

Rpt. 13.

No. 11320

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 18 JAN 1929

Date of writing Report 14 Jan 1929 When handed in at Local Office

Port of Amsterdam

No. in Survey held at Amsterdam Date, First Survey 19 Sept Last Survey 30 Dec 1920
Reg. Book.

on the Motor Vessel "POELAU LAUT"

Tons { Gross
Net

Built at Amsterdam By whom built Ned Scheep 48 Yard No. 1099 When built

Owners Shoom, 48 "Nederland" Port belonging to Amsterdam

Electric Light Installation fitted by Nijssen & Co. Contract No. When fitted

System of Distribution Two-wire system direct current & three-wire AC current

Pressure of supply for Lighting 220 volts, Heating ✓ volts, Power 220 & 110 volts.

Direct or Alternating Current, Lighting direct current Power direct & altern current

If alternating current system, state frequency of periods per second 50 per

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 In Motor room, one on SB, two on Port

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 in Motor 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 none, 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 The generators

are running in parallel & provided with a current breaker in the equalizer & in the minus pole and a automatic contactor in the + pole, one overload trip in late and a reverse current relay & overload trip in the former pole

Instruments on main switchboard 15. 16 ammeters 4. 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

Two Ohmmeters the middle connected with the earth

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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Cables: Single, twin, concentric, or multicore *Single, 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 *22*
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 *None*

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 *on perforated steel plate in wooden channels*

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 *W.P. 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 & fibre*

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

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 *In steering house is placed a battery of 135 cells - 150 AH with feed in case of emergency the steering gear, navigation & motor room lighting, some tele & good*

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 *✓*

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

how are the cables led

where are the controlling switches situated

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

Arc Lamps, other than searchlight lamps, No. of *✓*, are their live parts insulated from the frame or case *✓*, are their fittings as per Rule *✓*

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 *✓*, 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 *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 *✓*

If portable lamps for use in dangerous spaces are supplied, are they of a type approved by the Home Office *✓*

PARTICULARS OF GENERATING PLANT.

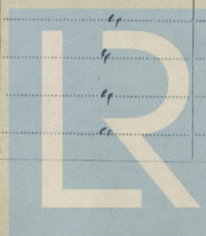
DESCRIPTION OF GENERATOR.	No of	RATED AT				DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Ampères.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN ...	3	240	220	1090	100	Diesel Motor	Diesel oil	above 150°
AUXILIARY ...								
EMERGENCY ...								
ROTARY TRANSFORMER								

