

# MOTOR ROOM POWER CIRCUITS

Rpt. 13.

No. 44511

## REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

16 APR 1925

Date of writing Report 3-4-1925 When handed in at Local Office 14.4.1925 Port of GLASGOW

No. in Survey held at GLASGOW Date, First Survey 27.2.25 Last Survey 19.3.1925  
Reg. Book. 90963 on the M.V. THISTLEROS (Number of Visits 6)

Tons { Gross 4614  
Net 2705

Built at GLASGOW By whom built D & W. HENDERSON LTD. Yard No. 675m When built 1925

Owners ALBYN LINE LTD. Port belonging to SUNDERLAND

Electric Light Installation fitted by MESSRS. HARLAND & WOLFF LTD Contract No. 675 When fitted 1925  
(GOVAN)

### System of Distribution

2 wire ✓

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

Direct or Alternating Current, Lighting — 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 3 Diesel in parallel, 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

Port side 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 On platform over dynamos. Port side of Engine Room

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

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 Double pole

circuit breakers interlocked with S.P. Equalising switch for Generators.

Double pole switch and 2 single pole fuses for each outgoing circuits

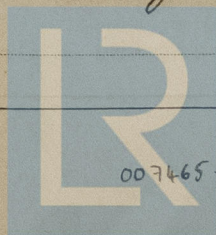
Instruments on main switchboard 3 ammeters 2 voltmeters — synchronising device for paralleling purposes.

Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system 2 lamps and

2 single pole switches across mains. Mid point of lamps earthed.

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 *Single* 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

**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

**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*

**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. *Run on sheet iron perforated plating and clipped to same with brass clips. Lead covered cables used*

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*

**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

**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

\_\_\_\_\_ 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 \_\_\_\_\_, 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 \_\_\_\_\_, are separate screens provided for the use of oil and electric side lights

are separate oil lanterns provided for the mast head lights and side lights.

**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

where are the controlling switches situated

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

**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

are they protected from mechanical injury and damage from water, steam or oil Yes are their axis of rotation fore and aft Yes

15. That all unprotected machinery 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 \_\_\_\_\_

....., if not of this type, state distance of the combustible material from the .....

**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, selection of cables, method of distribution, lead of cables, lights and fittings

*Teapots, jugs, &c., in domestic use, are supplied, are then of a type approved by the Home Office.*

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

## PARTICULARS OF GENERATING PLANT.

PARTICULARS OF GENERATING ENGINE.						WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.		
DESCRIPTION OF GENERATOR.	No. of	RATED AT				DRIVEN BY.		
		Kilowatts.	Volts.	Ampères.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN ... ..	3	65	220	295	300	Diesel Engine	Brit. Mus.	Closed 170° F Open 180° F
AUXILIARY ... ..								
EMERGENCY ... ..								
ROTARY ... ..								
TRANSFORMER ... ..								

## LIGHTING AND HEATING CONDUCTORS

[illegible]

## MOTOR CONDUCTORS

Ref. No.	DESCRIPTION.	No. of Motors.	Effective Area of each Conductor, Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current, Amperes.	Approximate Length, (Lead and Return,) Feet.	Insulated with	HOW PROTECTED
				No.	Diameter.				
	BALLAST PUMP ... ..	1	006 ✓	19	0064	70	88	Rubber	L.C.
	MAIN BILGE LINE PUMPS ...	1	0145 ✓	7	052	30	72	Rubber	L.C.
	GENERAL SERVICE PUMP ...								
	EMERGENCY BILGE PUMP ...								
	SANITARY PUMP ... ..	1	006 ✓	19	0064	80	72	Rubber	L.C.
	CIRC. SEA WATER PUMPS ...	1	006 ✓	19	0064	80	72	Rubber	L.C.
	CIRC. FRESH WATER PUMPS	2	0007 ✓	7	036	14	52	Rubber	L.C.
	AIR COMPRESSOR ... ..	1	006 ✓	913	0093	347	72	Rubber	L.C.
	FRESH WATER PUMP ... ..								
	ENGINE TURNING GEAR ...	1	0225 ✓	7	0064	40	128	Rubber	L.C.
	ENGINE REVERSING GEAR ...								
	LUBRICATING OIL PUMPS ...	2	0145 ✓	7	052	32	136	Rubber	L.C.
	OIL FUEL TRANSFER PUMP ...	2	0007 ✓	7	036	16	128	Rubber	L.C.
	WINDLASS ... ..								
	WINCHES, FORWARD ... ..								
	WINCHES, AFT ... ..								
	STEERING GEAR ... ..								
	WORKSHOP MOTOR ... ..								
	VENTILATING FANS ... ..								
	HOT SALT WATER P	1	003 ✓	3	036	89	64	Rubber	L.C.
	OIL PURIFIER	2	003 ✓	3	036	89	80	Rubber	L.C.
	LATHE	1	003 ✓	3	036	65	40	Rubber	L.C.
	DRILL	1	003 ✓	3	036	65	24	Rubber	L.C.



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 HARLAND AND WOLFF, LIMITED.

*John Dickinson*

Electrical Engineers.

Date 6th April 1925

Managing Director

#### COMPASSES.

Distance between electric generators or motors and standard compass 210

Distance between electric generators or motors and steering compass 200

The nearest cables to the compasses are as follows:—

A cable carrying 10 Ampères 15 feet from standard compass 15 feet from steering compass.

A cable carrying 98 Ampères 35 feet from standard compass 15 feet from steering compass.

A cable carrying 400 Ampères 45 feet from standard compass 45 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 NIL degrees on course in the case of the standard

compass, and NIL degrees on course in the case of the steering compass.

For HARLAND AND WOLFF, LIMITED.

*John Dickinson*

Builder's Signature.

Date 6th April 1925

Managing Director

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.

Total Capacity of Generators 195 Kilowatts

The amount of Fee £36-5-0

When applied for.

24/3/25

Travelling Expenses (if any) £

When received.

15/4/25

*J. S. Rankin*

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

GLASCOW 15 APR 1925

Assigned

*Elec. Light*

*W. M.*



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