

REPORT ON ELECTRIC LIGHTING INSTALLATION.

No. 37211

Port of Newcastle on Tyne Date of First Survey 14 July Date of Last Survey 15 Aug No. of Visits 5
 No. in Reg. Book on the Iron or Steel % Trigon Port belonging to
 Built at Newcastle By whom Sir W. G. Armstrong, Whitworth & Co. When built 1898
 Owners Red. Ind. Ind. in Harbours Master's Office Address Amsterdam
 Yard No. 677 Electric Light Installation fitted by Messrs. Blake & Chapman & Co. When fitted August 1898

DESCRIPTION OF DYNAMO, ENGINE, ETC.

One high speed double acting vertical engine coupled direct to a compound wound continuous current dynamo.
 Capacity of Dynamo 140 Amperes at 65 Volts, whether continuous or alternating current continuous
 Where is Dynamo fixed on platform raised two feet above main engine starting platform in
 Position of Main Switch Board on bulkhead close to dynamo having switches to groups A, B, C. engine room
 Positions of auxiliary switch boards and numbers of switches on each each light has its own switch
fixed close to it.

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
 Are all switches and cut-outs constructed of incombustible materials and fitted on incombustible bases yes porcelain & slate.
 Total number of lights provided for 48 arranged in the following groups:—

A	<u>67</u>	lights each of <u>64-16cp, 3-32</u>	candle power requiring a total current of <u>68</u>	Amperes
B	<u>11</u>	lights each of <u>— 16 —</u>	candle power requiring a total current of <u>11</u>	Amperes
C	<u>One Projector 20"</u>	lights each of <u>nominal 16000</u>	candle power requiring a total current of <u>60</u>	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
	<u>1</u>	<u>Mast head light with 2 lamps each of 16</u>	candle power requiring a total current of <u>2</u>	Amperes
	<u>2</u>	<u>Side light with 4 lamps each of 16</u>	candle power requiring a total current of <u>14</u>	Amperes
	<u>2</u>	<u>Cargo lights of 8-16</u>	candle power, whether incandescent or are lights <u>incandescent</u>	

If arc lights, what protection is provided against fire, sparks, &c. 1-15 ampere arc lamp with hexagonal lantern
 Where are the switches controlling the masthead and side lights placed in the chart house.

DESCRIPTION OF CABLES.

Main cable carrying	<u>140</u>	Amperes, comprised of	<u>37</u>	wires, each	<u>15</u>	L.S.G. diameter, <u>.154</u>	square inches total sectional area
Branch cables carrying	<u>68</u>	Amperes, comprised of	<u>19</u>	wires, each	<u>15</u>	L.S.G. diameter, <u>.079</u>	square inches total sectional area
Branch cables carrying	<u>7</u>	Amperes, comprised of	<u>7</u>	wires, each	<u>18</u>	L.S.G. diameter, <u>.018</u>	square inches total sectional area
Leads to lamps carrying	<u>1</u>	Amperes, comprised of	<u>1</u>	wires, each	<u>18</u>	L.S.G. diameter, <u>.0018</u>	square inches total sectional area
Cargo light cables carrying	<u>6</u>	Amperes, comprised of	<u>350, 40</u>	wires, each	<u>.0055, .018</u>	L.S.G. diameter, <u>.012</u>	square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Vulcanized rubber taped & braided, 2000 megohms quality, lead covered in addition in exposed places, & lead covered & armoured in engine & boiler spaces.
 Joints in cables, how made, insulated, and protected no joints, except mechanical ones.

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 in strong casing & capping, also in galvanized iron pipes.

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
laid in galvanized iron pipes.

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat lead covered & armoured

What special protection has been provided for the cables near boiler casings lead covered & armoured

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

How are cables carried through beams in lead or fibre insulators through bulkheads, &c. in glands.

How are cables carried through decks in 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 watertight C.I. Boxes
double wire

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 yes

Are any switches, cut outs, or joints of cables fitted in the pump room or companion no, all fitted outside

How are the lamps specially protected in places liable to the accumulation of vapour or gas all fittings are watertight

The installation is now supplied with a voltmeter and also an amperemeter, fixed on main
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 CLARKE, CHAPMAN & Co. LTD.

Electrical Engineers

Date Sept 23/98

COMPASSES.

Distance between dynamo or electric motors and standard compass 60 feet

Distance between dynamo or electric motors and steering compass 60 feet

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
10	10	8	8
4	9	17	17
2	6	6	6

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 nil degrees on North course in the case of the standard compass and nil degrees on North course in the case of the steering compass.

Builder's Signature.

Date 27/9/98

GENERAL REMARKS.

This installation has been fitted according to the rules in a satisfactory manner.

Harry Clarke

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

Committee's Minute

This installation appears to be fitted in accordance with the Rules

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