

No. 13308

Rpt. 13.

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL) Received at London Office - 6 NOV 1934

Date of writing Report 30 Oct 1934 When handed in at Local Office 10 Port of Amsterdam

No. in Survey held at Amsterdam Date, First Survey 2 November 1932 Last Survey 23 Oct 1934  
 Reg. Book. on the Twin Screw M.V. "BLUENFONTEIN" Tons Gross 10075  
Net 6155

Built at Amsterdam By whom built N. F. Nedel Scheepbouw Yard No. 220 When built 1934

Owners Keren Nedel Scheepbouw Port belonging to is Gravenhage

Electric Light Installation fitted by N. F. Groenweld v. d. Pol & Co Contract No. When fitted 1934

Is the Vessel fitted for carrying Petroleum in bulk no

System of Distribution Double wire

Pressure of supply for Lighting 220 volt volts, Heating — volts, Power 220 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 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 Motorroom known P. S and known 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 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 Motorroom

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, if situated near unprotected woodwork or other combustible material, state distance of same horizontally from or vertically above the switchboards none 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 none

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 double pole handle switch with overload relays for negative pole and equalizer, contact with overload relays and reserve current relays for positive pole

Instruments on main switchboard 12 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 lamp from series and 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

**Cables:** Single, twin, concentric, or multicore *but not* are the cables insulated and protected as per Tables IV, V, XI or XIII of the Rules *Yes*

**Fall of Pressure,** state maximum between bus bars and any point of the installation under maximum load *5 Vol for light and 10 Vol for power*

**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, all ends of cables above 4.05*

**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 *Shel plates fixed with galvanised 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 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 *no joints*

**Watertight Glands and Deck Tubes,** are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands *watertight glands*

**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*

**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 *Petrol motor coupled with D.C. generator placed on board deck*

**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 *none*

**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 *none*, how are the cables led

where are the controlling switches situated *Yes*

**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 *none*, 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 *none*

**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. *above 150° F*

If portable lamps for use in dangerous spaces are supplied, are they of a type approved by the Home Office *none*

**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	4	160	220	730	300/1525	Auxiliary Motor	Gasoline	above 150° F
AUXILIARY						"	"	"
EMERGENCY	1	20	220	91	1650	"	Petrol	"
ROTARY TRANSFORMER								

**GENERATOR, LIGHTING AND HEATING CONDUCTORS.**

DESCRIPTION.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT.			Approximate Length (Lead and Return) Feet.	Insulated with	HOW PROTECTED.
	No. per Pole.	Total Effective Area per Pole Sq. Mm.	No.	Diameter.	In Circuit.	Rule.	Amperes.			
MAIN GENERATOR	3	185 M <sup>2</sup>	6	2.24 M	730	1110	46 M	Paper	Lead covered steel armoured	
EQUALISER CONNECTIONS	1	185 M <sup>2</sup>	6	2.24 M	365	370	23	"	"	
AUXILIARY GENERATOR								"	"	
EMERGENCY GENERATOR	1	50 M <sup>2</sup>	19	1.83 M	91	95	12	Rubber	"	
ROTARY TRANSFORMER MOTOR GENERATOR										
ENGINE ROOM										
BOILER ROOM										
AUXILIARY SWITCHBOARDS	1	50	19	1.83	91	95	12	"	"	
Winches " " " " " "	2	310	61	2.54	1000	1040	110	"	"	
" " " " " " aft	2	310	61	2.54	1000	1040	135	"	"	
Navigation	1	4	7	0.85	5	20	90	"	"	
Motor room	1	6	7	1.05	20	30	40	"	"	
ACCOMMODATION A.F.P.	1	4	7	0.85	3	20	180	"	"	
" " " " " " " "	1	6	7	1.05	14	30	80	"	"	
" " " " " " " "	1	10	7	1.35	30	40	80	"	"	
" " " " " " " "	1	10	7	1.35	28	40	30	"	"	
" " " " " " " "	1	10	7	1.35	24	40	60	"	"	
WIRELESS	1	10	7	1.35	30	40	90	"	"	
SEARCHLIGHT	1	25	7	2.13	60	63	80	"	"	
MASTHEAD LIGHT	1	1.5	1	1.38	2.5	10	50	"	"	
SIDE LIGHTS	1	1.5	1	1.38	0.5	10	15	"	"	
COMPASS LIGHTS	1	1.5	1	1.38	0.5	10	7	"	"	
POOP LIGHTS	1	1.5	1	1.38	0.5	10	310	"	"	
CARGO LIGHTS	1	1.5	1	1.38	1	10	7	"	"	
ARC LAMPS										
HEATERS										

