

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 27245

Received at London Office

of SUNDERLAND Date of First Survey 15 May Date of Last Survey 23 May 18 No. of Visits 2
 on the Iron or Steel "War Visor" Port belonging to London
 Built at SUNDERLAND By whom J. P. Austin & Sons Ltd When built 1918
 No. 295 Electric Light Installation fitted by The Sunderland Forge & Eng. Co. Ltd. When fitted 1918

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Combined Plant - consisting of single cylinder, vertical, open type engine 7" x 5"
 revs. 100 lbs steam coupled to compound wound multipolar dynamo. Both by S.F.E. Coy.
 City of Dynamo 100 Amperes at 100 Volts, whether continuous or alternating current continuous
 is Dynamo fixed Eng. Rm. Bolt-Platt Stn side Whether single or double wire system is used double
 ion of Main Switch Board close to dynamo having switches to groups five of lights, &c., as below
 ons of auxiliary switch boards and numbers of switches on each in Chart Room with 8 switches controlling
navigation lights - Morse light - compasses & telegraph.

es 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
 Rods Yes 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
 he fuses of non-oxidizable metal Yes and constructed to fuse at an excess of 100 per cent over the normal current
 ll fuses fitted in easily accessible positions Yes Are the fuses of standard dimensions No If wire fuses are used
 re permanent instructions fitted on or near each switch board giving particulars of proper size of fuse for each circuit Yes
 ll switches and fuses constructed of incombustible materials and fitted on incombustible bases Yes
 on Do. Number of lights provided for 120 arranged in the following groups:-

Comm.	= 60	lights each of 29.20w MF 20 16 2 28 4	candle power requiring a total current of	22.6	Amperes
B. Rms	= 24	lights each of 16 4	candle power requiring a total current of	13.4	Amperes
go	= 24	lights each of do	candle power requiring a total current of	13.4	Amperes
rigat	= 12	lights each of 2.20w MF 50 16 4	candle power requiring a total current of	4.0	Amperes
ireless		lights each of -	candle power requiring a total current of	25.0	Amperes
Mast head light with	1	lamps each of 2 1/2	candle power requiring a total current of	1	Amperes
Side light with	1	lamps each of 8	candle power requiring a total current of	56	Amperes
Cargo lights of	Six	16 4	candle power, whether incandescent or arc lights	incandescent	

lights, what protection is provided against fire, sparks, &c. none fitted

are the switches controlling the masthead and side lights placed in Chart Room.

DESCRIPTION OF CABLES.

able carrying	100	Amperes, comprised of	19	wires, each	14	S.W.G. diameter,	.094	square inches total sectional area
cables carrying	22.6	Amperes, comprised of	7	wires, each	16	S.W.G. diameter,	.022	square inches total sectional area
cables carrying	13.4	Amperes, comprised of	7	wires, each	20	S.W.G. diameter,	.007	square inches total sectional area
to lamps carrying	2.5	Amperes, comprised of	7	wires, each	25	S.W.G. diameter,	.0022	square inches total sectional area
light cables carrying	3.5	Amperes, comprised of	7	wires, each	2 1/2	S.W.G. diameter,	.0049	square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

ins & Mach. Spaces Pure & Vulk. I.R. taped & vulcanized - then Armoured & Braided
 accommodation DITTO Lead Covered

in cables, how made, insulated, and protected None

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 -

ere any joints in or branches from the cable leading from dynamo to main switch board No

re the cables led through the ship, and how protected Armoured & Braided. Cable run on under side
of deck - clipped to Beams.

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
or V.P.R. run in Iron Pipe

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

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. W.T. glands

How are cables carried through decks W.T. 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 Armoured & Braided

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 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 Switch

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 SUMMERLAND FORGE & ENGINE WORKS LTD.

Electrical Engineers

Date June 1st 1918

COMPASSES.

Distance between dynamo or electric motors and standard compass about 68 feet

Distance between dynamo or electric motors and steering compass 59 "

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<u>4.0</u>	<u>14</u>	<u>8</u>	<u>8</u>
<u>.56</u>	<u>led into</u>	<u>7</u>	<u>7</u>
<u>.56</u>	<u>7</u>	<u>led into</u>	<u>7</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 no degrees on any course in the case of the standard compass and no degrees on any course in the case of the steering compass.

FOR THE SUMMERLAND FORGE & ENGINE WORKS LTD.

Builder's Signature.

Date

GENERAL REMARKS.

The installation has been satisfactorily fitted in the vessel, tested at full load and found good

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

JWD
11/6/18

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

Committee's Minute