

REC'D. 21 DEC. 1921

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 41517

Port of Glasgow. Date of First Survey 27.10.21 Date of Last Survey 15.11.21 No. of Visits 4
 No. in on the Iron or Steel SS "ESSONITE" Port belonging to Glasgow
 Reg. Book 37186 Built at Scotstoun By whom Messrs Yarrow & Co When built 1921
 Owners Messrs Wm Robalson & Co. Owners' Address
 Yard No. 1460 Electric Light Installation fitted by Messrs Siemens Ltd. When fitted 1921

DESCRIPTION OF DYNAMO, ENGINE, ETC.

— TOTAL K.W. = 6.5 —

1. One Compound Wound Engine Base Type Generator — Output 6.6 K.W. at 110 Volts, direct coupled to a
 a "Robey" Single Cylinder 6 1/2" x 6" Open Type, High Speed Vertical Engine — 11 B.H.P. at 330 R.P.M. Steam 100/180 lbs.
 Capacity of Dynamo 60 Amperes at 110 Volts, whether continuous or alternating current Continuous
 Where is Dynamo fixed Engine Rm — Starboard Side — Aft Whether single or double wire system is used Double
 Position of Main Switch Board Eng. Rm, Starboard Side — Aft having switches to groups A to C of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each

If fuses are fitted on main switch board to the cables of main circuit Yes and on each auxiliary switch board to the cables of auxiliary
 circuits Yes and at each position where a cable is branched or reduced in size Yes and to each lamp circuit Yes

If vessel is wired on the double wire system are fuses fitted to both flow and return wires or cables of all circuits including lamp circuits Yes

Are the fuses of non-oxidizable metal Yes and constructed to fuse at an excess of 100 per cent over the normal current

Are all fuses fitted in easily accessible positions Yes Are the fuses of standard dimensions Yes If wire fuses are used
 are permanent instructions fitted on or near each switch board giving particulars of proper size of fuse for each circuit Yes

Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases Yes

Total number of lights provided for 66 arranged in the following groups:—

A Navigation & Large	<u>53</u> lights each of	<u>32</u>	candle power requiring a total current of	<u>14.9</u>	Amperes
B Accommodation	<u>24</u> lights each of	<u>25</u>	candle power requiring a total current of	<u>6.5</u>	Amperes
C Machinery Spaces	<u>15</u> lights each of	<u>25</u>	candle power requiring a total current of	<u>4.1</u>	Amperes
D	lights each of		candle power requiring a total current of		Amperes
E	lights each of		candle power requiring a total current of		Amperes
2 Mast head lights with	1 lamp each of	<u>32 c.p.</u>	candle power requiring a total current of	<u>2.4</u>	Amperes
2 Side lights with	1 lamp each of	<u>32</u>	candle power requiring a total current of	<u>2.4</u>	Amperes
12 (in clusters of 6) Cargo lights of		<u>32</u>	candle power, whether incandescent or arc lights	<u>Incandescent</u>	

If arc lights, what protection is provided against fire, sparks, &c.

Where are the switches controlling the masthead and side lights placed In Navigation Light Indicator in Flying Bridge

DESCRIPTION OF CABLES.

Main cable carrying 26.5 Amperes, comprised of 19 wires, each .052 S.W.G. diameter, .04 square inches total sectional area
 Branch cables carrying 14.9 Amperes, comprised of 7 wires, each .044 S.W.G. diameter, .01 square inches total sectional area
 Branch cables carrying 6.5 Amperes, comprised of 7 wires, each .036 S.W.G. diameter, .007 square inches total sectional area
 Leads to lamps carrying 5 Amperes, comprised of 3 wires, each .029 S.W.G. diameter, .002 square inches total sectional area
 Cargo light cables carrying 2.2 Amperes, comprised of 110 wires, each .0076 S.W.G. diameter, .0048 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

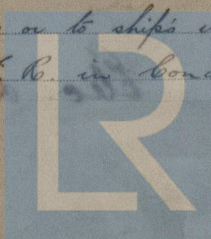
Conductors of High Conductivity copper wire, insulated with pure & vulcanised india rubber,
 taped & braided, also the foregoing but taped & head covered, also the foregoing but armoured with galvanised
 steel wires, the whole being served with jute, also V.I.C. in conduit.

