

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 30265

Port of Glasgow Date of First Survey 29.5.11 Date of Last Survey 12th June 1911 No. of Visits 5  
 No. in Reg. Book 146 on the Iron Steel 1 1/2 "LADY TENNANT." Port belonging to Glasgow  
 Built at Glasgow By whom Kapier & Miller Ltd When built 1904-1  
 Owners Kobel's Explosives Co Ltd Owners' Address 149, West George St. Glasgow.  
 Yard No.  Electric Light Installation fitted by Owners. When fitted 1911.

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

Single Cylinder Double Acting Enclosed Engine, directly coupled to a Semi-enclosed 4 pole compound wound 4 kilowatt generator.  
 Capacity of Dynamo 38 Amperes at 110 Volts, whether continuous or alternating current continuous  
 Where is Dynamo fixed in main engine room Whether single or double wire system is used double wire  
 Position of Main Switch Board 5 feet from generator having switches to groups five of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each one adjoining main switch board having 4 switches, and one forming part of the Navigation Lights Indicator situate in Cabin having 7 switches.  
 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 cessel 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 50 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 52 arranged in the following groups :-

|   |                               |                |  |   |      |         |
|---|-------------------------------|----------------|--|---|------|---------|
| A | 13                            | lights each of | 16   | candle power requiring a total current of | 3.3  | Amperes |
| B | 13                            | lights each of | 16   | candle power requiring a total current of | 3.3  | Amperes |
| C | 5                             | lights each of | 16   | candle power requiring a total current of | 1.25 | Amperes |
| D | 7                             | lights each of | 5, 16, & 32                                      | candle power requiring a total current of | 7.05 | Amperes |
| E | 14                            | lights each of | 16 & 32  | candle power requiring a total current of | 5.4  | Amperes |
| 1 | Mast head light with          | 1 lamp each of | 32   | candle power requiring a total current of | 1.2  | Amperes |
| 2 | Side lights with              | 1 lamp each of | 32   | candle power requiring a total current of | 2.4  | Amperes |
| 2 | Cargo lights of 6 lamps each, | of 16          | candle power, whether incandescent or arc lights | incandescence                             |      |         |

If arc lights, what protection is provided against fire, sparks, &c. no arcs

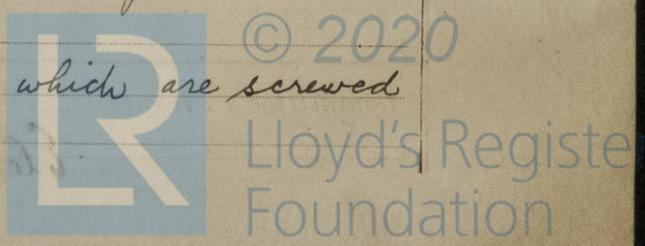
Where are the switches controlling the masthead and side lights placed In cabin on Navigation Lights Indicator

**DESCRIPTION OF CABLES.**

Main cable carrying 20.35 Amperes, comprised of 19 wires, each 18 S.W.G. L.S.G. diameter, 0.034 square inches total sectional area  
 Branch cables carrying 7.05 Amperes, comprised of 7 wires, each 20 L.S.G. diameter, 0.00705 square inches total sectional area  
 Branch cables carrying 3.3 Amperes, comprised of 7 wires, each 22 L.S.G. diameter, 0.0042 square inches total sectional area  
 Leads to lamps carrying 0.25 Amperes, comprised of 3 wires, each 22 L.S.G. diameter, 0.0018 square inches total sectional area  
 Cargo light cables carrying 1.5 Amperes, comprised of 225 wires, each 40 L.S.G. diameter, 0.004 square inches total sectional area

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

b.M.A. grade cables, V.I.R., taped, braided & compounded  
 Joints in cables, how made, insulated, and protected thoroughly sweated with solder, insulated pure Para strip and protected by manson tape.  
 Are all the joints of cables thoroughly soldered, resin only having been used as a flux 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 in welded steel tubes which are screwed together, being leaded at all joints.



**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 galvanised steel tubes ✓

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

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 in steel tubes ✓ through bulkheads, &c. " ✓

How are cables carried through decks " ✓

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 cut outs for these lights fitted \_\_\_\_\_

If in the spaces, how are they specially protected \_\_\_\_\_

Are any switches or cut outs 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 \_\_\_\_\_

The installation is \_\_\_\_\_ supplied with a voltmeter and \_\_\_\_\_ an amperemeter, fixed on 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 described as of 100% conductivity ✓ guaranteed to have a conductivity of \_\_\_\_\_ per cent. that of pure copper.

Insulation of cables is guaranteed to have a resistance of not less than 2500 ✓ megohms per statute mile after 24 hours' immersion in ~~sea~~ water.

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.

Robels Explosives Co Ltd Electrical Engineers Date \_\_\_\_\_

**COMPASSES.**

Distance between dynamo or electric motors and standard compass Fifty four feet

Distance between dynamo or electric motors and steering compass Nineteen feet

The nearest cables to the compasses are as follows:—

|                  |     |         |           |                            |            |                            |
|------------------|-----|---------|-----------|----------------------------|------------|----------------------------|
| A cable carrying | 0.2 | Amperes | 3 inches  | feet from standard compass | Sixty four | feet from steering compass |
| A cable carrying | 0.2 | Amperes | four      | feet from standard compass | Sixty two  | feet from steering compass |
| A cable carrying | 1.2 | Amperes | Sixty one | feet from standard compass | Three      | 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 one degrees on E by S course in the case of the standard compass and one degrees on E by S course in the case of the steering compass.

Robels Explosives Co Ltd Builder's Signature Date 24<sup>th</sup> June 1911

**GENERAL REMARKS.**

This installation has been fitted on board under Special Survey, & tested under full working conditions & found satisfactory.

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

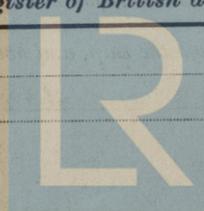
C. H. Pilditch

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

Committee's Minute

Glasgow 12 JUL. 1911

Elec. Light.



Lloyd's Register Foundation

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

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