

Rpt. 13.

No. 18649

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Date of writing Report 25-7-29 When handed in at Local Office 19 Port of Rotterdam
 No. in Survey held at Rotterdam Date, First Survey 31 Jan: Last Survey 18 July 1929
 Reg. Book. M. 4 "Belgian Gulf" (Number of Visits 29)
 on the M. 4 "Belgian Gulf" Tons Gross Net
 Built at Rotterdam By whom built Burgerhout Yard No. 115 When built 1929
 Owners Sch. d. Ommement d. Ind. & Commerce Port belonging to Antwerp
 Electric Light Installation fitted by P. C. H. W. H. Croon & Co Contract No. When fitted 1929
 Is the Vessel fitted for carrying Petroleum in bulk Yes

System of Distribution

Pressure of supply for Lighting 110 volts, Heating 220 volts, Power 220 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 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 engine room

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 engine room

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 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 no, proportion of omnibus

bars 600 mm², individual fuses to voltmeter, pilot or earth lamp yes, connections of switches

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

a threepole automatic switch with overload and reverse coils; each sharing motor a double

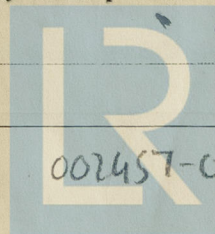
pole automatic switch with overload and no voltage coils; all other outgoing circuits double pole fuses

Instruments on main switchboard 4 ammeters 4 voltmeters and double pole switch 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



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Foundation

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

Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load *as per Rules*

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 *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 *iron tubes*

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 *as per Rules*

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 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 *yes*

are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected *gas tight fittings*

with glass bulbs in iron tubes

where are the controlling switches situated *in bridge deckhouse*

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

Arc 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 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 *yes* and *yes*

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 *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*

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PARTICULARS OF GENERATING PLANT.									
DESCRIPTION OF GENERATOR.	No. of	RATED AT				DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.		
		Kilowatts.	Volts.	Amperes.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.	
MAIN ...	2	105	230	460		Diesel engine	Diesel oil	95° C. open crane	
AUXILIARY ...	1	30	230	130		Steam engine			
EMERGENCY ...									
ROTARY TRANSFORMER	2	15	200/110	136					

GENERATOR, LIGHTING AND HEATING CONDUCTORS.									
DESCRIPTION.	No. of Pole.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT.		Approximate Length. (Lead and Return.) Feet.	HOW PROTECTED.
		No. per Pole.	Total Effective Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rule.		
MAIN GENERATOR ...	3	120	37	3	1.10	460	552	40 cth	
EQUALISER CONNECTIONS ...	3	120	37	3	1.10				
AUXILIARY GENERATOR ...	1	95	37	1	1.95	130	152	20 "	
EMERGENCY GENERATOR ...									
ROTARY TRANSFORMER { MOTOR ...	1	50	19	1	1.05	92	97	20 "	
TRANSFORMER { GENERATOR ...	1	95	37	1	1.95	135	152	20 "	
ENGINE ROOM ...									
BOILER ROOM ...									
AUXILIARY SWITCHBOARDS ...									
navigation	1	6	4	1	1.10	6	30	100 "	
engine room s.b.	1	6	4	1	1.10	18	30	30 "	
" " b.b.	1	6	4	1	1.10	24	30	30 "	
ACCOMMODATION									
Bridge house	1	16	4	1	1.60	35	46	100 "	
Engineers	1	6	4	1	1.10	15	30	40 "	
Crew	1	6	4	1	1.10	15	30	60 "	
WIRELESS ...	1	16	4	1	1.60	45	46	100 "	
SEARCHLIGHT ...									
MASTHEAD LIGHT ...	1	1 1/2	3	1	0.45	0.4	7.8	100 "	
SIDE LIGHTS ...	1	1 1/2	3	1	0.45	0.4	7.8	25 "	
COMPASS LIGHTS ...	1	1 1/2	3	1	0.45	0.4	7.8	15 "	
POOP LIGHTS ...	1	1 1/2	3	1	0.45	0.4	7.8	150 "	
CARGO LIGHTS ...									
ARC LAMPS ...									
HEATERS ...	1	50	19	1	1.05	92	97	40 "	

MOTOR CONDUCTORS.									
DESCRIPTION.	No. of Motors.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT.		Approximate Length. (Lead and Return.) Feet.	HOW PROTECTED.
		No. per Pole.	Total Effective Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rule.		
BALLAST PUMP ...	1	1	35	1	1.60	72	83	90 cth	
MAIN BILGE LINE PUMPS ...									
GENERAL SERVICE PUMP ...	2	1	35	1	1.60	72	83	90 "	
EMERGENCY BILGE PUMP ...									
SANITARY PUMP ...									
CIRC. SEA WATER PUMPS ...	1	1	2 1/2	3	0.90	12	12	15 "	
CIRC. FRESH WATER PUMPS ...									
AIR COMPRESSOR ...	1	3+1	120+150	3 1/2	1.35	700	766	15 "	
FRESH WATER PUMP ...	1	1	2 1/2	3	0.90	10	12	12 "	
ENGINE TURNING GEAR ...									
ENGINE REVERSING GEAR ...									
LUBRICATING OIL PUMPS ...	2	1	50	1	1.05	84	97	70 "	
OIL FUEL TRANSFER PUMP ...	1	1	25	1	1.30	60	64	80 "	
WINDLASS ...									
WINCHES, FORWARD ...									
WINCHES, AFT ...									
STEERING GEAR—									
(a) MOTOR GENERATOR ...									
(b) MAIN MOTOR ...	2	1	95	3 1/2	1.05	140	152	120 "	
WORKSHOP MOTOR ...	1	1	4	1	0.90	20	24	25 "	
VENTILATING FANS ...									
Oil centrifuges	3	1	2 1/2	3	0.90	12	12	10 "	
Refrigerating engine	1	1	10	1	1.30	35	37	15 "	
Brine pump	1	1	2 1/2	3	0.90	12	12	20 "	

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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. Rotterdamsche Electriciteits Mij.
v/h. H. CROON & Co

Electrical Engineers.

Date 25 Juli '29

COMPASSES.

Distance between electric generators or motors and standard compass 220 ft

Distance between electric generators or motors and steering compass 220 ft

The nearest cables to the compasses are as follows:—

A cable carrying 35 Ampères 15 feet from standard compass 10 feet from steering compass.

A cable carrying 1 Ampères 1 feet from standard compass 1 feet from steering compass.

A cable carrying 1 Ampères 1 feet from standard compass 1 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 1 degrees on every course in the case of the standard compass, and 1 degrees on 1 course in the case of the steering compass.

BURGERHOUT'S MACHINEFABRIEK & SCHEEPSWERF, N.V.

Builder's Signature.

Date 26/7/29.

Is this installation a duplicate of a previous case No If so, state name of vessel 1

General Remarks (State quality of workmanship, opinions as to class, &c. This installation has been)

fitted in accordance with the Society's Rules was found in good working condition when tried and merits in my opinion the Committee's approval.

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

Elec. light

4 Km

1.8.29

Total Capacity of Generators 240 Kilowatts.

The amount of Fee ...

£450.00

When applied for,

24/7 1929

When received,

13.8.29

Travelling Expenses (if any) £

:

:

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI 2 AUG 1929

Assigned

Elec light



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