

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 14099.

Port of Greenock Date of First Survey 23rd Sept Date of Last Survey 15th Oct No. of Visits 16  
 No. in Reg. Book on the Iron or Steel S.S. "Emu" Port belonging to Trieste  
 Built at Port Glasgow By whom Messrs Russell & Co When built 1904  
 Owners Frattelli Kosulich Owners' Address   
 Yard No. 530 Electric Light Installation fitted by J. Charters, Glasgow When fitted 1904

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

Compound dynamo coupled direct to open type engine.

Capacity of Dynamo 60 Amperes at 110 Volts, whether continuous or alternating current Continuous  
 Where is Dynamo fixed On starboard side of Engine Room below platform  
 Position of Main Switch Board beside dynamo having switches to groups A. B. C. of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each Engine Room 9 switches, Chart house 4 switches.

If cut outs are fitted on main switch board to the cables of main circuit no 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 tin 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 wire 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 = 102 arranged in the following groups:—

A Eng. Rm. 2nd cl. Rm.	14 lights each of	16	candle power requiring a total current of	16	Amperes
(2 fuses)					
B Office 1st cl.	25 lights each of	16	candle power requiring a total current of	25	Amperes
(2 fuses)					
C 2nd cl. Rm.	20 lights each of	16	candle power requiring a total current of	10	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 lights with	Double Filament 1 lamp each of	32	candle power requiring a total current of	2.	Amperes
2 Side light with	1 lamp each of	32	candle power requiring a total current of	2.	Amperes
no	Cargo lights of		candle power, whether incandescent or arc lights		

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	55 Amperes, comprised of	19 wires, each	16 L.S.G. diameter,	.00603 square inches total sectional area
Branch cables carrying	13 Amperes, comprised of	7 wires, each	16 L.S.G. diameter,	.0022 square inches total sectional area
Branch cables carrying	10 Amperes, comprised of	7 wires, each	18 L.S.G. diameter,	.0025 square inches total sectional area
Leads to lamps carrying	5 Amperes, comprised of	3 wires, each	2 L.S.G. diameter,	.00182 square inches total sectional area
Cargo light cables carrying	Amperes, comprised of	wires, each	L.S.G. diameter,	square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

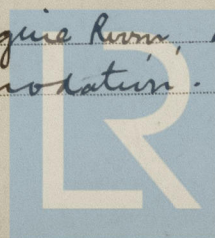
Pure or vulcanized India Rubber, tape, braid & compound.

Joints in cables, how made, insulated, and protected 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 tube in holds, engine room, storeroom and up masts for side lights, wood casing in accommodation.





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

Are they in places always accessible *yes except in holds & bunkers.*  
 What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture *iron tubes.*

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

What special protection has been provided for the cables near boiler casings *iron tube.*

What special protection has been provided for the cables in engine room *iron tube.*

How are cables carried through beams *in fibre plugs.* through bulkheads, &c. *iron tubes.*

How are cables carried through decks *iron tubes.*

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 tubes.*

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coal, or baggage *yes.*

If so, how are the lamp fittings and cable terminals specially protected *by cast brass caps.*

Where are the main switches and cut outs for these lights fitted *in Engine room.*

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 *none.* How fixed *✓*

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel *double wire*

How are the returns from the lamps connected to the hull *✓*

Are all the joints with the hull in accessible positions *✓*

**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 installation is \_\_\_\_\_ supplied with a voltmeter and \_\_\_\_\_ an amperemeter, fixed *on board.*

The copper used is guaranteed to have a conductivity of *100* 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.

*J. Charters, Glasgow,*

Electrical Engineers

Date *15<sup>th</sup> Oct 1904.*

**COMPASSES.**

Distance between dynamo or electric motors and standard compass *over 30 ft.*

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
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 *every* course in the case of the standard compass and *no* degrees on *every* course in the case of the steering compass.

Builder's Signature. Date

**GENERAL REMARKS.** *The installation is fitted in accordance with the rules, and on trial worked satisfactorily.*

*R. Elliott.*

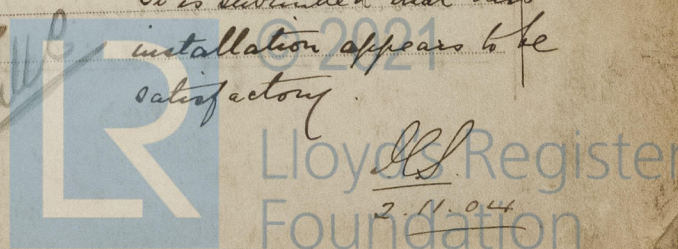
Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute

*Glasgow 31 OCT 1904*

*Record "Electric light"*

*It is submitted that this installation appears to be satisfactory*



THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

REPORT FORM No. 14.