

ROODE ZEE

Rpt. 13.

No. 27152

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

AUG -4 1938

Date of writing Report 10-7-1938 When handed in at Local Office 10 Port of Rotterdam

No. in Survey held at Kinderdijk Date, First Survey 1-4-38 Last Survey 12-7-1938
Reg. Book. (Number of Visits 8)

on the motor tug "ROODE ZEE" Tons { Gross
Net

Built at Kinderdijk By whom built N. V. L. Smid & Zoon Yard No. 889 When built 1938

Owners L. Smid & Co's Scheepdienst B.V. Port belonging to Rotterdam

Electric Light Installation fitted by N. V. L. Smid & Zoon, Kinderdijk Contract No. _____ When fitted 1938

Is the Vessel fitted for carrying Petroleum in bulk No

System of Distribution Two-wire

Pressure of supply for Lighting 110 volts, Heating _____ 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 X

Generators, do they comply with the requirements regarding temperature rise 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
approved X Have certificates of test results for machines under 100 kw. been submitted and _____

Have certificates for generators under 100 kw. been supplied and approved X

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, 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 fore part of 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, 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

is it of an approved type 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 _____, is the non-hygroscopic insulating material of an approved type _____, and is the frame effectively earthed _____

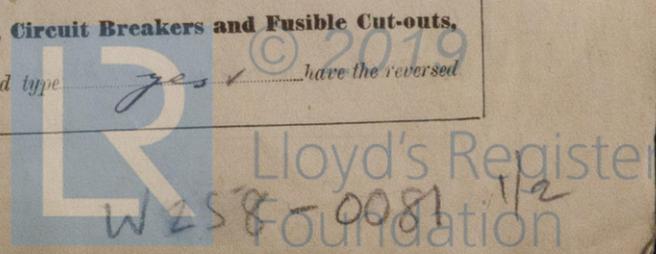
Are the fittings as per Rule regarding: — spacing or shielding of live parts yes, accessibility of all parts yes, absence of fuses on back of board yes, temperature rise of omnibus bars yes, individual fuses to voltmeter, pilot or earth lamp yes are moving parts of switches alive in the "off" position no are all screws and nuts securing connections effectively locked yes are any fuses fitted on the live side of switches no

Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches Three-pole automatic manual switches

Are turbine driven generators fitted with emergency trip switch as per rule _____ Are cupboards or compartments containing switchboards composed of fire-resisting material or lined with approved material yes Instruments on main switchboard 3 ammeters 3

voltmeters _____ synchronising device for paralleling purposes. For compound machines is the ammeter connected on the opposite pole to equaliser connection _____

Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system yes earth lamps _____ Switches, Circuit Breakers and Fusible Cut-outs, do these comply with the requirements of the Rules yes are the fusible cutouts of an approved type yes have the reversed _____



current protection devices been tested under working conditions yes are all fuses labelled as per rule 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 single are the cables insulated and protected as per Tables IV, V, X, XI, XII or XIII of the Rules yes

If the cables are insulated otherwise than as per Rule, are they of an approved type yes **Fall of Pressure**, state maximum between bus bars and any point of the installation under maximum load 2 volts

Cable Sockets, are the ends of all cables having a sectional area of 0.04 square inch and above provided with soldering sockets yes **Paper Insulated and Varnished Cambric Insulated Cables**, If conductors are paper or varnished cambric insulated, is the dielectric at the exposed ends of the conductor protected from moisture by being suitably sealed with insulating compound yes, or waterproof insulating tape 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 are cables laid under machines or floorplates no if so, are they adequately protected yes

Are cables in machinery spaces, galleys, lavatories, bathrooms and lavatories lead covered or run in conduit lead covered

Support and Protection of Cables, state how the cables are supported and protected Cables are fixed on perforated plates by means of metal clips secured by 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, are the cables and fittings in accordance with the special requirements yes

Joints in Cables, state if any, and how made, insulated, and protected joints in cables for lightning in watertight

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 earthing connection by means of copper clips screwed to hull 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 generator is driven by Diesel motor controlled at main switchboard

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 are they ventilated 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 vapours are liable to be present, if so, how are they protected yes how are the cables led yes

where are the controlling switches situated yes are all fittings suitably ventilated yes are all switches and lampholders constructed wholly of non-ignitable, non-absorbent materials yes

Heating and Cooking Appliances, are they constructed and fitted as per Rule yes are air heaters constructed and fitted as per Rule yes

Searchlight Lamps, No. of one whether fixed or portable fixed 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 exception of emergency pump motors and motor for capstan and steering gear motor are the motors of the totally enclosed, pipe ventilated, forced draught, drip or flame proof type motors under deck are drip and flame proof if not of this type, state distance of the combustible material horizontally or vertically above the motors on and on

have machines of over 100 BHP been inspected by the Surveyors during manufacture and testing yes have certificates for all motors for essential services been supplied and approved 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 are all fuses of the fitted cartridge type yes are they of an approved type yes

If portable lamps for use in dangerous spaces are supplied, are they of a self-contained, battery-fed flameproof type approved for use in dangerous spaces yes

Spare Gear, if the vessel is for open sea service have spares been supplied as per Rule yes are they suitably stored in dry situations 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	2 x 50	110	28.455	750	Diesel motor	gas oil above 150° F	
AUXILIARY	1	15	110	136	850	Diesel motor	gas oil	
EMERGENCY								
ROTARY TRANSFORMER								

GENERATOR, LIGHTING AND HEATING CONDUCTORS.

