

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

30 DEC 1926

Received at London Office.....

Date of writing Report 30 December 1926. When handed in at Local Office

19

Port of

AMSTERDAM

No. in Survey held at AMSTERDAM

Date, First Survey 2 June

Last Survey 17 December 1926

Reg. Book.

(Number of Visits... 18)

--- on the Steel Single Screw Motorship "PHOBOS"

Tons { Gross 7412

Net 4235

Built at Amsterdam

By whom built Nederl. Scheepsbouw My Yard No. 181

When built 1926

Owners Nederl.- Ind. Tankstoomboot My.

Port belonging to

's-Gravenhage

Electric Light Installation fitted by N. V. Groeneveld, v. d. Poll & Co's
Electrotechnische Fabriek

Contract No. -

When fitted 1926

System of Distribution

Double wire system ✓

Pressure of supply for Lighting

110

volts, Heating

volts, Power

110

volts.

Direct or Alternating Current, Lighting

Direct current ✓

Power

Direct current ✓

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 overload

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 and clearly marked

Yes ✓

are they so spaced or shielded that they cannot be accidentally earthed,

or short circuited

Yes ✓

Are the lubricating arrangements of the generators as per Rule

Yes ✓

Position of Generators

The three power dynamos on the engine floor at S.B. 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

Yes ✓

are their axis 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

The power switchboard against the front bulkhead of engine

The lightow. at S.B. side on

If the generators and main switchboard are not placed in the same compartment, is each generator provided with

S.B. platform

a fuse on each insulated pole as near as possible to the terminals of the generator, additional to that provided on the main switchboard

No

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, incombustible non-absorbent materials

Yes ✓

is all insulation of high dielectric strength and of

permanently high insulation resistance

Yes ✓

if semi-insulating material is used, are all conducting parts connected to one pole

insulated from the slab with mica or micanite and the slab similarly insulated from its framework

No

frame effectively earthed

Yes ✓

Are the following fittings as per Rule, viz.:— spacing or shielding of live parts

Yes ✓

accessibility of all parts

Yes ✓

absence of fuses on back of board

No

proportion of omnibus

bars

individual fuses to voltmeter, pilot or earth lamp

Yes ✓

connections of switches

Yes ✓

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

one double pole knife switch for switching in one pole of the dynamo and

the equalizer and a reverse current automatic switch for the other pole.

For the circuits: a double pole knife switch and a double pole handle fuse.

Instruments on main switchboard 3 power ammeters 2 power voltmeters

2 light

2 light

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

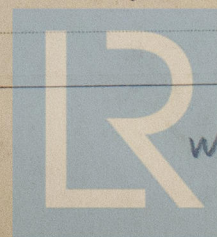
connected in series. The series connecting point connected to the earth.

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

Yes ✓

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

Yes ✓



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Single & twin

Insulation of Cables, state type of cables, single or twin *are the cables insulated and protected as per Tables III or IV of the Rules* *yes*

Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load *2%*

Cable Sockets and other connections, are the ends of all cables having a sectional area of 0.007 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 *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*

Support and Protection of Cables, state how the cables are supported and protected *fixed on perforated steel plate with galvanized iron clips and brass screws*

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 VI *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 *connection boxes, provided of cable glands*

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 Positions, 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: *vulcan fibre and 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 *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*, are separate screens provided for the use of oil and electric side lights *yes*

are separate oil lanterns provided for the mast head lights and side lights *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 *over the normal bulwark is made an iron box with a glass window, how are the cables led outside the spaces*

are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected *over the normal bulwark is made an iron box with a glass window, how are the cables led outside the spaces*

where are the controlling switches situated *in the midship*

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

Are Lamps, other than searchlight lamps, No. of *yes*, 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 axis 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 *yes* and *yes*

