

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 5236

Port of MIDDLESBROUGH Date of First Survey 14th Aug Date of Last Survey 10th Sept No. of Visits 6
 No. in Reg. Book on the Iron or Steel SS "Inessa Bond" Port belonging to _____
 Built at Middlesbrough By whom Messrs Hulme & Sons When built 1907
 Owners F. H. Powell & Co Owners' Address Liverpool
 Yard No. 170 Electric Light Installation fitted by Messrs J. H. Hulme & Co. When fitted 1907

DESCRIPTION OF DYNAMO, ENGINE, ETC.

5" x 4" Open type to work at 80 lbs pressure + coupled to
9 3/4 x 5 1/4 basket dynamo compound wound 4000 Revs
 Capacity of Dynamo 35 Amperes at 100 Volts, whether continuous or alternating current continuous
 Where is Dynamo fixed Starting platform
 Position of Main Switch Board near dynamo having switches to groups A, B, C of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each 1 + 3 Way S.P. 5 Amp. position near main board, 1 to 20
in Mess room, 1 + 4 Way S.P. 10 Amp. position top of engine room, 1 to 20 in below passage, 5 Amp. 1 to 20
6 Way in Wheel house, 1 to 20 2 Way starboard side forward
 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 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

Total number of lights provided for 60 arranged in the following groups :-

A	Holds + Engines	26	lights each of	16	candle power requiring a total current of	14.5	Amperes
B	Engines - Engines	15	lights each of	16	candle power requiring a total current of	8.4	Amperes
C	Mastheads	14	lights each of	16	candle power requiring a total current of	10.6	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
2	Mast head lights with	1	lamp each of	32	candle power requiring a total current of	1.1	Amperes
2	Side lights with	1	lamp each of	32	candle power requiring a total current of	1.1	Amperes
2	Cargo lights of	5 + 16	up each	4 + 16	candle power, whether incandescent or are lights	Incandescent	

If are lights, what protection is provided against fire, sparks, &c. _____
 Where are the switches controlling the masthead and side lights placed Wheelhouse

DESCRIPTION OF CABLES.

Main cable carrying 33.5 Amperes, comprised of 19 wires, each 18 L.S.G. diameter, .0018 square inches total sectional area
 Branch cables carrying 14.5 Amperes, comprised of 7 wires, each 17 L.S.G. diameter, .0025 square inches total sectional area
 Branch cables carrying 8.4 Amperes, comprised of 7 wires, each 19 L.S.G. diameter, .0013 square inches total sectional area
 Leads to lamps carrying 5.6 Amperes, comprised of 1 wires, each 18 L.S.G. diameter, .0018 square inches total sectional area
 Cargo light cables carrying 2.8 Amperes, comprised of 3 wires, each 20 L.S.G. diameter, .0010 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Pure Para rubber, vulcanized rubber then taped & banded over all
 Joints in cables, how made, insulated, and protected Installation has been further secured by the use of tape and workmanlike work
 Are all the joints of cables thoroughly soldered, resin only having been used as a flux None 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 Subj. main pipe



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 Announced

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

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

How are cables carried through beams All holes lashed with phi tube through bulkheads, &c. stufing glands

How are cables carried through decks Deck tubes

Are any cables run through coal bunkers No or cargo spaces Yes or spaces which may be used for carrying cargo, stores, or baggage Yes

If so, how are they protected Sub. wire pipe

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

If so, how are the lamp fittings and cable terminals specially protected Best iron fitting with hinged cover

Where are the main switches and cut outs for these lights fitted Engine room

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 W. I. socket - plug

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 is - supplied with a voltmeter and not an amperemeter, fixed on main 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 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.

J. H. Holmes & Co. Electrical Engineers Date 30/9/09

COMPASSES.

Distance between dynamo or electric motors and standard compass 52 feet

Distance between dynamo or electric motors and steering compass 48 "

The nearest cables to the compasses are as follows:—

A cable carrying	<u>1.1</u>	Amperes	<u>3</u>	feet from standard compass	<u>3</u>	feet from steering compass
A cable carrying	<u>5.6</u>	Amperes	<u>6</u>	feet from standard compass	<u>4</u>	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 nil degrees on every course in the case of the standard compass and nil degrees on every course in the case of the steering compass.

Builder's Signature. Date

GENERAL REMARKS.

This installation has been fitted under survey, the materials and workmanship were found to be good & efficient & when tested under full working condition, found satisfactory

Geo. A. Milner & Whistler
Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute

It is submitted that the Record Elec. Light be noted in the Reg. Book

Lloyd's Register Foundation

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

REPORT FORM NO. 13.