

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 15503.

Port of WEST HARTLEPOOL Date of First Survey and Date of Last Survey While Building No. of Visits  
 No. in Reg. Book on the Iron & Steel R.F.A. PALMOL Port belonging to London  
 Built at Hartlepool By whom Sir W. Gray & Co Ltd When built 1918  
 Owners Admiralty Owners' Address  
 Yard No. 890 Electric Light Installation fitted by Thos. Clarke Chapman & Co Ltd When fitted 1918

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two enclosed type oil engines direct coupled to two continuous current compound wound dynamos  
 Capacity of Dynamo 572.286 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 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-oxidisable 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 166 arranged in the following groups:  
 A Forward 58 lights each of 28-16MF, 16-50, 14-16 candle power requiring a total current of 35.7 Amperes  
 B Aft 64 lights each of 35-16MF, 16-50, 13-16 candle power requiring a total current of 42.5 Amperes  
 C Navigation 16 lights each of 2-16MF, 1-32, 4-16, 9-8 candle power requiring a total current of 5.3 Amperes  
 D Engine Room 28 lights each of 23-16MF, 5-16 candle power requiring a total current of 9.2 Amperes  
 E - lights each of - candle power requiring a total current of - Amperes  
 1 Mast head light with 1 lamps each of 16 candle power requiring a total current of .5 Amperes  
 2 Side light with 1 lamps each of 1-32 candle power requiring a total current of 1.6 Amperes  
 4 Cargo lights of 8-50 candle power, whether incandescent or arc lights incandescent

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

Where are the switches controlling the masthead and side lights placed on bridge

## DESCRIPTION OF CABLES.

Main cable carrying 572/286 Amperes, comprised of 91 wires, each 13 S.W.G. diameter, 1.500 square inches total sectional area  
 Branch cables carrying 42.5 Amperes, comprised of 19 wires, each 16 S.W.G. diameter, .060 square inches total sectional area  
 Branch cables carrying 35.7 Amperes, comprised of 19 wires, each 20 S.W.G. diameter, .019 square inches total sectional area  
 Leads to lamps carrying 5 Amperes, comprised of 1 wires, each 17 S.W.G. diameter, .0025 square inches total sectional area  
 Cargo light cables carrying 12 Amperes, comprised of 19 wires, each 22 S.W.G. diameter, .0011 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

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 sheet iron plating along tank sides & protected with sheet iron covers



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 run in fluting & covered with sheet iron covers*

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

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 *HT brass glands*

How are cables carried through decks *in copper & iron HT deck tiles*

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

If so, how are they protected *-*

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 fuses for these lights fitted *-*

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 brass connection boxes *Double wire system*

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 on *Switchboard*

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 fitted outside pump room entrance*

How are the lamps specially protected in places liable to the accumulation of vapour or gas *special brass gas-light 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 *1250/4500* 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 *May 29<sup>th</sup> 1918*

COMPASSES.

*W. J. Jones* Director

Distance between dynamo or electric motors and standard compass *46 ft*

Distance between dynamo or electric motors and steering compass *40 "*

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
5	12	6	
5	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 *Nil* degrees on *all* course in the case of the steering compass.

For *William Gray & Co., Limited,*

*W. J. Jones*

Builder's Signature.

Date *June 15/1918*

GENERAL REMARKS.

Managing Director.

*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.*

*W. J. Jones* 19/6/18.

*W. J. Jones*

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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