

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 4561

Port of DUBLIN Date of First Survey 5<sup>th</sup> May/27 No. of Visits 2  
 No. in on the ~~Steel~~ T.S.M. "SOUTHLAND" Port belonging to Invercarraigill  
 Reg. Book Built at DUBLIN By whom Dublin Dockyard When built 1927  
 Owners Bluff Harbour Board Owners' Address   
 Yard No. 120 Electric Light Installation fitted by Telford Grier & Mackay Ltd When fitted 1927

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

Enclosed Single Cylinder Steam Engine direct-coupled to  
Compound wound protected type dynamo  
 Capacity of Dynamo 45 Amperes at 110 Volts, whether continuous or alternating current continuous  
 Where is Dynamo fixed Engine Room, port side Whether single or double wire system is used double  
 Position of Main Switch Board on bulkhead beside dynamo having switches to groups 4 of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each None

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 — 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 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

Total number of lights provided for 80 arranged in the following groups:—

|             |                                 |                      |                 |  |   |           |         |
|-------------|---------------------------------|----------------------|-----------------|--|---|-----------|---------|
| A           | <u>Forward</u>                  | <u>16</u>            | lights each of  | <u>30 watts</u>                                  | candle power requiring a total current of | <u>5</u>  | Amperes |
| B           | <u>Bridge</u>                   | <u>19</u>            | lights each of  | <u>various</u>                                   | candle power requiring a total current of | <u>11</u> | Amperes |
| C           | <u>Engine Room</u>              | <u>34</u>            | lights each of  | <u>30 watts</u>                                  | candle power requiring a total current of | <u>10</u> | Amperes |
| D           | <u>Navigation</u>               | <u>11</u>            | lights each of  | <u>various</u>                                   | candle power requiring a total current of | <u>6</u>  | Amperes |
| E           |                                 |                      | lights each of  |  | candle power requiring a total current of |           | Amperes |
| <u>One</u>  | <u>Mast head light with one</u> | <u>lamps each of</u> | <u>60 watts</u> | candle power requiring a total current of        | <u>1</u>                                  | Amperes   |         |
| <u>Two</u>  | <u>Side light with one</u>      | <u>lamps each of</u> | <u>60 watts</u> | candle power requiring a total current of        | <u>1</u>                                  | Amperes   |         |
| <u>Four</u> | <u>Cargo lights of</u>          | <u>120 watts</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 wheel house

## DESCRIPTION OF CABLES.

|                             |           |                       |          |             |             |                  |              |                                    |
|-----------------------------|-----------|-----------------------|----------|-------------|-------------|------------------|--------------|------------------------------------|
| Main cable carrying         | <u>45</u> | Amperes, comprised of | <u>7</u> | wires, each | <u>.064</u> | S.W.G. diameter, | <u>.0225</u> | square inches total sectional area |
| Branch cables carrying      | <u>11</u> | Amperes, comprised of | <u>7</u> | wires, each | <u>.029</u> | S.W.G. diameter, | <u>.0045</u> | square inches total sectional area |
| Branch cables carrying      | <u>5</u>  | Amperes, comprised of | <u>7</u> | wires, each | <u>.029</u> | S.W.G. diameter, | <u>.0045</u> | square inches total sectional area |
| Leads to lamps carrying     | <u>3</u>  | Amperes, comprised of | <u>1</u> | wires, each | <u>.044</u> | S.W.G. diameter, | <u>.0015</u> | square inches total sectional area |
| Cargo light cables carrying | <u>1</u>  | Amperes, comprised of | <u>1</u> | wires, each | <u>.044</u> | S.W.G. diameter, | <u>.0015</u> | square inches total sectional area |

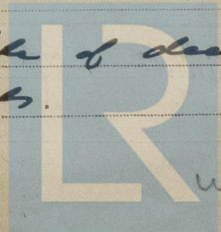
## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Mains throughout ship V. J. R. Armoured.  
Mains in engine room V. J. R. L.C. & A.  
Distribution - Engine Room V. J. R. L.C. & A. Accumulation V. J. R. L.C. Stores etc. V. J. R. A.  
 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 — 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 None

How are the cables led through the ship, and how protected Clipped to underside of deck & bulkheads.



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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 *Chromium*

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

What special protection has been provided for the cables near boiler casings *Chromium & lead cover*

What special protection has been provided for the cables in engine room *Chromium & lead cover*

How are cables carried through beams *drifted hole* through bulkheads, &c. *drifted hole. No cables pass through water-tight bulkheads.*

How are cables carried through decks *by deck tubes filled with compound*

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

If so, how are they protected *Chromium*

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 *none*

Cargo light cables, whether portable or permanently fixed *Portable* How fixed *C.I. Cargo Box.*

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 Sub. d.*

## 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.

*Yelford Eric & Mackay & Co.*

Electrical Engineers

Date *27<sup>th</sup> April 27.*

## COMPASSES.

Distance between dynamo or electric motors and standard compass *44 Feet -*

Distance between dynamo or electric motors and steering compass *58 Feet -*

The nearest cables to the compasses are as follows:—

|                  |            |         |            |                            |            |                            |
|------------------|------------|---------|------------|----------------------------|------------|----------------------------|
| A cable carrying | <i>6</i>   | Amperes | <i>7</i>   | feet from standard compass | <i>3</i>   | feet from steering compass |
| A cable carrying | <i>1/2</i> | Amperes | <i>One</i> | feet from standard compass | <i>One</i> | feet from steering compass |
| A cable carrying |            | Amperes |            | feet from standard compass |            | 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 *3°* degrees on *N. W.* course in the case of the standard compass and *2°* degrees on *W. to N. N. W.* courses in the case of the steering compass.

*The Dublin Dockyard Co.*

*William J. Mares*

Builder's Signature.

Date

*11<sup>th</sup> May 27.*

## GENERAL REMARKS.

GENERAL MANAGER.

*This installation has been fitted to the vessel in an efficient manner; tested under working conditions and found satisfactory.*

*See L 5-0-0*

*See L 5-0-0*

*Edw. B. & Co. B. & Co.*

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

*WED. 8 JUN 1927*

*Elec. Light*



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