

REPORT ON ELECTRIC LIGHTING INSTALLATION.

No. 34106

Port of **NEWCASTLE-ON-TYNE** Date of First Survey _____ Date of Last Survey **17th Nov/96** No. of Visits _____
 No. in Reg. Book on the Iron or Steel **S.S. Cornwall** Port belonging to **London**
 Built at **Newcastle** By whom **Messrs Hawthorn Leslie & Co** When built **1896**
 Owners **Federal S. N. Co. Ltd** Owners Address **London**
 Yard No. Electric Light Installation fitted by **Messrs W & J Robinson & Co Ltd** When fitted **1896**

DESCRIPTION OF DYNAMO, ENGINE, ETC.

14" Gramme Compound Dynamo coupled direct to open type Auto Governor, High Class Engine at 280 revs.
 Capacity of Dynamo **155** Amperes at **60** Volts, whether continuous or alternating current **continuous**
 Where is Dynamo fixed **Engine room.**
 Position of Main Switch Board **close to Dynamo** having switches to groups _____ of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each **Saloon one, 3 Switches.**

If cut outs are fitted on main switch board to the cables of main circuit **Yes** and on each auxiliary switch boards 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 **25** 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 **written instructions**
 Are all switches and cut-outs constructed of incombustible materials and fitted on incombustible bases **Yes porcelain.**

Total number of lights provided for **150** arranged in the following groups:—

| Group | Number of lights | Each of | Candle power | Requiring a total current of | Amperes |
|-------|--------------------------------------|----------------|----------------|------------------------------|---------|
| A | 69 | lights each of | 16 cp | 69 | Amperes |
| B | 50 | lights each of | 16 cp | 50 | Amperes |
| C | 30 | lights each of | 16 cp | 30 | Amperes |
| D | | lights each of | | | Amperes |
| E | | lights each of | | | Amperes |
| 1 | Mast head light with 1 lamps each of | 32 cp | 2 | Amperes | |
| 2 | Side light with 1 lamps each of | 32 cp | 4 | Amperes | |
| 5 | Cargo lights of | 200 cp | 5 Incandescent | | |

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

Where are the switches controlling the masthead and side lights placed **in Lighthouses & Forecastle.**

DESCRIPTION OF CABLES.

| Capacity | Amperes | Comprised of | Wires | Each | L.S.G. diameter | Square inches total sectional area |
|-----------------------------|---------|--------------|-------|-----------------|-----------------|------------------------------------|
| Main cable carrying | 250 | 37 | 13 | L.S.G. diameter | .246 | square inches total sectional area |
| Branch cables carrying | 69 | 19 | 16 | L.S.G. diameter | .061 | square inches total sectional area |
| Branch cables carrying | 50 | 7 | 13 | L.S.G. diameter | .046 | square inches total sectional area |
| Leads to lamps carrying | 30 | 7 | 14 | L.S.G. diameter | .035 | square inches total sectional area |
| Cargo light cables carrying | | | | L.S.G. diameter | | square inches total sectional area |

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Pure rubber, vulcanised, taped and, Braided

Joints in cables, how made, insulated, and protected **Well made running joints, well soldered covered with pure rubber tape, and solution, and rubber covered tape and solution outside**

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 **Heavy wood casing.**



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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 wire

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Iron pipe or lead covered wire

What special protection has been provided for the cables near boiler casings Iron pipe

What special protection has been provided for the cables in engine room Iron pipe where required

How are cables carried through beams in insulators through bulkheads, &c. Water tight glands

How are cables carried through decks Iron pipes and insulators

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

If so, how are they protected run in casing & protected by 2 1/2" Pine boards

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 Boxes upper deck

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 none made

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 amperometer, fixed near dynamo

The copper used is guaranteed to have a conductivity of 98% 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 & J. Robinson & Co. Ltd Electrical Engineers Date Dec 4th /96

COMPASSES.

Distance between dynamo or electric motors and standard compass 20 yds

Distance between dynamo or electric motors and steering compass 16 yds

The nearest cables to the compasses are as follows:—

| | | |
|--------------------------------------|--|--|
| A cable carrying <u>one</u> Amperes | <u>6 ft</u> feet from standard compass | <u>4 ft</u> feet from steering compass |
| A cable carrying <u>none</u> Amperes | <u>near</u> feet from standard compass | <u>—</u> feet from steering compass |
| A cable carrying <u>none</u> Amperes | <u>near</u> feet from standard compass | <u>—</u> 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 H course in the case of the standard compass and degrees on — course in the case of the steering compass.

W. H. Thompson, Leslie & Co., Limited Builder's Signature Date 15 Jan'y 1897

GENERAL REMARKS.

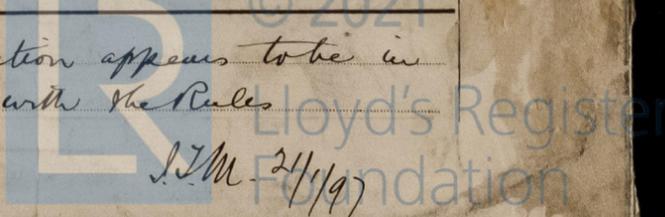
The installation has been examined by us & found satisfactory.

John H Heck & G. L. Hindmarsh
Surveyor to Lloyd's Register of British and Foreign Shipping

This installation appears to be in accordance with the Rules

REPORT FORM No. 13

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THE MARGIN



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J.M. 24/1/97