

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 11285.

Port of West Hartlepool Date of First Survey 20th Oct 99 Date of Last Survey 6th Sep 1900 No. of Visits
 No. in on the Iron or Steel S.S. Gorjistan Port belonging to Swansea
 Reg. Book Built at West Hartlepool By whom Sir W. Gray & Coy When built 1900
 Owners Messrs J.C. Strick & Coy Owners' Address
 Yard No. 613 Electric Light Installation fitted by Clarke Chapman & Coy When fitted 1900

DESCRIPTION OF DYNAMO, ENGINE, ETC.

One single cylinder double acting engine of the vertical type coupled direct to a compound wound continuous current dynamo
 Capacity of Dynamo 138 Amperes at 6.5 Volts, whether continuous or alternating current continuous
 Where is Dynamo fixed in recess on starting platform in main engine room
 Position of Main Switch Board close to dynamo having switches to groups A.B.C.D.E of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each each light provided with its own switch fitted near to light.

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 ambroin & porcelain

Total number of lights provided for 75 arranged in the following groups:—

A	<u>10</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>9.2</u>	Amperes
B	<u>20</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>18.5</u>	Amperes
C	<u>24</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>22</u>	Amperes
D	<u>21</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>19.8</u>	Amperes
E	<u>1 Mast head light</u>	lights each of	<u>20000 (nominal)</u>	candle power requiring a total current of	<u>60</u>	Amperes
	<u>2</u>	Mast head light with <u>2</u> lamps each of	<u>16</u>	candle power requiring a total current of	<u>1.8</u>	Amperes
	<u>2</u>	Side light with <u>4</u> lamps each of	<u>16</u>	candle power requiring a total current of	<u>3.8</u>	Amperes
	<u>4</u>	Cargo lights of	<u>6-16</u>	candle power, whether incandescent or arc lights <u>incandescent</u>		

If arc lights, what protection is provided against fire, sparks, &c. 1-15 Ampere Arc lamp fitted with hexagonal lantern.

Where are the switches controlling the masthead and side lights placed in Chart House.

DESCRIPTION OF CABLES.

Main cable carrying 160 Amperes, comprised of 19 wires, each 12 L.S.G. diameter, .459 square inches total sectional area
 Branch cables carrying 23 Amperes, comprised of 7 wires, each 16 L.S.G. diameter, .022 square inches total sectional area
 Branch cables carrying 60 Amperes, comprised of 19 wires, each 16 L.S.G. diameter, .0604 square inches total sectional area
 Leads to lamps carrying 1 Amperes, comprised of 1 wires, each 18 L.S.G. diameter, .0018 square inches total sectional area
 Cargo light cables carrying 7.2 Amperes, comprised of 350,40 wires, each .0158, .018 L.S.G. diameter, .012 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Vulcanised rubber tapes & braided lead covered in addition lead covered & armoured in exposed positions

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 no, some being in bunkers.

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, and lead covered and armoured cables secured by brass clips close up to deck at 12" intervals.

DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible *No, some being fitted in coal bunkers.*
 What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture *Lead covered, and lead covered and armoured.*
 What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *Lead covered & armoured*
 What special protection has been provided for the cables near boiler casings *Lead covered & armoured.*
 What special protection has been provided for the cables in engine room *Lead covered & armoured.*
 How are cables carried through beams *in lead bushes* through bulkheads, &c. *in glands.*
 How are cables carried through decks *in galvanized 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 and 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 *Cast Iron watertight boxes.*
 In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel *This 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.

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 *now* supplied with a voltmeter and an amperemeter, fixed *on main switchboard.*
 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 *1000* 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.

Electrical Engineers

Date *7th Sep 1900*

COMPASSES.

Distance between dynamo or electric motors and standard compass *75 feet*
 Distance between dynamo or electric motors and steering compass *75 "*
 The nearest cables to the compasses are as follows:—
 A cable carrying *7.2* Amperes feet from standard compass *5* feet from steering compass
 A cable carrying *.6* Amperes feet from standard compass *5* 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 *Yes*
 The maximum deviation due to electric currents, etc., was found to be *0* degrees on *all* course in the case of the standard compass and *0* degrees on *all* course in the case of the steering compass.

Richard Krier

Builder's Signature.

Date *21 October 1900*

GENERAL REMARKS.

The fitting of the wires throughout this vessel are as stated on this report and appear to be in accordance with the Committee's requirements.

Richard Krier

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

Committee's Minute

It is submitted that this installation appears to meet the Rule requirements.



Lloyd's Register
 Foundation

*150 lbs
 1st*

25.9.00

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.