**MOTOR CONDUCTORS.**

DESCRIPTION.	No. of Motors.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT.			Approximate Length (Lead and Return) Feet.	Insulated with	HOW PROTECTED.
		No. per Pole.	Total Effective Area per Pole Sq. Mm.	No.	Diameter.	In Circuit.	Rule.	Amperes.			
BALLAST PUMP	1	1	35 M <sup>2</sup>	19	1.53 M	76	78	92 M	Rubber	Lead covered steel armoured	
MAIN BILGE LINE PUMPS											
GENERAL SERVICE PUMP											
EMERGENCY BILGE PUMP	1	1	35	19	1.53	76	78	100	"	"	
SANITARY PUMP	1	1	10	7	1.35	36	40	16	"	"	
CIRC. SEA WATER PUMPS	3	1	95	19	2.53	144	150	20	"	"	
CIRC. FRESH WATER PUMPS											
AIR COMPRESSOR	1	2	120	37	2.03	350	350	40	"	"	
FRESH WATER PUMP	3	1	4	7	0.85	20	22	18	"	"	
ENGINE TURNING GEAR	2	1	10	7	1.35	32	40	34	"	"	
ENGINE REVERSING GEAR											
LUBRICATING OIL PUMPS	3	1	150	37	2.27	185	196	20	"	"	
OIL FUEL TRANSFER PUMP	1	1	10	7	1.35	36	40	30	"	"	
WINDLASS Forward	1	1	150	37	2.27	260	275	60	"	"	
WINCHES, FORWARD	10	1	50	19	1.83	100	115	20	"	"	
WINCHES, AFT	10	1	50	19	1.83	100	115	20	"	"	
Windlass A.F.P.	1	1	120	37	2.03	180	200	80	"	"	
STEERING GEAR—											
(a) MOTOR GENERATOR	2	1	16	7	1.70	35	50	220	"	"	
(b) MAIN MOTOR	2	1	16	7	1.70	35	50	220	"	"	
WORKSHOP MOTOR	1	1	4	7	0.85	20	22	16	"	"	
VENTILATING FANS	15	1	2.5	1	1.78	13	15	36	"	"	
Refrigerating Install Compressor	2	1	240	61	2.24	240	275	40	"	"	
Ventilating Fans	4	1	6	7	1.05	26	30	32	"	"	
Brine pumps	2	1	6	7	1.05	26	30	10	"	"	
" " " " " " " "	2	1	2.5	1	1.78	12	15	10	"	"	
Cooling Water pump	2	1	6	7	1.05	26	30	18	"	"	
Evaporator	3	1	2.5	1	1.78	12	15	16	"	"	

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.

N.V. Groeneveld, van der Poll & Co's

*C. Milleman*

Electrical Engineers.

Date \_\_\_\_\_

COMPASSES.

Distance between electric generators or motors and standard compass 30 M

Distance between electric generators or motors and steering compass 26 M

The nearest cables to the compasses are as follows:—

A cable carrying 0.1 Ampères 2 feet from standard compass 2 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 nil degrees on \_\_\_\_\_ course in the case of the steering compass.

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 Electric installation has been fitted aboard in accordance with the rules and approved plans*

*Workmanship throughout good*

*The whole installation has been tested under full working condition found good & efficient*

*Noted*  
*[Signature]*  
 14/11/34

Total Capacity of Generators 660 Kilowatts.

The amount of Fee ... £ 576 : { When applied for, \_\_\_\_\_ 19\_\_\_\_\_  
 Travelling Expenses (if any) £ \_\_\_\_\_ : { When received, 30-10-1934

*[Signature]*  
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI, 16 NOV 1934

Assigned See J.G. Rpt. on Drury.

2m.3.11.—Transfer The Surveyors are requested not to write on or betw. the space for Committee's Minute.



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