

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 27811.

Port of Glasgow Date of First Survey 3<sup>rd</sup> Dec/08 Date of Last Survey 26<sup>th</sup> Mar/09 No. of Visits 23  
 No. in on the Iron or Steel R. M. L. "Otway" Port belonging to GLASGOW  
 g. Book Sup. Built at GOVAN By whom FAIRFIELD SHIPBUILDING & ENGINEERING CO. LTD. When built 1903  
 Owners ORIENT STEAM NAVIGATION CO. LTD. Owners' Address 13 FENCHURCH AVENUE LONDON E.C.  
 Ord No. 459 Electric Light Installation fitted by FAIRFIELD SHIPBUILDING & ENGINEERING CO. LTD. When fitted 1903

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

4 DYNAMOS DIRECT COUPLED TO COMPOUND ENCLOSED ENGINES, MADE BY MESSRS. ALLEN, SON & CO.  
BEDFORD. DYNAMOS COMPOUND MOUND  
 Capacity of Dynamo 735 Amperes at 102 Volts, whether continuous or alternating current CONTINUOUS  
 Where is Dynamo fixed ENGINE ROOM Whether single or double wire system is used DOUBLE  
 Position of Main Switch Board ENGINE ROOM having switches to groups 15 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 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 NO  
 Are all switches and cut-outs constructed of incombustible materials and fitted on incombustible bases YES

Total number of lights provided for 1553 arranged in the following groups:—  

PORT FORD DAY CIRCUIT	228	16	136.8	
" " NIGHT "	116	"	68.4	
A " ORDINARY "	72	"	40.2	Amperes
STB FORD DAY	207	"	124.2	
" " NIGHT "	124	"	74.4	
B " ORDINARY "	72	"	40.2	Amperes
PORT AFT DAY	163	"	101.4	
" " NIGHT "	103	"	65.4	
C " ORDINARY "	27	"	16.2	Amperes
STB AFT DAY	144	"	86.4	
" " NIGHT "	122	"	73.2	
D " ORDINARY "	27	"	16.2	Amperes
ENGINE ROOM LIGHTING	75 - 16 C.P. 2 6 - 50	"	57	
STOREHOUSE PORT CIRCUIT	28 - 16 C.P. 5 - 50	"	30.6	
" " STB "	15 - 16 C.P. 5 - 50	"	19	Amperes
2 Mast head light with 1 lamps each of	32	"	2.2	Amperes
2 Side light with 1 lamps each of	32	"	2.2	Amperes
108 Cargo lights of	32	"		candle power, whether incandescent or arc lights INCANDESCENT & 3 ARC LAMPS

If arc lights, what protection is provided against fire, sparks, &c. INNER & OUTER GLOBE

Where are the switches controlling the masthead and side lights placed CHART HOUSE

## DESCRIPTION OF CABLES.

Main cable carrying 735 Amperes, comprised of 31 wires, each 12 L.S.G. diameter, .800 square inches total sectional area  
 Branch cables carrying 72 Amperes, comprised of 19 wires, each 14 L.S.G. diameter, .093 square inches total sectional area  
 Branch cables carrying 212 Amperes, comprised of 37 wires, each 13 L.S.G. diameter, .250 square inches total sectional area  
 Leads to lamps carrying .6 Amperes, comprised of 1 wires, each 18 L.S.G. diameter, .0018 square inches total sectional area  
 Cargo light cables carrying 6.6 Amperes, comprised of 7 wires, each 18 L.S.G. diameter, .012 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

RUBBER INSULATED, BRAIDED, AND COMPOUNDED AND RUN IN GROOVED WOOD CASINGS

Joints in cables, how made, insulated, and protected NONE

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 GROOVED 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 STEEL ARMoured

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat GROOVED TEAKWOOD CASING

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

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

How are cables carried through beams FIBRE BUSHES through bulkheads, &c. WATERTIGHT GLANDS

How are cables carried through decks WATERTIGHT DECK TUBES

Are any cables run through coal bunkers NO or cargo spaces NO or spaces which may be used for carrying cargo, stores, or baggage NO

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 NO

If so, how are the lamp fittings and cable terminals specially protected

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 voltmeter and an amperemeter, fixed ON MAIN 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 98% 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.

(Builders) Electrical Engineers Date

COMPASSES.

Distance between dynamo or electric motors and standard compass 220 FEET

Distance between dynamo or electric motors and steering compass 212 FEET

The nearest cables to the compasses are as follows:—

A cable carrying	<u>10.8</u>	Amperes	<u>6 FEET</u>	feet from standard compass	<u>8 FEET</u>	feet from steering compass
A cable carrying	<u>6</u>	Amperes	<u>FITTED ON COMPASS</u>	feet from standard compass		feet from steering compass
A cable carrying		Amperes		feet from standard compass		feet from steering compass

Have the compasses been adjusted with and without the electric installation at work at full power NO

The maximum deviation due to electric currents, etc., was found to be degrees on course in the case of the standard compass and degrees on course in the case of the steering compass.

Builder's Signature. Date 22<sup>nd</sup> May 1909

GENERAL REMARKS. The Electric Lighting of this vessel has been satisfactorily carried out.

H Gardner-Smith  
Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute GLASGOW 8 JUN. 1909

Elec. Light.

It is submitted that the Record Elec. Light be noted in the Reg. Books.

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THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.