

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 70767

Port of Newcastle Date of First Survey 22 July 18 Date of Last Survey 14 Nov 18 No. of Visits 11
 No. in Reg. Book on the Iron or Steel S. J. Tringlos Port belonging to St Ines
 Built at South Shields By whom Reid & Co. Ltd When built 1918
 Owners Hain SS Co Ltd Agents' Address The Sunderland Forge Co Ltd
 Yard No 456 Electric Light Installation fitted by The Sunderland Forge Co Ltd When fitted 1918

DESCRIPTION OF DYNAMO, ENGINE, ETC.

One Combined Plant consisting of single cylinder, open type, vertical, inverted engine 8x7, 300 revs. 100 lbs steam, direct coupled to compound wound multipolar dynamo. Both by S.F.E.

Capacity of Dynamo 175 Amperes at 100 Volts, whether continuous or alternating current Continuous

Where is Dynamo fixed Bolted to Plank Eng. Rm. Starboard Whether single or double wire system is used Double

Position of Main Switch Board near dynamo having switches to groups Six of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each one in Chart Room having 8 switches

controlling lights as follows: 1 Stern Light 1 Mainmast Light 1 Foremast Light 1 Morse Lamp 1 Port Bow Light 1 Starboard Bow Light 1 Compasses & Telegraphs and 1 Master Switch

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

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 118 @ 16 cp arranged in the following groups:—

A	Projector	lights each of	—	candle power requiring a total current of	60	Amperes
B	Saloon & Navigation	lights each of	36 at 16	candle power requiring a total current of	20	Amperes
C	Wireless	lights each of	Nil	candle power requiring a total current of	15	Amperes
D	Engineers' Office	lights each of	30 at 16	candle power requiring a total current of	17	Amperes
E	Cargo	lights each of	30 at 16	candle power requiring a total current of	17	Amperes
F	Engine and Boiler Rms	" " "	22 at 16	" " "	12.5	"
	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	
	5 Cargo lights of 6-16 cp lamps		candle power, whether incandescent or arc lights	Incandescent		

If arc lights, what protection is provided against fire, sparks, &c. 2-10 Amp open type arc lamps,

fitted with hexagonal glazed lanterns

Where are the switches controlling the masthead and side lights placed on auxiliary board in Chart Room

DESCRIPTION OF CABLES.

Main cable carrying	175	Amperes, comprised of	2	wires, each	19/14	S.W.G. diameter,	.1874	square inches total sectional area
Branch "	12.5	" " "	7	" " "	18	" " "	.0125	"
Branch cables carrying	20	Amperes, comprised of	7	wires, each	16	S.W.G. diameter,	.022	square inches total sectional area
Branch cables carrying	60	Amperes, comprised of	7	wires, each	14	S.W.G. diameter,	.035	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	3.5	Amperes, comprised of	7	wires, each	21 1/2	S.W.G. diameter,	.0049	square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Mains U.S.R. run in Iron Pipe

Machinery Spaces Armoured and Braided

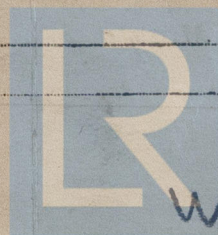
Accommodation Lead Covered

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 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 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 Armoured & Braided

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

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. Watertight glands ✓

How are cables carried through decks Watertight deck tubes ✓

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 pipe run in protected places

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

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 Main P.R.

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 Mar. 21st 1918

COMPASSES.

Distance between dynamo or electric motors and standard compass Director about 120 feet

Distance between dynamo or electric motors and steering compass " 114 "

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
9.5	30	36	
.56	led into	86	
.56	8	led into	

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 ✓ course in the case of the standard compass and nil degrees on ✓ course in the case of the steering compass.

FOR JOHN READHEAD & SONS, LIMITED.

John H. Readhead DIRECTOR

Builder's Signature.

Date 5th April 1918

GENERAL REMARKS.

The electric lighting installation of this vessel has been fitted in accordance with the rules and satisfactorily tested with all lights on.

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

10/4/18

George Murdoch
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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