

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 41819

Port of GLASGOW Date of First Survey 2.2.22 Date of Last Survey 15.3.22 No. of Visits 4
 No. in on the Iron Steel S.S. "TERNEUZEN" Port belonging to TERNEUZEN
 Reg. Book 39639 Built at GREENOCK By whom MRS^{RS} GEOG BROWN & CO When built 1922
 Owners A.C. LENSEN Owners' Address _____
 Yard No. 136 Electric Light Installation fitted by MRS^{RS} TELFORD GRIER & MACKAY When fitted 1922

DESCRIPTION OF DYNAMO, ENGINE, ETC.

TOTAL K.W. : 7

Engine open type vertical double acting single cylinder 3 1/2 inch cylinder x 4 inch stroke
 Dynamo open, protected, compound, multipolar type direct coupled to engine
 Capacity of Dynamo 70 Amperes at 100 Volts, whether continuous or alternating current continuous
 Where is Dynamo fixed on starting platform Whether single or double wire system is used double
 Position of Main Switch Board Beside dynamo having switches to groups 5 circuits of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each no auxiliary switchboards

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 none and at each position where a cable is branched or reduced in size none and to each lamp circuit yes

If cessel 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 50 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 Porcelain or Marble

Total number of lights provided for 100 arranged in the following groups :-

A Accommodation	<u>42</u> lights each of <u>30</u> Watts	candle power requiring a total current of <u>12.60</u>	Amperes
B Engines	<u>16</u> lights each of <u>30</u> Watts	candle power requiring a total current of <u>4.80</u>	Amperes
C Navigation	<u>5</u> lights each of <u>32</u>	candle power requiring a total current of <u>5.00</u>	Amperes
D Cargo	<u>24</u> lights each of <u>0.16</u>	candle power requiring a total current of <u>12.00</u>	Amperes
E Decks etc.	<u>13</u> lights each of <u>30</u> Watts	candle power requiring a total current of <u>3.90</u>	Amperes
	<u>2</u> Mast head lights with <u>1</u> lamp each of <u>32</u>	candle power requiring a total current of	Amperes
	<u>2</u> Side lights with <u>1</u> lamp each of <u>32</u>	candle power requiring a total current of	Amperes
	<u>24</u> Cargo lights of <u>84</u>	candle power, whether incandescent or arc lights <u>incandescent</u>	

If arc lights, what protection is provided against fire, sparks, &c. no arc lamps

Where are the switches controlling the masthead and side lights placed in chart room

DESCRIPTION OF CABLES.

Main cable carrying 70 Amperes, comprised of 19 wires, each .072 S.W.G. diameter, 0.078 square inches total sectional area
 Branch cables carrying 12.60 Amperes, comprised of 7 wires, each .052 S.W.G. diameter, 0.0145 square inches total sectional area
 Branch cables carrying 4.80 Amperes, comprised of 7 wires, each .036 S.W.G. diameter, 0.007 square inches total sectional area
 Leads to lamps carrying 2 Amperes, comprised of 3 wires, each .039 S.W.G. diameter, 0.002 square inches total sectional area
 Cargo light cables carrying 3 Amperes, comprised of 3 wires, each .036 S.W.G. diameter, 0.003 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

All cables are vulcanized india rubber insulated and are protected by lead sheathing or by galvanized iron tubes

Joints in cables, how made, insulated, and protected no joints

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances _____ 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 _____

Are there any joints in or branches from the cable leading from dynamo to main switch board no

How are the cables led through the ship, and how protected Cables are led through ship in galvanized conduit pipes below beams.

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DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible no

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture lead covered or galvanized steel conduit

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat steel conduit

What special protection has been provided for the cables near boiler casings steel conduit

What special protection has been provided for the cables in engine room steel conduit

How are cables carried through beams In lead bushed holes through bulkheads, &c. in W.T. Glands

How are cables carried through decks W.T. Deck Tubes

Are any cables run through coal bunkers no or cargo spaces yes or spaces which may be used for carrying cargo, stores, or baggage yes

If so, how are they protected In steel conduit

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage no

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 no

Cargo light cables, whether portable or permanently fixed Portable How fixed —

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 and with an amperemeter yes 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.

Jelford Grier Mackay Ltd Electrical Engineers Date 5/4/22

COMPASSES.

Distance between dynamo or electric motors and standard compass 55 approx

Distance between dynamo or electric motors and steering compass 50 approx

The nearest cables to the compasses are as follows:—

A cable carrying	<u>.25</u>	Amperes	<u>inside</u>	feet from standard compass	<u>10</u>	feet from steering compass
A cable carrying	<u>.25</u>	Amperes	<u>10</u>	feet from standard compass	<u>inside</u>	feet from steering compass
A cable carrying	<u>5</u>	Amperes	<u>12</u>	feet from standard compass	<u>20</u>	feet from steering compass

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 nil course in the case of the standard compass and nil degrees on nil course in the case of the steering compass.

Geo. Brown & Co Builder's Signature. Date 8.4.22

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.

F&E £40.00 Paid & Grd.
Exp. 10.00 18/5/22.
Elec. Light Co. J. B. Rankin.
18/4/22 Surveyor to Lloyd's Register of Shipping.

Committee's Minute

GLASGOW 11 APR 1922
Elec Light.



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THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

10-4-22

2m, 11, 19.—Transfer.