

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 29716

Port of Hull Date of First Survey Nov 29/16 Date of Last Survey Dec 22/16 No. of Visits 13
 No. in Reg. Book 1510 on the Iron or Steel S.S. Condessa Port belonging to Liverpool
 Built at Hull By whom Messrs Carter & Howbe Ltd. When built 1916
 Owners Furness Holders Argentine Line Ltd Owners' Address _____
 Yard No. 611 Electric Light Installation fitted by Sunderland Forge & Enging Co Ltd When fitted 1916

DESCRIPTION OF DYNAMO, ENGINE, ETC.

2 - Howdens tandem compound enclosed double acting engines 7" x 12" by 7" stroke coupled to S.Y. & C compound wound multipolar dynamos.

Capacity of Dynamo 160 Amperes at 100 Volts, whether continuous or alternating current continuous ✓

Where ^{are} Dynamos fixed Aftend of Engine Room Whether single or double wire system is used double ✓

Position of Main Switch Board Close to dynamos having switches to groups ten of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each Chart Room eleven switches for signal lts compasses etc. Forward deck house with eleven switches for lights in Nos 1, 2, & 3 holds P.O's Mess with five switches for lights in Nos 4, 5, & 6 holds

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 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 399 arranged in the following groups:—

A	1 AFT ACC.	40	20 lights each of	16	candle power requiring a total current of	27.4	11.2	Amperes
A	2 AFT HOLDS	15	-	16	candle power requiring a total current of	8.4	15/20	Amperes
B	4 WIRELESS	-	-	-	-	-	-	-
C	5 ENGRS & POs	66	73 lights each of	16	candle power requiring a total current of	36.9	40.0	Amperes
C	6 SALOON ETC	18	-	16	-	-	-	-
D	7 NAVIGATION	18	20 lights each of	4@32 10@16	candle power requiring a total current of	10.0	11.2	Amperes
D	8 FORD CLUSTERS	44	-	16	-	-	-	-
E	9 FORD HOLDS	44	24 lights each of	16	candle power requiring a total current of	24.6	52.5	Amperes
E	10 E & B. ROOMS	94	-	16	-	-	-	-
	2 Mast head light with	1	lamps each of	32	candle power requiring a total current of	2.24	-	Amperes
	2 Side light with	1	lamps each of	32	candle power requiring a total current of	2.24	-	Amperes
	6 Cargo lights of	five	16 cp	-	candle power, whether incandescent or arc lights	-	-	-

If arc lights, what protection is provided against fire, sparks, &c. -

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

DESCRIPTION OF CABLES.

Main cable carrying 160 Amperes, comprised of 37 wires, each 14 S.W.G. diameter, "-182" square inches total sectional area

Branch cables carrying 52.5 Amperes, comprised of 7 wires, each 14 S.W.G. diameter, "-035" square inches total sectional area

Branch cables carrying 36.9 Amperes, comprised of 7 wires, each 16 S.W.G. diameter, "-022" square inches total sectional area

Leads to lamps carrying 3 Amperes, comprised of 1 wires, each 18 S.W.G. diameter, "-0018" square inches total sectional area

Cargo light cables carrying 5 Amperes, comprised of 1 wires, each 14 S.W.G. diameter, "-005" square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Mains - Pure Rubber Vulcanised S. R. Taped, braided & compounded

Acc. Spaces do do do do do do & lead covered

Mach Spaces & Mast Chambers do do do do do do & lead covered & armoured

Joints in cables, how made, insulated, and protected 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 bunks, 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 run in Iron pipe



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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 Iron pipe

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Lead covered & armoured

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

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

How are cables carried through beams holes bushed with fibre through bulkheads, &c. iron pipe or W.Y. glands

How are cables carried through decks W.Y. Deck Tubes

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

If so, how are they protected Lead covered & armoured

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage In cargo spaces

If so, how are the lamp fittings and cable terminals specially protected In cast iron fittings with strong bellows & guards

Where are the main switches and fuses for these lights fitted Forward in Fore deck house aft in alleyway

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 on Main S'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.

P. PRO THE SUNDERLAND FORGE & ENGINEERING CO., LTD.

Electrical Engineers

Date 27-1-17

COMPASSES.

Distance between dynamo or electric motor's and standard compass Director about 100 feet

Distance between dynamo or electric motor's and steering compass about 98 feet

The nearest cables to the compasses are as follows:—

A cable carrying	10.0	Ampere	about 16	feet from standard compass	abt 16	feet from steering compass
A cable carrying	56	Ampere	led into	feet from standard compass	abt 8	feet from steering compass
A cable carrying	56	Ampere	abt 8	feet from standard compass	led into	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 any course in the case of the standard compass and nil degrees on any course in the case of the steering compass.

ENGINEERING COMPANY, LIMITED.

Builder's Signature. Date

GENERAL REMARKS. This vessel has been fitted with an electric light installation as above & the workmanship is good on completion it was tested under full working conditions & found satisfactory.

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

JWD 27/2/17

Frank L. Sturgeon

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

Committee's Minute



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