

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 10959.

Port of *Middlesbrough* Date of First Survey *5<sup>th</sup> Jan'y* Date of Last Survey *3<sup>rd</sup> Feb'y* No. of Visits *6*  
 No. in Reg. Book *48466* on the *Iron* Steel *Fr. "Elena Peirce"* Port belonging to *Messina*  
 Built at *Haverton Hill-on-Yess.* By whom *Hurness Shipbuilding Co. Ltd.* When built *1921*  
 Owners *Peirce Bros.* Owners' Address *Messina*  
 Yard No. *4* Electric Light Installation fitted by *Hurness Shipbuilding Co. Ltd.* When fitted *1921*

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

Dynamo, *Open type, compound wound, Sunderland Forge Coy. No. 26661*  
 Engine *" " single cylinder do do do No. 26561.*

Capacity of Dynamo *85* Amperes at *100* Volts, whether continuous or alternating current *continuous.*

Where is Dynamo fixed *5th side of main engine room* Whether single or double wire system is used *double*

Position of Main Switch Board *near dynamo, in engine room* having switches to groups *"A, B, C, D & E."* of lights, &c., as below

Positions of auxiliary <sup>FUSE</sup> switch boards and numbers of switches on each *"A" Chart House (8 switches) "B" Saloon*  
*Pantry. "C" Engine room entrance. "D" Crew Space aft. "E" Engine room.*

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 *none* 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 *153* arranged in the following groups:—

A	Navigation	5 lights each of 32	candle power requiring a total current of	6.5	Amperes
B	Accommodation	68 lights each of 30 watt M.F.	candle power requiring a total current of	15.2	Amperes
C	Crew aft	33 lights each of 16	candle power requiring a total current of	19.8	Amperes
D	Engine room	17 lights each of 16 cp. 200 watt M.F.	candle power requiring a total current of	16.2	Amperes
E	Cluster	27 lights each of 16	candle power requiring a total current of	15.	Amperes
	2 Mast head light with	1 lamps each of 32	candle power requiring a total current of	included in A.	Amperes
	2 Side light with	1 lamps each of 32	candle power requiring a total current of	" " "	Amperes
	5 Cargo lights of	80	candle power, whether incandescent or arc lights	mean descent	

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

Where are the switches controlling the masthead and side lights placed *Chart House*

## DESCRIPTION OF CABLES.

Main cable carrying *85* Amperes, comprised of *19* wires, each *14* S.W.G. diameter, *.094* square inches total sectional area  
 Branch cables carrying *19.8* Amperes, comprised of *19* wires, each *.052* S.W.G. diameter, *.058* square inches total sectional area  
 Branch cables carrying *16.2* Amperes, comprised of *7* wires, each *.064* S.W.G. diameter, *.025* square inches total sectional area  
 Leads to lamps carrying *2* Amperes, comprised of *3* wires, each *.029* S.W.G. diameter, *.002* square inches total sectional area  
 Cargo light cables carrying *3* Amperes, comprised of *4* wires, each *.036* S.W.G. diameter, *.004* square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

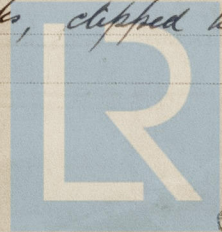
*Lead covered cables in cabins accommodation etc, clipped with brass clips & screws.*  
*Armoured & braided cables in "tween decks", engine room etc, clipped with galvanised clips & screws*

Joints in cables, how made, insulated, and protected, *Porcelain extensions covered by cast iron covers where exposed to damage etc.*

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances *solder not used - joints being mechanical*  
*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 *no.*

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 *Through beams in tween decks, clipped to underside of deck — protected by being armoured & braided*





**DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.**

Are they in places always accessible *Yes except when tween decks are full of cargo*

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture *Armoured cable used, or lead covered cable in iron pipes used for deck lights*

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

What special protection has been provided for the cables near boiler casings *do do do*

What special protection has been provided for the cables in engine room *do do do*

How are cables carried through beams *lead bushes for lead covered cables through bulkheads, &c. Ad. Patt. watertight glands.*

How are cables carried through decks *iron deck tubes.*

Are any cables run through coal bunkers *no* or cargo spaces *Shelter tween decks* or spaces which may be used for carrying cargo, stores, or baggage *Forecastle only*

If so, how are they protected *Armoured & braided cable used*

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

If so, how are the lamp fittings and cable terminals specially protected *cast iron covers hinged to fittings*

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

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.

For FURNESS SHIPBUILDING CO. LIMITED

*P. S. G. 1000.*

Electrical Engineers

Date *15.2.21*

**COMPASSES.**

Distance between dynamo or electric motors and standard compass *150 ft approx.*

Distance between dynamo or electric motors and steering compass *150 do do*

The nearest cables to the compasses are as follows:—

A cable carrying *3* Amperes *inside* feet from standard compass *3* feet from steering compass

A cable carrying *6.5* Amperes *15* feet from standard compass *10* 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 *nil* degrees on *all* course in the case of the

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

For FURNESS SHIPBUILDING CO. LIMITED

*Wm. Quarm* Builder's Signature.

Date

**GENERAL REMARKS.**

*This installation has been efficiently fitted on board and proved satisfactory under working conditions*

*Wm. Cowie*

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUE. 1 MAR. 1921



© 2020

Lloyd's Register Foundation

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.