

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

3 MAY 1926

Date of writing Report 24<sup>th</sup> April 1926 When handed in at Local Office 10 Port of HAMBURG

No. in Survey held at HAMBURG Date, First Survey 26<sup>th</sup> Jan. Last Survey 15<sup>th</sup> April. 1926  
Reg. Book. (Number of Visits.....)

40260 on the Steel Twin Sc. S. "NEPTUN" Tons { Gross 7250  
Net 3640

Built at HAMBURG By whom built BLOHM & VOSS Yard No. 472 When built 1926

Owners NORDEUTSCHE SAEKFAELWERKE Port belonging to NORDENHAFEN

Electric Light Installation fitted by BLOHM & VOSS Contract No. ✓ When fitted 1926

### System of Distribution

Pro wire insulated

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 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 no, 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 aft

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 bed-plates 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 aft - near generators

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, if semi-insulating material is used, are all conducting parts insulated from the slab with mica or micaite or other non-hygroscopic insulating material, and the slab similarly insulated from its framework ✓

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, connections of switches yes

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

In each generator: A double-pole linked switch and a fuse on each pole: For each outgoing circuit: A fuse on each pole and a single pole change over switch on one pole

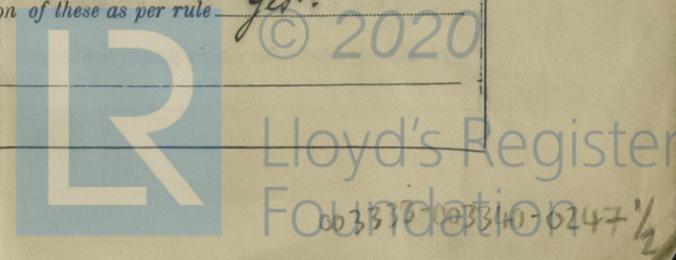
Instruments on main switchboard 2 ammeters 2 voltmeters ✓ synchronising device for paralleling purposes.

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

A voltmeter with Ohm scale and change-over switch

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



Cables: Single, twin, or multi-core *yes* are the cables insulated and protected as per Tables IV or V of the Rules *generally*. *The German Standards have been applied*

Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load *about 2 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 *no paper insulation cables*

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 stays and hangers, where exposed to mechanical risk protected by steel 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 *watertight joint boots*

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

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

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 lam. 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 stowed in close proximity to them; if so, how are they protected

are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected *yes, protected by front glass boiler-gaslight*, how are the cables led *gas tight tubing*

where are the controlling switches situated *outside the spaces - on deck - double-pole switches*

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*, 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 *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 rods*

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	Amps.	Revs. per Min.		Fuel Used	Flash Point of Fuel
MAIN	2	each 50	115	261	325	2 cyl. steam engine		
AUXILIARY								
EMERGENCY								
ROTARY TRANSFORMER								

LIGHTING AND HEATING CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Conductors.	Effective Area of each Conductor Sq. Ft.	COMPOSITION OF STRAND.		Total Maximum Current Amps.	Approximate Length (Lead and Return) Feet	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	MAIN GENERATOR	2	185	37	2.5	200	8		
	EQUALISER CONNECTIONS								
	AUXILIARY GENERATOR								
	EMERGENCY GENERATOR								
	ROTARY TRANSFORMER								
	AUXILIARY SWITCHBOARDS								
	ENGINE ROOM								
	BOILER ROOM	2	10	7	1.35	30	5		
	ACCOMMODATION	2	50	19	1.55	68	15 + 10		
	13 Deck all (re 20)	2	100	37	2.25	100	120 + 80		
	14 Deck (re 4 + 2)	2	100	37	2.25	100	120 + 80	rubber	Lead covered + Armoured.
	15 Deck lamp Condu	2	10	7	1.35	5	100		
	WIRELESS	2	10	7	1.35	15	115		
	SEARCHLIGHT	2	2.5	1	1.8	9	25		
	MASTHEAD LIGHT	2	1.5	1	1.4	1	120		
	SIDE LIGHTS	2	1.5	1	1.4	1	20		
	COMPASS LIGHTS								
	POOP LIGHTS								
	CARGO LIGHTS								
	ARC LAMPS								
	HEATERS	2	25	19	1.55	70	95		

MOTOR CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Motors.	Effective Area of each Conductor Sq. Ft.	COMPOSITION OF STRAND.		Total Maximum Current Amps.	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								
	ENGINE REVERSING GEAR								
	LUBRICATING OIL PUMPS								
	OIL FUEL TRANSFER PUMP								
	WINDLASS								
	WINCHES, FORWARD	1	95	19	2.5	100	180		
	WINCHES, AFT								
	STEERING GEAR								
	(a) MOTOR GENERATOR								
	(b) MAIN MOTOR								
	WORKSHOP MOTOR	1	6	1	2.75	22	40	rubber	Lead covered + Armoured.
	VENTILATING FANS	1	2.5	1	1.8	12	20		
	Mixing machine	1	1.5	1	1.4	8	6		
	Cyano-compressor	2	6	1	2.75	10	65		

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.

The Guilders are the

Electrical Engineers.

Date 20/4/26.

COMPASSES.

Distance between electric generators or motors and standard compass about 20 m.

Distance between electric generators or motors and steering compass 18 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 with

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.

RIEDEL & VOSS

Rahn

Builder's Signature.

Date 20/4/26.

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.)

Material & workmanship

of this Electric Installation are of good quality. As the conductors used are of the German Standard, the Society's Rules respecting conductors have been applied generally. The installation is otherwise fitted in accordance with the requirements of the Rules under Special Survey and is eligible in my opinion for record of ELECT. LIGHT.

It is submitted that the vessel is eligible for ELECT. LIGHT.

Elec. Light  
R.H.  
4/5/26

Total Capacity of Generators 60 Kilowatts.

The amount of Fee ... £ 28 : 10 : : When applied for, 28.4.1926

Travelling Expenses (if any) £ : : When received, 11.5.1926

Friedrich Hill

Surveyor to Lloyd's Register of Shipping.

FRI. 7 MAY 1926

Committee's Minute

Assigned Elec. Light

Im. 1.26.—Transfer. (The Surveyors are requested not to write on or below the space for Committee's Minute.)



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