not lead to any reduction of the safety of the installation
3. <input type="checkbox"/>	The installation does not comply with Norw. reg. in force and poses a risk to the safety of the ship
Next survey:	

(put a cross in the appropriate box)

Initial/periodical survey of the electrical installation and any correction of deficiencies performed by:

Firm	Name (signature)	Electrician (Y/N)	Specially approved by the NMD(date of appr.)
Place:		Date:	

Copy of Installation Attestation 27 w/checklist sent to the Station in:

Attachment No attachment

ELECTRICAL EQUIPMENT

Electric generators

Number	Prime mover	Voltage	AC	DC	Output	Generator type

Accum. batteries

Number	Type	Voltage	Output	Remarks

Shore connection installation - 230 V

Installation materials	Type	Size/dimension	Remarks
Cable			
Box			
Fuses			
Switch			
Appliance connector			

CHECKLIST FOR ELECTR. INSTALLATIONS WITH VOLTAGES OF 50 V AND BELOW

Section references (§) are to Regulation for electrical installations - Maritime installations (FEA-M)

The checklist is intended as guidance and a number of the most common and serious deficiencies are included. In addition the installation must be surveyed independently to find cases other than those specified below of failure to comply with regulations.	Condition at the time of survey (put a cross)		Deficiencies corrected (date)
	In order	Not in order	
1. Documentation			
1.1 There is an updated one-line diagram on board (§ 1007).	<input type="checkbox"/>	<input type="checkbox"/>	
2. Shore connection			
2.1 Materials and cables without visible damage (§ 1031).	<input type="checkbox"/>	<input type="checkbox"/>	
2.2 Shore connection interlock checked (§ 1619). (For 230 V generator system.)	<input type="checkbox"/>	<input type="checkbox"/>	
2.3 Earth wire of shore connection cable is connected to ship's main earth (§ 1619).	<input type="checkbox"/>	<input type="checkbox"/>	

3. Generator system	In order	Not in order	Deficiencies corrected (date)
3.1 Generator cable without visible damage (§ 1031).	<input type="checkbox"/>	<input type="checkbox"/>	
3.2 Termination in connection box is in accordance with regulations (§§ 1259 and 1873).	<input type="checkbox"/>	<input type="checkbox"/>	
3.3 Cable is properly fastened and mechanically protected (§§ 1855 and 1861).	<input type="checkbox"/>	<input type="checkbox"/>	
3.4 Protection in accordance with rating of generator circuit(s) (§ 1617).	<input type="checkbox"/>	<input type="checkbox"/>	
4. Battery installation			
4.1 Interconnection cables between batteries and fuses/start motor, as well as charging connections, are installed to be proof against short circuit and earth faults (§ 1457.2).	<input type="checkbox"/>	<input type="checkbox"/>	
4.2 The batteries' capacity is satisfactory. Functional tests if necessary (is charge voltage correct)? (§§ 1455 and 1459.7)	<input type="checkbox"/>	<input type="checkbox"/>	
4.3 Batteries are located and properly fastened on shelves/in lidded boxes (§ 1451).	<input type="checkbox"/>	<input type="checkbox"/>	
4.4 There are 2 sets of batteries, located separately, for starting of propulsion machinery. There is a permanent system for alternative connection of start motor. (For equipment installed after 1 July 1976.) (§ 1459)	<input type="checkbox"/>	<input type="checkbox"/>	
4.5 Switches and protection devices located outside battery box(es) (§§ 1259.1 and 1451.9).	<input type="checkbox"/>	<input type="checkbox"/>	
4.6 Battery room/boxes are ventilated in accordance with § 1453.	<input type="checkbox"/>	<input type="checkbox"/>	
4.7 A diode block has been fitted whereby the start battery may be discharged via the charging circuit (§1404).	<input type="checkbox"/>	<input type="checkbox"/>	
5. Main switchboard and distribution board			
5.1 The boards' enclosures are in accordance with the regulations and their design in accordance with §§ 1641, 1643 and 1661.	<input type="checkbox"/>	<input type="checkbox"/>	
5.2 Ammeter, voltmeter and other instr. of main switchboard work satisfactorily (§ 1653).	<input type="checkbox"/>	<input type="checkbox"/>	
5.3 Outgoing circuits have protection devices in each phase/terminal, according to the current carrying capacity of the cables (§ 1881 and 1883).	<input type="checkbox"/>	<input type="checkbox"/>	
5.4 The connection of the earth wires to earth busbar has been checked (§ 1649).	<input type="checkbox"/>	<input type="checkbox"/>	
5.5 Switches and fuses are marked in accordance with § 1255. (Circuit description)	<input type="checkbox"/>	<input type="checkbox"/>	
5.6 Is the condition of the boards satisfactory in other respects? (Fastening of components, contacts, wire extension, connections, fuse holders, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	
6. Cabling and wiring			
6.1 Approved ship's cables are used (§ 1801).	<input type="checkbox"/>	<input type="checkbox"/>	
6.2 Cables are fastened in accordance with the regulations and, if necessary, mechanically protected (§§ 1855 and 1861).	<input type="checkbox"/>	<input type="checkbox"/>	
6.3 Cables/wires are terminated in box or similar enclosure (§ 1873).	<input type="checkbox"/>	<input type="checkbox"/>	
6.4 Enclosure of junction boxes is in accordance with § 1259	<input type="checkbox"/>	<input type="checkbox"/>	
6.5 Cables and wires without visible damage (§ 1031).	<input type="checkbox"/>	<input type="checkbox"/>	
6.6 Cable penetration of bulkheads and decks in accordance with § 1867	<input type="checkbox"/>	<input type="checkbox"/>	

