

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 8920

Port of Belfast Date of First Survey Apr 10 Date of Last Survey May 1 No. of Visits 7
 No. in Reg. Book on the Steel S.S. "Yon Wead" Port belonging to Belfast
 Built at Belfast By whom Workman Clark & Co Ltd When built 1923
 Owners Ulster S & Co Ltd Owners' Address Belfast
 Yard No. 393 Electric Light Installation fitted by Sunderland Forge & Engineering Co When fitted 1923.

DESCRIPTION OF DYNAMO, ENGINE, ETC. *An additional 70 KW. steam driven generator fitted 1923 see list report 103057.*

1 - Compound Wound Multipolar Dynamo direct coupled to Vertical enclosed type single cylinder Steam Engine on Combination Bedplate 360 R.P.M. Continuous rating.
 Capacity of Dynamo 100 Amperes at 100 Volts, whether continuous or alternating current Continuous
 Where is Dynamo fixed Engine Room Whether single or double wire system is used double
 Position of Main Switch Board Engine Room having switches to groups C of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each 1 - wheelhouse 11 Switches
 1 in Engine Room 10 switches

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 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 182 at 16 cp ^{light} per arranged in the following groups :-

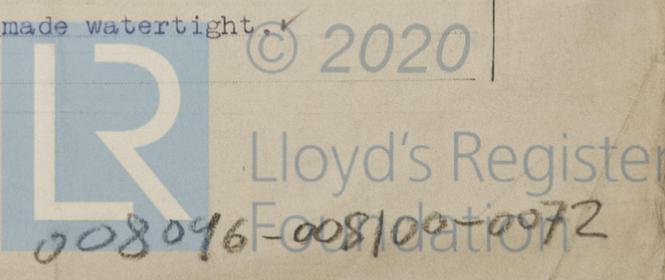
A	55	lights each of	16	candle power requiring a total current of	33.0	Amperes
B	49	lights each of	16	candle power requiring a total current of	29.4	Amperes
C	38	lights each of	16	candle power requiring a total current of	22.8	Amperes
D	30	lights each of	16	candle power requiring a total current of	18.0	Amperes
E	2	lights each of	1,000	candle power requiring a total current of	10.	Amperes
F	2	W/T Mast head lights with 1 lamp each of	32	candle power requiring a total current of	2.4	Amperes
	2	Side lights with 1 lamp each of	32	candle power requiring a total current of	2.4	Amperes
	36	Cargo lights of	16	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 in Wheelhouse on Bridge

DESCRIPTION OF CABLES.
 Main cable carrying 100 Amperes, comprised of 19 wires, each 14 S.W.G. diameter, .09372 square inches total sectional area
 Branch cables carrying 30 Amperes, comprised of 19 wires, each 20 S.W.G. diameter, .01899 square inches total sectional area
 Branch cables carrying 10 Amperes, comprised of 7 wires, each 20 S.W.G. diameter, .007005 square inches total sectional area
 Leads to lamps carrying 24 Amperes, comprised of 7 wires, each 25 S.W.G. diameter, .0021 square inches total sectional area
 Cargo light cables carrying 10 Amperes, comprised of 14 wires, each 38 S.W.G. diameter, .00319 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.
 Tinned Copper Conductors, insulated with pure and vulcanising indiarubber taped and the whole vulcanised together and finished as follows:- In accommodation Lead covered & braided Machinery spaces - Lead Covered Armoured & Braided. In Tween Decks V.I.R. cable in Screwed Galvanised W. T. Pipe made watertight.
 Joints in cables, how made, insulated, and protected
 No Joints

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 Drawn into S.G. W.I. pipe made watertight.



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

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

What special protection has been provided for the cables near boiler casings Lead Covered Armoured & Braided

What special protection has been provided for the cables in engine room Lead Covered Armoured & Braided

How are cables carried through beams Through holes bushed with fibre through bulkheads, &c. Brass W/T. Glands.

How are cables carried through decks through deck pipes made watertight

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 by S. G. W. I. pipe made watertight

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 To heavy brass terminals fitted in C.I. boxes on deck

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 Engine Room

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 2500 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. for The Sunderland Forge & Eng. Co. Ltd.

Thos Thompson

Electrical Engineers

Date 22nd May, 1923.

COMPASSES.

Distance between dynamo or electric motors and standard compass 96 feet.

Distance between dynamo or electric motors and steering compass 90 feet

The nearest cables to the compasses are as follows:—

A cable carrying	10	Amperes	6	feet from standard compass	6	feet from steering compass
A cable carrying	.2	Amperes	3	feet from standard compass	3	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 .

The maximum deviation due to electric currents, etc., was found to be no degrees on all course in the case of the standard compass and no degrees on all course in the case of the steering compass.

W. St. Humble

Builder's Signature.

Date 17/5/23.

GENERAL REMARKS.

This installation is well fitted & in accordance with the Rules. & ran satisfactorily on trial under full load.

It is submitted that this vessel is eligible for THE RECORD. Elec light got 1-6-23.

William Butler

Surveyor to Lloyd's Register of Shipping.

See £10-0-0 Rendered 9/5/23 Paid 14/5/23

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

