

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 10343.

Port of Middlesbro Date of First Survey and Date of Last Survey While Building No. of Visits 1
 No. in Reg. Book on the Iron or Steel S. S. "Bradford City" Port belonging to Bideford
 Built at Stochton By whom Messrs Craig Taylor & Co Ltd When built 1919
 Owners S. J. Smith Ship Co Owners' Address Cardiff
 Yard No. 213 Electric Light Installation fitted by Messrs Falconer Cross & Co. When fitted 1919

DESCRIPTION OF DYNAMO, ENGINE, ETC.

(Dynamo made by Messrs Roby Hall & Co)
 1. 6 1/2 x 6" (4 Pole) Open type engine coupled direct to a compound wound multipolar dynamo. Steam pressure 100 lbs per sq. in. 360 R.P.M.
 Capacity of Dynamo 100 Amperes at 100 Volts, whether continuous or alternating current continuous
 Where is Dynamo fixed In engine room Whether single or double wire system is used double wire
 Position of Main Switch Board In engine room having switches to groups A. B. C. D. E of lights, &c., as below
 Positions of auxiliary fuse boards and numbers of fuses on each 5-way section Boxes:- Steam Steer: Gear 2, Saloon Pass: 1. 9-way Dis Boards:- Eng: Room 1, Chart Room 1, Saloon Pass: 1, Accom: aft 1. 5-way Dis Boards:- Saloon Pass 1, Steam Steer Gear 1, 2-way Dis Board:- Forecastle 1.
 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-oxidisable metal yes and constructed to fuse at an excess of 50 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 yes
 Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases yes
 Total number of lights provided for 146 arranged in the following groups:-

A Cargo	30	lights each of	16	candle power requiring a total current of	15	Amperes
B Accom	62	lights each of	16	candle power requiring a total current of	35	Amperes
C Wireless	—	lights each of	—	candle power requiring a total current of	5	Amperes
D Navigation	24	lights each of	16	candle power requiring a total current of	12	Amperes
E Eng: and Boiler Rooms	30	lights each of	16	candle power requiring a total current of	15	Amperes
2 Mast head light with	1	lamps each of	32	candle power requiring a total current of	2	Amperes
2 Side light with	1	lamps each of	32	candle power requiring a total current of	2	Amperes
5 Cargo lights of	6 - 16			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 Chart Room.

DESCRIPTION OF CABLES.

Main cable carrying	78	Amperes, comprised of	19	wires, each	14	S.W.G. diameter,	.094	square inches total sectional area
Branch cables carrying	31	Amperes, comprised of	4	wires, each	16	S.W.G. diameter,	.022	square inches total sectional area
Branch cables carrying	15	Amperes, comprised of	4	wires, each	18	S.W.G. diameter,	.0125	square inches total sectional area
Leads to lamps carrying	5	Amperes, comprised of	1	wires, each	18	S.W.G. diameter,	.0018	square inches total sectional area
Cargo light cables carrying	3	Amperes, comprised of	114	wires, each	38	S.W.G. diameter,	.0032	square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Lead covered and armoured and braided cables, Sinned copper conductors, insulated with pure para rubber, vulcanised india rubber, taped and braided

Joints in cables, how made, insulated, and protected

No joints made except mechanical ones

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 No.

How are the cables led through the ship, and how protected Steel armoured cables led on underside of decks, through beams and on bulkheads. all in sight.

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 In open alleyways—steel armoured cables. When exposed to weather—Garried through S. Iron pipes.

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

What special protection has been provided for the cables near boiler casings Armoured & braided

What special protection has been provided for the cables in engine room Armoured & braided

How are cables carried through beams Bushed holes through bulkheads, &c. Watertight Glands

How are cables carried through decks Watertight 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 Steel armoured cables led between beams.

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 fuses for these lights fitted —

If in the spaces, how are they specially protected —

Are any switches or fuses fitted in bunkers No

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 switchboard —

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 —

Are any switches, fuses, 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 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 600 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.

John D. Morrison Electrical Engineers Date 24.3.19.

COMPASSES.

Distance between dynamo or electric motors and standard compass 92 ft

Distance between dynamo or electric motors and steering compass 87 ft

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
8.5	12	9	9
.5	3	3	3

Have the compasses been adjusted with and without the electric installation at work at full power —

The maximum deviation due to electric currents, etc., was found to be No degrees on all course in the case of the standard compass and No degrees on all course in the case of the steering compass.

For CRAIG, TAYLOR & CO. LIMITED,

John D. Morrison SECRETARY.

Builder's Signature. Date —

GENERAL REMARKS.

This installation has been fitted in accordance with the Rules; is of good materials and workmanship and on completion was examined under full working conditions and found satisfactory

It is submitted that

this vessel is eligible for

THE RECORD. Elec light.

W.D.
4/4/19.

W.D. Morrison

Surveyor to Lloyd's Register of Shipping.

Committee's Minute