

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 29103

Port of *Hull* Date of First Survey *2/12/15* Date of Last Survey *8-1-16* No. of Visits *8*
 No. in Reg. Book *42* on the *Iron or Steel* *new hauler* *Gavina* Port belonging to *Flintwood*
 Built at *Leby* By whom *Cochrane Bros Ltd* When built *1916-1*
 Owners *J. Mann & Co Ltd* Owners' Address *Flintwood*
 Yard No. *635* Electric Light Installation fitted by *The Humber Electrical Engineering Co* When fitted *1916-1*

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Inverted high pressure engine enclosed type by Lison, coupled direct to compound wound dynamo by Phoenix Dynamo Co

Capacity of Dynamo *50* Amperes at *65* Volts, whether continuous or alternating current *continuous*

Where is Dynamo fixed *Engine Room starboard side* Whether single or double wire system is used *double*

Position of Main Switch Board *Engine Room near dynamo* having switches to groups *three* of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each *1-3 way in Forecastle 1-10 way in Wheelhouse*
1-5 way in Cabin aft 1-3 way in 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 *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 *25%* 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 *44* arranged in the following groups:-

A	9	lights each of	16	candle power requiring a total current of	8.2	Amperes
B	6	lights each of	16	candle power requiring a total current of	5.3	Amperes
C	9	lights each of	16	candle power requiring a total current of	8.2	Amperes
D	20	lights each of	16	candle power requiring a total current of	18.3	Amperes
E		lights each of		candle power requiring a total current of		Amperes
3	Mast head light with	1	lamps each of	32	candle power requiring a total current of	5.6
2	Side light with	1	lamps each of	32	candle power requiring a total current of	3.9
1	Cargo lights of		5-16	candle power, whether incandescent or arc lights	4.8 incandescents	

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

Where are the switches controlling the masthead and side lights placed *Wheelhouse*

DESCRIPTION OF CABLES.

Main cable carrying	48	Amperes, comprised of	19	wires, each	18	S.W.G. diameter,	.034	square inches total sectional area
Branch cables carrying	19	Amperes, comprised of	3	wires, each	18	S.W.G. diameter,	.0053	square inches total sectional area
Branch cables carrying	8.5	Amperes, comprised of	3	wires, each	20	S.W.G. diameter,	.0030	square inches total sectional area
Leads to lamps carrying	2	Amperes, comprised of	1	wires, each	18	S.W.G. diameter,	.0018	square inches total sectional area
Cargo light cables carrying	5	Amperes, comprised of	130	wires, each	40	S.W.G. diameter,	.0024	square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

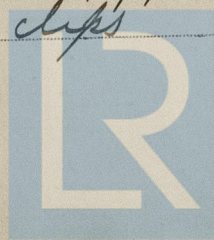
Penley's cable V.I.R. lead covered & lead covered & armoured

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 *Lead covered & armoured clipped to under side of decks & to bulkheads with strong galvanised clips*



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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 & armoured

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Lead covered & armoured

What special protection has been provided for the cables near boiler casings Lead covered & armoured

What special protection has been provided for the cables in engine room Lead covered & armoured

How are cables carried through beams Lead bushes where not armoured through bulkheads, &c. Bushes W.I. glands

How are cables carried through decks Galvanized iron deck pipes

Are any cables run through coal bunkers yes 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 & armoured

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 Chain switch board

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 100 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.

THE ROYAL ELECTRICAL ENGINEERING CO.

W. B. Stutterth

Electrical Engineers

Date

COMPASSES.

Distance between dynamo or electric motors and standard compass about 38 ft

Distance between dynamo or electric motors and steering compass about 38 ft

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
2	Lead to	feet from standard compass	feet from steering compass
2	Lead to	feet from standard compass	feet from steering compass
		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 any course in the case of the standard compass and nil degrees on any course in the case of the steering compass.

FOR COCHRANE & SONS LTD.

A. Bochner

Builder's Signature.

Date

GENERAL REMARKS.

This vessel has been fitted with an electric light installation as above the workmanship is good on completion it was tested under full working conditions found satisfactory

It is submitted that this vessel is eligible for

THE ROYAL Elec light

J. W. D. 31/1/16

Frank A. Stanger

Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute

TUE FEB. 1—1916

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.