

REPORT ON ELECTRIC LIGHTING INSTALLATION.

45969

Port of **Newcastle** Date of First Survey **May 27** Date of Last Survey **June 15 - 05** of Visits **6**
 No. in **15** on the **Steel** **To Viking** Port belonging to **Douglas.**
 Built at **Low Walker** By whom **W. H. Armstrong Whitworth & Co.** 1905
 Owners **John of Man Steam Packet Co. Ltd.** Owners' Address **Douglas, I. of Man**
 Yard No. **759** Electric Light Installation fitted by **Blacks Chapman & Co.** When fitted **1905**

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two single cylinder double acting engines direct coupled to continuous current compound wound dynamos.

Capacity of Dynamo **1445** Amperes at **110** Volts, whether continuous or alternating current **continuous**

Where is Dynamo fixed **On bottom platform in Engine room, starboard side**

Position of Main Switch Board **Near dynamo** having switches to groups **A B C D E F G** of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each. **Each light is fitted with a switch close to light.**

If cut outs are fitted on main switch board to the cables of main current **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 **50** per cent over the normal current

Are all cut outs fitted in easily accessible position **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 fuses for each circuit **Yes**

Are all switches and cut-outs constructed of incombustible materials and fitted on incombustible bases **Yes. State, amberion and porcelain**

Total number of lights provided for arranged in the following groups:-

Captain's Bridge 145 each of	16	candle power requiring a total current of	37.5	Amperes
Engine Room 16 lights each of	16	candle power requiring a total current of	16.5	Amperes
Main Deck 32 lights each of	16	candle power requiring a total current of	25	Amperes
C - Deck 56 lights each of	16	candle power requiring a total current of	14.5	Amperes
D - Deck 29 lights each of	16	candle power requiring a total current of	2.5	Amperes
E - Deck 5 lights each of	16	candle power requiring a total current of	1.5	Amperes
F - Deck 1 light each of	32	candle power requiring a total current of	1	Amperes
2 Side lights with 1 lamp each of	32	candle power requiring a total current of		
2 Cargo lights of 6-16 cp. each		candle power, whether incandescence or arc lights	Incandescence	

If arc lights, what protection is provided against fire, sparks, &c. **None fitted.**

Where are the switches controlling the masthead and side lights placed **On Captain's Bridge.**

DESCRIPTION OF CABLES.

Main cable carrying 1445.5 Amperes, comprised of	37	wires, each	44	L.S.G. diameter	.1536	square inches total sectional area
Branch cables carrying 37.5 Amperes, comprised of	19	wires, each	16	L.S.G. diameter	.0603	square inches total sectional area
Branch cables carrying 25 Amperes, comprised of	7	wires, each	14	L.S.G. diameter	.0245	square inches total sectional area
Leads to lamps carrying .5 Amperes, comprised of	1	wire, each	15	L.S.G. diameter	.0015	square inches total sectional area
Cargo light cables carrying 3 Amperes, comprised of	7	wires, each	20	L.S.G. diameter	.0070	square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Vulcanized rubber taped & braided & lead covered, & when exposed steel armoured over the lead covering.

Joints in cables how made, insulated, and protected **No joints except mechanical ones**

Are all the joints of cables thoroughly protected, resin only having been used **Yes** Are all joints accessible **Yes**

Are there any bare wires or branches from the cable leading from the ship to the shore **No**

How are the cables led through the ship, and how protected **Lead covered and steel armoured covered by brass**

Are the cables of the ship **Yes**



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What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture? **Lead covered and steel armored.**

What special protection has been provided for the cables near galley or oil lamps or other sources of heat? **Lead covered and armored.**

What special protection has been provided for the cables near boiler casings? **Lead covered and armored.**

What special protection has been provided for the cables in engine room? **Lead covered and armored.**

How are cables carried through beams? **In lead tubes.**

How are cables carried through decks? **In galvanized iron watertight steel tubes.**

Are any cables run through oval bulkheads? **No.** or cargo spaces? **Yes** appears which may be used for carrying cargo, stores, or baggage? **Yes**

If so, how are they protected? **Lead covered and armored.**

Are any lamps fitted in oval bulkheads or spaces which can at times be used for cargo, stores, or baggage? **Yes.**

If so, are the lamp fittings and cable terminals specially protected? **Guarded fittings.**

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

If in the galley, how are they specially protected? **✓**

Are the switches or cut-outs fitted in bulkheads? **No.**

Cargo light cables, whether portable or permanently fixed? **portable**

Are vessels fitted on the inside with... how is the dynamic terminal fixed to the hull of vessel? **Double wire system.**

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.

Are vessels built for carrying petroleum, are all switches and cut-outs fitted in positions not liable to the accumulation of petroleum vapour or gas? **Yes.**

Are any switches, cut-outs, or joints of cables fitted in the pump room or compartment? **Yes.**

How are the lamps specially protected in places liable to the accumulation of vapour or gas? **new** supplied with a collector and **old** an amperometer, fixed on main switchboard.

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 **2,500** 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.

For Clarke Chapman & Co. Ltd.,
(Sigs) H. Wachter
Director
Electrical Engineers
Date: **13 July 1905**

COMPASSES

Distance between dynamo or electric motor and standard compass **150**

Distance between dynamo or electric motor and steering compass **156**

The signal cables to the compasses are as follows:—

	Amps	feet from standard compass	feet from steering compass
A cable carrying .5 Amperes Electric light plant			
A cable carrying .5 Amperes			
A cable carrying .5 Amperes			

Have the compasses been adjusted with and without the electric installation at work at full power? **Yes.**

The maximum deviation due to electric currents, was found to be **Nil** degrees on **all** course in the case of the standard compass and **Nil** degrees on **all** course in the case of the steering compass.

Builder's Signature **David Geddes & Co. Ltd.**
(Sigs) H. Sinton White
Date: **15th July, 1905.**

GENERAL REMARKS

This installation appears to be fitted in accordance with the Rules of the Society and when tested was satisfactory.

(Sigs) J. J. Kindlay.