

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 6482

Port of *Belfast* Date of First Survey *March 7th* Date of Last Survey *June 3rd* No. of Visits *25*
 No. in Reg. Book *on the Iron or Steel* *T.S. Rotterdam* Port belonging to *Rotterdam*
 Built at *Belfast* By whom *Hauland & Wolff* When built *1908*
 Owners *Holland American Line* Owners' Address *Holland*
 Yard No. *390* Electric Light Installation fitted by *W.H. Allen Can Bay L^d* When fitted *1908*

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Four 110 kilowatt dynamos direct coupled to four engines of cylinder dimensions 14" and 22" by 13" stroke, running at 100 revolutions per minute.

Capacity of Dynamo *1000* Amperes at *110* Volts, whether continuous or alternating current *continuous*

Where ~~are~~ *are* Dynamos fixed *In extension of thrust recess in engine room, 2 Port + 2 Starboard* Whether single or double wire system is used *Single*

Position of Main Switch Board *amidships, in thrust recess* having switches to groups *as per supplementary sheet* lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each

No auxiliary switchboards 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 *Yes* 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 *Equivalent of 5.409* arranged in ~~the following~~ groups *as per supplementary sheet attached*

A	lights each of	candle power requiring a total current of	Amperes
B	lights each of	candle power requiring a total current of	Amperes
C	lights each of	candle power requiring a total current of	Amperes
D	lights each of	candle power requiring a total current of	Amperes
E	lights each of	candle power requiring a total current of	Amperes
2	Mast head lights with 1 lamp each of 32	candle power requiring a total current of	2.2 Amperes
2	Side lights with 1 lamp each of 32	candle power requiring a total current of	2.2 Amperes
9	Cargo lights of clusters of 6 lamps of 16	candle power, whether incandescent or arc lights	<i>Incandescent</i>

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

Where are the switches controlling the masthead and side lights placed *In wheelhouse on Bridge*

DESCRIPTION OF CABLES.

Main cable carrying *1000* Amperes, comprised of *127* wires, each *.101* L.S.G. diameter, *1* square inch total sectional area

Branch cables carrying *245* Amperes, comprised of *61* wires, each *.15* L.S.G. diameter, *.258* square inches total sectional area

Branch cables carrying *88* Amperes, comprised of *19* wires, each *.14* L.S.G. diameter, *.097* square inches total sectional area

Leads to lamps carrying *2.75* Amperes, comprised of *1* wires, each *.16* L.S.G. diameter, *.0032* square inches total sectional area

Cargo light cables carrying *3.3* Amperes, comprised of *145* wires, each *.38* L.S.G. diameter, *.0041* square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

The conductor is coated with pure rubber, and then with two coats vulcanizing rubber, taped and the whole vulcanised together and finished off with braiding, lead or galvanised wire armouring according to the position in which it is to be used.

Joints in cables, how made, insulated, and protected *By splicing and soldering the conductor coating with pure rubber tape up to thickness of original insulation, and finishing off with two layers of asphalt or Blackley tape the whole being coated with damp-proof 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 *In strong wood casing*



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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 sheathing externally braided

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Lead sheathing and armour

What special protection has been provided for the cables near boiler casings Lead sheathing and armour

What special protection has been provided for the cables in engine room " " " "

How are cables carried through beams Through fibre ferrules through bulkheads, &c. through ferrules or glands

How are cables carried through decks Through deck pipes

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 In bunkers by enclosing in galvanised iron piping

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

If so, how are the lamp fittings and cable terminals specially protected By enclosing in strong cast iron fittings with covers

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

If in the spaces, how are they specially protected None in spaces

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 By large gunmetal flange bolted to Bulkhead

How are the returns from the lamps connected to the hull By soldering to tinned brass screws tapped into beams in deck

Are all the joints with the hull in accessible positions Yes

The installation is _____ supplied with 2 voltmeters and _____ amperemeters fixed on switch board

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 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.

J. W. Carrington

Electrical Engineers

Date 22nd June 1908

COMPASSES.

Distance between dynamo or electric motors and standard compass Dynamo 244' - nearest motor #1 35 feet

Distance between dynamo or electric motors and steering compass " 244' 266" feet #2 57 feet

The nearest cables to the compasses are as follows:— All being double wires

Cable	Amperes	Feet from standard compass	Feet from steering compass
A cable carrying <u>41</u>	<u>15</u>	<u>13</u>	<u>feet from steering compass</u>
A cable carrying <u>12</u>	<u>18</u>	<u>10</u>	<u>feet from steering compass</u>
A cable carrying <u>29</u>	<u>52</u>	<u>48</u>	<u>feet from steering compass</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 every course in the case of the standard compass and nil degrees on every course in the case of the steering compass.

For Harland & Wolff Ltd

Builder's Signature.

Date _____

GENERAL REMARKS.

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

It is submitted that this vessel is eligible for the record "Electric Light"
APR 27.08

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

Committee's Minute _____

SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

