

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

5 JUL 1935

Received at London Office

Date of writing Report 13/6/35 19 35 When handed in at Local Office 19 Port of Hamburg

No. in Survey held at Kiel Date, First Survey 7/5/35 Last Survey 17/6/35 19 35

Reg. Book. on the Steel Ser. "W. B. Walker" (Number of Visits 12)

Tons { Gross 10 468
Net 6 127

Built at Kiel By whom built Fr. Krupp Germaniawerft Yard No. 534 When built 1935

Owners Standard Vacuum Oil Co, N.Y. Port belonging to Hongkong

Electric Light Installation fitted by Fr. Krupp Germaniawerft A.G. Contract No. ✓ When fitted 1935

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 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 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 none

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 side fore, 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 main engine room 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 ✓

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 yes

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 ✓

is the non-hygroscopic insulating material of an approved type ✓, 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

for generators: A double pole overload circ. breaker. Outy circuit: A double pole change over switch

Are turbine driven generators fitted with emergency trip switch as per rule none, Are cupboards or compartments containing switchboards composed of fire-resisting material or lined with approved material yes

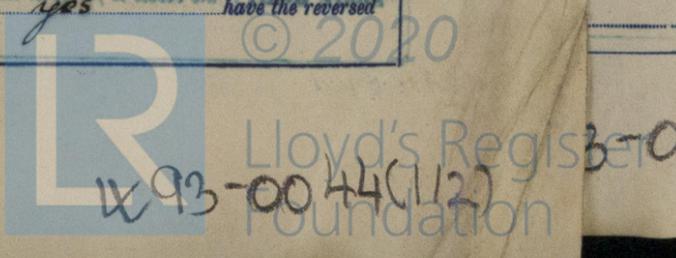
Instruments on main switchboard 3 ammeters 2

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

Earth testing lamps and 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 the reversed



current protection devices been tested under working conditions none Joint Boxes, Section and Distribution Boards, is the

construction, protection, insulation, material, and position of these as per rule yes

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

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 2.7 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 lead covered

Support and Protection of Cables, state how the cables are supported and protected armoured cables supported by clips, on deck in way of crew's gangways protected 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, are the cables and fittings in accordance with the special requirements yes

Joints in Cables, state if any, and how made, insulated, and protected waterlight 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 or compound

Earthing Connections, state what earthing connections are fitted and their respective sectional areas 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 yes

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 yes

Fittings, are all fittings on weather decks, in storerooms 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 rooms: lamps fitted in gas tight pockets arranged outside in fresh house. lower bridge deck, gas tight lamps in conduit

where are the controlling switches situated outside the above rooms in bridge deck

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 none

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 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, are they protected from mechanical injury and damage from water, steam or oil yes, are their axes of rotation fore and aft yes as far as practicable; 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 yes and yes

have machines of over 100 BHP been inspected by the Surveyors during manufacture and testing none 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 filled 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	30	115	260	275	Steam Engines		
AUXILIARY								
EMERGENCY								
ROTARY TRANSFORMER	1	12				Indicator for angle of Helm.		

GENERATOR, LIGHTING AND HEATING CONDUCTORS.

