

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 14296.

Port of West Hartlepool Date of First Survey White Date of Last Survey building No. of Visits ✓
 No. in Reg. Book on the Iron or Steel S.S. Turkistan Port belonging to
 Built at West Hartlepool By whom W. Gray & Co. Ltd When built 1911
 Owners Owners' Address
 Yard No. 797 Electric Light Installation fitted by Blake Chapman & Co When fitted 1911

DESCRIPTION OF DYNAMO, ENGINE, ETC.

One single cylinder double acting open type vertical engine direct coupled to a continuous current compound wound dynamo.

Capacity of Dynamo 190 Amperes at 65 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed in Engine Room. Whether single or double wire system is used Double.

Position of Main Switch Board near Dynamo. having switches to groups A B C & D of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each Each light & group of lights provided with switches as required

If cut outs are fitted on main switch board to the cables of main circuit 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 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 Yes

Are all switches and cut-outs constructed of incombustible materials and fitted on incombustible bases Yes Slate & porcelain.

Total number of lights provided for 110 - 100 P. arranged in the following groups:—

A	<u>25</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>23</u>	Amperes		
B	<u>30</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>27.6</u>	Amperes		
C	<u>55</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>50.7</u>	Amperes		
D	<u>20" Searchlight</u>	lights each of	<u>16,000</u>	candle power requiring a total current of	<u>60</u>	Amperes		
E	—	lights each of	—	candle power requiring a total current of	—	Amperes		
	<u>2</u>	Mast head light with	<u>1</u>	lamps each of	<u>32</u>	candle power requiring a total current of	<u>3.6</u>	Amperes
	<u>2</u>	Side light with	<u>1</u>	lamps each of	<u>32</u>	candle power requiring a total current of	<u>3.6</u>	Amperes
	<u>2</u>	—		Cargo lights of	<u>3,000</u>	candle power, whether incandescent or arc lights	<u>arc lights</u>	

If arc lights, what protection is provided against fire, sparks, &c. provided with totally enclosed hexagonal clear glass lanterns

Where are the switches controlling the masthead and side lights placed In wheel House.

DESCRIPTION OF CABLES.

Main cable carrying 190 Amperes, comprised of 37 wires, each 14 L.S.G. diameter, 1/8240 square inches total sectional area

Branch cables carrying 60 Amperes, comprised of 19 wires, each 16 L.S.G. diameter, 06000 square inches total sectional area

Branch cables carrying 34 Amperes, comprised of 7 wires, each 14 L.S.G. diameter, 03459 square inches total sectional area

Leads to lamps carrying 9 Amperes, comprised of 1 wires, each 18 L.S.G. diameter, 00181 square inches total sectional area

Cargo light cables carrying 12 Amperes, comprised of 7 wires, each 18 L.S.G. diameter, 01246 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

vulcanized india rubber taped & braided & lead covered - vessel where 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 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, 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 Lead covered & armoured clipped to underside of deck.

DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible *no*

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

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

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

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

How are cables carried through beams *in lead bushes* through bulkheads, &c. *in glands.*

How are cables carried through decks *in galvanized iron deck 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 *Lead covered & steel armoured.*

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 *to W.T.C.I. Boxes.*

In vessels fitted on the single wire system, how is the dynamo 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 *—*

The installation is *now* supplied with a voltmeter and *also* an amperemeter, fixed on *Switchboard*

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 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.

For **CLARKE, CHAPMAN & Co. LTD.**

W. Walker

Electrical Engineers

Date *Nov 7th 1911*

COMPASSES.

Distance between dynamo or electric motors and standard compass *Chairman 20 ft.*

Distance between dynamo or electric motors and steering compass *115. "*

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<i>.9</i>	<i>12</i>	<i>6</i>	<i>6</i>
<i>.9</i>	<i>6</i>	<i>12</i>	<i>12</i>
<i>—</i>	<i>—</i>	<i>—</i>	<i>—</i>

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 *nil.* degrees on *alb.* course in the case of the standard compass and *nil.* degrees on *alb.* course in the case of the steering compass.

FOR WILLIAM GRAY & Co., LIMITED.

Wm. Gray Director

Builder's Signature. Date

GENERAL REMARKS.

The integrity of the wires throughout this vessel is as stated in this Report and appears to be in accordance with the Committee's requirements.

It is submitted that this vessel is eligible for THE RECORD. Elec. light.

J.W.D. J.P.R.
17/11/11

James Jones

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

Committee's Minute

