

Rpt. 13.

No. 21263

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

31 AUG 1934

Date of writing Report 23/8 1934 When handed in at Local Office

Port of Hamburg

No. in Survey held at Hamburg.

Date, First Survey 6.8.34 Last Survey 15.8.34 19

Reg. Book.

(Number of Visits.....)

77617 on the steel ss. "Pine Court" ex Henry Horn

Tons { Gross 3219
Net 1934

Built at Kiel

By whom built Fr. Krupp Germania-Werft Yard No. 462 When built 1924

Owners Knoll Line

Port belonging to London

Electric Light Installation fitted by Fr. Krupp Germania-Werft A.G. Contract No. When fitted 1924

Is the Vessel fitted for carrying Petroleum in bulk no.

System of Distribution Power: 2 wire - 2 conductor system. Light: Single wire with hull return.

Pressure of supply for Lighting 110 volts, Heating volts, Power 220 volts.

Direct or Alternating Current, Lighting direct Power direct

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 rating 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 yes, is an adjustable regulating resistance fitted in series with each shunt field yes

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 Engine room, port & starb. side.

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

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 Engine room, port side of fore bulkhead

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 mantle, is all insulation of high dielectric strength and of

permanently high insulation resistance 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

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, proportion of omnibus

bars yes, individual fuses to voltmeter, pilot or earth lamp yes, now made, connections of switches yes

Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches For each generator:—

A circuit breaker with overload and reversed-current trips, and a single-pole equalizer. — For each

outgoing circuit: power circuits:— a fuse and a switch on each pole. Light circuits: A single pole fuse & switch on the insulated pole.

Instruments on main switchboard 3+3+1 ammeters 3+1 voltmeters synchronising device for paralleling purposes.

Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system pilot lamps.

Switches, Circuit Breakers and Fusible Cut-outs, do these comply with the requirements of the Rules yes

Joint Boxes Section and Distribution Boards, is the construction, protection, insulation, material, and position of these as per rule

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7E form for M. 7 Dynamometer

Cables: Single, twin, concentric, or multicore *yes*, are the cables insulated and protected as per Tables IV or V of the Rules *applied*. *enough means of 2.5" and below.*

Fall of Pressure: state maximum between bus bars and any point of the installation under maximum load *2.5 volts*

Cable Sockets and other connections: are the ends of all cables having a sectional area of *2.5 sq. mm* and above provided with soldering sockets

Paper Insulated Cables: If cables are paper covered, is the dielectric at the exposed ends of the conductor protected from moisture by being suitably sealed with insulating compound *none*

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*

Support and Protection of Cables: state how the cables are supported and protected *unarmoured cables supported by clips, where exposed to risk of damage covered by sheet iron.*

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: if lights are fitted, are the cables and fittings in accordance with the special requirements *yes*

Joints in Cables: state if any, and how made, insulated, and protected *yes, watertight joint boxes. In cabins porcelain*

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 *yes 35 sq. mm (for lighting only)* are their connections made as per Rule *yes*

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 *12 Volt battery for machinery space only. Fitted in engine room from port side.*

Navigation Lamps: are these separately wired *yes*, controlled by separate switch and separate fuses *yes*, are the fuses double pole *no*

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 *yes*

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 *none*

where are the controlling switches situated *yes* are their fittings as per Rule *yes*

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

Arc Lamps: other than searchlight lamps, No. of *yes* are their live parts insulated from the frame or case *yes*

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* (except 2 bilge pumps, 2 fuel oil service pumps, workshop motor)

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 *yes*

if not of this type, state distance of the combustible material horizontally or vertically above the motors *as far as practicable*

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 *yes*

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*

If portable lamps for use in dangerous spaces are supplied, are they of a type approved by the Home Office *yes*

PARTICULARS OF GENERATING PLANT.										
DESCRIPTION OF GENERATOR.	No. of	RATED AT			Revs. per Min.	DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.		Insulated with	HOW PROTECTED.
		Kilowatts.	Volts.	Amps.			Fuel Used.	Flash Point of Fuel.		
MAIN	2	100 each	230	465	275	Ans. Oil Engines	Diesel Oil	above		
AUXILIARY	1	30	230/110	139	360	Small Ans. Oil Eng.	Diesel Oil	150° F		
EMERGENCY	1									
ROTARY TRANSFORMER	1	7.5	105	65	1500	9. kW. oil motor				