Control Gear and Resistances, are the generator field and motor speed regulators, starters and controllers constructed 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				DRIVEN BY.	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.		
		Kilowatts.	Volts.	Ampères.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.	
MAIN GENERATOR...	3	32	110	290	250	Diesel engine			
AUXILIARY GENERATOR...	1	14	110	127	440	Steam engine			
EMERGENCY GENERATOR...	1	14	110	127	400	Steam engine			
ROTARY TRANSFORMER									
LIGHTING AND HEATING CONDUCTORS.									
Ref. No.	DESCRIPTION.	No. of Conductors.	Effective Area of each Conductor. Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current. Amperes.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	MAIN GENERATOR...								
	AUXILIARY GENERATOR								
	EMERGENCY GENERATOR								
	ROTARY TRANSFORMER...								
	AUXILIARY SWITCHBOARDS								
	ENGINE ROOM								
	BOILER ROOM								
	main generator power	1	0.5	61	0.103	290	72	rubber	steel wire
	pos. pole	1	0.5	61	0.103	290	72		
	neg. pole	1	0.5	61	0.103	290	72		
	equalizer	1	0.147	37	0.072		72		
	main generator light	1	0.1168	37	0.064	127	120		
	pos. pole	1	0.1168	37	0.064	127	120		
	neg. pole	1	0.1168	37	0.064	127	120		
	equalizer	1	0.039	19	0.052		120		
	WIRELESS	2	0.0146	7	0.052	30	640		
	SEARCHLIGHT								
	MASTHEAD LIGHT...	2	0.00555	7	0.029	1	360		
	SIDE LIGHTS...	2	0.00555	7	0.029	1	54		
	COMPASS LIGHTS...	2	0.00299	3	0.036	0.5	24		
	POOP LIGHTS	2	0.00299	3	0.036	10	120		
	CARGO LIGHTS	2	0.00299	3	0.036	10	60		
	ARC LAMPS								
	HEATERS								
MOTOR CONDUCTORS.									
Ref. No.	DESCRIPTION.	No. of Motors.	Effective Area of each Conductor. Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current. Amperes.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	BALLAST PUMP								
	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								
	ENGINE TURNING GEAR	2	0.1478	37	0.072	130	240	rubber	steel wire
	ENGINE REVERSING GEAR								
	LUBRICATING OIL PUMPS	2	0.1478	37	0.072	140	120		
	OIL FUEL TRANSFER PUMP	2	0.0396	19	0.052	60	120		
	WINDLASS								
	WINCHES, FORWARD								
	WINCHES, AFT								
	STEERING GEAR	2	0.07592	19	0.072	190	300		
	WORKSHOP MOTOR								
	VENTILATING FANS								
	cooling pump	4	0.1478	37	0.072	280	36		
	workshop motor	2	0.0146	7	0.052	24	36		
	"	2	0.0146	7	0.052	24	50		
	"	2	0.0146	7	0.052	24	56		
	oil purifier	2	0.0146	7	0.052	24	120		
	"	2	0.0146	7	0.052	24	120		
	refrigerating engine	2	0.07592	19	0.072	95	260		

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

p.p. N.V. Groeneveld, Van der Poll & Co's
Electrotechnische Fabriek

Electrical Engineers.

Date 24 December 1926.

COMPASSES.

Distance between electric generators or motors and standard compass

420 feet

Distance between electric generators or motors and steering compass

30 feet

The nearest cables to the compasses are as follows:—

A cable carrying 0.5 Ampères 0.5 feet from standard compass 0.5 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 " degrees on " course in the case of the steering compass.

NEDERLANDSCHE SCHEEPSBOUW-MAATSCHAPPIJ

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.)

The installation has been fitted in accordance with the Rules, workmanship good. The whole has been tested under full working condition and found good and efficient.

It is submitted that
this vessel is eligible for
THE RECORD. Elec. light.

Total Capacity of Generators 138 Kilowatts

The amount of Fee ... £ 400.80 :
Travelling Expenses (if any) £ : :
When applied for, 19
When received, 10/1/19

P. W. Bernoschi
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUES. 4 JAN 1927

Assigned

Elec Light



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