

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 20943

Port of Sunderland Date of First Survey  Date of Last Survey 7th May 02 No. of Visits   
 No. in Reg. Book on the S.S. "Anglo Saxon" Steel Port belonging to London  
 Built at Sunderland By whom Short Bros Ltd When built 1902  
 Owners Nitrate Producers Steam Shpg. Co. Ltd. Owners' Address Bilston Bridge, London E.C.  
 Yard No. 304 Electric Light Installation fitted by The Island Forge & Engineering Co. Ltd When fitted 1902

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

Compound Wound six pole dynamo coupled direct to 8 hp 7/8 inverted open type engine  
 Capacity of Dynamo 90 Amperes at 100 Volts, whether continuous or alternating current continuous  
 Where is Dynamo fixed In engine Room  
 Position of Main Switch Board near dynamo having switches to groups three of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each —

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 100 arranged in the following groups:—  
 A 25 lights each of 16 candle power requiring a total current of 15 Amperes  
 B 35 lights each of 16 candle power requiring a total current of 27 Amperes  
 C 4 lights each of 16 candle power requiring a total current of 20.4 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 light with 1 lamps each of 32 candle power requiring a total current of 2.4 Amperes  
2 Side light with 1 lamps each of 32 candle power requiring a total current of 2.4 Amperes  
5 Cargo lights of 6 1/6 lamps each candle power, whether incandescent or arc lights incandescent  
 If are lights, what protection is provided against fire, sparks, &c.

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

## DESCRIPTION OF CABLES.

Main cable carrying 90 Amperes, comprised of 19 wires, each 14 L.S.G. diameter, .095 square inches total sectional area  
 Branch cables carrying 24 Amperes, comprised of 7 wires, each 16 L.S.G. diameter, .024 square inches total sectional area  
 Branch cables carrying 11 Amperes, comprised of 7 wires, each 18 L.S.G. diameter, .013 square inches total sectional area  
 Leads to lamps carrying .6 Amperes, comprised of 1 wires, each 18 L.S.G. diameter, .007 square inches total sectional area  
 Cargo light cables carrying 3.8 Amperes, comprised of 130 wires, each 30 L.S.G. diameter, .005 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Cables consist of pure copper wire tinned and insulated with pure + vulcanizing India Rubber Paper + lead cover  
 Joints in cables, how made, insulated, and protected Wiring carried out without joints on the Distribution System

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 —  
 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 Lead covered and armoured cables are clipped up to under side of shelter deck



**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 *L.C. & A Wm used*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *L.C. & A Wm used*

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

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

How are cables carried through beams *Holes bunched in L.C. Wms* through bulkheads, &c. *W.T. Glonds used*

How are cables carried through decks *thru W.T. Deck Lubes*

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

If so, how are they protected *L.C. & A Wm used*

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 *-*

**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* *-* an amperemeter, fixed *on Switchboard*

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 *2000* 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 the Island Forge & Engineering Co. Ltd. Electrical Engineers *H. Wright* Date *18.6.02*

**COMPASSES.**

Distance between dynamo or electric motors and standard compass *100*

Distance between dynamo or electric motors and steering compass *100*

The nearest cables to the compasses are as follows:—

A cable carrying <i>5</i>	Amperes <i>8</i>	feet from standard compass <i>5</i>	feet from steering compass <i>5</i>
A cable carrying <i>6</i>	Amperes <i>m</i>	feet from standard compass <i>m</i>	feet from steering compass <i>m</i>
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 *-*

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.

FOR **SHORT BROTHERS, LIMITED**  
*Joseph Short* Builder's Signature. Date *17th June 1902*

**GENERAL REMARKS.**

*MANAGING DIRECTOR*

*This installation as far as can be seen appears to be in accordance with the requirements of the Rules.*

*Pat R Salmon*  
 Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute *It is submitted that this installation appears to meet the requirements of the Rules.*

*25.6.02*

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

REPORT FORM No. 1.