

REPORT ON ELECTRIC LIGHTING INSTALLATION. No 6250

Port of Antwerp Date of First Survey 11-10 Date of Last Survey 17-10 No. of Visits 4
 No. in Reg. Book 383 on the Iron or Steel S/S Benarty Port belonging to Leith
 Built at Sunderland By whom Barham & sons When built 1902
 Owners Messrs H. Thomson & Sons Owners' Address Leith
 Yard No. 187 Electric Light Installation fitted by The Sunderland Forge & Eng Co When fitted 1904

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Inverted single cylinder open type engine direct coupled to
Multipolar compound four pole dynamo

Capacity of Dynamo 100 Amperes at 100 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed in valve recess in engine room

Position of Main Switch Board near dynamo having switches to groups four of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each

1 in chart room 3 switches, 1 in mess room (1 switch)

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 136 arranged in the following groups:—

Group	Number of Lights	Each of	Candle Power	Requiring a total current of	Amperes
A	45	16		27	
B	42	16		25.2	
C	43	16		28.8	
D	2	3000		15	
E					

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

9 Cargo lights of five — 16 candle power whether incandescent or are lights Incandescent

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

Strong glazed lanterns fitted (2 arc lights)

Where are the switches controlling the masthead and side lights placed In Chart Room.

DESCRIPTION OF CABLES.

Cable Type	Amperes	Comprised of	Wires	Each	L.S.G. diameter	Square inches total sectional area
Main cable carrying	100	19	14		.1	
Branch cables carrying	13	7	18		.073	
Branch cables carrying	7	7	20		.007	
Leads to lamps carrying	6	1	18		.001	
Cargo light cables carrying	3	138	30		.005	

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Wires insulated with pure and vulcanized India rubber, taped and lead covered. Armoured where required.

Joints in cables, how made, insulated, and protected No joints used wiring carried out on the distribution system.

Are all the joints of cables thoroughly soldered, resin only having been used as a flux — 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 Main cables are run along bulwarks fore and aft — lead covered and armoured wires being used.

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 covered and armoured wire used.*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *do*

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

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

How are cables carried through beams *holes bushed for lead covered wires through bulkheads, &c. M.D. Glands used.*

How are cables carried through decks *Manulight deck tubes used.*

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

If so, how are they protected *lead covered and armoured wires used.*

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

If so, how are the lamp fittings and cable terminals specially protected *no*

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 *—*

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 *supplied with a voltmeter and an ammeter, 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 *600* 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.

THE SUNDERLAND FORK & ENGINEERING CO., LTD.

Myman & Co. Electrical Engineers

Date *17/ Oct 1904*

COMPASSES.

Distance between dynamo or electric motors and standard compass *80 feet*

Distance between dynamo or electric motors and steering compass *80 do*

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	on	feet from standard compass	on	feet from steering compass
<i>6</i>	<i>on</i>	<i>on</i>	<i>on</i>	<i>on</i>	<i>on</i>
<i>5</i>	<i>4</i>	<i>4</i>	<i>4</i>	<i>4</i>	<i>4</i>
<i>5</i>	<i>4</i>	<i>4</i>	<i>4</i>	<i>4</i>	<i>4</i>

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

GENERAL REMARKS:

The fittings & workmanship are good in accordance with the Rules. The Compasses will it is stated be adjusted on the voyage to London. There is no deviation, in my opinion, & I have the record of "Electric Light" recorded in the Register Book.

Fee: £53.10 Applied for Received 25/10/04. P.C.

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

Committee's Minute

It is submitted that this installation appears to be satisfactory.

Lloyd's Register Foundation

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.