

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 5192

Port of *Belfast* Date of first Survey *4th Sep* Date of Last Survey *20th Sep* No. of Visits *5*  
 No. in Reg. Book *on the S.S. Camolus* Port belonging to *Liverpool*  
 Built at *Belfast* By whom *McKean & Co. & Co.* When built *1880*  
 Owners *Lampson & Co.* Owner's Address *Liverpool*  
 Yard No. *168* Electric Light Installation fitted by *Paul & Sons. London* When fitted *1900*

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

*Combined plant, open fronted engine piston valve, flywheel governor with central lubricator, continuous current 2 pole dynamo*

Capacity of Dynamo *12500 watts* at *110* Volts, whether continuous or alternating current *continuous*

Where is Dynamo fixed *Starting platform main engine room*

Position of Main Switch Board *ditto* having switches to groups in *4 main circuits* lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each *Auxiliary board midplatform p. engine room circuits & large distribution switch & fuse board for 7 heavy & 2 light circuits all DP fuses*

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 *all main fuses with copper ends & branch of No 20 fuse wire* 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 *instructions to Engineer*

Are all switches and cut-outs constructed of incombustible materials and fitted on incombustible bases *enamelled plate & porcelain*

Total number of lights provided for *140* arranged in the following groups:—

Group	No. of lights	Candle power	Current (Amperes)
A	30	87 16	about 12
B	37	8 16 732	20
C	32	16 732	30
D	16	8 16	9
E	5	8 16 732	35 4

1 Mast head light with 1 lamps each of 32 candle power requiring a total current of 1 Amperes

2 Side lights with 1 lamps each of 32 candle power requiring a total current of 2 Amperes

6 Cargo lights of 4 lamp each 32 candle power, whether incandescent or arc lights *Incandescent*

If arc lights, what protection is provided against fire, sparks, &c. *No arcs used*

Where are the switches controlling the masthead and side lights placed *All in bridge wheel house*

## DESCRIPTION OF CABLES.

Main cable carrying *905/100* amperes, comprised of *19* wires, each *13* L.S.G. diameter, *.126* square inches total sectional area

Branch cables carrying *all 30* Amperes, comprised of *7* wires, each *14* L.S.G. diameter, *.035* square inches total sectional area

Branch cables carrying *20* Amperes, comprised of *7* wires, each *16* L.S.G. diameter, *.022* square inches total sectional area

Leads to lamps carrying *20* Amperes, comprised of *7* wires, each *16* L.S.G. diameter, *.022* square inches total sectional area

Cargo light cables carrying *all 4* Amperes, comprised of *172* wires, each *38* L.S.G. diameter, *.004* square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC. *Ordinary wiring — all wires insulated with pure rubber, vulcanized & taped & braided*

*Armoured wiring. — All armoured wires are taped over pure & vulcanized rubber surrounded with jute & galvanized steel or iron close spiral armour*

Joints in cables, how made, insulated, and protected *Scarcely any in ship nearly all at fuse boards*

*All joints soldered, resin only used, pure I.R. strip & solution & prepared tape*

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 *joints in hold but well protected. No wires at all in bunkers*

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 *Armoured except in cabins & rooms*



DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible yes, except when cargo is in holds where they are run in grooves in spanning  
What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture

Armoured  
What special protection has been provided for the cables near galleys or oil lamps or other sources of heat No wires in extra hot places

What special protection has been provided for the cables near boiler casings Armoured

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

How are cables carried through beams Armoured, where a dummy wire through bulkheads, &c. ditto ditto

How are cables carried through decks Through long dectubes filled at ends with red lead

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 Armoured wires

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage yes in holds & tween decks fitted with special cast iron shutters

If so, how are the lamp fittings and cable terminals specially protected special C.I. shutters

Where are the main switches and cut outs for these lights fitted In engine room & on small switch at each light

If in the spaces, how are they specially protected see above

Are any switches or cut outs fitted in bunkers only in cross bunker, a really hold used as temporary bunker

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

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 a voltmeter and also with an amperemeter fixed at main switch board in engine room

The copper used is guaranteed to have a conductivity of 98 to 100 per cent. that of pure copper.

Insulation of cables is guaranteed to have a resistance of not less than 1200 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.

Bartholomew Electrical Engineers

Date Oct 18/1900

COMPASSES.

Distance between dynamo or electric motors and standard compass 30 to 40 feet

Distance between dynamo or electric motors and steering compass do

The nearest cables to the compasses are as follows:—

A cable carrying about 5 Amperes about 10 to 12 feet from standard compass about 10 feet from steering compass

A cable carrying 1/2 Amperes 60 feet from standard compass " 9 feet from steering compass

A cable carrying 1/3 Amperes 6 to 7 feet from standard compass on binacles of 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 inappreciable in the case of the standard compass and inappreciable in the case of the steering compass.

Builder's Signature.

Date 10/11/00

GENERAL REMARKS.

This installation appears to be of good description, and has been fitted in accordance with the Rules.

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.

Lloyd's Register  
2.11.00  
Foundry  
BEL 70-0174

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.