Joints in cables, how made, insulated, and protected to joints — Circular Porcelain Extensions.

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances Yes Are all joints in accessible
 positions, none being made in bunkers, cargo spaces, or spaces which may at any time be used for carrying cargo, stores, or baggage Yes

Are there any joints in or branches from the cable leading from dynamo to main switch board Yes

How are the cables led through the ship, and how protected Clipped to wooden bulkheads or to ship's iron with brass
 & galvanized clips, by means of Brass Screws. Holds — Cable V.I.C. in conduit.



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DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible *Yes*

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture *Lead covered & Armoured or V.I.R. in conduit*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *Lead covered & Armoured*

What special protection has been provided for the cables near boiler casings *L.C. & A. & V.I.R. in conduit*

What special protection has been provided for the cables in engine room *L.C. & A.*

How are cables carried through beams *Fibre Bushed Holes* through bulkheads, &c. *Watertight Bulkhead glands*

How are cables carried through decks *in Watertight Packed Deck Tubes*

Are any cables run through coal bunkers *Yes* or cargo spaces *Yes* or spaces which may be used for carrying cargo, stores, or baggage *Yes*

If so, how are they protected *V.I.R. cable in galvanized Iron conduit*

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage *Yes*

If so, how are the lamp fittings and cable terminals specially protected *—*

Where are the main switches and fuses for these lights fitted *—*

If in the spaces, how are they specially protected *—*

Are any switches or fuses fitted in bunkers *—*

Cargo light cables, whether portable or permanently fixed *Permanently fixed to connector & portable from connector to cluster* How fixed *Brass clips to Deck & Bulkheads*

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel *—*

How are the returns from the lamps connected to the hull *—*

Are all the joints with the hull in accessible positions *—*

Is the installation supplied with a voltmeter *Yes — One*, and with an amperemeter *Yes — One*, fixed on *Switchboard*.

VESSELS BUILT FOR CARRYING PETROLEUM.

In vessels built for carrying petroleum, are all switches and fuses fitted in positions not liable to the accumulation of petroleum vapour or gas *—*

Are any switches, fuses, or joints of cables fitted in the pump room or companion *—*

How are the lamps specially protected in places liable to the accumulation of vapour or gas *—*

The copper used is guaranteed to have a conductivity of not less than that of the Engineering Standards Committee's standard, and the wires are protected by tinning from the sulphur compounds present in the insulating material.

Insulation of cables is guaranteed to have a resistance of not less than *600* megohms per statute mile at 60° Fahrenheit after 24 hours' immersion in water, the test being made after one minute's electrification at not less than 500 volts and while the cable is still immersed.

The foregoing statements are a correct description of the Electric Light installation fitted by us on this vessel and we declare that it is at this date in good order and safe working condition.

FOR SIEMENS BROTHERS & CO., LIMITED,

MARINE DEPARTMENT.

Electrical Engineers

Date *9/12/21.*

COMPASSES.

Distance between dynamo or electric motors and standard compass *—*

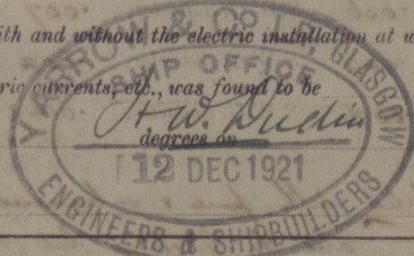
Distance between dynamo or electric motors and steering compass *110 ft.*

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<i>14.9</i>	<i>14</i>	<i>—</i>	<i>—</i>
<i>5.5</i>	<i>8</i>	<i>—</i>	<i>—</i>
<i>.3</i>	<i>in</i>	<i>—</i>	<i>—</i>

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

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



Builder's Signature.

Date *12/10/21.*

GENERAL REMARKS.

This installation has been fitted on board under special survey. Tested under full working conditions & found satisfactory. It is submitted that this vessel is eligible for THE RECORD. Elec. Light.

FEK-16-10-0

of 21.11.21.

Paid 24.11.21. 7m

23/12/21

J.S. Rankin

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

GLASGOW

20 DEC 1921

Elec. Light



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THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

HL 17.12.21

2m, 11, 12—Transfer.