

WED 29 MAR 1922  
No. 41698

## REPORT ON ELECTRIC LIGHTING INSTALLATION.

Port of Glasgow Date of First Survey 19. 4. 22 Date of Last Survey 23. 1. 22 No. of Visits 6  
 No. in on the Iron or Steel S.S. Chilka Port belonging to Glasgow  
 Reg. Book 36689 Built at Dumbarton By whom Messrs Denny Bros Ltd. When built 1922  
 Owners The British Ind. St. Nav. Co. Owners' Address Messrs Denny Bros. Ltd. When fitted 1922  
 Yard No. 1141 Electric Light Installation fitted by Messrs Denny Bros. Ltd. TOTAL K.W. = 75

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

2-38/40 B.H.P. Compound Vertical 2 crank enclosed steam engines, 100 lb. pressure, 400 R.P.M., with disc coupling, throttle governor, forced lubrication, coupled to 25 K.W. Compound Wound, Multipolar type dynamo

Capacity of Dynamo 250 Amperes at 100 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed Engine Room Top Whether single or double wire system is used double

Position of Main Switch Board Engine Rm. Top having switches to groups 12 of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each No Auxiliary Switchboard fitted

One 25 K.W. Emergency Generator driven coupled to a 4-cylinder petrol engine. Situated on boat deck.

If fuses are fitted on main switch board to the cables of main circuit Yes and on each auxiliary FUSE 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

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

Total number of lights provided for 622 arranged in the following groups:—

|          | lights each of                              | candle power requiring a total current of | Amperes             |
|----------|---|---|---------------------|
| A        |   |   |                     |
| B        |   |   |                     |
| C        |   |   |                     |
| D        |   |   |                     |
| E        |   |   |                     |
| <u>1</u> | <u>Mast head light with 1 lamps each of</u> | <u>32</u>                                 | <u>4.6</u> Amperes  |
| <u>1</u> | <u>Side light with 1 lamps each of</u>      | <u>32</u>                                 | <u>4.6</u> Amperes  |
| <u>6</u> | <u>Cargo lights of 5 lamps each</u>         | <u>16</u>                                 | <u>Incandescent</u> |

If arc lights, what protection is provided against fire, sparks, &c. None Fitted

Where are the switches controlling the masthead and side lights placed in Chart Room

## DESCRIPTION OF CABLES.

Main cable carrying 250 Amperes, comprised of 61 wires, each .103" S.W.G. diameter, .5 square inches total sectional area  
 Branch cables carrying 70 Amperes, comprised of 19 wires, each .064" S.W.G. diameter, .06 square inches total sectional area  
 Branch cables carrying 60 Amperes, comprised of 19 wires, each .064" S.W.G. diameter, .06 square inches total sectional area  
 Leads to lamps carrying 1 Amperes, comprised of 1 wires, each .16 S.W.G. diameter, .003 square inches total sectional area  
 Cargo light cables carrying 4 Amperes, comprised of 70 wires, each .007 S.W.G. diameter, .003 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Lead Covered Cable, & Lead Covered & Armoured in Machinery Spaces

Joints in cables, how made, insulated, and protected None

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances No 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 Lead Covered and Armoured surface



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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*

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

What special protection has been provided for the cables near boiler casings *Asbestos covered wire*

What special protection has been provided for the cables in engine room *Asbestos covered wire*

How are cables carried through beams *Lead Bushes* through bulkheads, &c. *Watertight Glands*

How are cables carried through decks *through 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 *Lead Covered and Armoured*

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

If so, how are the lamp fittings and cable terminals specially protected *Special Fittings with Cast Iron Caps*

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

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 *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 *Main 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.

*Messrs Wm Denny Bros Ltd.* Electrical Engineers Date *18-2-22*

COMPASSES.

Distance between dynamo or electric motors and standard compass *120'*

Distance between dynamo or electric motors and steering compass *120'*

The nearest cables to the compasses are as follows:— *Light fitted on Compass.*

| A cable carrying | Amperes   | feet from standard compass | feet from steering compass |
|------------------|-----------|----------------------------|----------------------------|
| <i>4</i>         | <i>12</i> | <i>12</i>                  |                            |
| <i>3</i>         | <i>in</i> | <i>in</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 *Nil* degrees on *any* course in the case of the steering compass.

FOR WILLIAM DENNY & BROTHERS LIMITED.

Builder's Signature. Date *18/3/22*

GENERAL REMARKS.

*This installation has been fitted on board under special survey. Tested under full working conditions and found satisfactory.*

*It is submitted that this vessel is eligible for THE RECORD. ELEC. LIGHT.* *J. S. Rankin.* Surveyor to Lloyd's Register of Shipping.

Committee's Minute

*GLASGOW 28 MAR 1922*  
*Elec. Light.*



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THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.