

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 21 SEP 1934

Date of writing Report 9/9/34 19 When handed in at Local Office 19 Port of Hamburg

No. in Survey held at Hamburg Date, First Survey 20/2/34 Last Survey 5/9/34 19
 Reg. Book. (Number of Visits 2)

74436 on the Steel Scr. HINDHEAD ex Consul Horn Tons { Gross 3219
 Net 1932

Built at Kiel By whom built Fried. Krupp Germaniawerft Yard No. 455 When built 1924

Owners Knoll Line Port belonging to London

Electric Light Installation fitted by Fried. Krupp Germaniawerft A.G. Contract No. When fitted 1924

Is the Vessel fitted for carrying Petroleum in bulk no.

System of Distribution Power: 2 wire 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 x

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 x

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 Main engine room, port and starboard 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 x, 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 Engine room, forward bulkhead port side

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 x

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 x and x

are they constructed wholly of durable, non-ignitable non-absorbent materials yes, marble, 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, new 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 power circuit: a fuse and a switch on each pole. Light circuits: a single-pole fuse and switch on the insulated pole.

Instruments on main switchboard 3 + 3 + 4 ammeters 3 + 4 voltmeters 3 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 yes



except areas of 2.5 sq. m. and below.

Cables: Single, twin, concentric, or multicore *single*, are the cables insulated and protected as per Tables IV or V of the Rules *German Standards*

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 0.04 square inch and above provided with soldering sockets *yes*

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 fitted.*

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 *armoured cables supported by clips. Where exposed to risk of damage covered with 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 of 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 *For lighting: 35 sq. mm.*

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 port side form.*

Navigation Lamps, are these separately wired *yes*, controlled by separate switch and separate fuses *yes*, are the fuses double pole *single*, 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 *✓*

how are the cables led *✓*

where are the controlling switches situated *✓*

Searchlight Lamps, No. of *none*, whether fixed or portable *✓*, are their fittings as per Rule *✓*

Arc Lamps, other than searchlight lamps, No. of *✓*, are their live parts insulated from the frame or case *✓*, are their fittings as per Rule *✓*

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, with a few exceptions.* 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 *✓*, if not of this type, state distance of the combustible material horizontally or vertically above the motors *✓* and *✓*

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. *✓*

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

the port one. One phase wrecked by heaving of bottom and bolt replaced 10.37 by a 4 ay 25c. Attached by me. Skin Rept 4574. Hing Rept 5048

HINDHEAD

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	120 each	230	465	275	Ans. Oil Engines	Gas oil	above 150° F
AUXILIARY	1	30	230/110	139	360	Small Ans. Oil Engine	Gas oil	"
EMERGENCY								
ROTARY TRANSFORMER	1	7.5	115	65	1500	2-4H motor		

Start up replaced by a 110 amp with 110v. 4500 rpm in 7.38.

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 Effective Area per Pole Sq. Ins. %	No.	Diameter.	In Circuit.	Rule.				
MAIN GENERATOR	1	240	91	1.84	465	272	30			
EQUALISER CONNECTIONS	1	120	61	1.59		177	30			
AUXILIARY GENERATOR	1	95	37	1.81	139	182	25			
EMERGENCY GENERATOR										
ROTARY TRANSFORMER MOTOR	1	16	19	1.04	49.5	49	10			
ROTARY TRANSFORMER GENERATOR	1	25	19	1.3	65	63	10			
ENGINE ROOM										
BOILER ROOM										
AUXILIARY SWITCHBOARDS:										
Navigation lamps	1	4	19	0.52	6	22	40			
On ship's engine room upper part	1	4	19	0.52	6	22	15	Rubber	Lead covered and armoured.	
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	30			
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	1.78	2	16	75			
CARGO LIGHTS	1	2.5	1	1.78	4	16	80			
ARC LAMPS										
HEATERS										

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 Effective Area per Pole Sq. Ins. %	No.	Diameter.	In Circuit.	Rule.				
BALLAST PUMP	1	1	16	19	1.04	62	49	12			
MAIN BILGE LINE PUMPS	1	1	10	19	0.82	39.5	38	16			
GENERAL SERVICE PUMPS	2	9	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	66	49	14			
CIRC. FRESH WATER PUMPS											
AIR COMPRESSOR	1	1	2.5	1	1.78	12	16	32			
FRESH WATER PUMP	1	1	4	19	0.52	11	22	14			
ENGINE TURNING GEAR	1	1	10	19	0.82	28-48	38	30			
ENGINE REVERSING GEAR	1	1	2.5	1	1.78	6.4	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	70	37	1.52	159/264	124/151	118			
WINCHES, FORWARD	4	95	37	1.81	320	182	80				
Lub. Oil Purifier	1	1	2.5	1	1.78	11	16	18			
WINCHES, AFT	4	1	95	37	1.81	320	182	80			
Mid Ship	2	1	35	19	1.83	160	78	90			
STEERING GEAR											
(a) MOTOR GENERATOR	1	1	35	19	1.83	21.5	78	140			
(b) MAIN MOTOR	1	1	35	19	1.83	21.5	78	12			
WORKSHOP MOTOR	1	1	2.5	1	1.78	7	16	12			
VENTILATING FAN Boiler	1	1	2.5	1	1.78	12.5	16	28			
Captain's aft	1	1	35	19	1.83	100	78	140			
Galley (vent. fan)	1	1	4	19	0.52	15	22	52			
Vent. Fan precision store	1	1	4	19	0.52	6	22	14			

Cables approved 26.7.34.

All Conductors are of annealed copper conforming to British Standard Specification No. 7. *German Standards*
 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 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 yes If so, state name of vessel Pine Court ex Henry Horn

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

This electric installation has been examined throughout, all circuits megger tested 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 enclosure, the leads of the 100 kW dynamo, windlass, ballast pump and cooling water pump 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 Register Book with notation of "Electric Light"

*Noted
 J. Mue
 22.9.34*

Total Capacity of Generators 230-240 Kilowatts.

The amount of Fee £	— : — :	When applied for,
Travelling Expenses (if any) £	— : — :	When received,

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

Committee's Minute TUE 25 SEP 1934

Assigned J. H. Rpt

Im. 9. 30. — Transfer. (The Surveys are requested not to write on or below the space for Committee's Minute.)



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