

# REPORT ON ELECTRIC LIGHTING INSTALLATION.

No. 9198\*

Port of West Hartlepool

Received at London Office \_\_\_\_\_ 18

No. in Reg. Book, \_\_\_\_\_ Name of Ship S. S. Appomatox Built at Hartlepool When built 1893-9  
 Electric Light Installation fitted by Clarke Chapman & Co. Ltd. when fitted 9.93.

## DESCRIPTION OF DYNAMO AND ENGINE.—

Engine is of the vertical, single cylinder, double acting type, coupled direct to a two pole, drum armature type dynamo.

Capacity of Dynamo 115 Amperes at 65 Volts, whether continuous or alternating current Continuous

Where is Dynamo fixed In engine Room.

## LAMPS.—

Is vessel wired on single or double wire system Yes Total number of lights 125 arranged in the following groups:—

Group	No. of lights	Candle power	Amperes
A	<u>28</u>	<u>16</u>	<u>25.2</u>
B	<u>36</u>	<u>16</u>	<u>32.4</u>
C	<u>42</u>	<u>16</u>	<u>37.8</u>
D	<u>18</u>	<u>16</u>	<u>16.2</u>
E	_____	_____	_____
— Mast head light with _____ lamps each of _____ candle power requiring a total current of _____ Amperes			
— Side light with _____ lamps each of _____ candle power requiring a total current of _____ Amperes			
<u>Four</u> Cargo lights of <u>4. 16 c.p each</u> candle power, whether incandescent or arc lights <u>Incandescent</u>			

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

## SWITCHES AND CUT-OUTS—

Position of Main Switch Board Near dynamo having switches to groups A B C D of lights as above

Positions of other switch boards and numbers of switches on each 1 on Engine Room casing for lights in steering gear, stores, cattle spaces fore & aft, & engineers quarters. 1 in Cabin Lobby for lights in Captain's room, Chart room, & Forecastle accommodation.

If cut outs are fitted to main circuit Yes and to each auxiliary circuit Yes  
 and at each position where cable is branched or reduced in size Yes

If vessel is wired on the double wire system are cut outs fitted on each wire No

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 _____	Amperes, comprised of _____	wires, each _____	legal standard wire gauge diameter _____
Branch cables carrying _____	Amperes, comprised of _____	wires, each _____	legal standard wire gauge diameter _____
Branch cables carrying _____	Amperes, comprised of _____	wires, each _____	legal standard wire gauge diameter _____
Leads to lamps _____	Amperes, comprised of _____	wires, each _____	legal standard wire gauge diameter _____
Cargo light cables carrying _____	Amperes, comprised of _____	wires, each _____	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 2,000 megohms per statute mile after 24 hours' immersion in seawater

DESCRIPTION OF INSULATION, PROTECTION, &c.—

Insulated with pure J.R. then vulcanising J.R. then J.R. coated tape, & the whole vulcanised together. Braided with tarred flax, & coated with Preservative Compound.

Joints in cables, how made, insulated, and protected Properly jointed, soldered, & insulated with pure J.R. & J.R. solution, then covered with J.R. coated tape.

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 strong wood casings, run close against deck, & carried through beams.

What special protection has been provided for the cables in open alleyways Lead covered in addition to the casing.

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Lead covering.

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

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

How are cables carried through decks Through deck tubes and through bulkheads Through glands.

Are any cables run through coal bunkers Yes or cargo spaces — If so, how are they protected Run in special heavy casings, close against deck.

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

If so, how are they specially protected —

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 —

TESTING, &c.—

Has the installation been thoroughly tested to its full capacity during a trial of 8 hours' duration

The insulation resistance of the whole installation was not less than 150,000 ohms

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

General Remarks.—

The flexible cables for use with hand lamps in Bunkers are sheathed in iron wire.

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.

John W. Murray Electrical Engineers

Date September 13<sup>th</sup> 1893.

COMPASSES.

Distance between dynamo and standard compass 90 feet

Distance between dynamo and steering compass 84 feet

The nearest cables to the compasses are as follows:—

A cable carrying .9 Amperes 6 feet from standard compass 2 feet from steering compass

A cable carrying .9 Amperes 20.5 feet from standard compass 3 1/2 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 —

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.

FOR FURNESS, WITBY & CO., LIMITED.

L. W. Stoddart

Builder's Signature Date 15 Sept 1893.

L. Stoddart

Surveyor's Signature Date 15<sup>th</sup> Sep. 1893



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