

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 6979.

Port of Belfast Date of First Survey 14th March Date of Last Survey 12th Aug 1911 No. of Visits 16
 No. in Reg. Book 7.8.8. on the Iron or Steel Extra Port belonging to Glasgow
 Built at Belfast By whom Northman Clark & Co. Ltd When built 1911
 Owners British India Steam Navigation Co. Ltd Owners' Address London
 Yard No. 307 Electric Light Installation fitted by The Sunderland Dock & Engineering Co. Ltd When fitted 1911

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two Combined plants consisting of Single Cylinder Open Type Engines each direct coupled to Compound wound dynamo.
 Capacity of Dynamo 380 Amperes at 100 Volts, whether continuous or alternating current Continuous
 Where is Dynamo fixed in Thrust recess Whether single or double wire system is used Double
 Position of Main Switch Board Near dynamos having switches to groups Six of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each None fitted.

If cut outs 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 cut outs fitted to both flow and return wires or cables of all circuits including lamp circuits Yes

Are the cut outs of non-oxidizable metal Tin and constructed to fuse at an excess of 100% per cent over the normal current

Are all cut outs 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 cut-outs constructed of incombustible materials and fitted on incombustible bases Yes

Total number of lights provided for 451 arranged in the following groups:—

A	Forward	50	lights each of	16	candle power requiring a total current of	30	Amperes
B	After	98	lights each of	16	candle power requiring a total current of	58.8	Amperes
C	Engine room	78	lights each of	16	candle power requiring a total current of	44.8	Amperes
D	Fans	40	lights each of	-	candle power requiring a total current of	22.8	Amperes
E	Accom.	160	lights each of	16	candle power requiring a total current of	9.8	Amperes
F	Navigation	27	lights each of	16	candle power requiring a total current of	16.3	Amperes
2	Mast head light with	1	lamps each of	32	candle power requiring a total current of	2.4	Amperes
2	Side light with	1	lamps each of	32	candle power requiring a total current of	2.4	Amperes
3	Cargo lights of	8	lights of	16	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 Chartroom.

DESCRIPTION OF CABLES.

Main cable carrying	380	Amperes, comprised of	61	wires, each	13	L.S.G. diameter,	.4	square inches total sectional area
Branch cables carrying	98	Amperes, comprised of	19	wires, each	14	L.S.G. diameter,	.095	square inches total sectional area
Branch cables carrying	22	Amperes, comprised of	7	wires, each	16	L.S.G. diameter,	.022	square inches total sectional area
Leads to lamps carrying	.6	Amperes, comprised of	7	wires, each	23	L.S.G. diameter,	.003	square inches total sectional area
Cargo light cables carrying	4.8	Amperes, comprised of	130	wires, each	30	L.S.G. diameter,	.005	square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

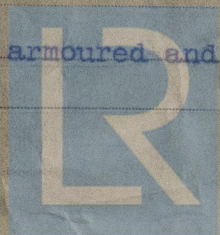
Wire insulated with pure and vulcanised india rubber taped and braided.

Joints in cables, how made, insulated, and protected None used.

Are all the joints of cables thoroughly soldered, resin only having been used as a flux - 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 Through holds, lead covered armoured and braided
 wire used.



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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 Lead covered armoured and braided cables used. ✓

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat L.C.A. & Braided cables used. ✓

What special protection has been provided for the cables near boiler casings Lead covered armoured and Braided cables used. ✓

What special protection has been provided for the cables in engine room Lead covered armoured and braided cables used. ✓

How are cables carried through beams Holes bushed with fibre ✓ through bulkheads, &c. Watertight glands used ✓

How are cables carried through decks Watertight Deck tubes used. ✓

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 ✓
Lead covered armoured and Braided cables used. ✓

If so, how are they protected

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

If so, how are the lamp fittings and cable terminals specially protected With cast iron covers. ✓
in Engine room.

Where are the main switches and cut outs for these lights fitted

If in the spaces, how are they specially protected -

Are any switches or cut outs 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 -

The installation is supplied with a 2 rollmeter and 2 ✓ an amperemeter fixed on Switchboard. ✓

VESSELS BUILT FOR CARRYING PETROLEUM.

In vessels built for carrying petroleum, are all switches and cut-outs fitted in positions not liable to the accumulation of petroleum vapour or gas ✓

Are any switches, cut outs, 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 100 ✓ per cent. that of pure copper.

Insulation of cables is guaranteed to have a resistance of not less than 600 ✓ megohms per statute mile after 24 hours' immersion in seawater.

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 NETHERLANDS FORCE & ENGINEERING CO., LTD.

Electrical Engineers

Date 15th August, 1911.

COMPASSES.

Distance between dynamo or electric motors and standard compass 150 feet.

Distance between dynamo or electric motors and steering compass 150 feet.

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<u>16.3</u>	<u>12</u>	<u>12</u>	<u>12</u>
<u>.6</u>	<u>on</u>	<u>on</u>	<u>on</u>
<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>

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.

THE WORKMAN CLARK & CO., LIMITED.

W. P. P. P.

SECRETARY.

Builder's Signature.

Date 21 Aug 1911

GENERAL REMARKS.

The installation has been well fitted, and ran well on trial.

It is submitted that this vessel is eligible for THE RECORD, Etec. light.

A. J. Thomas.

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

Committee's Minute



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THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.