

REPORT ON ELECTRIC LIGHTING INSTALLATION.

No. 13939

Port of Harpaque Date of First Survey Harlepool Date of Last Survey When No. of Visits Building
 No. in Reg. Book Harlepool Port belonging to Messrs H Gray & Co. When built 1910
 Owners Messrs J & B Harrison Owners' Address London
 Yard No. 771 Electric Light Installation fitted by THE LIVERPOOL FORGE & ENGINEERING CO., LTD. When fitted 1910

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Multipolar compound wound dynamo direct coupled to open type inverted engine both by The Sunderland Forge & Eng Co. Ltd.
 Capacity of Dynamo: 90 Amperes at 100 Volts, whether continuous or alternating current Continuous
 Where is Dynamo fixed Bottom of Engine Room Whether single or double wire system is used double
 Position of Main Switch Board close to dynamo having switches to groups three of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each — One in chartroom having five switches for side lights, Mastheads and Binnacle

If cut outs 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 cut outs fitted to both flow and return wires or cables of all circuits including lamp circuits Yes

Are the cut outs of non-oxidizable metal Yes and constructed to fuse at an excess of 100 per cent over the normal current

Are all cut outs 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 cut-outs constructed of incombustible materials and fitted on incombustible bases Yes

Total number of lights provided for 112 arranged in the following groups:—

Group	Number of lights	Each of	Candle power	Requiring a total current of	Amperes
A	63	16		35.28	
B	32	16		17.92	
C	17	16		9.52	
D					
E					

Two Mast head light with 1 lamps each of 32 CP. D.F. candle power requiring a total current of 2.24 Amperes

Two Side light with 1 lamps each of 32 CP. D.F. candle power requiring a total current of 2.24 Amperes

Five Cargo lights of 8 of 16 CP ea. candle power, whether incandescent or are lights Incandescent

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

Where are the switches controlling the masthead and side lights placed In chartroom

DESCRIPTION OF CABLES.

Cable Description	Amperes	Wires	Each	L.S.G. diameter	square inches total sectional area
Main cable carrying	62.72	37	18	.06619	
Branch cables carrying	35.28	7	14	.03480	
Branch cables carrying	17.92	7	14	.01706	
Leads to lamps carrying	1.12	1	18	.00181	
Cargo light cables carrying	4.48	7	2 1/2	.0050	

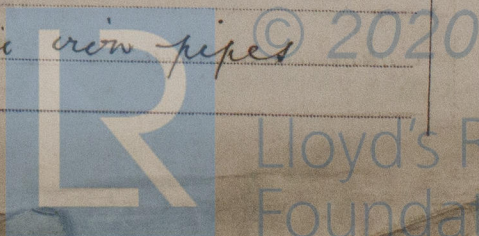
DESCRIPTION OF INSULATION, PROTECTION, ETC.

In accommodation &c. pure rubber vulcanised rubber taped and lead covered.
 Engine Room, Stowhole &c. Forecastle, armoured and braided. Main cables
 pure rubber, vulcanised rubber, taped and braided run in iron pipes.
 Joints in cables, how made, insulated, and protected There are none

Are all the joints of cables thoroughly soldered, resin only having been used as a flux — 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 Vulcanised cable run in iron pipes through seven decks



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 pipes

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Arround and braided cables

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

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

How are cables carried through beams Holes bushed with fibre through bulkheads, &c. Watertight glands used

How are cables carried through decks Watertight deck tubes used

Are any cables run through coal bunkers Yes or cargo spaces Yes or spaces which may be used for carrying cargo, stores, or baggage Yes

If so, how are they protected Iron pipes

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 cut outs for these lights fitted

If in the spaces, how are they specially protected

Are any switches or cut outs 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

The installation is Yes supplied with a voltmeter and No amperemeter, fixed on switchboard

VESSELS BUILT FOR CARRYING PETROLEUM.

In vessels built for carrying petroleum, are all switches and cut-outs fitted in positions not liable to the accumulation of petroleum vapour or gas

Are any switches, cut outs, 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 99 per cent. that of pure copper.

Insulation of cables is guaranteed to have a resistance of not less than 600 megohms per statute mile after 24 hours' immersion in seawater.

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. PROUT & SONS, LTD.

Electrical Engineers

Date 6 June 1910

COMPASSES.

Distance between Haight's Director dynamo or electric motors and standard compass 140 feet approx.

Distance between dynamo or electric motors and steering compass 132 feet approx.

The nearest cables to the compasses are as follows:—

Cable	Amperes	Distance from standard compass	Distance from steering compass
A cable carrying <u>4.87</u>	<u>12</u>	<u>8</u> feet	<u>8</u> feet
A cable carrying <u>.56</u>	<u>is led into</u>	<u>8</u> feet	<u>8</u> feet
A cable carrying <u>✓</u>	<u>Amperes</u>	<u>feet</u>	<u>feet</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 ✓ degrees on ✓ course in the case of the standard compass and ✓ degrees on ✓ course in the case of the steering compass.

FOR WILLIAM GRAY & CO., LIMITED.

W. J. Dwyer Director

Builder's Signature.

Date June 13/10

GENERAL REMARKS.

The fitting of the wires throughout this vessel is as stated in this report and appears to be in accordance with the Committee's requirements.

It is submitted the notation of the light, he now assigned to this vessel. #207-6-10. J.R.L.

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

Committee's Minute



Lloyd's Register Foundation

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

REPORT FORM No. 14-2m.34.