

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 5-323

Port of *Belfast* Date of First Survey *March 9th 1901* Date of Last Survey *August 20th 1901* of Visits *21*
 No. in *106* on the Iron or Steel *SS Philadelphia (ex. Paris)* Port belonging to *New York*
 Reg. Book *106* Built at *Glasgow* By whom *J. G. Thomson* When built *1889-8*
 Owners *The International Navigation Co.* Owners' Address *New York*
 Yard No. *1* Electric Light Installation fitted by *W. H. Allen & Co. Ltd.* When fitted *1901*

DESCRIPTION OF DYNAMO, ENGINE, ETC.

4-pole dynamo direct coupled on same shaft to high speed open type double acting engine of electric & dynamo ex. marks.

Capacity of Dynamo *1350* Amperes at *102* Volts, whether continuous or alternating current *Continuous*

Where is Dynamo fixed *2 in each thrust room*

Position of Main Switch Board *over thrust rooms* having switches to groups *I to XXII* of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each *1 Engine Rm Entrance port. Mast 4 switches, 2 Saloon Entrance port 12 switches each, 1 First Stateroom Entrance 4 switches, 1 2nd Saloon Entrance 5 switches, 1 at 1st Stateroom Entrance 10 switches*

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 *yes* and constructed to fuse at an excess of *50* 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 *1301* arranged in the following groups:—

A	Masthead	160	lights each of	16	candle power requiring a total current of	36	Amperes	
		160	lights each of	"	candle power requiring a total current of	98.4	Amperes	
		141	lights each of	"	candle power requiring a total current of	37.2	Amperes	
		87	lights each of	"	candle power requiring a total current of	84.6	Amperes	
		42	lights each of	"	candle power requiring a total current of	41.4	Amperes	
C	Masthead	85	lights each of	"	candle power requiring a total current of	25.2	Amperes	
		76	lights each of	"	candle power requiring a total current of	51.0	Amperes	
D	Masthead	82	lights each of	"	candle power requiring a total current of	45.6	Amperes	
		82	lights each of	"	candle power requiring a total current of	40.8	Amperes	
E	Masthead	82	lights each of	"	candle power requiring a total current of	49.2	Amperes	
		82	lights each of	"	candle power requiring a total current of	45.2	Amperes	
2 Mast head light with		1	lamps each of	32	candle power requiring a total current of	48	2 Amperes	
2 Side light with		1	lamps each of	32	candle power requiring a total current of	51.6	4 Amperes	
10 Cargo lights of		128	candle power, whether incandescent or arc lights				incandescent	

If are lights, what protection is provided against fire, sparks, &c. *yes*

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

DESCRIPTION OF CABLES.

Main cable carrying *350* Amperes, comprised of *61* wires, each *12* L.S.G. diameter, *.532* square inches total sectional area
 Branch cables carrying *90* Amperes, comprised of *19* wires, each *14* L.S.G. diameter, *.0974* square inches total sectional area
 Branch cables carrying *60* Amperes, comprised of *19* wires, each *16* L.S.G. diameter, *.0624* square inches total sectional area
 Leads to lamps carrying *4* Amperes, comprised of *7* wires, each *22* L.S.G. diameter, *.0043* square inches total sectional area
 Cargo light cables carrying *6* Amperes, comprised of *1* wires, each *18* L.S.G. diameter, *.00120* square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

pure para rubber vulcanized tapes & ext. covering of braiding

Joints in cables, how made, insulated, and protected *All joints soldered with resin flux & protected by layers of pure Para rubber tape, felt tape & Ojokute tape & finally painted with shellac varnish*

Are all the joints of cables thoroughly soldered, resin only having been used as a flux *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 *Wood casing, thro' floor timber hole in beam & W.I. flange thro' W.I. bulkhead*

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 cover were in exposed place.*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *Lead & Am^l wire.*

What special protection has been provided for the cables near boiler casings *Lead & Am^l wire.*

What special protection has been provided for the cables in engine room *Lead & Am^l wire.*

How are cables carried through beams *Bushes hole in beam through bulkheads, &c. W.P. frame.*

How are cables carried through decks *J.I. bushes deck take 14" above deck.*

Are any cables run through coal bunkers *Yes* or cargo spaces *No* or spaces which may be used for carrying cargo, stores, or baggage *No.*

If so, how are they protected *Wire in coal bunker lead in special lead casing.*

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

If so, how are the lamp fittings and cable terminals specially protected *Fittings protected by cast iron covers.*

Where are the main switches and cut outs for these lights fitted *In Engine Room.*

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 *4 inch plate over bulkhead.*

How are the returns from the lamps connected to the hull *by 3/8" dia. Brass Earth screws.*

Are all the joints with the hull in accessible positions *Yes.*

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 installation is supplied with *ammeter* and *ammeter* an ammeter, fixed *on bulkhead*

The copper used is guaranteed to have a conductivity of *100* per cent. that of pure copper. *(Matheson's Standard)*

Insulation of cables is guaranteed to have a resistance of not less than *2500* 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.

For W. H. ALLEN, SON & CO. LTD

Electrical Engineers

Date *Sept 26/01*

COMPASSES.

Distance between dynamo or electric motors and standard compass

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
60	36	35	35
35	17	16	16
60	29	28	28

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.

GENERAL REMARKS.

This installation is of good description throughout and has been fitted in accordance with the Rules

Builder's Signature. Date *27 Sept 1901*

R. J. Pennington

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

Committee's Minute

It is submitted that this installation appears to meet the Rule requirements.

H.S.
11.10.01

LR-FAF-TB4-10

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.