

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 1451

Port of W. Hartlepool Date of First Survey White Date of Last Survey Building No. of Visits \_\_\_\_\_  
 No. in on the Iron or Steel SS Araban Port belonging to \_\_\_\_\_  
 Reg. Book 121A Built at Hartlepool By whom Sir W. Gray & Co. When built 1912  
 Owners Rotterdamische Lloyd Owners' Address Rotterdam  
 Yard No. 811 Electric Light Installation fitted by Blanche Chapman When fitted 1912

**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 195 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 196 arranged in the following groups :-

A	28	lights each of	16	candle power requiring a total current of	26.5	Amperes
B	74	lights each of	16	candle power requiring a total current of	64.4	Amperes
C	37	lights each of	16	candle power requiring a total current of	30.3	Amperes
D	57	lights each of	16	candle power requiring a total current of	50.8	Amperes
E		lights each of		candle power requiring a total current of		Amperes
2	Mast head light with 2 lamps each of	32	candle power requiring a total current of	3.5	Amperes	
2	Side light with 1 lamp each of	32	candle power requiring a total current of	1.7	Amperes	
10	Cargo lights of	7-16	candle power, whether incandescent or arc lights	incandescent		

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

Where are the switches controlling the masthead and side lights placed in Blunt Room.

**DESCRIPTION OF CABLES.**

Main cable carrying 195 Amperes, comprised of 37 wires, each 14 L.S.G. diameter, .18240 square inches total sectional area

Branch cables carrying 65 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, .00781 square inches total sectional area

Cargo light cables carrying 6.2 Amperes, comprised of 168 wires, each 38 L.S.G. diameter, .05502 square inches total sectional area

**DESCRIPTION OF INSULATION, PROTECTION, ETC.**

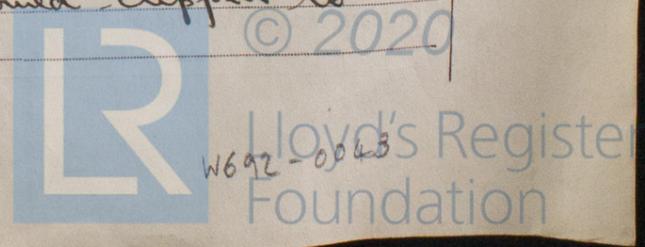
Vulcanized india rubber taped & braided & lead covered overall where exposed steel armoured over the lead covering.

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 covered & 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 WT Connection 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 Chairman.

Electrical Engineers

Date Dec 11<sup>th</sup> 1912.

**COMPASSES.**

Distance between dynamo or electric motors and standard compass 120 ft

Distance between dynamo or electric motors and steering compass 110 "

The nearest cables to the compasses are as follows:—

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

FOR WILLIAM GRAY & CO., LIMITED

R. W. Dryden Director.

Builder's Signature.

Date Dec 14 1912

**GENERAL REMARKS.**

The fitting of the main throughout this vessel is a stated in this Report and appears to be in accordance with the Committee

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

J.W.D.  
17/12/12.

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

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

