

# REPORT ON ELECTRIC LIGHTING INSTALLATION.

No. 69649

Port Newcastle on Tyne Date of First Survey 16<sup>th</sup> Dec 1916 Date of Last Survey 16<sup>th</sup> Jan 1917 No. of Visits 2  
 No. in Reg. Book on the Iron or Steel S.S. "HUNGBAN" Port belonging to British  
 Built at Shebburn By whom Palmer, S. & Co. Ltd. When built 1916  
 Owners Burnak Oil Co. Ltd. Owners' Address \_\_\_\_\_  
 Yard No. 845 Electric Light Installation fitted by Palmer, S. & Co. Ltd. When fitted 1916

**DESCRIPTION OF DYNAMO, ENGINE, ETC.**

Main set. Multipolar Dynamo, protected type, direct coupled to Engine  
Vertical open fronted. Double acting Type Cylinders 7 x 6. 100 lb Steam Pressure 350 R.P.M.  
Aux set. Multipolar Dynamo, protected type, direct coupled to Engine  
Vertical open fronted. Double acting Type Cylinders 3 1/2 x 3. 100 lb Steam 350 R.P.M.  
 Capacity of Dynamo Main 100 Amperes at 110 Volts, whether continuous or alternating current Continuous  
 Where is Dynamo fixed Eng Room. Starboard Whether single or double wire system is used double  
 Position of Main Switch Board in Eng Room having switches to groups 6 Circuits of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each no Aux Switchboards fitted,  
Section & Distribution Boxes fitted as required.

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 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

Total number of lights provided for 200 arranged in the following groups :-  
 A Fore Circuit 50 lights each of 16 + 33 candle power requiring a total current of 18 Amperes  
 B Bridge Circuit 55 lights each of B, 32 + 50 CP + 10 Fans candle power requiring a total current of 25 Amperes  
 C Aft Circuit 55 lights each of 16 + 32 C.P. + 6 Fans candle power requiring a total current of 28 Amperes  
 D Eng Room 30 lights each of 16 + 32 C.P. candle power requiring a total current of 10 Amperes  
 E Wireless lights each of - - - - - candle power requiring a total current of 15 Amperes  
 F Workshop Mastor - - - - - candle power requiring a total current of 27 Amperes  
2 Mast head light with 1 lamps each of 32 candle power requiring a total current of 2 Amperes  
2 Side light with 1 lamps each of 32 candle power requiring a total current of 2 Amperes  
12 Cluster Cargo lights of 6-16 C.P. each candle power, whether incandescent or arc lights Incandescent

If are lights, what protection is provided against fire, sparks, &c. No Aris

Where are the switches controlling the masthead and side lights placed W/J. Switches on Bridge

**DESCRIPTION OF CABLES.**

Main cable carrying 100 Amperes, comprised of 19 wires, each 14 S.W.G. diameter, .094 square inches total sectional area  
 Branch cables carrying 28 Amperes, comprised of 19 wires, each 17 S.W.G. diameter, .046 square inches total sectional area  
 Branch cables carrying 18 Amperes, comprised of 7 wires, each 18 S.W.G. diameter, .0125 square inches total sectional area  
 Leads to lamps carrying .36 Amperes, comprised of 1 wires, each 17 S.W.G. diameter, .0024 square inches total sectional area  
 Cargo light cables carrying 1/2 Amperes, comprised of 176 wires, each 38 S.W.G. diameter, .0049 square inches total sectional area

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

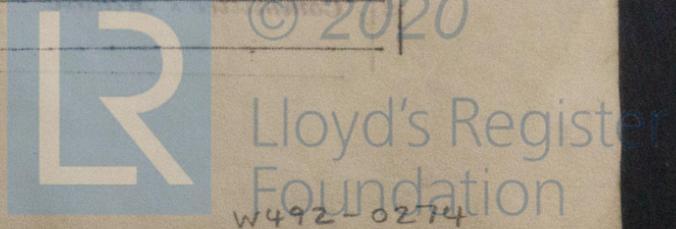
L.C. Armoured Cable in Crew Space etc. L.C. Cable in Galv Iron Tubes in Eng & Boiler Rooms, open decks, & where likely to get rough usage.

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 on decks when exposed to weather L.C. Cables in Galv Steel Tubing.



**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

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Cable run in Galv Iron Tubing

What special protection has been provided for the cables near boiler casings L. C. in Tubing

What special protection has been provided for the cables in engine room L. C. & Armoured

How are cables carried through beams bushed with lead through bulkheads, &c. Glands

How are cables carried through decks Galv Deck Tubes

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

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 and with an amperemeter Yes, fixed on Switchboard

**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 Yes

Are any switches, fuses, or joints of cables fitted in the pump room or companion No

How are the lamps specially protected in places liable to the accumulation of vapour or gas Gaslight Fittings

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 2,500 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.

Palmer's Shipbuilding & Iron Co. Ltd. Electrical Engineers Date 16/2/17

**COMPASSES.**

Distance between dynamo or electric motors and standard compass 60 Feet

Distance between dynamo or electric motors and steering compass 50 Feet

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
1	9	12	12
2	18	12	12
✓	✓	✓	✓

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

**PALMERS SHIPBUILDING & IRON CO., LD.,**

J. H. Hutchison  
SHIPYARD MANAGER

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

**GENERAL REMARKS.**

This electric lighting installation has been fitted in accordance with the rules and satisfactorily tested with all lights on.

George Murdoch  
Surveyor to Lloyd's Register of Shipping.

Elec. light. J.W.D. 26/2/17

FR.—2 MAR. 1917

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.