Rpt. 13.

Received at London Office 18

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 18447.

Port of Sunderland Date of First Survey " Date of Last Survey 1st Sept 96 No. of Visits 1

No. in Reg. Book ✓ ~~on the Iron~~ or Steel S.S. "Karung" Port belonging to London.

Built at Sunderland By whom Sunderland S.B. Co. Ltd When built 1896.

Owners William Lund Owners Address 3 East India Av. London.

Yard No. 186 Electric Light Installation fitted by H. Binko & Co. When fitted 1896

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Engine & Dynamo on one bed-plate and direct working.

Capacity of Dynamo 160 Amperes at 105 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 — 239 — ~~of~~ lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each Forecastle (3), Refrigerating Engine Rm. (3), Pantry (5) Store Room (4), Mess Rm. (1), Chief Officers Cabin (1), Carpenters Cabin (3) Aft (6)

If cut outs are fitted on main switch board to the cables of main circuit yes and on each auxiliary switch boards 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 —.

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 instructions provided.

Are all switches and cut-outs constructed of incombustible materials and fitted on incombustible bases yes.

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

A	25	lights each of	16	candle power requiring a total current of	15·0	Amperes
B	45	lights each of	16	candle power requiring a total current of	27·6	Amperes
C	60	lights each of	16	candle power requiring a total current of	36·0	Amperes
D	45	lights each of	16	candle power requiring a total current of	27·6	Amperes
E	60	lights each of	16	candle power requiring a total current of	36·0	Amperes
1	Mast head light with 1	lamps each of	16 c.p.	candle power requiring a total current of	0·6	Amperes
2	Side light with 1	lamps each of	16 c.p.	candle power requiring a total current of	1·2	Amperes
4	Cargo lights of 4	lamps each of	32	candle power, whether incandescent ~~or arc lights~~	incandescent	

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

Where are the switches controlling the masthead and side lights placed in protected positions.

DESCRIPTION OF CABLES.

Main cable carrying	200	Amperes, comprised of	19	wires, each	11	L.S.G. diameter, ·205215 square inches total sectional area
Branch cables carrying	80	Amperes, comprised of	19	wires, each	15	L.S.G. diameter, ·079603 square inches total sectional area
Branch cables carrying	60	Amperes, comprised of	19	wires, each	16	L.S.G. diameter, ·062467 square inches total sectional area
Leads to lamps carrying	1·5	Amperes, comprised of	1	wires, each	18	L.S.G. diameter, ·001843 square inches total sectional area
Cargo light cables carrying	9	Amperes, comprised of	19	wires, each	23	L.S.G. diameter, ·008747 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Tin'd copper wire 99% pure copper, Vulcanised rubber & braided, & tarred. 2000 megs.

Joints in cables, how made, insulated, and protected in the best possible manner.

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 in Wood casing & capping (painted)

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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 lead covered.

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat no lights near heat.

What special protection has been provided for the cables near boiler casings no lights near boilers.

What special protection has been provided for the cables in engine room lead covered.

How are cables carried through beams through insulated tubes. *through bulkheads, &c.* Ditto.

How are cables carried through decks through long deck pipes with nuts & washers top & bottom of decks.

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

If so, how are they protected all lead covered wire & cable

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage only portable lamps from other

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

Where are the main switches and cut outs for these lights fitted in protected positions.

If in the spaces, how are they specially protected —

Are any switches or cut outs fitted in bunkers no.

Cargo light whether portable or permanently fixed portable *How fixed* —

~~*In the single wire system, how is the dynamo terminal fixed to the hull of vessel*~~

~~*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 Main Switch board.

The copper used is guaranteed to have a conductivity of — 99 — 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.

H. Birch & Co Electrical Engineers Date 15th Sep. 96.

COMPASSES.

Distance between dynamo or electric motors and standard compass Compass on bridge *Distance between dynamo or electric motors and steering compass* do

dynamo in engine room do

The nearest cables to the compasses are as follows:—

A cable carrying .65	*Amperes*	1	*feet from standard compass*	1	*feet from steering compass*
A cable carrying 3	*Amperes*	8	*feet from standard compass*	8	*feet from steering compass*
A cable carrying 4	*Amperes*	12	*feet from standard compass*	12	*feet from 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 0 *degrees on* all *course in the case of the standard compass and* 0 *degrees on* all *course in the case of the steering compass.*

FOR THE SUNDERLAND SHIPBUILDING Co LD. SECRETARY.

Builder's Signature Date Sept 21/96

GENERAL REMARKS. There are 3 Radiators fixed in Saloon & Smoking room taking a maximum current of 27 Ampéres or 9 Ampéres each but the switching is arranged that only 5 ampéres are used by each Radiator.

As far as can be seen this vessels is fitted in accordance with our Rules. Pat^R Salmon Surveyor to Lloyd's Register of British and Foreign Shipping.

FRI. SEP 25 1896

Committee's Minute

REPORT FORM No. 13

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

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