

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 1535

Port of WEST HARTLEPOOL Date of First Survey 7 Date of Last Survey While building No. of Visits 4  
 No. in Reg. Book on the Iron or Steel H.M. R.F.A. "Gyffid" Port belonging to London  
 Built at Hartlepool By whom W. Gray & Co. Ltd. When built 1916-1917  
 Owners Laure Macandrew Ltd. Owners' Address London  
 Yard No. 879 Electric Light Installation fitted by Messrs. Charles Chapman & Co. Ltd. When fitted 1916-1917

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two enclosed type vertical engines direct coupled to two continuous current compound wound dynamos  
 Capacity of Dynamo 250 each Amperes at 105 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 E F 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 fuses 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 fuses fitted to both flow and return wires or cables of all circuits including lamp circuits Yes  
 Are the fuses of non-oxidizable metal Yes and constructed to fuse at an excess of 50 per cent over the normal current  
 Are all fuses 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 fuses constructed of incombustible materials and fitted on incombustible bases Yes porcelain & mica  
 Total number of lights provided for 320 arranged in the following groups:—  

A	63	lights each of 55-16cp 8-50cp	candle power requiring a total current of	42.1	Amperes
B	60	lights each of 51-16cp 1-8cp 8-50cp	candle power requiring a total current of	40.5	Amperes
C	61	lights each of 8-6cp 43-16cp 1-32cp	candle power requiring a total current of	27.7	Amperes
D	16	lights each of 16-50cp	candle power requiring a total current of	25.6	Amperes
E	67	lights each of 1-2cp 50-16cp 16-50cp	candle power requiring a total current of	52.2	Amperes
F	53	lights each of 16cp	candle power requiring a total current of	28.2	Amperes
2	Mast head light with 1	lamps each of 16	candle power requiring a total current of	1.06	Amperes
2	Side light with 1	lamps each of 1-16, 1-32	candle power requiring a total current of	1.6	Amperes
6	Cargo lights of	8-50	candle power, whether incandescent or arc lights	incandescent	
2		4-16			

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

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

## DESCRIPTION OF CABLES.

Main cable carrying 250 Amperes, comprised of 37 wires, each .112" S.W.G. diameter, .350 square inches total sectional area  
 Branch cables carrying 52.2 Amperes, comprised of 37 wires, each .15 S.W.G. diameter, .150 square inches total sectional area  
 Branch cables carrying 42.1 Amperes, comprised of 19 wires, each .16 S.W.G. diameter, .060 square inches total sectional area  
 Leads to lamps carrying 1.2 Amperes, comprised of 1 wires, each .17 S.W.G. diameter, .00245 square inches total sectional area  
 Cargo light cables carrying 10.3 Amperes, comprised of 19 wires, each .22 S.W.G. diameter, .019 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Vulcanized india rubber taped & braided & lead covered overall

Joints in cables, how made, insulated, and protected no joints except mechanical ones

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances 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 cables run on galvanized iron plating along port & starboard sides of vessel, plating secured to underside of beams in bow deck



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DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible *Yes*

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture *Lead covered cables in galvanized iron pipes*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *Cables run in raised plating*

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 brass *WT* packed glands

How are cables carried through decks *in WT copper packed deck holes*

Are any cables run through coal bunkers *No* or cargo spaces *No* or spaces which may be used for carrying cargo, stores, or baggage *Yes*

If so, how are they protected *Lead covered cables run in raised galvanized iron plating*

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage *Yes*

If so, how are the lamp fittings and cable terminals specially protected *special brass fitting with locks & keys*

Where are the main switches and fuses for these lights fitted *in alleyways*

If in the spaces, how are they specially protected -

Are any switches or fuses 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 -

Is the installation supplied with a voltmeter *Yes*, and with an amperemeter *Yes*, fixed in *labeled*

VESSELS BUILT FOR CARRYING PETROLEUM.

In vessels built for carrying petroleum, are all switches and fuses fitted in positions not liable to the accumulation of petroleum vapour or gas *Yes*

Are any switches, fuses, or joints of cables fitted in the pump room or companion *No*

How are the lamps specially protected in places liable to the accumulation of vapour or gas *special gas proof brass fittings*

The copper used is guaranteed to have a conductivity of not less than that of the Engineering Standards Committee's standard, and the wires are protected by tinning from the sulphur compounds present in the insulating material.

Insulation of cables is guaranteed to have a resistance of not less than <sup>1,250</sup>~~1,500~~ megohms per statute mile at 60° Fahrenheit after 24 hours' immersion in water, the test being made after one minute's electrification at not less than 500 volts and while the cable is still immersed.

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 *April 20<sup>th</sup> 1917*

COMPASSES.

Distance between dynamo or electric motors and standard compass *44 ft*

Distance between dynamo or electric motors and steering compass *138 "*

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
2.1	12	6	
2.1	6	12	
.	-	.	

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 *all* course in the case of the steering compass.

For William Gray & Co. Ltd.

*G. Jones* Managing Director

Builder's Signature.

Date *April 24/1917*

GENERAL REMARKS.

The Electric Lighting Installation on board this vessel has been carried out as detailed above, & appears to meet the requirements of the Society's Rules.

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

*M. H. L.* Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 1-MAR. 1918

WED. 22 MAY. 1918



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