

Report on Electrical Equipment.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 26 AUG 1946

Date of writing Report 21st Aug. 1946. When handed in at Local Office 22nd August 1946. Port of Gothenburg.

Survey held at Marstrand and Gothenburg. Date, First Survey 15th July. Last Survey 23rd July 1946. No. in Reg. Book. (Number of Visits 3)

33791 on the Motorship "S. E. R. I. G. I." (Launched as "Stadt. Schleswig"). Tons {Gross 514, Net 297}

Built at Marstrand. By whom built A.-B. Marstrands Mek. Værksted No. 17. When built Comm. 7, 46

Owners Doctor Humberto Arnado. Port belonging to Rio de Janeiro

Electrical Installation fitted by Elektriska A.-B. A.E.G., Gothenburg. Construction No. 1553233-A When fitted 1946

Is vessel fitted for carrying Petroleum in bulk No. Is vessel equipped with D. F. E. S. D. Yes. Gy. C. Sub. Sig.

Have plans been submitted and approved Yes. System of Distribution Single wire, hull rta Voltage of supply for Lighting 220

Heating Power 220. Direct or Alternating Current, Lighting D.C. Power D.C. If Alternating Current state frequency Prime Movers,

has the governing been tested and found efficient when the whole load is suddenly thrown on and off Yes. Are turbine emergency governors fitted with a

trip switch as per Rule Generators, are they compound wound Yes. are they level compounded under working conditions Yes

if not compound wound state distance between generators and from switchboard Where more than one generator is fitted are they

arranged to run in parallel No. are shunt field regulators provided Yes. Is the compound winding connected to the negative or positive pole

Negative. Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing Have certificates of

test for machines under 100 kw. been supplied and the results found as per rule Are the lubricating arrangements and the construction

of the generators as per rule Yes. Position of Generators Engine room floor

is the ventilation in way of generators satisfactory Yes. are they clear of inflammable material Yes. if situated

near unprotected combustible material state distance from same horizontally and vertically are the generators protected from mechanical

injury and damage from water, steam and oil are the bedplates and frames earthed Yes. and the prime movers and generators in metallic

contact Yes. Switchboards, where are main switchboards placed Engine room floor

are they in accessible positions, free from inflammable gases and acid fumes Yes. are they protected from mechanical injury and damage from water, steam

and oil Yes. if situated near unprotected combustible material state distance from same horizontally and vertically what insulation

material is used for the panels Isolite. if of synthetic insulating material is it an Approved Type Yes. if of

semi-insulating material (slate or marble) are all conducting parts insulated therefrom as per Rule Is the frame effectually earthed Yes.

Is the construction as per Rule Yes. including accessibility of parts Yes. absence of fuses on the back of the board Yes. individual fuses

to pilot and earth lamps, voltmeters, etc. Yes. locking of screws and nuts Yes. labelling of apparatus and fuses Yes. fuses on the dead

side of switches Yes. Description of Main Switchgear for each generator and arrangement of equaliser switches

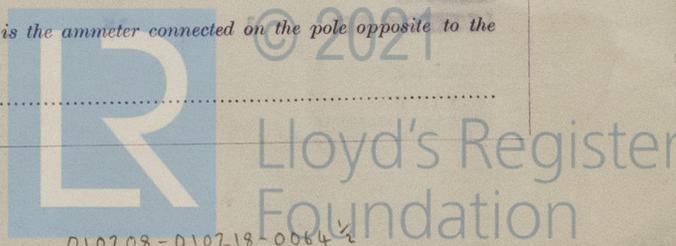
A fuse and a single pole switch on the insulated pole

and for each outgoing circuit A fuse and a single pole switch on the insulated pole

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule Yes. Instruments on main switchboard 3

ammeters 3. voltmeters synchronising devices. For compound machines in parallel is the ammeter connected on the pole opposite to the

equaliser connection Earth Testing, state means provided



Switches, Circuit Breakers and Fuses, are they as per Rule **Yes** are the fuses an approved type **Yes** are all fuses labelled as per Rule **Yes** are the reversed current protection devices connected on the pole opposite to the equaliser connection **---** have they been tested under working conditions **---** **Joint Boxes, Section Boards and Distribution Boards,** is the construction and position as per Rule **Yes**

