

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

APR 12 1937

Received at London Office

Date of writing Report 0-4-1937 When handed in at Local Office

10

Port of Rotterdam

No. in Survey held at Bolnes

Date, First Survey 2-3-34

Last Survey 23-3-1934

(Number of Visits 4)

Reg. Book.

on the steel T.S. Tug. "Upesi"

Tons { Gross
Net

Built at Bolnes

By whom built "Boele"

Yard No. 862 When built 1934

Owners N.V. Verenigde Scheep. Mij.

Port belonging to 's Gravenhage

Electric Light Installation fitted by N.V. A. de Hoop Rotterdam. Contract No. When fitted 1936-37

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 — volts.

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 —

Generators, do they comply with the requirements regarding temperature rise —, are they compound wound yes

are they over compounded 5 per cent. —, if not compound wound state distance between each generator —

Where more than one generator is fitted are they arranged to run in parallel —, is an adjustable regulating resistance fitted in series with each shunt field yes

approved yes Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing —

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, 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, 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 —, accessibility of all parts yes, absence of fuses on back of board yes, temperature rise of omnibus bars —, 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 For the generators: two x two single pole fuses and 1 double pole change over switch. For each outgoing circuit: 1 double pole switch and two single pole fuses

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 1 ammeters 1

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 2 earth detector 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
construction, protection, insulation, material, and position of these as per rule
Cables: Single, twin, concentric, or multicore single and twin are the cables insulated and protected as per Tables IV, V, X or XI of the Rules
If the cables are insulated otherwise than as per Rule, are they of an approved type
any point of the installation under maximum load
area of 0.04 square inch and above provided with soldering sockets
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
insulating compound
Are cables in machinery spaces, galleys, laundries, bathrooms and lavatories lead covered or run in conduit
Support and Protection of Cables, state how the cables are supported and protected
where necessary protected by tubes
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
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
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
position and method of control of the emergency supply and how the generator is driven
Navigation Lamps, are these separately wired
controlled by separate switch and separate fuses
are the fuses double pole
are the switches and fuses grouped in a position accessible only to the officers on watch
has each navigation lamp an automatic indicator as per Rule
Secondary Batteries, are they constructed and fitted as per Rule
Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, watertight
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
are all fittings suitably ventilated
are all switches and lampholders constructed wholly of non-ignitable, non-absorbent materials
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
whether fixed or portable
are their fittings as per Rule
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
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
Control Gear and Resistances, are the generator field and motor speed regulators, starters and controllers constructed and fitted as per Rule
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 type approved by the Home Office
Spare Gear, if the vessel is for open sea service have spars been supplied as per Rule

Joint Boxes, Section and Distribution Boards, is the

yes

yes

Fall of Pressure, state maximum between bus bars and

2 Volt

Cable Sockets, are the ends of all cables having a sectional

yes

Paper Insulated and Varnished Cambric Insulated Cables,

Cable Runs, are the cables fixed as far as possible in accessible positions

yes

supported by metal clips;

where necessary protected by tubes

are the cap screws of brass

are the cables run in

yes

are the clips spaced as per Table VIII

are the cables and fittings in accordance with the special requirements

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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	1	3	110	27		Steam engine		
AUXILIARY	1	1.1	110	10		aux. engine	Diesel oil	above 150°.
EMERGENCY								
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 Nominal Area per Pole Sq. Ins.	No.	Diameter.	Circuit.	Rule.			
MAIN GENERATOR	1	10	7	1.35	27	38	24	rubber	Lead covered and armoured
EQUALISER CONNECTIONS									
AUXILIARY GENERATOR	1	2 1/2	1	1.79	10	14	30		
EMERGENCY GENERATOR									
ROTARY TRANSFORMER									
ENGINE ROOM									
BOILER ROOM									
AUXILIARY SWITCHBOARDS									
Navigation	1	2 1/2	1	1.79	4	14	120		
accommodation aft	1	2 1/2	1	1.79	6	14	150		
accommodation fore	1	2 1/2	1	1.79	1	14	135		
ACCOMMODATION	1	1 1/2	1	1.39	1	9.5	30		Lead covered
WIRELESS									
SEARCHLIGHT									
MASTHEAD LIGHT	1	1 1/2	1	1.39	0.9	9	105		Lead covered and armoured
SIDE LIGHTS	1	1 1/2	1	1.39	0.9	9	36		
COMPASS LIGHTS	1	1 1/2	1	1.39	0.9	9	24		
POOP LIGHTS	1	1 1/2	1	1.39	0.9	9	180		
CARGO LIGHTS									
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 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										

All Conductors are of annealed copper conforming to British Standard Specification No. 7 (or International Electro-technical Commission Publication No. 28).

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

The foregoing is a correct description.

p.p. N.V. ELECTROTECHNISCH-BUREAU
A. DE HOOP

Electrical Engineers.

Date 25 3 37

COMPASSES.

Distance between electric generators or motors and standard compass

18 mtr.

Distance between electric generators or motors and steering compass

The nearest cables to the compasses are as follows:—

A cable carrying 2.5 Ampères ✓ feet from standard compass 6 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 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.

N.V. Boele's Scheepswerven
en Machinefabriek.

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.)

This installation has been made and fitted in accordance with the approved plan, secretary's letters and Society's Rules. The generators (ex tug Moheai) have been examined and tested. The whole has been tested under full working condition and found in order, and merits in my opinion the Committee's approval.

Noted

YRW

13.4.37

Total Capacity of Generators 4 Kilowatts.

The amount of Fee ...

£ 50.00

When applied for,

10.4.1937

Travelling Expenses (if any) £

When received,

4.5.37

C.H. Brouse

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI 16 APR 1937

Assigned

See Rot. No. 25436



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Foundation