

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 79546

Port of Liverpool Date of First Survey July 11<sup>th</sup> Date of Last Survey Sept 1<sup>st</sup> No. of Visits 7  
 No. in Reg. Book on the Iron Steel Suez Yag 'St Faith' Port belonging to LIVERPOOL  
 Built at Lytham By whom Lytham E.B. & Eng. Co. When built 1919  
 Owners' Address \_\_\_\_\_  
 Yard No. Electric Light Installation fitted by Messrs J.L. Scott, Ltd. When fitted 1919

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

De Laval 20 H.P. steam turbine coupled to 10 K.W. direct current generator, by Greenwood & Batley, Leeds.  
 Capacity of Dynamo 125 Amperes at 105 Volts, whether continuous or alternating current  
 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 \_\_\_\_\_ of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each \_\_\_\_\_

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 (A.P. std.) and constructed to fuse at an excess of 50 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 (A.P. std.)

Total number of lights provided for 92 lamps arranged in the following groups:—

A	Eng. & boiler room	16 + 30	lights each of	16 & 32	candle power requiring a total current of	19.5 + 8.5 = 28	Amperes
B	Forward	20	lights each of	16 & 32	candle power requiring a total current of	4.5	Amperes
C	Navigation	22	lights each of	6, 16 & 32	candle power requiring a total current of	5.0	Amperes
D			lights each of		candle power requiring a total current of		Amperes
E			lights each of		candle power requiring a total current of		Amperes
2	Mast head light with	1	lamps each of	32	candle power requiring a total current of	2.5	Amperes
2	Side light with	1	lamps each of	32	candle power requiring a total current of	2.5	Amperes
16	Cargo lights of		each,	32	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 Chart room

## DESCRIPTION OF CABLES.

Main cable carrying 113 Amperes, comprised of 19 wires, each 14 S.W.G. diameter, .094 square inches total sectional area  
 Branch cables carrying 70 Amperes, comprised of 19 wires, each 17 S.W.G. diameter, .046 square inches total sectional area  
 Branch cables carrying 34 Amperes, comprised of 7 wires, each 18 S.W.G. diameter, .0125 square inches total sectional area  
 Leads to lamps carrying 9.8 Amperes, comprised of 1 wires, each 17 S.W.G. diameter, .0025 square inches total sectional area  
 Cargo light cables carrying 20 Amperes, comprised of 3 wires, each 18 S.W.G. diameter, .0053 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

all A.P. standard

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 perforated steel trays, through A.P. glands & deck pipes; cable lead covered throughout.

**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 cable lead covered, A.P. standard.

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

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

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

How are cables carried through beams bushed holes through bulkheads, &c. A.P. bulkhead glands

How are cables carried through decks A.P. deck pipes

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

If so, how are they protected double perforated steel trays.

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~~ permanently fixed to plug box How fixed flexible from A.P. 394A box.

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 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 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.

R. H. Taylor Knowsley Rd. Bootle Electrical Engineers Date 4<sup>th</sup> Sept 1919

**COMPASSES.**

Distance between dynamo or electric motors and standard compass \_\_\_\_\_

Distance between dynamo or electric motors and steering compass \_\_\_\_\_

The nearest cables to the compasses are as follows:—

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 \_\_\_\_\_ degrees on \_\_\_\_\_ course in the case of the standard compass and \_\_\_\_\_ degrees on \_\_\_\_\_ course in the case of the steering compass.

Builder's Signature. Date \_\_\_\_\_

**GENERAL REMARKS.**

The above electric light installation now fitted on board the above vessel in an efficient manner & all tested with satisfactory results.

The vessel is now eligible to have record of 'Electric Light fitted'.

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

J. W. D. 15/9/19

Howe

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

LIVERPOOL - 9 SEP 1919

Electric Light.

J. W. D.



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THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.