

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office.....

25 NOV 1925

Date of writing Report 12.11.1925 When handed in at Local Office 23.11.1925 Port of GLASGOW.

No. in Survey held at GREENOCK. Date, First Survey 29.5.25 Last Survey 13.11.1925  
Reg. Book. (Number of Visits 13)29085 on the M.V. "O.A. KNUDSEN." Tons { Gross 9026  
Not

Built at GLASGOW. By whom built MESSRS BLYTHSWOOD &amp; CO. No. 10 When built 1925.

Owners O/S. A/S. JEANETTE SKINNER Port belonging to HAUGESUND.

Electric Light Installation fitted by MESSRS THE KNOWSLEY ELECT CO Contract No. 10 When fitted 1925.

System of Distribution TWO WIRE INSULATED ✓

Pressure of supply for Lighting 220 ✓ volts, Heating 220 volts, Power 220 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 YES.

Generators, do they comply with the requirements regarding overload 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

Are all terminals accessible and clearly marked YES, are they so spaced or shielded that they cannot be accidentally earthed, or short circuited YES Are the lubricating arrangements of the generators as per Rule YES

Position of Generators FOR<sup>d</sup> END OF ENGINE 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 axis 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 FOR<sup>d</sup> BULKHEAD OF ENGINE ROOM. STAR<sup>d</sup> 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, incombustible non-absorbent materials YES, is all insulation of high dielectric strength and of permanently high insulation resistance YES, if semi-insulating material is used, are all conducting parts connected to one pole

insulated from the slab with mica or micanite and the slab similarly insulated from its framework YES, and is the frame effectively earthed YES

Are the following fittings as per Rule, viz.: - spacing or shielding of live parts YES, accessibility of all parts YES, absence of fuses on back of board YES, proportion of omnibus

bars YES, individual fuses to voltmeter, pilot or earth lamp YES, connections of switches YES

Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches EACH GENERATOR

CONTROLLED BY DOUBLE POLE CIRCUIT BREAKER, FITTED WITH NO-VOLT. OVERLOAD, REVERSE CURRENT

ATTACHMENTS &amp; HAVING INTERLOCKED EQUALISING SWITCH. EACH CIRCUIT HAS DOUBLE POLE SWITCH &amp; D.P. FUSES, EXCEPT LIGHTING CIRCUITS, WHICH HAVE S.P. SWITCHES &amp; D.P. FUSES.

Instruments on main switchboard TWO ammeters TWO voltmeters - synchronising device for paralleling purposes.

Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system EARTH LAMPS

Switches, Circuit Breakers and Fusible Cut-outs, do these comply with the requirements of the Rules YES.

Section and Distribution Boards, is the construction, protection, insulation, material, and position of these as per rule YES.



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Insulation of Cables, state type of cables, single or twin BOTH are the cables insulated and protected as per Tables III or IV of the Rules Yes  
Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load 2 VOLTS  
Cable Sockets and other connections, are the ends of all cables having a sectional area of 0.007 square inch and above provided with soldering sockets Yes

Paper Insulated Cables. If cables are paper covered, is the dielectric at the exposed ends of the conductor protected from moisture by being suitably sealed with insulating compound no paper insulated cables

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

Support and Protection of Cables, state how the cables are supported and protected ALL CABLES ARE LEAD COVERED, OR LEAD COVERED  
ARMoured, OR L.C. ARMoured & BRAIDED, SUPPORTED BY BRASS OR GALVANISED SADDLES. CABLES UNDER GANGWAYS OR ON DECK ARE FURTHER PROTECTED BY SHEET IRON COVERS.

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 VI Yes

Refrigerated Chambers, if lights are fitted, are the cables and fittings in accordance with the special requirements Yes

Joints in Cables, state if any, and how made, insulated, and protected NONE

Watertight Glands and Deck Tubes, are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands Yes. DECK PIPES EACH 4 FT. LONG

Bushes in Beams and Non-watertight Positions, 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 -

Alternative Lighting, are the groups of lights in the propelling machinery space arranged as per Rule Yes, are their connections made as per Rule Yes

Emergency Supply, state position and method of control of the emergency supply and how the generator is driven None

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, are separate screens provided for the use of oil and electric side lights Yes  
are separate oil lanterns provided for the mast head lights and side lights 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 NONE FITTED

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

FITTINGS INSTALLED IN PUMP ROOMS, HAVING BODY OF FITTING ENTIRELY OUTSIDE SPACES. how are the cables led FROM OUTSIDE

where are the controlling switches situated OUTSIDE

Searchlight Lamps, No. of 1, whether fixed or portable PORTABLE, are their fittings as per Rule Yes

Are 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 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 axis 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 -  
if not of this type, state distance of the combustible material horizontally or vertically above the motors - and -

Control Gear and Resistances, are the generator field and motor speed regulators, starters and controllers constructed 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 -

If portable lamps for use in dangerous spaces are supplied, are they of a type approved by the Home Office Yes

## PARTICULARS OF GENERATING PLANT.

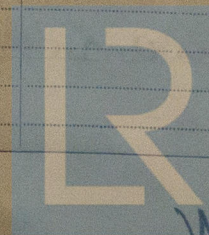
DESCRIPTION OF GENERATOR.	No. of	RATED AT				DRIVEN BY.	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Ampères.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN	2	100	220	455	300	DIESEL ENGINES	OIL	Abn 150° F.
AUXILIARY								
EMERGENCY								
ROTARY TRANSFORMER								