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...	2x4	0.40640	6/293	0.093	1100	120	arm lead covered cables	armoured
	EQUALISER CONNECTIONS	1x3	0.40640	6/293	0.093		120	rubber	
	AUXILIARY GENERATOR	✓	✓	✓	✓	✓	✓	✓	✓
	EMERGENCY GENERATOR	✓	✓	✓	✓	✓	✓	✓	✓
	ROTARY TRANSFORMER...	✓	✓	✓	✓	✓	✓	✓	✓
	AUXILIARY SWITCHBOARDS	✓	✓	✓	✓	✓	✓	✓	✓
	ENGINE ROOM	2x1	0.02214	7	0.064	35	300	arm lead covered cables	✓
	BOILER ROOM	✓	✓	✓	✓	✓	✓	rubber	✓
	ACCOMMODATION	2	0.00299	3	0.036	8	150	✓	✓
	"	2	0.00299	3	0.036	10	100	✓	✓
	"	2	0.00299	3	0.036	6	350	✓	✓
	"	2	0.00299	3	0.036	4	500	✓	✓
	"	2	0.00299	3	0.036	4	500	✓	✓
	WIRELESS	2	0.01046	7	0.44	4	460	lead covered rubber	armoured
	SEARCHLIGHT	2x1	0.00100	19	0.66	70	34	✓	✓
	MASTHEAD LIGHT	2x1	0.00455	7	0.29	0.5	200	✓	✓
	SIDE LIGHTS	2x1	0.00455	7	0.29	0.5	20	✓	✓
	COMPASS LIGHTS	2x1	0.00455	7	0.29	0.25	14	✓	✓
	POOP LIGHTS	2x1	0.00455	7	0.29	0.5	432	✓	✓
	CARGO LIGHTS	2x1	0.00455	7	0.36	2	300	✓	✓
	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	1	0.10090	19	0.023	100	100	Rubber	armoured
	MAIN BILGE LINE PUMPS	1	0.03960	19	0.032	50	100	lead covered	✓
	GENERAL SERVICE PUMP	✓	✓	✓	✓	✓	✓	✓	✓
	EMERGENCY BILGE PUMP	✓	✓	✓	✓	✓	✓	✓	✓
	SANITARY PUMP	1	0.06100	19	0.064	80	120	✓	✓
	CIRC. SEA WATER PUMPS	2	0.30240	37	0.100	240	60	✓	✓
	CIRC. FRESH WATER PUMPS	✓	✓	✓	✓	✓	✓	✓	✓
	AIR COMPRESSOR	✓	✓	✓	✓	✓	✓	✓	✓
	FRESH WATER PUMP	1	0.00455	7	0.029	8	100	✓	✓
	ENGINE TURNING GEAR	1	0.06100	19	0.064	70	150	✓	✓
	ENGINE REVERSING GEAR	✓	✓	✓	✓	✓	✓	✓	✓
	LUBRICATING OIL PUMPS	2	0.11620	37	0.064	125	20	✓	✓
	OIL FUEL TRANSFER PUMP	2	0.10090	19	0.023	110	120	✓	✓
	WINDLASS	1	0.30240	37	0.103	240	100	✓	✓
	WINCHES, FORWARD	5	0.10090	19	0.023	120	00	✓	✓
	WINCHES, AFT	4	0.10090	19		120	100	✓	✓
	STEERING GEAR—							✓	✓
	(a) MOTOR GENERATOR...	✓	✓	✓	✓	✓	✓	✓	✓
	(b) MAIN MOTOR	2	0.07592	19	0.072	00	600	✓	✓
	WORKSHOP MOTOR	2	0.00701	7	0.036	15	121	✓	✓
	VENTILATING FANS	47	0.00299	3	0.036	0.0	30	✓	✓
	Turbo blower	2	5x0.30240	37	0.103	5x242	60	✓	✓
	Fire test apparatus	1	0.00701	7	0.036	15	30	✓	✓
	oil separator	7	0.00701	7	0.036	15	30	✓	✓
	air pump	1	0.00455	7	0.029	8	15	✓	✓
	fuel pump	1	0.00455	7	0.029	8	15	✓	✓
	Refrigerating engine	1	0.03960	19	0.032	53	20	✓	✓
	Brine pump	1	0.00455	7	0.029	8	15	✓	✓
	distilling pump	1	0.00701	7	0.036	20	10	✓	✓



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.



M. van der ...

Electrical Engineers.

Date 30 Dec 1928

COMPASSES.

Distance between electric generators or motors and standard compass 70 Meters

Distance between electric generators or motors and steering compass 65 Meters

The nearest cables to the compasses are as follows:—

A cable carrying 3 Ampères 15 feet from standard compass 10 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

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.

Builder's Signature.

Date

Is this installation a duplicate of a previous case Yes If so, state name of vessel *M.T. Palm Boebiah*

Not drawn M.T. 5 SN 144

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

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

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

Elc. Light.

L.L. 29/1/29.

Total Capacity of Generators 720 Kilowatts.

The amount of Fee ...

When applied for.

19...

Travelling Expenses (if any) £

When received,

30/1/29

J. J. J. J.

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

Elc. Light

Im. 228.—Transfer.
(The Surveyors are requested not to write on or below the space for Committee's Minute.)



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