DESCRIPTION.	No. per Pole.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT AMPERES.		Approximate Length (Lead and Return) Feet.	Insulated with	HOW PROTECTED.
		Total Nominal Area per Pole Sq. Ins.	No.	Diameter.	Circuit.	Rate.				
MAIN GENERATOR	2	185 mm ²	37	2.53 mm	455	466	100	Lead covered	armoured	
EQUALISER CONNECTIONS	1	185 "	37	2.53 "	227	233	50	"	"	
AUXILIARY GENERATOR	1	95 "	37	1.82 "	136	150	120	"	"	
EMERGENCY GENERATOR										
ROTARY TRANSFORMER MOTOR										
ENGINE ROOM										
BOILER ROOM										
AUXILIARY SWITCHBOARDS	1	4 mm ²	7	0.85 mm	30	32	35	"	"	
BRASS SPACES AFT	1	4 "	7	0.85 "	30	32	35	"	"	
Navigation Lights	1	6 "	7	1.05 "	30	30	50	"	"	
	1	4 "	7	0.85 "	30	32	70	"	"	
ACCOMMODATION	1	15 mm ²	1	1.4 mm	6	9	70	"	"	
WIRELESS	1	6 mm ²	7	1.05 mm	30	30	45	"	armoured	
SEARCHLIGHT	1	2.5 "	7	0.88 "	10	16	125	"	"	
MASTHEAD LIGHT	1	1.5 "	1	1.4 "	6	9	100	"	"	
SIDE LIGHTS	1	1.5 "	1	1.4 "	6	9	60	"	"	
COMPASS LIGHTS	1	1.5 "	1	1.4 "	6	9	30	"	"	
POOP LIGHTS	1	1.5 "	1	1.4 "	6	9	200	"	armoured	
CARGO LIGHTS										
HEATERS										

MOTOR CONDUCTORS.

DESCRIPTION.	No. of Motors.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT AMPERES.		Approximate Length (Lead and Return) Feet.	Insulated with	HOW PROTECTED.
		No. per Pole.	Total Nominal Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rate.			
BALLAST PUMP	1	2	70 mm ²	19	3.15 mm	232	250	70	Lead covered	armoured
MAIN BILGE LINE PUMPS										
GENERAL SERVICE PUMP	1	1	35 mm ²	19	1.54 mm	80	80	80	"	"
EMERGENCY BILGE PUMP										
SANITARY PUMP										
CIRC. SEA WATER PUMPS										
CIRC. FRESH WATER PUMPS										
AIR COMPRESSOR										
FRESH WATER PUMP	1	1	4 mm ²	7	0.85 mm	17	32	35	"	"
ENGINE TURNING GEAR										
ENGINE REVERSING GEAR										
LUBRICATING OIL PUMPS	1	1	6 mm ²	7	1.05 mm	24	30	40	"	"
OIL FUEL TRANSFER PUMP	1	1	10 "	7	1.25 "	36	40	40	"	"
WINDLASS	1	1	150 "	37	0.82 "	208	203	200	"	"
WINCHES, FORWARD										
WINCHES, AFT	1	1	95 mm ²	37	1.82 mm	148	150	200	"	"
STEERING GEAR										
(a) MOTOR GENERATOR										
(b) MAIN MOTOR	1	1	16 mm ²	7	1.72 mm	42	48	100	"	"
WORKSHOP MOTOR	1	1	4 "	7	0.85 "	12	32	28	"	"
VENTILATING FANS	1	1	4 "	7	0.85 "	16	22	45	"	"

The Electrical Equipment is installed in accordance with the approved plans.

All Insulated Conductors are guaranteed to withstand the immersion and resistance tests specified in the Rules.

The foregoing is a correct description.

L. SMIT & ZOON'S
Scheep- en
Bouw- en
Fabriek
B.V.

Electrical Engineers.

Date 15th July 1938

P.O.P. Pruit.

COMPASSES.

Minimum distance between electric generators or motors and standard compass 13 ft.

Minimum distance between electric generators or motors and steering compass 15 "

The nearest cables to the compasses are as follows:—

A cable carrying 2.25 Ampères 3 feet from standard compass 8 feet from steering compass.

A cable carrying 1 Ampères 6 feet from standard compass 6 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 *X*

The maximum deviation due to electric currents was found to be *X* degrees on *X* course in the case of the standard

compass, and *X* degrees on *X* course in the case of the steering compass.

L. SMIT & ZOON'S
Scheep- en
Bouw- en
Fabriek
B.V.

P.O.P. Pruit.

Builder's Signature.

Date 15th July 1938

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. *This installation has been made and fitted in accordance with the approved plans, Secretary's letters, Society's Rules. Material tested as required and workmanship good. The whole has been examined under full working condition and found in order and merits in my opinion the approval of the Committee.*

Noted

Skur.

17.9.38

Total Capacity of Generators 115 Kilowatts.

The amount of Fee ... £ *400.00* When applied for, *3.8.38*

Travelling Expenses (if any) £ *—* When received, *19.9.38*

W.H. Bourne
Surveyor to Lloyd's Register of Shipping.

Committee's Minute *FRI 19 AUG 1938*

Assigned *Sec. F. C. Pruit.*

The Surveyors are requested not to write on or below the space for Committee's Minute



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