

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

AUG 9 1937

Received at London Office

Date of writing Report 21.7.37 19 19 When handed in at Local Office _____ 19 _____ Port of **HAMBURG**

No. in Survey held at Kiel Date, First Survey 2.6.37 Last Survey 9.7.37 19 _____
 (Number of Visits 7)

Reg. Book. 23045 on the Steel Se. Sr. "Coimbra" Tons { Gross 6768
 Net 3976

Built at Kiel By whom built Hovaldtsverke A.S. Yard No. 756 When built 1937

Owners Standard Transportation Co Hongkong Port belonging to London

Electric Light Installation fitted by Allgemeine Elektrizitäts-Gesellschaft Contract No. _____ When fitted 1937

Is the Vessel fitted for carrying Petroleum in bulk yes.

System of Distribution 2 wire system

Pressure of supply for Lighting 110 volts, Heating 110 volts, Power 110 volts.

Direct or Alternating Current, Lighting D.C. Power D.C.

If alternating current system, state frequency of periods per second _____

Has the Automatic Governor been tested and found efficient when the whole load is suddenly thrown on or off yes

Generators, do they comply with the requirements regarding temperature rise yes, are they compound wound yes

are they over compounded 5 per cent. yes, if not compound wound state distance between each generator _____

Where more than one generator is fitted are they arranged to run in parallel no, is an adjustable regulating resistance fitted in series with each shunt field yes

Have certificates of test results for machines under 100 kw. been submitted and approved attached hereto Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing _____

Are all terminals accessible, clearly marked, and furnished with sockets yes, are they so spaced or shielded that they cannot be accidentally earthed, short circuited, or touched yes

Are the lubricating arrangements of the generators as per Rule yes

Position of Generators Green Deck in engine room aft, is the ventilation in way of the generators satisfactory yes

are they clear of all inflammable material yes if situated near unprotected woodwork or other combustible material, state distance of same horizontally from or vertically above the generators _____ and _____

are the generators protected from mechanical injury and damage from water, steam or oil yes, are their axes of rotation fore and aft yes

Earthing, are the bedplates and frames of the generating plant efficiently earthed yes are the prime movers and their respective generators in metallic contact yes

Main Switch Boards, where placed Green Deck in engine room aft

If the generators and main switchboard are not placed in the same compartment, is each generator provided with a fuse on each insulated pole as near as possible to the terminals of the generator, additional to that provided on the main switchboard _____

Switchboards, are they placed in accessible positions, free from inflammable gases and acid fumes yes, are they protected from mechanical injury and damage from water, steam or oil yes

if situated near unprotected woodwork or other combustible material, state distance of same horizontally from or vertically above the switchboards _____ and _____, are they constructed wholly of durable, non-ignitable non-absorbent materials marble tested 2000 V AC 1'

is all insulation of high dielectric strength and of permanently high insulation resistance yes

is it of an approved type yes, if semi-insulating material is used, are all conducting parts insulated from the slab with mica or micanite or other non-hygroscopic insulating material, and the slab similarly insulated from its framework yes

is the non-hygroscopic insulating material of an approved type yes, and is the frame effectively earthed yes

Are the fittings as per Rule regarding:— spacing or shielding of live parts yes, accessibility of all parts yes, absence of fuses on back of board yes, temperature rise of omnibus bars yes

individual fuses to voltmeter, pilot or earth lamp yes, are moving parts of switches alive in the "off" position no

are all screws and nuts securing connections effectively locked yes are any fuses fitted on the live side of switches no

Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches Fuse on each pole. Overload circ. breaker. Outg. Circuits: Double pole change over switch. Fuse on each pole.

Are turbine driven generators fitted with emergency trip switch as per rule _____ Are cupboards or compartments containing switchboards composed of fire-resisting material or lined with approved material yes

Instruments on main switchboard 2 ammeters 2

voltmeters _____ synchronising device for paralleling purposes. For compound machines is the ammeter connected on the opposite pole to equaliser connection _____

Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system Voltmeter with Ohm-Scale

Switches, Circuit Breakers and Fusible Cut-outs, do these comply with the requirements of the Rules yes are the fusible cutouts of an approved type yes have they been reversed _____



current protection devices been tested under working conditions yes Joint Boxes, Section and Distribution Boards, is the construction, protection, insulation, material, and position of these as per rule yes German Standards

Cables: Single, twin, concentric, or multicore yes are the cables insulated and protected as per Tables IV, V, X or XI of the Rules yes

