

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 5192

Port of Belfast Date of first Survey 4<sup>th</sup> Sep Date of Last Survey 20<sup>th</sup> Sep No. of Visits 5  
 No. in Reg. Book on the S.S. Camolin Steel Belfast Port belonging to Liverpool  
 Built at Belfast By whom Worham Clark & Co When built 1900  
 Owners Lampson & Co Owner's Address Liverpool  
 Yard No. 168 Electric Light Installation fitted by Paulow Bros. 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 mid platform 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 dimension 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:—

Approach	A	30	lights each of	8+16	candle power requiring a total current of	about 12	Amperes	
	B	37	lights each of	8 16 + 32	candle power requiring a total current of	" 20	Amperes	
	C	32	lights each of	16+32	candle power requiring a total current of	" 30	Amperes	
	D	16	lights each of	8+16	candle power requiring a total current of	" 9	Amperes	
	E	5	lights each of	8-16+32	candle power requiring a total current of	" 3 to 4	Amperes	
	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	<u>Incandescent</u>	

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 90 to 100 amperes, comprised of 19 wires, each 13 L.S.G. diameter, .126 square inches total sectional area

Branch cables carrying abt. 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 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 sparring

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 galley 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 is used 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 under shelter of shutters & have metal covers

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

Are any switches or cut outs fitted in bunkers only in cross bunker, or 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 on 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.

Barlow & Co. Ltd. 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 binnacle 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. J. M. Forster Date 18/10/00 SECRETARY

**GENERAL REMARKS.**

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

R. J. Overalls  
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.

250 ohm  
Lat



Lloyd's Register  
2.11.00  
Foundry BEL 70-0174

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.