

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 23358

Port of Sunderland Date of First Survey \_\_\_\_\_ Date of Last Survey \_\_\_\_\_ No. of Visits \_\_\_\_\_  
 No. in Reg. Book on the Iron or Steel "Mokawitz" Port belonging to \_\_\_\_\_  
 Built at Sunderland By whom J. L. Thompson & Sons Ltd When built \_\_\_\_\_  
 Owners \_\_\_\_\_ Owners' Address \_\_\_\_\_  
 Yard No. \_\_\_\_\_ Electric Light Installation fitted by Sunderland Forge Co Ltd When fitted \_\_\_\_\_

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

Multipolar compound wound Dynamo direct coupled to "Fallon" open type Engine.  
 Capacity of Dynamo 180 Amperes at 65 Volts, whether continuous or alternating current continuous  
 Where is Dynamo fixed in Engine Room. Whether single or double wire system is used Double  
 Position of Main Switch Board close to Dynamo having switches to groups 4 of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each \_\_\_\_\_

If cut outs 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 cut outs fitted to both flow and return wires or cables of all circuits including lamp circuits yes  
 Are the cut outs of non-oxidizable metal yes and constructed to fuse at an excess of 100 per cent over the normal current  
 Are all cut outs 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 cut-outs constructed of incombustible materials and fitted on incombustible bases yes

Total number of lights provided for 115. 16cp arranged in the following groups:— 4 2-15 amp Arc Lamps + Projector  
 A 45 Inc + 1 Arc lights each of 16 candle power requiring a total current of 60 Amperes  
 B 45 lights each of 16 candle power requiring a total current of 48 Amperes  
 C 25 Inc + 1 Arc lights each of 16 candle power requiring a total current of 38 Amperes  
 D Projector lights each of Main only supplied candle power requiring a total current of 1 Amperes  
 E \_\_\_\_\_ lights each of \_\_\_\_\_ candle power requiring a total current of \_\_\_\_\_ Amperes  
2 Mast head light with 1 lamps each of 32 2.7 candle power requiring a total current of .9 Amperes  
2 Side light with 1 lamps each of 32 2.7 candle power requiring a total current of .9 Amperes  
8 Cargo lights of 6 x 16 candle power, whether incandescent or arc lights incandescent

If arc lights, what protection is provided against fire, sparks, &c. and 2-15 amp Arc Lamps fitted with Lanterns  
 Where are the switches controlling the masthead and side lights placed in Wheel House.

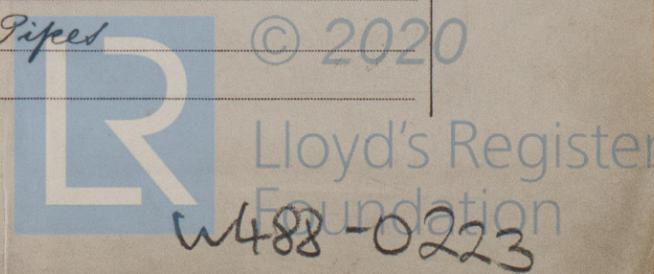
**DESCRIPTION OF CABLES.**

Main cable carrying 101 Amperes, comprised of 37 wires, each 15 L.S.G. diameter, .151 square inches total sectional area  
 Branch cables carrying 60 Amperes, comprised of 19 wires, each 16 L.S.G. diameter, .0612 square inches total sectional area  
 Branch cables carrying 48 Amperes, comprised of 19 wires, each 17 L.S.G. diameter, .0467 square inches total sectional area  
 Leads to lamps carrying 1.8 Amperes, comprised of 1 wires, each 18 L.S.G. diameter, .00181 square inches total sectional area  
 Cargo light cables carrying 5.4 Amperes, comprised of 7 wires, each 2 1/2 L.S.G. diameter, .0050 square inches total sectional area

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

Pure Rubber, Vulcanised Rubber, Taped + Braided, Main the same in Iron Pipes, Berths etc as above + lead covered.  
Engine Room Armoured + Braided.  
 Joints in cables, how made, insulated, and protected These are none.

Are all the joints of cables thoroughly soldered, resin only having been used as a flux \_\_\_\_\_ 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 No  
 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 Iron Pipes



DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible No.
What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture Lead covered wires used.
What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Lead covered wires.
What special protection has been provided for the cables near boiler casings Armoured & Braided wire used
What special protection has been provided for the cables in engine room Ditto.
How are cables carried through beams Pushed Holed. through bulkheads, &c. Watertight Glands used
How are cables carried through decks Watertight Deck Tubes used.
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 Iron Pipes.
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 cut outs for these lights fitted
If in the spaces, how are they specially protected
Are any switches or cut outs fitted in bunkers
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
The installation is Yes supplied with a voltmeter and Yes an amperemeter, fixed Main Switchboard.

VESSELS BUILT FOR CARRYING PETROLEUM.

In vessels built for carrying petroleum, are all switches and cut-outs fitted in positions not liable to the accumulation of petroleum vapour or gas
Are any switches, cut outs, 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 99 per cent. that of pure copper.
Insulation of cables is guaranteed to have a resistance of not less than 600 megohms per statute mile after 24 hours' immersion in seawater.

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.

W. SCHILLER, FORCE & ENGINEERING Co., LTD.

Electrical Engineers

Date August 9<sup>th</sup> 1907

COMPASSES.

Distance between dynamo or electric motors and standard compass 160
Distance between dynamo or electric motors and steering compass 140
The nearest cables to the compasses are as follows:—
A cable carrying 6 Amperes 15 feet from standard compass 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 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.

JOSEPH L. THOMPSON & SONS, Limited.

Joseph A. Thompson

Builder's Signature.

Date 13<sup>th</sup> Aug 1907

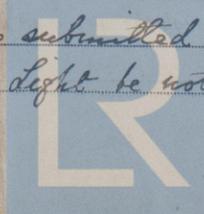
GENERAL REMARKS.

This installation complies with the Rules, & worked satisfactorily & the vessel is eligible for the record "Electric Light" in the Register Book
R.W. Coomber

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

Committee's Minute

It is submitted that the Record Elec. Light be noted in the Reg. Book.



Lloyd's Register Foundation

15.8.07

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

REPORT FORM 1.1.-2m.34.