

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 57466

Port of Newcastle-on-Tyne Date of First Survey 10th Sept. Date of Last Survey 24th Oct. '09 No. of Visits 6

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

Built at Newcastle-on-Tyne By whom Wood Skinner & Co. Ltd. When built 1909

Owners C Rowbatham & Sons Owners' Address 19 St. Dunstan's Hill, London E.C.

Yard No. 103 Electric Light Installation fitted by THE NORTHERN ELECTRICAL ENGINEERING AND PLATING CO. LTD. When fitted 1909

BOROUGH RD., NORTH SHIELDS.

DESCRIPTION OF DYNAMO, ENGINE, ETC.

"Castle" Dynamo, Foster Engine
Compound wound

Capacity of Dynamo 25 Amperes at 80 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed Lower part Engine Room Whether single or double wire system is used Double
(Star Side)

Position of Main Switch Board alongside dynamo having switches to groups 3 main sets of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each On average of two lights per branch switch each branch board fixed as near as possible to each respective light

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-oxidisable metal yes and constructed to fuse at an excess of 25 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, Porcelain & Slate

Total number of lights provided for 44 arranged in the following groups :-

A	<u>6</u> lights each of <u>16</u> candle power requiring a total current of <u>0.2</u> Amperes
B	<u>5</u> lights each of <u>16</u> candle power requiring a total current of <u>0.3</u> Amperes
C	<u>7</u> lights each of <u>16</u> candle power requiring a total current of <u>0.5</u> Amperes
D	<u>8</u> lights each of candle power requiring a total current of Amperes
E	<u>lights each of</u> candle power requiring a total current of Amperes
<u>2</u>	Mast head light with <u>1</u> lamps each of <u>22</u> candle power requiring a total current of <u>2.5</u> Amperes
<u>2</u>	Side light with <u>1</u> lamps each of <u>22</u> candle power requiring a total current of <u>2.5</u> Amperes

1-6ft Cluster Cargo lights of 6 c.p. at 16 c.p. ea. candle power, whether incandescent or arc lights Incandescent

If arc lights, what protection is provided against fire, sparks, &c. No arcs.

Where are the switches controlling the masthead and side lights placed Charthouse

DESCRIPTION OF CABLES.

Main cable carrying <u>24</u> Amperes, comprised of <u>7</u> wires, each <u>15</u> L.S.G. diameter, <u>0.28</u> square inches total sectional area
<u>2</u> Branch cables carrying <u>11.3</u> Amperes, comprised of <u>7</u> wires, each <u>18</u> L.S.G. diameter, <u>0.24</u> square inches total sectional area
<u>1</u> Branch cables carrying <u>6.2</u> Amperes, comprised of <u>7</u> wires, each <u>20</u> L.S.G. diameter, <u>0.07</u> square inches total sectional area
Leads to lamps carrying <u>0.40</u> Amperes, comprised of <u>1</u> wires, each <u>18</u> L.S.G. diameter, <u>0.018</u> square inches total sectional area
Cargo light cables carrying <u>4.2</u> Amperes, comprised of <u>7</u> wires, each <u>2 1/2</u> L.S.G. diameter, <u>0.048</u> square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Pure Rubber Vulcanised Rubber Taped & Braided
Engine Room & Deck: Lead Covered & Armoured & in Gal. I. pipe
Accommodation: - Lead Covered.

Joints in cables, how made, insulated, and protected No joints

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 Gal. Iron pipes.



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002051-002061-0009

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 & Armoured & Pipes*
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 *do* through bulkheads, &c.
How are cables carried through decks *Gal. Iron pipes*
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
Cargo light cables, whether portable or permanently fixed *permanently* 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 *now* supplied with a voltmeter and *with* *Marine type* 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 *not less than 98* per cent. that of pure copper.
Insulation of cables is guaranteed to have a resistance of not less than *1600* 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 NORTHERN ELECTRICAL ENGINEERING AND PLATING CO., LTD.

Thomas Harrison Electrical Engineers Date *19th Nov 09*

COMPASSES.

Distance between dynamo or electric motors and standard compass *Manager*
Distance between dynamo or electric motors and steering compass *80 feet*
The nearest cables to the compasses are as follows:—
A cable carrying *1/2* Amperes *50 p. sp. for compass & running into compass* feet from standard compass feet from steering compass
A cable carrying *✓* Amperes *✓* 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 *Yes*
The maximum deviation due to electric currents, etc., was found to be *not* degrees on *all* course in the case of the standard compass and *nd* degrees on *all* course in the case of the steering compass.

WOOD, SKINNER & Co., LIMITED.

James Skinner Builder's Signature. Date *17th Nov 1909*

GENERAL REMARKS.

Director, This installation has been seen & tested on board and when seen working was satisfactory

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

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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