

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office SEP - 8 - 1938

Date of writing Report 1-9-1938 When handed in at Local Office 19 Port of Rotterdam.

No. in Survey held at Alblasterdam Date, First Survey 5-7-38 Last Survey 23-8-1938
Reg. Book. on the m.v. "GUIDESMAN" (Number of Visits.....)Tons { Gross 233.21
Net 91.75

Built at Alblasterdam. By whom built Industr. My. "de Noord" Yard No. 571 When built 1938.

Owners C. Rowbotham & Sons Port belonging to London

Electric Light Installation fitted by N.V. Q. de Hoop - Rotterdam. Contract No. When fitted 1938.

Is the Vessel fitted for carrying Petroleum in bulk Yes.

System of Distribution Two wire.

Pressure of supply for Lighting 110 volts, Heating 110 volts, Power 110 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 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

Have certificates of test results for machines under 100 kw. been submitted and approved yes Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing

Have certificates for generators under 100 kw. been supplied and approved 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 engineroom on portside of main engine, 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 engineroom on starboardside of main engine

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 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, 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 Triple pole overload circuitbreaker with reversed current trip for each generator. Double pole switches and double pole fuses for each outgoing circuit.

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 4 ammeters 3

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

Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system one pair of earth fault indicating lamps Switches, Circuit Breakers and Fusible Cut-outs, D.A.Z. Type have the reversed HAZEMEYER make

do these comply with the requirements of the Rules yes are the fusible cutouts of an approved type

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 multi-core all types 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, laundries, bathrooms and lavatories lead covered or run in conduit Lead covered 2 steel wire braided

Support and Protection of Cables, state how the cables are supported and protected Clipped to steel trays or direct to steel or woodwork of vessel by metal clips.

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 no joints

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 Lead sheath & steel wire braiding of each cable are earthed at both ends Yes 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 110V. - 54 A.H. battery with Charge - & Discharge change over switch on 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 no

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

Lighted by fittings in two special gastight boxes over pumproom how are the cables led wired wholly outside pumproom in gastight conduit

where are the controlling switches situated outside pumproom

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 portable 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

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 filled cartridge type Yes are they of an approved type II A.Z. type


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.	Ampères.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.	
MAIN	2	15	115	130	750	diesel engine	diesel oil	above 150°F	
AUXILIARY			kept at 110v.						
EMERGENCY									
ROTARY TRANSFORMER									

GENERATOR, LIGHTING AND HEATING CONDUCTORS.									
DESCRIPTION.	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./mm ²	No.	Diameter.	Circuit.	Rule.			
MAIN GENERATOR	1	95	19	2.53	130	150	70	rubber	Lead cov. - steel wire braiding
EQUALISER CONNECTIONS	1	50	19	1.83	—	99	35	"	"
AUXILIARY GENERATOR	1	4	7	.86	15	22.5	30	"	"
EMERGENCY GENERATOR									
ROTARY TRANSFORMER									
MOTOR GENERATOR									
ENGINE ROOM	1	1.5	1	1.39	1	9.5	70	"	"
Boiler Room	1	1.5	1	1.39	.7	9.5	70	"	"
AUXILIARY SWITCHBOARDS									
Heater Dist. Box	1	70	19	2.17	122	125	60	"	"
Navigation Lights	1	2.5	1	1.79	4	15.5	66	"	"
ACCOMMODATION									
Aft	1	2.5	1	1.79	8	15.5	60	"	"
Foreship	1	2.5	1	1.79	3	15.5	210	"	"
WIRELESS	1	2.5	1	1.79	8	15.5	66	"	"
SEARCHLIGHT	1	1.5	1	1.39	1.8	9.5	66	"	"
MASTHEAD LIGHT	1	1.5	1	1.39	.4	9.5	165 & 75	"	"
SIDE LIGHTS	1	1.5	1	1.39	.4	9.5	48 & 48	"	"
COMPASS LIGHTS	1	1.5	1	1.39	.1	9.5	15 & 57	"	"
POOP LIGHTS	1	1.5	1	1.39	.4	9.5	93	"	"
CARGO LIGHTS	1	1.5	1	1.39	1	9.5	72	"	"
HEATERS individual	1	2.5	1	1.79	4(max.)	15.5	60	"	"

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./mm ²	No.	Diameter.	In Circuit.	Rule.			
BALLAST PUMP	1	1	16	7	1.71	20.8	49	60	rubber	Lead cov. - steel wire braiding
Oil cargo pump	1	1	70	19	2.17	117	125	60	"	"
Main Diesel Line Pumps	1	1	50	19	1.83	92	99	60	"	"
Oil cargo pump	1	1	50	19	1.83	92	99	60	"	"
General Service Pump	1	1	50	19	1.83	92	99	60	"	"
EMERGENCY BILGE PUMP	1	1	25	7	2.13	49	63	201	"	"
Ballast pump fore	1	1	25	7	2.13	49	63	201	"	"
SANITARY PUMP	1	1	25	7	2.13	49	63	201	"	"
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	1	1	25	7	2.13	47.5	63	201	"	"
WINCHES, FORWARD										
WINCHES, AFT										
STEERING GEAR—										
(a) MOTOR GENERATOR...										
(b) MAIN MOTOR										
WORKSHOP MOTOR										
VENTILATING FANS										
Galley range	1	1	35	19	1.53	72.2	78	27	"	"
Hotwater boiler	1	1	4	7	.86	13.6	22.5	60	"	"

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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.

N.V. ELECTROTECHNISCH BUREAU
A. DE HOOP

Electrical Engineers.

Date 1.9.38

COMPASSES.

Minimum distance between electric generators or motors and standard compass 30 feet.

Minimum distance between electric generators or motors and steering compass 48 feet.

The nearest cables to the compasses are as follows:-

A cable carrying 1 Ampères 2 feet from standard compass 2 feet from steering compass.

A cable carrying 1 Ampères 2 feet from standard compass 2 feet from steering compass.

A cable carrying 1.8 Ampères 6 feet from standard compass 6 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 nihil degrees on every course in the case of the standard compass, and nihil degrees on every course in the case of the steering compass.

p.p. N.V. Industriële Maatschappij, DE NOORD

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 electrical equipment of this vessel)

has been fitted on board under special survey, tested under full working conditions and found satisfactory. The material and workmanship are good.

This installation merits in our opinion the Committee's Approval, subject to the suctionpipe of the forward cofferdam being disconnected from the electrically driven pump in the forward pumproom and a separate hand operated pump for the forward cofferdam being fitted on deck.

Noted
L.H.
13/9/38.

Total Capacity of Generators 30 Kilowatts.

The amount of Fee ... £ 270.00. When applied for, 7.9.19.38

Travelling Expenses (if any) £ 21/9.19.38 When received.

C.H. Bourse J. van der Wyk
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUE 20 SEP 1938

Assigned

See F.E. Rpt.



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Foundation