Cables, are they insulated and protected as per the appropriate Tables of the Rules **No** if otherwise than as per Rule are they of an approved type **See below** state maximum fall of pressure between bus bars and any point under maximum load **8.5** are the ends of all cables having a sectional area of 0.04 square inch and above provided with soldering sockets **Yes** Are paper insulated and varnished cambric insulated cables sealed at the exposed ends **---** with insulating compound **---** or waterproof insulating tape **---** Are all the cable runs in accessible positions, not exposed to drip or accumulation of water or oil, high temperatures or risk of mechanical damage **Yes** are cables laid under **---** floorplates **From one generator** if so, are they adequately protected **Yes** Are cables in machinery spaces, galleys, laundries, etc., lead covered **No** or run in conduit **No**

State how the cables are supported and protected **Lighting cables in accommodations (insulated with "Igalit") are run in grooves in the wood-work. Remaining cables consisting of rubber insulated, artificial rubber sheathed (no lead) and steel wire braided cables (type MKK) and rubber insulated lead/cables are supported by clips.**

Are all lead sheaths, armouring and conduits effectually bonded and earthed **---** Refrigerated chambers, are the cables and fittings as per Rule **---** Are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands **Yes** where unarmoured cables pass through beams, etc., are the holes effectively bushed **Yes** and with what material **Lead** **Alternative Lighting,** are the groups of lights in the engine and boiler rooms arranged as per Rule **Yes** **Emergency Supply,** state position **---** and method of control **---**

Navigation Lamps, are they separately wired **Yes** controlled by separate double pole switches **Yes** and fuses **Yes** Are the switches and fuses in a position accessible only to the officers on watch **Yes** is an automatic indicator fitted **Yes** **Secondary Batteries** are they constructed and fitted as per Rule **---** are they adequately ventilated **---**

Fittings, are all fittings on weather decks, in **---** engine rooms and wherever exposed to drip or condensed moisture, weatherproof **Yes** Are fittings installed where readily combustible materials or inflammable or explosive dust or gases are likely to be present **---** if so, how are they protected **---** and where are the controlling switches fitted **---** are all fittings suitably ventilated **---**

are all fittings and accessories constructed and installed as per Rule **---** **Searchlight Lamps,** No. of **---** whether fixed or portable **---** are their fittings as per Rule **---** **Heating and Cooking,** is the general construction as per Rule **---** are the frames effectually earthed **---** are heaters in the accommodation of the convection type **---** **Motors,** are all motors constructed and installed as per Rule **---** and placed in well-ventilated compartments in which inflammable gases cannot accumulate and free from damage from water, steam and oil **Yes** if situated near unprotected combustible material state minimum distance from same horizontally **---** and vertically **---** Have motors of 100 BHP and over been inspected by the Surveyors during manufacture and testing **---** Have certificates of test for motors under 100 BHP intended for essential services been supplied and the results found as per Rule **---** **Control Gear and Resistances,** are they constructed and fitted as per Rule **---** **Lightning Conductors,** where required are they fitted as per Rule **---** **Ships carrying Oil having a Flash Point less than 150° F.** Have all the special requirements of the Rules for such ships been complied with **---** are all fuses of the cartridge type **---** are they of an approved type **---** If portable lamps for use in dangerous spaces are supplied, are they of a self-contained battery-fed flameproof type **---** **Spare Gear,** if the vessel is for open sea service have spares been provided as per Rule **---** are they suitably stored in dry situations **---** **Insulation Tests,** has the insulation resistance of all circuits and apparatus been megger tested and found satisfactory **Yes**

PARTICULARS OF GENERATING PLANT.

DESCRIPTION OF GENERATOR	No. of	RATED AT				DRIVEN BY		
		Kilowatts.	Volts.	Ampères.	Revs. per Min.	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE		
					Fuel Used.	Flash Point of Fuel.		
MAIN	2	53	220	230	500	2-cyl. 2 BCSA oil engines	Diesel oil	Above 150° F.
HARBOUR LIGHTING SET	1	15	220	65	800	1-cyl. 2 BCSA oil engine	Diesel oil	Above 150° F.
EMERGENCY ROTARY TRANSFORMER								

GENERATOR CABLES.