(Fireproof, watertight, mechanically protected.)			
7. Equipment (motors, lighting equipment, heaters, etc.)	In order	Not in order	Deficiencies corrected (date)
7.1 All equipment has enclosures in accordance with § 1259.	<input type="checkbox"/>	<input type="checkbox"/>	
7.2 Proper equipment is used (§§ 1201 and 1260).	<input type="checkbox"/>	<input type="checkbox"/>	
7.3 Motors working without continuous supervision have thermal protection against overcurrent in accordance with § 1705.	<input type="checkbox"/>	<input type="checkbox"/>	
7.4 Electrical connections on oil-fired heaters are fitted in accordance with §§ 1031, 1851.5 and 1873.	<input type="checkbox"/>	<input type="checkbox"/>	
8. Emergency lighting			
8.1 There is emergency lighting on deck, at lifeboat/liferaft stations, at exits to deck. Cf. 'Excerpts from the Norwegian Ship Control Legislation'.	<input type="checkbox"/>	<input type="checkbox"/>	
8.2 Emergency lighting will be switched on automatically.	<input type="checkbox"/>	<input type="checkbox"/>	
8.3 An emergency source of power is installed and has a capacity complying with the requirements of the Norwegian Maritime Directorate.	<input type="checkbox"/>	<input type="checkbox"/>	
9. Lights			
9.1 The lights used are type-approved (§ 2225).	<input type="checkbox"/>	<input type="checkbox"/>	
9.2 Cable inlets in lights are tight.	<input type="checkbox"/>	<input type="checkbox"/>	
9.3 Alarm functions are working.	<input type="checkbox"/>	<input type="checkbox"/>	
10. Alarm system			
10.1 The alarm system is type-approved by the Norwegian Maritime Directorate.	<input type="checkbox"/>	<input type="checkbox"/>	
10.2 Functional tests have been carried out for fire and bilge water alarms.	<input type="checkbox"/>	<input type="checkbox"/>	
10.3 Installation of call points (fire alarm) has been checked.	<input type="checkbox"/>	<input type="checkbox"/>	
10.4 Functional tests have been carried out for propulsion machinery and boiler alarms.	<input type="checkbox"/>	<input type="checkbox"/>	
11. General			
11.1 Important consumers have 2 independent sources of power (§§ 1401, 1404 and 1606).	<input type="checkbox"/>	<input type="checkbox"/>	
11.2 Emergency stop equipment for pumps, fans, etc. is fitted in accordance with § 1708. Functional test has been carried out for emergency stop.	<input type="checkbox"/>	<input type="checkbox"/>	
11.3 The insulation resistance of the electrical installation has been checked and faults, if any, have been corrected (§ 1250). List showing the insulation condition is attached.	<input type="checkbox"/>	<input type="checkbox"/>	
11.4 Necessary cleaning of the electrical system (boards, generators, equipment, etc.) has been carried out.	<input type="checkbox"/>	<input type="checkbox"/>	
12. Other deficiencies or remarks (if necessary, a separate sheet may be used)			

