

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office OCT 10 1938.

Date of writing Report 27th Sept 1938 When handed in at Local Office

Port of Rotterdam

No. in Survey held at Deest
Reg. Book.Date, First Survey 7th 9-38 Last Survey 21st - 9 - 1938

(Number of Visits.....2.....)

on the m.s. "ENIDTOWN"

Tons { Gross 795
Net 485

Built at Deest

By whom built Gebr. v.d. Werf

Yard No. 206 When built 1938

Owners Brook Shipping Co. Ltd.

Port belonging to

Electric Light Installation fitted by C. Alewynse & Co - Nymegen.

Contract No. When fitted 1938

Is the Vessel fitted for carrying Petroleum in bulk no.

System of Distribution two wire system ✓

Pressure of supply for Lighting 42 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 ✓ 42v. gen. are shunt wound

Generators, do they comply with the requirements regarding temperature rise yes ✓, are they compound wound yes (220v. generator)

are they over compounded 5 per cent. yes (220v. gen.), if not compound wound state distance between each generator ✓

Where more than one generator is fitted are they arranged to run in parallel no ✓, 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 engine room, 42v. generators at portside, 220v. generator at 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, lighting board at portside, power board at 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 ✓, 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 42v. generators: a d.p. change over switch & one set of d.p. fuses. — battery: two d.p. change over switches, one s.p. automatic cut in & cut out switch & one set of d.p. fuses. — for each outgoing circuit: one d.p. switch & one set of d.p. fuses. 220v. generator and each outgoing circuit: one d.p. switch & one set of d.p. fuses.

Are turbine driven generators fitted with emergency trip switch as per rule ✓ Are cupboards or compartments containing switchboards composed of 42v.: 2 ammeters - 1 voltmeter

fire-resisting material or lined with approved material yes ✓ Instruments on main switchboard 220v.: 1 ammeter

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 one pair of earth fault indicating lamps for each switchboard Switches, Circuit Breakers and Fusible Cut-outs, Hazemeyer types: 15-25-53. A.E.G. cartridges have the reversed

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

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 2.6 V in 400 volts - 4.25 V in 220 V 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 sized 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 yes if so, are they adequately protected yes

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

Support and Protection of Cables, state how the cables are supported and protected clipped to metal trays or direct to steelwork or wood

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 cables

and all apparatus where necessary earthed to Rule requirements 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 by battery in engine room, controlled by

two d.p. changeover switches on 42 V. 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 no

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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.	Amps.	Rev. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN ...	1	36	220	164	950	Oil engine	diesel oil	above 150°F.
Lighting ...	1	2.5	36/52	48	1600	"	"	"
Emergency ...	1	2.5	36/52	48	800	main engine	"	"
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. mm.	No.	Diameter mm.	Circuit.	Rule.			
MAIN GENERATOR ...	1	95	19	2.53	164	190-1/2 hr.	24	rubber	lead sheath & steel wire braided.
EQUALISER CONNECTIONS ...									
Lighting GENERATORS ...	1	35	19	1.53	48	78	45 & 15	"	"
Battery connections ...	1	35	19	1.53	-	78	25	"	"
ROTARY TRANSFORMER MOTOR ...									
ENGINE ROOM ...	1	2.5	1	1.79	8	15.5	90	"	"
BOILER ROOM ...									
AUXILIARY SWITCHBOARDS ...									
Lighting dist. board ...	1	50	19	1.83	35	99	210	"	in conduit
winch board fore ...	1	70	19	2.17	120	125	360	"	"
Navigation board ...	1	4	7	.86	10	22.5	30	"	lead sheath & steel wire braided
ACCOMMODATION ...	1	2.5	1	1.79	7	15.5	90	"	"
WIRELESS ...	1	4	7	.86	7	22.5	21	"	"
SEARCHLIGHT ...	1	1.5	1	1.39	.8	9.5	150	"	"
MASTHEAD LIGHT ...	1	1.5	1	1.39	.8	9.5	30	"	"
SIDE LIGHTS ...	1	1.5	1	1.39	.5	9.5	30	"	"
COMPASS LIGHTS ...	1	1.5	1	1.39	.8	9.5	150	"	"
POOP LIGHTS ...	1	1.5	1	1.39	.8	9.5	150	"	"
CARGO LIGHTS (220 V.) ...	1	2.5	1	1.79	1	15.5	90-45	"	"
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. mm.	No.	Diameter mm.	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 ...	1	1	25	7	2.13	51	67-1/2 hr.	75	rubber	lead sheath - steel wire braided.
WINCHES, FORWARD ...	2	1	25	7	2.13	51	67-1/2 hr.	45	"	"
warping winch ...	1	1	10	7	1.08	32.5	38	120	"	"
WINCHES, AFT ...	1	1	50	19	1.83	85	99	90	"	"
" ...	2	1	25	7	2.13	51	67-1/2 hr.	90	"	"
STEERING GEAR—										
(a) MOTOR GENERATOR ...										
(b) MAIN MOTOR ...	1	1	16	7	1.69	44	49	210	"	in conduit
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.

C. ALEWIJNSE
ELECTROTECHN. BUREAU N.V.

Electrical Engineers.

Date 28 September 1938

COMPASSES.

Minimum distance between electric generators or motors and standard compass 18 feet (steering gear motor)

Minimum distance between electric generators or motors and steering compass 15 feet (steering gear motor)

The nearest cables to the compasses are as follows:—

A cable carrying 1 Ampères 6 feet from standard compass 3 feet from steering compass. steering gear controll.

A cable carrying 14 Ampères 1 foot from standard compass 1 foot from steering compass. Compass Lights

A cable carrying 11 Ampères 12 feet from standard compass 9 feet from steering compass. main cable nav. lights

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. SCHEEPSWERF GEBR. v. d. WERF.

Builder's Signature.

Date 28 Sept. 38

O. J. A. Werf

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 and the electrical installation merits in my opinion the Committee's approval.

Wid
13/10/38

Total Capacity of Generators 41 Kilowatts.

The amount of Fee ... £ 303;— : When applied for, 8.10.38

Travelling Expenses (if any) £ 22;— : When received, 18/10/38

H. van der Wyk.

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

See Minute on H. back.

FRI 14 OCT 1938



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Foundation