

Rpt. 13.

No. 55^c

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

MAR 10 1939

Date of writing Report 8-3-1939 When handed in at Local Office

10

Port of Groningen

No. in Survey held at Kesterbroek
Reg. Book.

Date, First Survey 0-2-1939 Last Survey 7-3-1939

(Number of Visits 5)

on the Motor Vessel "Mr. LINTHORST HOMAN."

Tons { Gross 399.99
Net 255.15

Built at Kesterbroek

By whom built v.d. Herff's Scheepswerf Yard No. 202 When built 1939

Owners I.V. LINTHORST HOMAN Port belonging to Groningen

Electric Light Installation fitted by Herman Echels Contract No. When fitted 1939

Is the Vessel fitted for carrying Petroleum in bulk no

System of Distribution

two wire system

Pressure of supply for Lighting

26

volts, Heating

volts, Power

Direct or Alternating Current, Lighting

Direct

Power

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 no

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

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

ENGINE ROOM ON STARBOARD 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 ENGINE ROOM ON STARBOARD SIDE

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

YES

is the non-hygroscopic insulating material of an approved

type

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

YES

temperature rise of

omnibus bars

NIL

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

DOUBLE POLE SWITCH.

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

✓

Instruments on main switchboard

2

ammeters

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

TWO EARTH LAMPS IN SERIES

Switches, Circuit Breakers and Fusible Cut-outs,

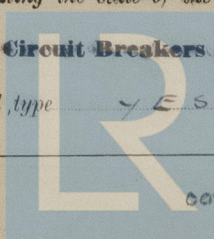
do these comply with the requirements of the Rules

YES

are the fusible cutouts of an approved type

YES

have the reversed

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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 ✓

Cables: Single, twin, concentric, or multicore All type 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 ✓ **Fall of Pressure,** state maximum between bus bars and

any point of the installation under maximum load LESS THAN 2% **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 Cambrie Insulated Cables.**

If conductors are paper or varnished cambrie insulated, is the dielectric at the exposed ends of the conductor protected from moisture by being suitably sealed with

insulating compound ✓, or waterproof insulating tape ✓ **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 ✓

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

Support and Protection of Cables, state how the cables are supported and protected GALVANISED IRON CLIPS WITH BRASS SCREWS

If cables are run in wood casings, are the casings and caps secured by screws ✓, are the cap screws of brass ✓, are the cables run in

separate grooves ✓. 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 ✓

Joints in Cables, state if any, and how made, insulated, and protected ✓

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 ✓ state the material of which the bushes are made ✓

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 ✓ **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

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 ✓

how are the cables led ✓

where are the controlling switches situated ✓

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 ✓, are air heaters constructed and fitted as per Rule ✓

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

Motors, are their working parts readily accessible ✓, are the coils self-contained and readily removable for replacement ✓

are the brushes, brush holders, terminals and lubricating arrangements as per Rule ✓, are the motors placed in well-ventilated compartments in which

inflammable gases cannot accumulate and clear of all inflammable material ✓, are they protected from mechanical injury and damage from

water, steam or oil ✓ are their axes of rotation fore and aft ✓, 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 ✓

have machines of over 100 BHP been inspected by the Surveyors during manufacture and testing ✓ have certificates for all motors for

essential services been supplied and approved ✓ **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 ✓ **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 ✓ are all fuses of the filled cartridge type ✓ are they of an approved 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 ✓

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	ONE	296	24-36	27	850/1050	Horizontal steam engine	Heavy oil	60-65°C
AUXILIARY								
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.	No.	Diameter.	Circuit.	Rule.			
MAIN GENERATOR	1	10	7	1.35	27	37	17	rubber	Lead glass wire
EQUALISER CONNECTIONS	1	10	7	1.35	27	37	26	"	"
AUXILIARY GENERATOR									
EMERGENCY GENERATOR									
ROTARY TRANSFORMER									
ENGINE ROOM	1	27	7	0.60	3	12.9	38+19	"	"
BOILER ROOM	1	17	7	1.39	1	7.0	9+12	"	"
AUXILIARY SWITCHBOARDS									
ACCOMMODATION	1	72	7	0.60	3	12.9	67	"	Lead glass wire
	1	17	7	1.39	1	7.0	70	"	Lead
	1	27	7	0.60	6.2	10	36	"	Lead wire
	1	27	7	0.60	5	10	52	"	Lead
	1	17	7	1.39	1	7.0	57	"	Lead
	1	27	7	0.60	3	12.9	112	"	Lead
WIRELESS	1	17	7	1.39	1	7.0	34	"	Lead
SEARCHLIGHT	1	27	7	0.60	1.25	12.9	15	"	Lead glass wire
MASTHEAD LIGHT	1	17	7	1.39	1.5	7.0	96	"	"
SIDE LIGHTS	1	17	7	1.39	1.5	7.0	42	"	"
COMPASS LIGHTS	1	17	7	1.39	0.12	7.0	3	"	"
POOP LIGHTS	1	17	7	1.39	1.5	7.0	25	"	"
CARGO LIGHTS	1	27	7	0.60	3	12.9	50	"	"
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.	Rule.			
BALLAST PUMP										
MAIN BILGE LINE PUMPS										
GENERAL SERVICE PUMP										
EMERGENCY BILGE PUMP										
SANITARY PUMP										
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										
WINCHES, FORWARD										
WINCHES, AFT										
STEERING GEAR—										
(a) MOTOR GENERATOR										
(b) MAIN MOTOR										
WORKSHOP MOTOR										
VENTILATING FANS										

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.

Fa. HERMAN G. EEKELS

Electrical Engineers.

Date 9-3-39

COMPASSES.

Minimum distance between electric generators or motors and standard compass 6 meter

Minimum distance between electric generators or motors and steering compass 7 meter

The nearest cables to the compasses are as follows:—

A cable carrying 1 1/2 Ampères 18 feet from standard compass 5 feet from steering compass.

A cable carrying 0.15 Ampères 2 feet from standard compass 18 feet from steering compass.

A cable carrying 0.15 Ampères 18 feet from standard compass 2 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.

van der Werff's Scheepsbouw

J. H. van der Werff

Builder's Signature.

Date 9-3-39

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, etc.)

This installation has been fitted in accordance with the Society's Rules, approved plans and Secretary's letters and was found in a good working condition, when tried and in our opinion may merit the Committee's Approval

Noted
L.H.
14/3/39.

Total Capacity of Generators 0.96 Kilowatts.

The amount of Fee ...

£ 60.-

When applied for,

19...

Travelling Expenses (if any) £

When received.

3. 4. 19. 39

G. Willems J. H. Hehrmeijer

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI 17 MAR 1939

Assigned

See E. E. maché rpt.



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