

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 10768

Port of MIDDLESBRO' Date of First Survey _____ Date of Last Survey _____ No. of Visits _____
 No. in Reg. Book 33956 on the Iron or Steel S.S. Urd. Port belonging to Bergen
 Built at South Bank. By whom Smiths Dock Co. Ltd When built 1920
 Owners Jacob R. Olsen Owners' Address Bergen
 Yard No. 759 Electric Light Installation fitted by R. Pickersjö & Son Ltd When fitted 1920

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Multipolar Compound Wound & Vertical Steam Engine

Capacity of Dynamo 100 Amperes at 100 Volts, whether continuous or alternating current Continuous
 Where is Dynamo fixed Starb. Side Engine Rm. Room Whether single or double wire system is used Double.
 Position of Main Switch Board adjacent Plant having switches to groups A.B.C.D.E of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each after Bulkheads in Engine Room

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 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 101 arranged in the following groups:—

A	5 Nav.	lights each of	32	candle power requiring a total current of	8.8	Amperes
B	25 Cargo	lights each of	16	candle power requiring a total current of	13.7	Amperes
C	40 Accom.	lights each of	16 + 8	candle power requiring a total current of	114.9	Amperes
D	31 Eng. Rm & Berths	lights each of	8	candle power requiring a total current of	6.2	Amperes
E	Wireless	lights each of	—	candle power requiring a total current of	12	Amperes
	2 Mast head light with one lamps each of	40	candle power requiring a total current of	1.6	Amperes	
	2 Side light with one lamps each of	40	candle power requiring a total current of	1.6	Amperes	
	5 Cargo lights of	80	candle power, whether incandescent or arc lights	incandescent		

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

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

DESCRIPTION OF CABLES.

Main cable carrying 42.5 Amperes, comprised of 19 wires, each 16 S.W.G. diameter, .060 square inches total sectional area
 Branch cables carrying 20 Amperes, comprised of 7 wires, each 20 S.W.G. diameter, .0070 square inches total sectional area
 Branch cables carrying ✓ Amperes, comprised of ✓ wires, each ✓ S.W.G. diameter, ✓ square inches total sectional area
 Leads to lamps carrying .5 Amperes, comprised of 3 wires, each 22 S.W.G. diameter, .0018 square inches total sectional area
 Cargo light cables carrying 13.7 Amperes, comprised of 9 wires, each 20 S.W.G. diameter, .0070 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

600 Mef. V.I.R. Taped Lead Covered & Armoured with Single Galv. Wire

Joints in cables, how made, insulated, and protected loop in System & Watertight Boxes with terminals

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

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 through Deck Beams & Covered Where liable to injury



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002465-002470-0112

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 Cable or lead covered in W. I pipes in secured joints

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

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

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

How are cables carried through beams Armoured Cable through 1 1/2 hole through bulkheads, &c. W.T. Glands

How are cables carried through decks 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 as above & carrying where necessary

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 Under Cargo Connection

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 Main on P.W. Board

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.

RICHARD PICKERSGILL & SONS, LTD.

Electrical Engineers

Date 27. 7. 20

COMPASSES.

Distance between dynamo or electric motors and standard compass 180 ft.

Distance between dynamo or electric motors and steering compass 160 ft.

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<u>5</u>	<u>one</u>	<u>4 1/2</u>	
<u>✓</u>	<u>✓</u>	<u>✓</u>	
<u>✓</u>	<u>✓</u>	<u>✓</u>	

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

FOR SMITH'S DOCK COMPANY, LTD.

for Cairns

Builder's Signature.

Date 27. 7. 20

GENERAL REMARKS.

This installation is fitted in accordance with the Rules and was tried under working conditions and found satisfactory

It is admitted that this vessel is eligible for the second class.

See Lt.

Ref. 20/10

Thomas Miller

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

Committee's Minute.

10E SEP. 1920



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