Rpt. 13.

Received at London Office FRI. 21 JUL. 1922

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 11274

Port of MIDDLESBROUGH Date of First Survey 23.6.21 Date of Last Survey 25.6.22 No. of Visits 12

No. in Reg. Book on the ~~Iron or~~ Steel S.S "CHICKAHOMINY" Port belonging to Liverpool

Built at HAVERTON HILL-ON-TEES By whom FURNESS SHIPBUILDING C° LD When built 1922

Owners Furness Withy & Co Ld Owners' Address ✓

Yard No. 25 Electric Light Installation fitted by FURNESS SHIPBUILDING C° LD When fitted 1922

DESCRIPTION OF DYNAMO, ENGINE, ETC.

DYNAMO:- OPEN TYPE COMPOUND SUNDERLAND FORGE Nº 32208 & 30096 - 15 & 7½ Kwt. RESPECTIVELY

ENGINE:- ENCLOSED TYPE FORCED LUBRICATION -do- 30725 & 30715 - -do- -do-

Capacity of Dynamo 150 & 75 ✓ Amperes at 100 ✓ Volts, whether continuous or alternating current Continuous ✓

Where is Dynamo fixed Tank Room Tween Deck Port Side Whether single or double wire system is used Double ✓

Position of Main Switch Board After B'head Tank Room 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 'A' Chartroom 'B' Engineers Mess 'C' Switchboard Room 'D' Switchboard Room 'E' Lower Crew Space Aft

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 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 228 arranged in the following groups :—

A NAVIGATION	2 Points. For Mast Keys 18 lights each of	8CP/16CP/32CP	candle power requiring a total current of	9.7	Amperes
B MIDSHIP	6 Points. For 6 Fans 36 lights each of	16CP/20 WATTS	candle power requiring a total current of	41.3	Amperes
C ENGINE ROOM	2 Points For 1-600 C.P 62 lights each of	16CP/600CP	candle power requiring a total current of	47.4	Amperes
D CARGO LIGHTS	12 Points For 8-600 C.P ~~lights each of~~		candle power requiring a total current of	24.0	Amperes
E AFT	35 lights each of	8CP/16CP/32CP/50WATTS	candle power requiring a total current of	12.6	Amperes
1 Mast head light with	1 lamps each of	32	candle power requiring a total current of	1.3 INCLUDED IN A	Amperes
2 Side light with	1 lamps each of	32	candle power requiring a total current of	2.6 -Do-	Amperes
9 Cargo lights of		600	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 Chart House

DESCRIPTION OF CABLES.

Main cable carrying 150/75	Amperes, comprised of 37/19	wires, each 14	S.W.G. diameter,	.1824 ✓	square inches total sectional area
Branch cables carrying 47.4	Amperes, comprised of 19	wires, each .064	S.W.G. diameter,	.06 ✓	square inches total sectional area
Branch cables carrying 12.6	Amperes, comprised of 7	wires, each .064	S.W.G. diameter,	.0225 ✓	square inches total sectional area
Leads to lamps carrying 3	Amperes, comprised of 3	wires, each .029	S.W.G. diameter,	.002 ✓	square inches total sectional area
Cargo light cables carrying 3	Amperes, comprised of 110	wires, each .0076	S.W.G. diameter,		square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Lead covered cables used in all cabins, Saloon Etc. including navigation circuits
Lead covered armoured & braided cables used in all exposed positions including Engine & Boiler Room, Tween Decks, Crew Space aft and Pole

Joints in cables, how made, insulated, and protected

Porcelain ceiling roses with cast iron covers where exposed to damage

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances Mechanical connections only used 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 yes

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 galvanised piping along Shelter Deck piping being protected by Hatch Coaming bars

1-5 HP Ash Hoist Motor fitted in Ash Hoist Space Starboard Side Shelter Deck.

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 Cov.d Armd & Braid.d 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 Dk

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 Dks.

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

If so, how are the lamp fittings and cable terminals specially protected Fittings have iron guards & Junct.n Boxes are cov.d

Where are the main switches and fuses for these lights fitted Switchboard Room & Saloon Pantry

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 Masts

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.

P. S. Glover *Electrical Engineer* *Date* 14th July 1922

COMPASSES.

Distance between dynamo or electric motors and standard compass Approx 100 ft

Distance between dynamo or electric motors and steering compass " 100 ft

The nearest cables to the compasses are as follows:—

A cable carrying	8.4	*Amperes*	10	*feet from standard compass*	10	*feet from steering compass*
A cable carrying	.3	*Amperes*	inside	*feet from standard compass*	6	*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* nil *degrees on* all *course in the case of the steering compass.*

For FURNESS SHIPBUILDING CO. LIMITED,
H. M. Cradlé Secretary. *Builder's Signature.* *Date* 15th July 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 all found satisfactory

It is submitted that this vessel is eligible for THE RECORD. Elec. light.

Fee £18-15/- 3.5.22

Received 31.5.22

J.W.D. 24/7/22

Wm Morrison & Wm Court
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

2a1,11,20.—Transfer.