

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 32830

Port of Shull Date of First Survey 4/4/21 Date of Last Survey 22/7/21 No. of Visits 5

No. in Reg. Book 5/s on the Iron or Steel Kenrix Port belonging to Robert & Sons  
Built at Lebbey By whom Roberts & Sons Ltd. When built 1921

Owners' Address From Chambers Land of Gun, Gunpowder Hill  
Yard No. Electric Light Installation fitted by Naber, Sheldon, Holloway Street When fitted July 1921

### DESCRIPTION OF DYNAMO, ENGINE, ETC.

Engine - Robey Vertical High Speed fitted with Governor direct Coupled to  
Dynamo - Electromotor - Compound Wound - 4 Pole - 1 Kilo watt output  
Capacity of Dynamo 10 Amperes at 100 Volts, whether continuous or alternating current Continuous  
Where is Dynamo fixed on platform in Engine Room Whether single or double wire system is used Double  
Position of Main Switch Board Engine Room having switches to groups A B + C of lights, &c., as below  
Positions of auxiliary switch boards and numbers of switches on each Galley - Mess Room + Chart room  
2 2 5

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-oxidisable metal yes and constructed to fuse at an excess of 80 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 32 arranged in the following groups:—

A	<u>6</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>2.8</u>	Amperes
B	<u>14</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>6</u>	Amperes
C	<u>12</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>2.8</u>	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
	<u>2</u>	Mast head light with	<u>1</u>	lamps each of	<u>16</u>	candle power requiring a total current of <u>1.2</u> Amperes
	<u>2</u>	Side light with	<u>1</u>	lamps each of	<u>16</u>	candle power requiring a total current of <u>1.2</u> Amperes
	<u>2</u>	Cargo lights of	<u>64</u>	candle power, whether incandescent or arc lights	<u>incandescent</u>	

If arc lights, what protection is provided against fire, sparks, &c. —

Where are the switches controlling the masthead and side lights placed In the Chart Room

### DESCRIPTION OF CABLES.

Main cable carrying 10 Amperes, comprised of 7 wires, each 22 S.W.G. diameter, .0045 square inches total sectional area

Branch cables carrying 6 Amperes, comprised of 3 wires, each 22 S.W.G. diameter, .002 square inches total sectional area

Branch cables carrying 3 Amperes, comprised of 3 wires, each 22 S.W.G. diameter, .002 square inches total sectional area

Leads to lamps carrying 1 Amperes, comprised of 1 wires, each 18 S.W.G. diameter, .015 square inches total sectional area

Cargo light cables carrying 2.4 Amperes, comprised of 64 wires, each 38 S.W.G. diameter, — square inches total sectional area

### DESCRIPTION OF INSULATION, PROTECTION, ETC.

Vulcanised India rubber jute protected - Steel Wire, and Lead Covered  
Armouring 16 S.W.G.

Joints in cables, how made, insulated, and protected. No joints in the installation

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances yes 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 yes

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 Through W/T Deck Rando into fore-cabin bulkheads  
Clipped to deck by galvanised iron clips held by 1/2 x 3/8" Round headed studs



**DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.**

Are they in places always accessible —

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture

*bolts enter all fittings via W/F packed glands*

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

through bulkheads, &c. *through Brass Bulkhead glands*

How are cables carried through decks *via 3/4" gas deck tubes - tube fitted with Brass gland.*

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

If so, how are they protected —

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 0-120* and with an amperemeter *Yes 0-12*, fixed on *Main 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 *10* 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.

*FOR MR. NAPIER & WHELDON*

*Arthur D. Waking*

Electrical Engineers

Date *August 16 '21*

**COMPASSES.**

Distance between dynamo or electric motors and standard compass *90'*

Distance between dynamo or electric motors and steering compass *90'*

The nearest cables to the compasses are as follows:—

A cable carrying *6* Amperes *2* feet from standard compass *2* feet from steering compass

A cable carrying Amperes feet from standard compass 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 *nil* degrees on *all* course in the case of the

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

*FOR COCHRANE & SONS, LTD.*

*D. M. Cochran*

Builder's Signature.

Date *20 AUG 1921*

**GENERAL REMARKS.**

*The workmanship & materials are good on completion. The installation was tried under full power & found satisfactory.*

*It is submitted that this vessel is eligible for THE RECORD. Elec Light 2/9/21*

*See LS-0-0 applied for 30/8/20 MK*

*Charlotte*  
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

