

JAN. 25, 1911. VOL. 102

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 11370

Port of Middlesbrough Date of First Survey 10.11.21 Date of Last Survey 8.8.22 No. of Visits 9
 No. in Reg. Book 66510 on the iron or Steel 55' Manchester Regiment Port belonging to Manchester
 Built at Newhaven Hill on Tynes By whom Furness Shipbuilding Co. Ltd When built 1922
 Owners Manchester Liners Ltd Owners' Address
 Yard No. 18 Electric Light Installation fitted by Furness Shipbuilding Co. Ltd When fitted 1922

DESCRIPTION OF DYNAMO, ENGINE, ETC.

- | | | | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|----------------------------------|
| 1-20 Knot Lighting Set Engine No 9117 Enclosed Type - Dynamo 1424963 Comp Wound Campbell & Sherwood | | | | |
| 1-10 Knot | - | - | 39586 | - |
| Capacity of Dynamo | 200 | 95 | Amperes at | 100 |
| | | | Volts, whether continuous or alternating current | Continuous |
| Where is Dynamo fitted | Generator Comp Room | Twin Dks Port Side | Whether single or double-wire system is used | Double |
| Position of Main Switch Board | " | " | bearing switches to groups A B C D & E | of lights, &c., as below |
| Positions of auxiliary ^{Fuse} switch boards and numbers of switches on each "A" Wheel House "B" Engineers Ent C R Port & Chart house | | | | |
| Crews Ent to Eng Rom also Pde & Steering Gear Room "D" Engine Room Crews Entrance port | | | | |
| E Generator Comp Port "F" Generator Comp port | | | | |
| If fuses are fitted on main switch board to the cables of main circuit | yes | and on each auxiliary ^{Fuse} 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 |
| 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 | 325 | arranged in the following groups :- | | |
| A Navigation | 13 lights each of 8/32 c.p. | candle power requiring a total current of | 8.7 | Amperes |
| B Engineers, Officers, Officers Lights each of 1/Charging 1/32 & 1/200 c.p. | 30 watts/1/32 c.p. | candle power requiring a total current of | 32.6 | Amperes |
| C Crews | 80 lights each of 30 watts/32 c.p./8 c.p. | candle power requiring a total current of | 33.7 | Amperes |
| D Cargo | 13 - 600 c.p. | candle power requiring a total current of | 39 | Amperes |
| E Engine Room | 2 lights each of for Small Motors 16 c.p./1000 c.p. | candle power requiring a total current of | 118.6 | Amperes |
| F Twin Decks | 56 - 16 c.p. | candle power requiring a total current of | 33.6 | Amperes |
| 2 Mast head light with 1 lamps each of 32 | candle power requiring a total current of | 1.2 included in | 1.2 | Amperes |
| 2 Side light with 1 lamps each of 32 | candle power requiring a total current of | 1.2 | - | Amperes |
| 13 Cargo lights of 600 c.p. (including 2 lamps for candle power, whether incandescent or arc lights) | candle power, whether incandescent or arc lights | | | |

Where are the switches controlling the masthead and side lights placed? *Wheel House*

DESCRIPTION OF CABLES.

Main cable carrying	<u>200</u>	Amperes, comprised of	<u>2-19</u>	wires, each	<u>1H</u>	S.W.G. diameter,	<u>.188</u>	square inches total sectional area
Branch cables carrying	<u>32.6</u>	Amperes, comprised of	<u>19</u>	wires, each	<u>.052</u>	S.W.G. diameter,	<u>.0400</u>	square inches total sectional area
Branch cables carrying	<u>8.7</u>	Amperes, comprised of	<u>7</u>	wires, each	<u>.064</u>	S.W.G. diameter,	<u>.0225</u>	square inches total sectional area
Leads to lamps carrying	<u>3</u>	Amperes, comprised of	<u>3</u>	wires, each	<u>.029</u>	S.W.G. diameter,	<u>.002</u>	square inches total sectional area
Cargo light cables carrying	<u>3</u>	Amperes, comprised of	<u>110</u>	wires, each	<u>.0076</u>	S.W.G. diameter,		square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Lead covered cables used in cabins of Engineers Officers & Captain also Saloon & Navigation circuits. Lead covered armoured sheathed cables used in all exposed positions, also Engine Room, Boiler Room, Tween Decks, Crews Quarters, etc. Ficle

Joints in cables, hose made, insulated, and protected

Parcels ceiling roses with cast iron covers where exposed to damage

Mechanical Connections only used
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 storing cargo, stores, or supplies?

Are there any joints in or branches from the cable leading from the main cable?

Are there any joints in or branches from the cable leading from dynamo to main switch board

How are the cables led through the ship, and how protected Tween Decks. Clipped along strengthening girders
Particulars by John G. Green

Protected by Clause of Orders
Nelson Indicator System Ltd.

1. Kelvin Indicator System fed by
 Battery in Chart Room
 1. Walker's Log fed through C.O.S by
 Bty in Chart Rm + D.P. in Chart Room
 1. Oil Alarm fed by Battery in Eng Room

1. Sounding Machine Motor fed from 35 Ampere Section Box
 1. 5 HP Ash Motor fed from Main Switch + fuses
 1. 5 HP Turbine Turning Motor fed from Main Switch + fuses

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, armoured.
 ✓ braided cables used in alleyways, Iron pipes to exposed deck lights
 What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Lead covered, armoured. Braided cables used
 What special protection has been provided for the cables near boiler casings do
 What special protection has been provided for the cables in engine room do
 How are cables carried through beams Lead bushes for lead covered cables through bulkheads, &c. W/T Glands below Shelter Deck
 How are cables carried through decks Iron Deck pipes ✓
 Are any cables run through coal bunkers no or cargo spaces yes Tween Decks or spaces which may be used for carrying cargo, stores, or baggage yes Tween Decks
 If so, how are they protected Lead covered armoured ✓ braided cables used
 Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage yes Tween Decks, Special Fittings
 If so, how are the lamp fittings and cable terminals specially protected Fittings have iron guards & hinged iron covers
 Where are the main switches and fuses for these lights fitted Switchboard Room
 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 both How fixed Iron pipes on Derrick posts
 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 ammeter 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.

THE HULL & CARGO SHIPBUILDING CO. LIMITED

P. S. Glover.

Electrical Engineer

Date 18th September 1922

COMPASSES.

Distance between dynamo or electric motors and standard compass Approx 110 ft
 Distance between dynamo or electric motors and steering compass 130 ft

The nearest cables to the compasses are as follows:—

A cable carrying .6 Amperes	3 ft	feet from standard compass	4 ft	feet from steering compass
A cable carrying .3 Amperes	inside	feet from standard compass		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 all course in the case of the standard compass and .01 degrees on all course in the case of the steering compass.

Hull & Cargo Shipbuilding Co. Limited,

Builder's Signature.

Date 18th Sept 1922

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. J.W.

Jue £ 22-10-0. Applied for 2/2/22
 Received

W. Morrison 25/9/22 Wm Cowie

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Electric light

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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Foundation