

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 28236

Port of NEWCASTLE-ON-TYNE Date of First Survey 27/10/21 Date of Last Survey 16/12/21 No. of Visits 6.
 No. in ~~the~~ Steel "BRITISH JUDGE" Port belonging to London
 Reg. Book Supp 36486 Built at Sunderland By whom Messrs. James Laing Sons & Co. When built 1921
 Owners British Tanker Co. Ltd. Owners' Address London
 Yard No. 679 Electric Light Installation fitted by Sunderland Forge & Eng. Co. Ltd. When fitted 1921.

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two compound plants consisting single cylinder vertical steam engine 100 lbs steam 375 rev. coupled to compound wound multibeta dynamo. Both by S.F.V.E.C.

Capacity of Dynamo 73 Amperes at 110 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed Engine Room - Refrigerating Platform Whether single or double wire system is used double

Position of Main Switch Board Close to Dynamo having switches to groups Six of lights, &c., as below.

Positions of auxiliary switch boards and numbers of switches on each In chart room with switches controlling Port, Starb., Foremast, Mainmast, Stern, Compasses, Telegraphs, & more lamps.

If fuses 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 fuses fitted to both flow and return wires or cables of all circuits including lamp circuits Yes

Are the fuses of non-oxidizable metal Yes and constructed to fuse at an excess of 100 per cent over the normal current

Are all fuses 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 "L.C." type.

Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases Yes

Total number of lights provided for 173 216 90 arranged in the following groups:—

Group	Description	Number of Lights	Candle Power	Current (Amperes)
A	<u>Navigation Deck</u> 100 lights each of <u>16</u> candle power	100	1600	56.00
B	<u>Aft Accom.</u> 39 lights each of <u>"</u> candle power	39	39	21.84
C	<u>Engine Room</u> 20 lights each of <u>"</u> candle power	20	20	11.20
D	<u>Water Room</u> 14 lights each of <u>"</u> candle power	14	14	7.84
E	<u>Cumberland System</u> lights each of <u>-</u> candle power	-	-	-
	<u>2 Mast head lights</u> with <u>1 lamp</u> each of <u>32</u> candle power	2	64	2.24
	<u>2 Side lights</u> with <u>1 lamp</u> each of <u>32</u> candle power	2	64	2.24
	<u>2 Cargo lights</u> of <u>6 - 16</u> candle power, whether incandescent or arc lights <u>Incandescent.</u>	2	12	-

If arc lights, what protection is provided against fire, sparks, &c. None fitted

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

DESCRIPTION OF CABLES.

Main cable carrying 73 Amperes, comprised of 19 wires, each .064 S.W.G. diameter, .06 square inches total sectional area

Branch cables carrying 21.84 Amperes, comprised of 7 wires, each .036 S.W.G. diameter, .007 square inches total sectional area

Branch cables carrying 11.2 Amperes, comprised of 7 wires, each .036 S.W.G. diameter, .007 square inches total sectional area

Leads to lamps carrying .56 Amperes, comprised of 3 wires, each .029 S.W.G. diameter, .002 square inches total sectional area

Cargo light cables carrying 3.36 Amperes, comprised of 3 wires, each .029 S.W.G. diameter, .002 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Mains :- Pure Sulcanized L.R. Taped Sulcanized then Lead Covered Armoured & Braided

Machinery Spaces :- " " " " " "

Accommodation :- " " " " " "

Joints in cables, how made, insulated, and protected None made.

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances - 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 None made.

How are the cables led through the ship, and how protected L.C. & B. cable run in iron pipe

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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 Armoured Braided*

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

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

How are cables carried through beams *Holes lashed with fibre* through bulkheads, &c. *W/T. Glands*

How are cables carried through decks *W/T. Deck Tubes*

Are any cables run through coal bunkers - or cargo spaces - or spaces which may be used for carrying cargo, stores, or baggage *yes*

If so, how are they protected *L. L. A. & B.*

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

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

Where are the main switches and fuses for these lights fitted -

If in the spaces, how are they specially protected -

Are any switches or fuses 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

Is the installation supplied with a voltmeter *Yes*, and with an amperemeter *Yes*, fixed on *Main Deckboard*.

VESSELS BUILT FOR CARRYING PETROLEUM.

In vessels built for carrying petroleum, are all switches and fuses fitted in positions not liable to the accumulation of petroleum vapour or gas *yes*

Are any switches, fuses, or joints of cables fitted in the pump room or companion *no*

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

The copper used is guaranteed to have a conductivity of not less than that of the Engineering Standards Committee's standard, and the wires are protected by tinning from the sulphur compounds present in the insulating material.

Insulation of cables is guaranteed to have a resistance of not less than *2500* megohms per statute mile at 60° Fahrenheit after 24 hours' immersion in water, the test being made after one minute's electrification at not less than 500 volts and while the cable is still immersed.

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.

p. pro. THE SUNDERLAND FORGE & ENGINEERING CO. LTD. Electrical Engineers Date *30th Dec. 1921.*

COMPASSES.

Distance between dynamo or electric motors and standard compass *297 feet*

Distance between dynamo or electric motors and steering compass *293 feet*

The nearest cables to the compasses are as follows:—

A cable carrying	<i>56.00</i> Amperes	<i>10</i> feet from standard compass	<i>7</i> feet from steering compass
A cable carrying	<i>.56</i> Amperes	<i>7</i> feet from standard compass	<i>led into</i> feet from steering compass
A cable carrying	<i>.56</i> Amperes	<i>led into</i> feet from standard compass	<i>7</i> 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 *nil* degrees on *any* course in the case of the standard compass and *nil* degrees on *any* course in the case of the steering compass.

James Lamb & Sons, Limited. Builder's Signature. Date *January 4, 1922*

GENERAL REMARKS. *The above installation is in accordance with the Society's Rules. The vessel is eligible in my opinion for notation electric light, wireless.*

Fee *£ 15.10.0* Applied for *6 JAN 1922*

W. T. Badger & Co. Ltd. Surveyor to Lloyd's Register of Shipping.

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



200.11.20.—Transferor.