DESCRIPTION	KILOWATTS	CONDUCTORS		MAXIMUM CURRENT IN AMPERES		APPROX. LENGTH (lead plus return) Y.	INSULATED WITH	HOW PROTECTED.
		No. In Parallel Per Pole	Sectional Area or No. and Dia. of Strands. Sq. mm.	In the Circuit	Rule			
MAIN GENERATOR	No.1 53	1	120	230	175	18	Rubber	Artificial rubber and steel wire braided.
"	ENCLOSURE 2 53		120	230	175	3	"	"
HARBOUR LIGHTING SET	No.3 15	1	25	65	62.5	5	"	"
EMERGENCY GENERATOR								
ROTARY TRANSFORMER: MOTOR								
" " GENERATOR								

MAIN DISTRIBUTION CABLES.

DESCRIPTION	KILOWATTS	CONDUCTORS	MAXIMUM CURRENT IN AMPERES	APPROX. LENGTH	INSULATED WITH	HOW PROTECTED.	
AUX. SWITCHBOARDS AND SECTION BOARDS							
Accommodation aft		1 4	20	22.2	15	Rubber	"
Accommodation forward x)		1 25	6	62.5	55	"	"

LIGHTING AND HEATING, ETC., CABLES.

DESCRIPTION	KILOWATTS	CONDUCTORS	MAXIMUM CURRENT IN AMPERES	APPROX. LENGTH	INSULATED WITH	HOW PROTECTED.	
WIRELESS							
NAVIGATION LIGHTS		1 2.5	6	12.8	18	Rubber	"
LIGHTING AND HEATING							

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B. H. P.	CONDUCTORS	MAXIMUM CURRENT IN AMPERES	APPROX. LENGTH	INSULATED WITH	HOW PROTECTED.	
Ballast pump	1	10 HP	1 16	39.6	48.0	22	Rubber	"
Lubricating and fuel oil pump	1	4.4 HP	1 10	23.5	38.2	15	"	"
Sanitary pump	1	5 HP	1 6	20.6	29.4	17	"	"
Manoeuvring compressor	1	7.5 HP	1 16	38.5	48.0	10	"	"
Purifier	1	1.1 HP	1 2.5	10	12.8	10	"	"
Refrigerating machinery	1	0.66 HP	1 1.5	6	6.5	20	"	"
Windlass	1	16 HP	1 25	64	63.5	55	"	"
Steering engine	1	6 HP	1 6	27.5	29.4	20	"	"
Winches aft	2	16 HP	1 16	83	49.8	15	"	"
Winches amidships	2	25 HP	1 25	130	66.5	32	"	"
Winches forward	2	16 HP	1 16	83	49.8	35	"	"

x) The same cable as for windlass.

The Electrical Equipment is installed in accordance with the approved plans and the requirements of the Rules.
 All Insulated Conductors are guaranteed to have been tested at the maker's works as specified in the Rules.
 The foregoing is a correct description.

..... Electrical Engineers. Date

COMPASSES.

Minimum distance between electric generators or motors and standard compass

Minimum distance between electric generators or motors and steering compass **6 Metres.**

The nearest cables to the compasses are as follows:—

twin
 A/cable carrying **0.5** Ampères feet from standard compass **3** feet from steering compass.

twin
 A/cable carrying **6** Ampères feet from standard compass **6** feet from steering compass.

A cable carrying Ampères feet from standard compass feet from steering compass.

Have the compasses been adjusted with and without the electric installation at work at full power **No**

Has the effect of switching on and off circuits, motors and other electro-magnetic apparatus within the vicinity of the compasses been noted

The maximum deviation due to electric currents was found to be degrees on course in the case of the standard compass, and degrees on course in the case of the steering compass.

..... Builder's Signature. Date

Is this installation a duplicate of a previous case **No**. If so, state name of vessel

General Remarks (State quality of workmanship, whether insulation tests, etc., have been made, opinions as to class, etc.)

This electric installation has been examined, megger tested and tested under working conditions and found satisfactory.

No.	Description	Quantity	Unit	Value
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20

Total Capacity of Generators **121** Kilowatts.

The amount of Fee Kr. **300:00** { When applied for, **29/7 19.46**
 Travelling Expenses (if any) Kr. **---** { When received **29/7 19.46**

A. Sjögren
 Surveyor to Lloyd's Register of Shipping

FRI. 11 OCT 1946

Committee's Minute

Assigned **See EE. mch. rpt.**

The Surveyors are requested not to write on or below the space for Committee's Minute.