## LIGHTING AND HEATING CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Conductors.	Effective Area of each Conductor. Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current. Ampères.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	MAIN GENERATOR...	4(24=)	.3	37	.103	240	40	RUBBER	L.C. & ARMOUR.
	AUXILIARY GENERATOR								
	EMERGENCY GENERATOR								
	ROTARY TRANSFORMER...								
	AUXILIARY SWITCHBOARDS								
	ENGINE ROOM	2	.007	7	.036	24	20	"	L.C. ARM & BRAIDED.
	BOILER ROOM								
	FOR ACCOM. HEATERS.	2	.06	19	.064	83	440	"	L.C. ARM & BRAIDED.
	AFT ACCOM. HEATERS. POOP DE.	2	.039	19	.052	64	60	"	"
	" " " " " " " " " " " "	2	"	"	"	"	50	"	"
	" " " " " " " " " " " "	2	.022	7	.064	46	50	"	"
	FOR ACCOM. LIGHTING	2	.010	7	.044	31	440	"	"
	AFT " " (POOP DE.)	2	.004	7	.029	18.2	60	"	"
	" " " " (UPPER DE.)	2	"	"	"	"	50	"	"
	NAVIGATION	2	"	"	"	"	460	"	"
	SHORE SUPPLY	2	.039	19	.052	64	60	"	"
	WIRELESS	2	.004	7	.029	18.2	440	"	"
	SEARCHLIGHT	2	.06	19	.064	83	440	"	"
	MASTHEAD LIGHT...	2	.001	3	.029	7.8	200	RUBBER	L.C. ARM & BRAIDED.
	SIDE LIGHTS...	4	"	"	"	"	70	"	"
	COMPASS LIGHTS...	4	"	"	"	"	20	"	LEAD COVERED
	POOP LIGHTS	2	"	"	"	"	"	"	"
	CARGO LIGHTS	2	"	"	"	"	"	"	L.C. ARM & BRAIDED.
	ARC LAMPS								
	HEATERS	2	.0029	3	.036	12		"	LEAD COVERED.

## MOTOR CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Motors.	Effective Area of each Conductor. Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current. Ampères.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	BALLAST PUMP	1	.075	19	.072	97	70	RUBBER	L.C. & ARMOUR.
	MAIN BILGE LINE PUMPS	1	.039	19	.052	64	60	"	"
	GENERAL SERVICE PUMP								
	EMERGENCY BILGE PUMP								
	SANITARY PUMP								
	CIRC. SEA WATER PUMPS	2	.075	19	.072	97	80 ea	"	"
	CIRC. FRESH WATER PUMPS								
	AIR COMPRESSOR	1	.196	37	.083	184 ea	90	"	"
	FRESH WATER PUMP								
	ENGINE TURNING GEAR	2	.022	7	.064	46	60 ea	"	"
	ENGINE REVERSING GEAR								
	LUBRICATING OIL PUMPS	3	.014	7	.052	37	30 ea	"	"
	OIL FUEL TRANSFER PUMP	1	.007	7	.036	24	40	"	"
	WINDLASS	1	.1	19	.083	118 ea	440	"	"
	WINCHES, FORWARD								
	WINCHES, AFT								
	STEERING GEAR	1	.039	19	.052	64	140	"	"
	WORKSHOP MOTOR	1	.004	7	.029	18.2	60	"	"
	VENTILATING FANS								
	LUBRICATING OIL PUMPER	1	.0029	3	.036	12	30	"	"
	REFRIG. MACH. MOTOR	1	.014	7	.052	37	70	"	"
	BELIEVE PUMP	1	.0029	3	.036	12	15	"	"



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W 385 0078(212)



All Conductors are of annealed copper conforming to British Standard Specification No. 7.

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

The foregoing is a correct description.

For The Knowsley Elec Co Ltd

Wm G. Rodfellow  
director

Electrical Engineers.

Date 16.11.25

#### COMPASSES.

Distance between electric generators or motors and standard compass

260 ft.

Distance between electric generators or motors and steering compass

250 "

The nearest cables to the compasses are as follows:—

A cable carrying 6 Ampères 9 feet from standard compass 8 feet from steering compass.

A cable carrying 5 Ampères 4 feet from standard compass 6 feet from steering compass.

A cable carrying 5 Ampères in feet from standard compass in feet from steering compass.

Have the compasses been adjusted with and without the electric installation at work at full power. yps.

Has the effect of switching on and off circuits, motors and other electro-magnetic apparatus within the vicinity of the compasses been noted. yps.

The maximum deviation due to electric currents was found to be nil degrees on any course in the case of the standard compass, and nil degrees on any course in the case of the steering compass.

GLYNNWOOD SHIPBUILDING CO., LTD.

James S. C. Atkiday  
Secretary

Builder's Signature.

Date 17<sup>th</sup> Nov. 1925

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 fitted on board under special survey. Tested under full working conditions and found satisfactory. The workmanship was found to be good and sound.

It is submitted that this vessel is eligible for THE RECORD. Elec light.

JWD  
27/11/25

Total Capacity of Generators 200 Kilowatts

The amount of Fee ... £ 86.10.0

When applied for, 10.11.25

Travelling Expenses (if any) £ 1.1.0

When received, 12.11.25

Committee's Minute

GLASGOW 24 NOV 1925

Assigned

Elec. Light.

J. S. Rankin  
Surveyor to Lloyd's Register of Shipping.



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Foundation