

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 41737

Port of Glasgow Date of First Survey 20.12.21 Date of Last Survey 10.2.22 No. of Visits 4  
 No. in on the ~~Iron~~ Steel S.S. "Bocamaule" Port belonging to Valparaiso  
 Reg. Book 36487 Built at Dublin By whom Messrs The Dublin Dockyard When built 1922  
 Owners Cia Carbonifera de Yundeeu Owners' Address  
 Yard No. 1114 Electric Light Installation fitted by Messrs Relford Gair & Mackay When fitted 1922

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

Engine Enclosed, vertical single cylinder, double acting type  $6\frac{1}{2} \times 4\frac{1}{2}$  stroke  
 Dynamo open protected type compound wound direct coupled 500 R.P.M.  
 Capacity of Dynamo 100 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 Four 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 — 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 — arranged in the following groups:—

A Navigation	5 lights each of	32	candle power requiring a total current of	5.00	Amperes
B Accommodation	80 lights each of	30 Watts	candle power requiring a total current of	24.00	Amperes
C Engines	25 lights each of	30 Watts	candle power requiring a total current of	7.80	Amperes
D Cargo	10 lights each of	100 Watts	candle power requiring a total current of	10.00	Amperes
E Wireless	lights each of		candle power requiring a total current of		Amperes
8 Mast head light with	1 lamp each of	32	candle power requiring a total current of		Amperes
2 Side light with	1 lamp each of	32	candle power requiring a total current of		Amperes
10 Cargo lights of		200	candle power, whether incandescent or are lights	incandescent	

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

Where are the switches controlling the masthead and side lights placed In chart Room.

## DESCRIPTION OF CABLES.

Main cable carrying 100 Amperes, comprised of 19 wires, each .083 S.W.G. diameter, 0.100 square inches total sectional area  
 Branch cables carrying 5 Amperes, comprised of 7 wires, each .036 S.W.G. diameter, 0.007 square inches total sectional area  
 Branch cables carrying 24 Amperes, comprised of 7 wires, each .064 S.W.G. diameter, 0.0225 square inches total sectional area  
 Leads to lamps carrying 2 Amperes, comprised of 3 wires, each .029 S.W.G. diameter, 0.002 square inches total sectional area  
 Cargo light cables carrying 1 Amperes, comprised of 3 wires, each .029 S.W.G. diameter, 0.002 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

All cables are V.I.R. insulated lead covered in accommodation and armoured and braided in holds and engine room.

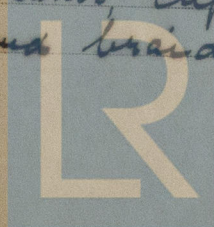
Joints in cables, how made, insulated, and protected no joints

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 beams, clipped closely to decks and protected by steel armouring and braiding.

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

Are they in places always accessible *Main cables are in through holds and bridge space*

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture *Lead covered or tubing*

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

What special protection has been provided for the cables near boiler casings *Armouring, braiding & compounding.*

What special protection has been provided for the cables in engine room *Armouring braiding & compounding*

How are cables carried through beams *Armoured* through bulkheads, &c. *Water tight glands*

How are cables carried through decks *Water tight 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 *Armoured, braided and compounded*

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.

*Jeffrey Grier MacKay L.E.*

Electrical Engineers

Date *23/2/22*

**COMPASSES.**

Distance between dynamo or electric motors and standard compass *40*

Distance between dynamo or electric motors and steering compass *80*

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	inside	feet from standard compass	feet from steering compass
A cable carrying	3	9	inside	feet from steering compass
A cable carrying	3	10	10	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 *any* course in the case of the standard compass and *any* degrees on *nil* course in the case of the steering compass.

*The Dublin Dockyard Company Ltd*

Builder's Signature.

Date *1st March 1922*

**GENERAL REMARKS.**

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

*FEF - £10-0-0*

*23/2/22*

*27/2/22*

*Elec. Light.*

*20/3/22*

*J.B. Rankin.*

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

*GLASGOW*

*Elec. Light*



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