

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

-5 JUL 1935

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

Received at London Office

Port of Hamburg

No. in Survey held at Kiel

Date, First Survey 7/5/35

Last Survey 17/6/35

19

Reg. Book.

on the Steel Ste. "W. B. Walker"

(Number of Visits 12)

Tons { Gross 10468
Net 6127

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 V

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

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

type

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 circs: 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

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

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 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 *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 or compound*

Earthing Connections, state what earthing connections are fitted and their respective sectional areas *yes*, 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 *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 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 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.		Insulated with	HOW PROTECTED.
		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	1.2				Indicator for angle of Helm.				

GENERATOR, LIGHTING AND HEATING CONDUCTORS.										
DESCRIPTION.	No. per Pole.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT.		Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
		Total Nominal Area per Pole Sq. Ins. %	No.	Diameter.	Circuit.	Rule.				
MAIN GENERATORS...	1	240	91	1.84	260	275	20m each	Rubber	Lead covered	
EQUALISE CONNECTIONS										
Emergency Generator	1	185	61	1.97	200	233	45			Armoured
ROTARY TRANSFORMER MOTOR GENERATOR...	1	2.5	19	0.41	2.5	185	20			
ENGINE ROOM...										
BOILER ROOM...	1	70	27	1.55	112	124	42			
AUXILIARY SWITCHBOARDS...										
Fore Castle	1	4	19	0.52	3.5	22	105			
Bridge deck (main)	1	120	61	1.59	160	177	180			
Upper Bridge deck	1	4	19	0.52	8	22	25			
Navigation Lamps	1	2.5	19	0.41	0.4	185	150			
Kitchen	1	50	19	1.83	78	95	60			
Accommodation										
Peep Ah.	1	50	19	1.83	85	95	70			
" upper	1	50	19	1.83	88	98	4			
Refr. prod. store	1	10	19	0.82	30.5	38	70			
Boat shop	1	50	19	1.83	80	95	70			
WIRELESS	1	10	19	1.04	16	49	35			
SEARCHLIGHT	1	4	19	0.52	18	22	32			
MASTHEAD LIGHT	1	2.5	19	0.41	0.36	155	100			
SIDE LIGHTS	1	2.5	19	0.41	0.36	155	25			
COMPASS LIGHTS	1	2.5	19	0.41	0.3	155	35			
POOP LIGHTS	1	2.5	19	0.41	0.36	155	30			
CARGO LIGHTS	1	2.5	19	0.41	4.53	155	108			
ARC LAMPS										
Heating Hot water Sailer	1	4	19	0.52	18.2	22	22			

MOTOR CONDUCTORS.										
DESCRIPTION.	No. of Motors.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT.		Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
		Total Nominal Area per Pole Sq. Ins. %	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	2.1	155	10		
ENGINE TURNING GEAR	1	135	35	19	1.83	67	78	30		
ENGINE REVERSING GEAR										
LUBRICATING OIL PUMPS	1	1	2.5	19	0.41	5	155	20		
OIL FUEL TRANSFER PUMPS	2	1	2.5	19	0.41	6 each	155	18 each		
WINCHES Aft	2	1	2.5	19	0.41	6.4	155	20		
WINCHES FORWARD										
OIL Purifier	1	1	2.5	19	0.41	10	155	20		
WINCHES Aft										
Transfer Helm indicator	1	1	2.5	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 Gens	1	1	10	19	0.82	27.8	35	25		
Hot. bath	1	1	2.5	19	0.41	67	155	20		
Grinding machine	1	1	2.5	19	0.41	5	155	20		
Hot. bath	1	1	2.5	19	0.41	67	155	20		
Drilling machine	1	1	2.5	19	0.41	12.5	155	20		
Shaping	1	1	6	19	0.66	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 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

Imu

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

Committee's Minute

FRI. 12 JUL 1935

Assigned

See Ham 7.6.21578

2m. 534.— Transfer.
The Surveyors are requested not to write on or below the space for Committee's Minute.



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