

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 11030

Port of Southampton Date of First Survey 31.9.21 Date of Last Survey 13.9.21 No. of Visits 3
 No. in Reg. Book on the Iron or Steel S.S. LISCARD Port belonging to
 Built at Woolston, Southampton By whom Messrs. J.I. Thornycroft & Co. Ltd. When built 1921
 Owners' Address
 Yard No. 1004 Electric Light Installation fitted by Messrs. J.I. Thornycroft & Co. Ltd. When fitted 1921

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Generating machinery consists of 2 sets, each comprising a compound wound continuous current dynamo direct coupled to a vertical open type engine. The engine and dynamo being mounted on a combined bedplate.

Capacity of Dynamo no 1 7x5 no 2 120 Amperes at 100 Volts, whether continuous or alternating current Continuous Current

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 of lights, &c., as below

includes 2 switches to control "Sirocco" fan circuits
A Change Over Switch is fitted to prevent both dynamos supplying current to the board at the same time.

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 No

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

Total number of lights provided for 70 arranged in the following groups:—

A After Circuit 23 lights each of 16 candle power requiring a total current of 13.8 Amperes

B Forward Circuit 27 lights each of 16 candle power requiring a total current of 16.2 Amperes

C Navigation Circuit 11 lights each of 32 candle power requiring a total current of 6.6 Amperes

D Garage Lights 8 lights each of 200 candle power requiring a total current of 8.0 Amperes

E lights each of candle power requiring a total current of Amperes

1 Mast head light with 1 lamps each of 16 candle power requiring a total current of 1.6 Amperes

2 Side light with 1 lamps each of 32 candle power requiring a total current of 1.2 Amperes

Cargo lights of candle power, whether incandescent or arc lights

If arc lights, what protection is provided against fire, sparks, &c. No Arc lights fitted

Where are the switches controlling the masthead and side lights placed In Wheel House on Bridge

DESCRIPTION OF CABLES.

Main cable carrying 120 100 Amperes, comprised of 19 wires, each .083 S.W.G. diameter, .1 square inches total sectional area

Branch cables carrying 13.8 Amperes, comprised of 7 wires, each .036 S.W.G. diameter, .007 square inches total sectional area

Branch cables carrying 16.2 Amperes, comprised of 7 wires, each .044 S.W.G. diameter, .01 square inches total sectional area

Leads to lamps carrying 8.0 Amperes, comprised of 3 wires, each .036 S.W.G. diameter, .003 square inches total sectional area

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

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Cables to be insulated with 1 layer of pure + 2 layers of vulcanised India Rubber, taped and lead covered on circuits C & D. cables on circuits A.B and to "Sirocco" ventilating fans to be as above, armoured with single layer of galvanised iron wire and braided overall.

Joints in cables, how made, insulated, and protected No joints allowed or made.

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances Yes 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 clipped to ship's structure, cables protected by Armour and lead casing, + where required by iron piping + plating (See overleaf)

* 200 candle power $\frac{1}{2}$ Watt lamps fitted in these positions

1 - $1\frac{1}{2}$ " dia. exhaust & 2 - $12\frac{1}{2}$ " dia supply type "Sirocco" centrifugal, electrically driven fans fitted in Engine Room for ventilation

2 - $12\frac{1}{2}$ " dia Supply & 2 - $12\frac{1}{2}$ " dia propeller type electrically driven fans fitted for ventilating the Officer's and crew spaces forward.

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 cable used.*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *None, cables kept clear*

What special protection has been provided for the cables near boiler casings *Cables run in piping where necessary*

What special protection has been provided for the cables in engine room *Armoured cable + plating where required to lead across bulkheads.*

How are cables carried through beams *Through lead bushes* through bulkheads, &c. *Through W.T. glands or lead bushes.*

How are cables carried through decks *Through watertight Deck Tubes*

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

If so, how are they protected *By heavy galvanised iron piping*

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 *—* 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 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 **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.

COMPASSES.

Distance between dynamo or electric motors and standard compass *No Standard compass fitted*

Distance between dynamo or electric motors and steering compass *Minimum 40'-0" Maximum 60'-0" (approx)*

The nearest cables to the compasses are as follows:—

| A cable carrying | Amperes | Distance from standard compass | Distance from steering compass |
|------------------|---------|--------------------------------|--------------------------------|
| 8.0 | Amperes | 6'-6" | from steering compass |
| 6 | Amperes | On each | steering compass |
| 1.2 | Amperes | 4'-0" | from steering compass |

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 *—* degrees on *—* course in the case of the standard compass and *—* degrees on *—* course in the case of the steering compass.

GENERAL REMARKS.

This installation of electric light has been well fitted. The materials and workmanship are good. It has been tried under full working conditions and found satisfactory.

Kilowatts = 19.75
Fee £17:10:0

Committee's Minute

Builder's Signature. Date *1/10/1921*

Surveyor to Lloyd's Register of Shipping.

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.