GENERATOR, LIGHTING AND HEATING CONDUCTORS.										
DESCRIPTION.	No. of	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT AMPERES.		Approximate Length (Lead and Return) Feet.	Insulated with	HOW PROTECTED.
		No. Per Pole.	Total Effective Area per Pole Sq. Ins.	No.	Diameter. In.	In Circuit.	Rule.			
MAIN GENERATOR	1	240	91	1.84	465	272	30			
EQUALISER CONNECTIONS	1	120	61	1.69		177	30			
AUXILIARY GENERATOR	1	95	37	1.81	139	152	25			
EMERGENCY GENERATOR										
ROTARY TRANSFORMER	1	16	19	1.04	65	49	10			
ENGINE ROOM	1	25	19	1.3	49.5	63	10			
BOILER ROOM										
AUXILIARY SWITCHBOARDS										
Navigation Lamp	1	4	19	0.52	6	22	40			
Aft Ship and engine room upper part	1	4	19	0.52	6	22	15			
Plug Sockets	1	4	19	0.52	8	22	40			
Plug Sockets	1	4	19	0.52	8	22	40			
ACCOMMODATION										
Mid Ship	1	4	19	0.52	8	22	12			
Bridge house	1	4	19	0.52	10	22	20			
Engine Room	1	4	19	0.52	6	22	3			
Alley ways	1	4	19	0.52	6	22	12			
WIRELESS	1	2.5	1	1.78	8	16	30			
SEARCHLIGHT										
MASTHEAD LIGHT	1	1.5	1	1.38	2	9	60 60			
SIDE LIGHTS	1	1.5	1	1.38	2	9	6 6			
COMPASS LIGHTS	1	1.5	1	1.38	2	9	6 4			
POOP LIGHTS	1	2.5	1	1.38	2	16	75			
CARGO LIGHTS	1	2.5	1	1.38	4	16	80			
ARC LAMPS										
HEATERS										

MOTOR CONDUCTORS.										
DESCRIPTION.	No. of Motors.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT AMPERES.		Approximate Length (Lead and Return) Feet.	Insulated with	HOW PROTECTED.
		No. Per Pole.	Total Effective Area per Pole Sq. Ins.	No.	Diameter. In.	In Circuit.	Rule.			
BALLAST PUMP	1	1	16	19	1.04	62	49	12		
MAIN BILGE LINE PUMPS	1	1	10	19	0.82	34.5	38	16		
Fuel oil SERVICE PUMP	2	1	2.5	1	1.78	12	16	12 12		
EMERGENCY BILGE PUMP	1	1	10	19	0.82	12	38	16		
SANITARY PUMP										
CIRC. SEA WATER PUMPS	1	1	16	19	1.04	12	49	14		
CIRC. FRESH WATER PUMPS										
AIR COMPRESSOR	1	1	2.5	1	1.78	12	16	32		
FRESH WATER PUMP										
ENGINE TURNING GEAR	1	1	10	19	0.82	28-48	38	30		
ENGINE REVERSING GEAR	1	1	2.5	1	1.78	66	16	32		
LUBRICATING OIL PUMPS	1	1	10	19	0.82	30	38	28		
OIL FUEL TRANSFER PUMP	1	1	10	19	0.82	37.5	38	12		
WINDLASS	1	1	20	37	1.55	159/264	124/151	118		
WINCHES, FORWARD	4	1	95	32	1.81	320	152	80		
Purifier, lub. oil	1	1	2.5	1	1.78	11	16	8		
WINCHES, AFT	4	1	95	32	1.55	320	152	80		
" mid ship	2	1	35	19	1.53	160	78	24		
STEERING GEAR										
(a) MOTOR GENERATOR	1	1	35	19	1.53	21.5	78	140		
(b) MAIN MOTOR	1	1	35	19	1.53	21.5	78	12		
WORKSHOP MOTOR	1	1	2.5	1	1.78	7	12	12		
VENTILATING FAN Boiler	1	1	2.5	1	1.78	12.5	12	20		
Chimney, aft	1	1	35	19	1.53	200	78	140		
Vent. fan, stove	1	1	4	19	0.52	15	22	52		
Fresh water pump	1	1	4	19	0.52	11	22	14		
Vent. fan, mess room	1	1	4	19	0.52	6	22	14		

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All Conductors are of annealed copper conforming to British Standard Specification No. 7. *German Standard.*
The Insulated Conductors are guaranteed to withstand the immersion and resistance tests specified in the Rules.
The foregoing is a correct description.

Electrical Engineers.

Date

COMPASSES.

Distance between electric generators or motors and standard compass *35 m*

Distance between electric generators or motors and steering compass *35 m*

The nearest cables to the compasses are as follows:—

A cable carrying *0.5* 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 *-* course in the case of the standard

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

Builder's Signature.

Date

Is this installation a duplicate of a previous case

If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c.)

This electric installation has been examined throughout, all circuits submitted to Megger tests and found satisfactory. It was found to be in accordance with the submitted plan. To meet the requirements of London Letter E 26/7/34 and enclose the leads of the 100 kW dynamo, winchlass, ballast pump and cooling water pumps have been specially examined for deterioration and were found in order. Individual fuses to existing earth testing lamps and voltmeters have now been fitted. In my opinion this installation is eligible to be placed in the Society's Reg. Book with notation of

"Electric Light"

W. H. L. H.

10/9/34

Total Capacity of Generators *230.* Kilowatts.

The amount of Fee ... £ *19* : *0* : *0* :
When applied for,
Travelling Expenses (if any) £ *19* : *0* : *0* :
When received,

Committee's Minute *FRI. 14 SEP 1934*

Assigned *See 7th Reg.*

Im. 9. 90.—1 transfer.
(The Surveys are requested not to write on or below the space for Committee's Minute.)

J. A. Wright
Surveyor to Lloyd's Register of Shipping.



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Foundation