

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 262 42

Port of SUNDERLAND. Date of First Survey 7 Sept. Date of Last Survey 22 Sept. 14 No. of Visits 3
 No. in Reg. Book on the Iron or Steel S.S. "Beemah" Port belonging to _____
 Built at Sunderland. By whom William Pickersgill & Sons When built 1914
 Owners _____ Owners' Address _____
 Yard No. 185 Electric Light Installation fitted by Sunderland Forge & Eng. Co., Ltd. When fitted _____

DESCRIPTION OF DYNAMO, ENGINE, ETC.

One multipolar compound wound dynamo coupled direct to open type vertical engine.

Capacity of Dynamo 120 Amperes at 100 Volts, whether continuous or alternating current Continuous
 Where is Dynamo fixed Stbd side bottom E.R. Whether single or double wire system is used double
 Position of Main Switch Board close to plant having switches to groups three of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each One in chartroom controlling 2 masthead
2 side and one morse and one compass.

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 100 per cent over the normal current

Are all fuses fitted in easily accessible positions yes Are the fuses of standard dimensions No 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 160 arranged in the following groups:—

A	75	lights each of	16	candle power requiring a total current of	42.00	Amperes
B	25	lights each of	16	candle power requiring a total current of	14.00	Amperes
C	60	lights each of	16	candle power requiring a total current of	33.60	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 light with	1	lamps each of	32 D.F.	candle power requiring a total current of	2.24
2	Side light with	1	lamps each of	32 D.F.	candle power requiring a total current of	2.24
5	Cargo lights of		32	candle power, whether incandescent or arc lights	incandescent	

If arc lights, what protection is provided against fire, sparks, &c. there are none

Where are the switches controlling the masthead and side lights placed in Chartroom.

DESCRIPTION OF CABLES.

Main cable carrying	89.6	Amperes, comprised of	19	wires, each	14	S.W.G. diameter, .094	square inches total sectional area
Branch cables carrying	42.0	Amperes, comprised of	7	wires, each	14	S.W.G. diameter, .035	square inches total sectional area
Branch cables carrying	33.6	Amperes, comprised of	7	wires, each	16	S.W.G. diameter, .022	square inches total sectional area
Leads to lamps carrying	2.24	Amperes, comprised of	1	wires, each	18	S.W.G. diameter, .0018	square inches total sectional area
Cargo light cables carrying	6.72	Amperes, comprised of	1	wires, each	16	S.W.G. diameter, .0032	square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

In berths etc., Lead covered wire.

In Engineer room stokeholds etc., Armoured & braided

Mains and masts V.I.R. in iron pipe.

Joints in cables, how made, insulated, and protected there are none.

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 V.I.R. in iron 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 armoured & braided and V.I.R. in iron pipe.

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 and braided

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

How are cables carried through beams holes bushed fibre through bulkheads, &c. W.I. Glands

How are cables carried through decks W.I. iron deck tubes.

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

If so, how are they protected V.I.R. in iron pipe.

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 in 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.

FOR THE DURDLAND FORCE & ENGINEERING CO. LTD. Electrical Engineers Date 6.00.1914

COMPASSES.

Distance between dynamo or electric motors and standard compass Director about 104 feet.

Distance between dynamo or electric motors and steering compass

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	Distance from standard compass	Distance from steering compass
2.24	about 4	about 4	feet from steering compass
.56	led into	about 4	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 Nil. course in the case of the standard compass and Nil. degrees on Nil. course in the case of the steering compass.

GENERAL REMARKS.

This installation as far as could be seen is fitted in accordance with the requirements of the Rules, examined under working conditions and found satisfactory.

It is submitted that this vessel is eligible for

THE RECORD. Elec light

J. J. Hindley

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

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.