If the cables are insulated otherwise than as per Rule, are they of an approved type yes Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load 2.5 Volts Cable Sockets, are the ends of all cables having a sectional area of 0.04 square inch and above provided with soldering sockets yes Paper Insulated and Varnished Cambric Insulated Cables. If conductors are paper or varnished cambric insulated, is the dielectric at the exposed ends of the conductor protected from moisture by being suitably sealed with insulating compound none, or waterproof insulating tape yes Cable Runs, are the cables fixed as far as possible in accessible positions not exposed to drip or accumulation of water or oil, or to high temperature from boilers, steam pipes, uptakes or other hot objects, or to avoidable risk of mechanical damage yes Are cables in machinery spaces, galleys, laundries, bathrooms and lavatories lead covered or run in conduit in conduit

Support and Protection of Cables, state how the cables are supported and protected armoured cables supported by clips. Where exposed to risk of damage covered with sheet iron. In eng. and boiler room running in conduit

If cables are run in wood casings, are the casings and caps secured by screws yes, are the cap screws of brass yes, are the cables run in separate grooves yes If armoured and lead covered cables are secured by metal clips, are the clips spaced as per Table VIII yes

Refrigerated Chambers, are the cables and fittings in accordance with the special requirements yes

Joints in Cables, state if any, and how made, insulated, and protected watertight joint boxes

Watertight Glands and Deck Tubes, are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands yes Bushes in Beams and Non-watertight Partitions, where unarmoured cables pass through beams and non-watertight partitions, are the holes efficiently bushed yes state the material of which the bushes are made lead

Earthing Connections, state what earthing connections are fitted and their respective sectional areas are their connections made as per Rule

Alternative Lighting, are the groups of lights in the propelling machinery space arranged as per Rule yes Emergency Supply, state position and method of control of the emergency supply and how the generator is driven are they of an approved type

Navigation Lamps, are these separately wired yes, controlled by separate switch and separate fuses yes, are the fuses double pole yes are the switches and fuses grouped in a position accessible only to the officers on watch yes has each navigation lamp an automatic indicator as per Rule yes Secondary Batteries, are they constructed and fitted as per Rule are they of an approved type

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, watertight yes are any fittings placed in spaces in which goods are liable to be stacked in close proximity to them; if so, how are they protected none are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected in pump room lighting from outside how are the cables led where are the controlling switches situated bridge house are all fittings suitably ventilated yes are all switches and lampholders constructed wholly of non-ignitable, non-absorbent materials yes

Heating and Cooking Appliances, are they constructed and fitted as per Rule yes are air heaters constructed and fitted as per Rule are they of an approved type

Searchlight Lamps, No. of 1, whether fixed or portable portable, are their fittings as per Rule yes

Arc Lamps, other than searchlight lamps, No. of 1, are their live parts insulated from the frame or case yes, are their fittings as per Rule are they of an approved type

Motors, are their working parts readily accessible yes are the coils self-contained and readily removable for replacement yes are the brushes, brush holders, terminals and lubricating arrangements as per Rule yes are the motors placed in well-ventilated compartments in which inflammable gases cannot accumulate and clear of all inflammable material yes are they protected from mechanical injury and damage from water, steam or oil yes are their axes of rotation fore and aft yes if situated near unprotected woodwork or other combustible material, are the motors of the totally enclosed, pipe ventilated, forced draught, drip or flame proof type are they of an approved type if not of this type, state distance of the combustible material horizontally or vertically above the motors and have machines of over 100 BHP been inspected by the Surveyors during manufacture and testing are they of an approved type Control Gear and Resistances, are the generator field and motor speed regulators, starters and controllers constructed and fitted as per Rule yes Lightning Conductors, where lightning conductors are required, are these fitted as per Rule Steel masts Ships carrying Oil having a Flash Point less than 150° F. Have the special requirements of the Rules been complied with regarding switches, joint boxes, section and distribution boards, protection of cables, method of distribution, lead of cables, lights and fittings yes are all fuses of the fitted cartridge type yes are they of an approved type yes If portable lamps for use in dangerous spaces are supplied, are they of a self-contained, battery-fed type approved by the Home Office yes Spare Gear, if the vessel is for open sea service have spares been supplied as per Rule yes

PARTICULARS OF GENERATING PLANT.

DESCRIPTION OF GENERATOR	No. of	RATED AT				DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts	Volts	Amps.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN	2	40	115	174	400	Steam engines		
AUXILIARY	20 each							
EMERGENCY								
ROTARY TRANSFORMER								

GENERATOR, LIGHTING AND HEATING CONDUCTORS.

