

REPORT ON ELECTRIC LIGHTING INSTALLATION.

Port of Newcastle

Received at London Office Ti 11 JAN 1894

No. 29543*

No. in Reg. Book. 741 Name of Ship S.S. "Buteshire" Built at Newcastle When built 1893

Electric Light Installation fitted by Clarke Chapman & Co when fitted December 1893

DESCRIPTION OF DYNAMO AND ENGINE.—

Vertical single cylinder double acting engine driving by means of leather belting a compound wound dynamo on separate bedplate

Capacity of Dynamo 175 Amperes at 65 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed on engine room riding platform

LAMPS.—

Is vessel wired on single or double wire system single Total number of lights 140 arranged in the following groups:—

A 56 ~~32~~ lights each of 16 candle power requiring a total current of 5.1 Amperes

B 19 lights each of 16 candle power requiring a total current of 1.8 Amperes

C 15 lights each of 16 candle power requiring a total current of 1.4 Amperes

D 12 lights each of 16 candle power requiring a total current of 1.1 Amperes

E 5 lights each of 16 candle power requiring a total current of 4.5 Amperes

1 Mast head light with 1 lamps each of 32 cp. double filament candle power requiring a total current of 1.8 Amperes

2 Side light with 1 lamps each of 32 cp. do candle power requiring a total current of 1.8 Amperes

3 } Cargo lights of 6 --- } 32
2 } 6 --- } 16 candle power, whether incandescent or arc lights incandescent

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

SWITCHES AND CUT-OUTS.—

Position of Main Switch Board on starting platform having switches to groups A, B, C, D & E of lights as above

Positions of other switch boards and numbers of switches on each one switch to each light

If cut outs are fitted to main circuit yes and to each auxiliary circuit on branch switches

and at each position where cable is branched or reduced in size no

If vessel is wired on the double wire system are cut outs fitted on each wire

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

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

How are the lamps specially protected in places liable to the accumulation of vapour or gas

Are all switches and cut-outs constructed of unflammable materials and fitted on unflammable bases yes

DESCRIPTION OF CABLES.—

Main cable carrying 62 Amperes, comprised of 19 wires, each 16 legal standard wire gauge diameter

Branch cables carrying 22 Amperes, comprised of 7 wires, each 16 legal standard wire gauge diameter

Branch cables carrying 12 Amperes, comprised of 7 wires, each 18 legal standard wire gauge diameter

Leads to lamps .9 Amperes, comprised of 1 wires, each 18 legal standard wire gauge diameter

Cargo light cables carrying 11 Amperes, comprised of 283 wires, each 38 legal standard wire gauge diameter

The copper used has a conductivity of 98 per cent. that of pure copper.

Insulation of cables is guaranteed to have a resistance of not less than 1000 megohms per statute mile after 24 hours' immersion in seawater

DESCRIPTION OF INSULATION, PROTECTION, &c.—

Cables & wires insulated pure I.R. then vulcanising I.R., I.R. coated tape and the whole vulcanised together & covered with preservative compound

Cables are braided in addition to this and armoured except in cabins

Joints in cables, how made, insulated, and protected soldered with resin, two layers pure rubber tape rubber solution then finished with two layers of prepared tape & solution. Iron sheathed wire joints are finished with cast iron tee piece

Are all the joints of cables thoroughly soldered, resin only having been used as a flux yes

How are cables led throughout the ship In wood casing for cabins & sheathed in iron wire for all the rest of the ship, clipped close up to the deck, thro beams.

What special protection has been provided for the cables in open alleyways iron sheathing

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

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

What special protection has been provided for the cables in engine room do

How are cables carried through decks pipes and through bulkheads teak plugs

Are any cables run through coal bunkers yes or cargo spaces If so, how are they protected iron sheathing

Are any lamps fitted in coal bunkers or spaces which may be used for cargo yes

If so, how are they specially protected Cast iron hinged covers

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 brass tap screw & brass socket in beam.

How are the returns from the lamps connected to the hull brass tap screws & brass washers.

Are all the joints with the hull in accessible positions yes.

TESTING, &c.—

Has the installation been thoroughly tested to its full capacity during a trial of 6 hours' duration yes

The insulation resistance of the whole installation was not less than ohms

The installation is supplied with a voltmeter and not with an amperemeter, fixed on switch board.

General Remarks.—

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.

A. R. Chapman

Director.

Electrical Engineers

Date 3rd Jan. 1894

COMPASSES.—

Distance between dynamo and standard compass 100 ft

Distance between dynamo and steering compass 100 ft

The nearest cables to the compasses are as follows:—

A cable carrying	14	Amperes	25	feet from standard compass	25	feet from steering compass
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A cable carrying	11	Amperes	25	feet from standard compass	25	feet from steering compass
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A cable carrying		Amperes		feet from standard compass		feet from steering compass
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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 degrees on course in the case of the standard compass and degrees on course in the case of the steering compass.

H. & W. HAWTHORNE, LEBLIE & CO. LIMITED.

Arthur Foote.

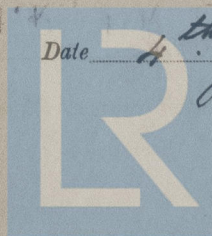
Builder's Signature

Date 5th January 1894.

Thomas Field

Surveyor's Signature

Date 4th January 1894.



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