

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 29179

Port of Hull Date of First Survey 23-2-16 Date of Last Survey 8-3-16 No. of Visits 5  
 No. in Reg. Book 45 on the Iron or Steel St. Cathbert Port belonging to Grimsby  
 Built at Selly By whom Cochrane Sons When built 1916-3  
 Owners Victor Steam Towing Co Owners' Address Fish Docks Grimsby When fitted 1916-3  
 Yard No. 650 Electric Light Installation fitted by M. Jernison

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

Reader Enclosed high speed engine direct-coupled to Mawdsley dynamo

Capacity of Dynamo 80 Amperes at 27.5 Volts, whether continuous or alternating current CC  
 Where is Dynamo fixed in engine room Whether single or double wire system is used double  
 Position of Main Switch Board in engine room having switches to groups 5 of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each One on bridge

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 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 59 arranged in the following groups:—

Total number of lights provided for						
A	10	lights each of	25	candle power requiring a total current of	12	Amperes
B	10	lights each of	25	candle power requiring a total current of	12	Amperes
C	10	lights each of	25	candle power requiring a total current of	12	Amperes
D	12	lights each of	25	candle power requiring a total current of	14	Amperes
E	10	lights each of	25	candle power requiring a total current of	12	Amperes
3	Mast head light with	1	lamps each of	25	candle power requiring a total current of	3.6 Amperes
2	Side light with	1	lamps each of	25	candle power requiring a total current of	2.4 Amperes
2	Cargo lights of	100	candle power, whether incandescent or arc 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 Bridge

## DESCRIPTION OF CABLES.

Main cable carrying 66 Amperes, comprised of 19 wires, each 14 S.W.G. diameter, .094 square inches total sectional area  
 Branch cables carrying 12 Amperes, comprised of 7 wires, each 22 S.W.G. diameter, .0042 square inches total sectional area  
 Branch cables carrying 2 Amperes, comprised of 1 wires, each 16 S.W.G. diameter, .0032 square inches total sectional area  
 Leads to lamps carrying 1 Amperes, comprised of 1 wires, each 18 S.W.G. diameter, .0018 square inches total sectional area  
 Cargo light cables carrying 4 Amperes, comprised of 75 wires, each 36 S.W.G. diameter, square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

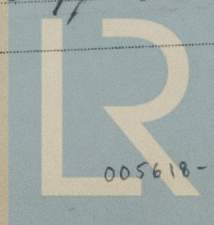
VIR cables. Cab type sheathed in permed steel tubing

Joints in cables, how made, insulated, and protected Mechanical in iron boxes

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances 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 Yes

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 as above in steel tubes clipped under side of decks & bulkheads



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005618-005634-0094



**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 as above  
in steel tubes

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat cable type cable in steel tubes

What special protection has been provided for the cables near boiler casings Cable type cable in steel tubes

What special protection has been provided for the cables in engine room in steel tubes - as above

How are cables carried through beams Lead bushes where no tubes through bulkheads, &c. tubes fitted with nuts & washers

How are cables carried through decks steel deck pipes fitted with nuts & washers

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 as above

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 in engine room  
on main 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 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.

W. H. Johnson

Electrical Engineers

Date March 13<sup>th</sup> 1916

**COMPASSES.**

Distance between dynamo or electric motors and standard compass about 40 ft

Distance between dynamo or electric motors and steering compass " "

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
1	2	2	
A cable carrying	Amperes	feet from standard compass	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 any course in the case of the standard compass and nil degrees on any course in the case of the steering compass.

J. H. Cochrane

Builder's Signature.

Date

March 15<sup>th</sup> 1916

**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 SECOND. Elec. light.

J. H. Cochrane 1916

Frank L. Stanger

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

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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