DESCRIPTION.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT.		Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
	No. per Pole.	Total Nominal Area per Pole Sq. Ins. %	No.	Diameter.	Circuit.	Rule.			
MAIN GENERATOR ... each	1	120	61	1.59	174	177	20	Rubber	Lead covered and armoured
EQUALISER CONNECTIONS									
AUXILIARY GENERATOR									
EMERGENCY GENERATOR									
ROTARY TRANSFORMER MOTOR									
ENGINE ROOM	1	1.5	1	1.38	4	9	100		
BOILER ROOM	12 circuits								
AUXILIARY SWITCHBOARDS:									
I Bridge deck	1	120	61	1.59	168	177	250		
II " house									
III " aft ship	1	35	19	1.53	68	75	52		
IV " "									
V Fore "	1	4	19	.52	16	22.5	100		
Accommodation									
Shore connection	1	120	61	1.59	300 Amp fused	177	40		
WIRELESS	1	16	19	1.04		49	230		
SEARCHLIGHT	1	4	19	.52	18	22.5	120		
MASTHEAD LIGHT	1	1.5	1	1.38	.4	9	120 160		
SIDE LIGHTS	1	1.5	1	1.38	.4	9	18 18		
COMPASS LIGHTS	1	1.5	1	1.38	.2	9	12		
POOP LIGHTS	1	1.5	1	1.38	.4	9	230		
CARGO LIGHTS	1	1.5	1	1.38	.4	9	about 100		
ARC LAMPS	1								
HEATERS	1	6	19	.61	18	29	20		

MOTOR CONDUCTORS.

DESCRIPTION.	No. of Motors.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT.		Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
		No. Per Pole.	Total Nominal Area per Pole Sq. Ins. %	No.	Diameter.	In Circuit.	Rule.			
BALLAST PUMP									Rubber	Lead covered and armoured
MAIN BILGE LINE PUMPS										
GENERAL SERVICE PUMP										
EMERGENCY BILGE PUMP										
SANITARY PUMP										
CIRC. SEA WATER PUMPS										
CIRC. FRESH WATER PUMPS										
AIR COMPRESSOR										
FRESH WATER PUMP	1	1	1.5	1	1.38	3.5	9	20		
ENGINE TURNING GEAR										
ENGINE REVERSING GEAR										
LUBRICATING OIL PUMPS										
OIL FUEL TRANSFER PUMP										
WINDLASS										
WINCHES, FORWARD										
WINCHES, AFT										
STEERING GEAR—										
(a) MOTOR GENERATOR										
(b) MAIN MOTOR										
WORKSHOP MOTOR										
VENTILATING FANS										
Drilling machine	1	1	4	19	.52	20	22	26		
Lathe	1	1	2.5	19	1.30	58	63	20		
Grinding "	1	1	2.5	1	1.78	16	16	20		

All Conductors are of annealed copper conforming to British Standard Specification No. 7 (or International Electro-technical Commission Publication No. 28).

The Insulated Conductors are guaranteed to withstand the immersion and resistance tests specified in the Rules.

The foregoing is a correct description.

ALLGEMEINE ELEKTRO-GESELLSCHAFT
ABTEILUNG SCHIFFBAU

Electrical Engineers.

Date

27/3/37

COMPASSES.

Distance between electric generators or motors and standard compass 73 m

Distance between electric generators or motors and steering compass 76 m

The nearest cables to the compasses are as follows:—

A cable carrying 2 Ampères close to feet from standard compass close to feet from steering compass.

A cable carrying Ampères feet from standard compass 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 *yes*

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

The maximum deviation due to electric currents was found to be *nil* degrees on *any* course in the case of the standard

compass, and *nil* degrees on *any* course in the case of the steering compass.

Howaldtswerke A.-G.

[Signature]

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, opinions as to class, &c.)

This electric installation has been fitted in accordance with the approved plans, the Secretary's letters and in compliance with the Rules. Materials and workmanship are of good quality. It has given satisfaction under working conditions and was found in order.

Please note: All of the approved plans have been retained for further reference in case of the sister vessel Yard No. 774.

Total Capacity of Generators 40.— Kilowatts.

The amount of Fee ... 2 Mk 500.—

When applied for,

22.7.37

When received,

19.8.37

Travelling Expenses (if any) £ —: —:

[Signature]
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUE. 17 AUG 1937

Assigned

All Ham. J.C.

22443

2m. 5. 34.— Transfer. The Surveyors are requested not to write on or below the space for Committee's Minute.



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