DESCRIPTION.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT.		Approximate Length. (Lead and Return.) Feet. 7/16.	Insulated with	HOW PROTECTED.
	No. per Pole.	Total Nominal Area per Pole Sq. Ins. 7/16.	No.	Diameter.	Circuit.	Rule.			
MAIN GENERATORS...	1	240	91	1.84	260	275	20m each	Rubber	Lead covered
EQUALISE CONNECTIONS	1	185	61	1.97	200	233	45		Armoured
EMERGENCY GENERATOR	1	25	19	0.41	25	185	20		
ROTARY TRANSFORMER MOTOR GENERATOR...	1	25	19	0.41	25	185	20		
ENGINE ROOM...									on main switch board
BOILER ROOM...	1	70	27	1.55	112	124	42		
AUXILIARY SWITCHBOARDS...									
Fore Castle	1	4	19	0.52	35	22	105		
Bridge deck (main)	1	120	61	1.59	160	177	150		
Upper Bridge deck	1	4	19	0.52	8	22	25		
Navigation lamps	1	25	19	0.41	0.4	185	150		
Kitchen	1	50	19	1.55	75	95	60		
Accommodation									
Peep hole	1	50	19	1.55	55	95	70		
" upper	1	50	19	1.55	35	95	4		
Refr. prod. store	1	10	19	0.52	30.5	35	70		
Boat shop	1	50	19	1.55	50	95	70		
WIRELESS	1	10	19	1.04	16	49	35		
SEARCHLIGHT	1	4	19	0.52	15	22	32		
MASTHEAD LIGHT	1	25	19	0.41	0.36	155	100		
SIDE LIGHTS	1	25	19	0.41	0.36	155	25		
COMPASS LIGHTS	1	25	19	0.41	0.3	155	25		
POOP LIGHTS	1	25	19	0.41	0.36	155	25		
CARGO LIGHTS	1	25	19	0.41	4.53	155	105		
ARC LAMPS									
Heating Hot water Sailer	1	4	19	0.52	15.2	22	22		

MOTOR CONDUCTORS.

DESCRIPTION.	No. of Motors.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT.		Approximate Length. (Lead and Return.) Feet. 7/16.	Insulated with	HOW PROTECTED.
		No. Per Pole.	Total Nominal Area per Pole Sq. Ins. 7/16.	No.	Diameter.	In Circuit.	Rule.			
BALLAST PUMP									Rubber	Lead covered
MAIN BILGE LINE PUMPS										Armoured
GENERAL SERVICE PUMP										
EMERGENCY BILGE PUMP										
SANITARY PUMP										
CIRC. SEA WATER PUMPS										
CIRC. FRESH WATER PUMPS										
AIR COMPRESSOR										
FRESH WATER PUMP	1	125	25	19	0.41	21	155	10		
ENGINE TURNING GEAR	1	125	35	19	1.02	67	75	30		
ENGINE REVERSING GEAR										
LUBRICATING OIL PUMPS	1	1	25	19	0.41	5	155	20		
OIL FUEL TRANSFER PUMPS	2	1	25	19	0.41	6 each	155	18 each		
Watermeter ditto	2	1	25	19	0.41	6.4	155	20		
WINCHES FORWARD										
Oil Purifier	1	1	25	19	0.41	10	155	20		
WINCHES AFT										
Transfer Helm indicator	1	1	25	19	0.41	3	155	50		
STEERING GEAR										
(a) MOTOR GENERATOR										
(b) MAIN MOTOR										
WORKSHOP MOTOR										
VENTILATING FANS	2	1	25	19	1.3	50	63	60		
Auto gene	1	1	10	19	0.52	27.8	35	25		
Hot bath	1	1	25	19	0.41	67	155	20		
Grinding machine	1	1	25	19	0.41	5	155	20		
Hot bath	1	1	25	19	1.3	67	63	20		
Drilling machine	1	1	25	19	0.41	12.5	155	20		
Shaping	1	1	6	19	0.41	12.2	39	15		



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.

**FRIED. KRUPP
GERMANIAWERFT**
Aktiengesellschaft.

Electrical Engineers. Date

COMPASSES.

Distance between electric generators or motors and standard compass 60 m

Distance between electric generators or motors and steering compass 60 m

The nearest cables to the compasses are as follows:—

A cable carrying 0.36 Ampères close to feet from standard compass 0.36 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.

**FRIED. KRUPP
GERMANIAWERFT**
Aktiengesellschaft.

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, etc.)

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

*Noted
Jmu
10.7.35*

Total Capacity of Generators 60 — Kilowatts.

The amount of Fee ... *RM. 540.-* When applied for, 19

Travelling Expenses (if any) £ : : When received, *9.10.19 35*

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

Committee's Minute **FRI. 12 JUL 1935**

Assigned *See Mann 7.6.21578*

2m. 5.84.—Transfer. The Signatories are requested not to write on or below the space for Committee's Minute.

