

## REPORT ON ELECTRIC LIGHTING INSTALLATION.

No. 15705

Port of *Hartlepool* Date of First Survey *17 Nov. /20* Date of Last Survey *22 Dec/20* No. of Visits *5*  
 No. in on the *Iron* or Steel *S.S. GONDIA* Port belonging to *Glasgow*  
 Reg. Book *32321* Built at *Hartlepool* By whom *Messrs. W. Gray & Co.* When built *1919*  
 Owners *British India S.N. Co. Ltd.* Owners' Address  
 Yard No. *919* Electric Light Installation fitted by *Messrs. Clarke Chapman & Co. Ltd.* When fitted *1919.*

## 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 *100* Amperes at *100* 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* 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 slate & porcelain*

Total number of lights provided for *129* arranged in the following groups:-

A Cabin & Crew	89	lights each of	16	candle power requiring a total current of	44.5	Amperes
B Engine Room	26	lights each of	16	candle power requiring a total current of	14.5	Amperes
C Navigation	14	lights each of	16	candle power requiring a total current of	7.8	Amperes
D Wireless	-	lights each of	-	candle power requiring a total current of	25	Amperes
E Arc Lamps	-	lights each of	-	candle power requiring a total current of	30	Amperes
2 Mast head light with	1	lamps each of	32	candle power requiring a total current of	2.2	Amperes
2 Side light with	1	lamps each of	32	candle power requiring a total current of	2.2	Amperes
2 Cargo lights of	3,000	candle power, whether incandescent or arc lights	-	arc lamps	-	Amperes

If arc lights, what protection is provided against fire, sparks, &c. *Electrically enclosed clean glass lanterns*

Where are the switches controlling the masthead and side lights placed *In chart room*

## DESCRIPTION OF CABLES.

Main cable carrying	100	Amperes, comprised of	19	wires, each	14	S.W.G. diameter, .094	square inches total sectional area
Branch cables carrying	44.8	Amperes, comprised of	7	wires, each	16	S.W.G. diameter, .022	square inches total sectional area
Branch cables carrying	14.5	Amperes, comprised of	7	wires, each	20	S.W.G. diameter, .0070	square inches total sectional area
Leads to lamps carrying	1.6	Amperes, comprised of	1	wires, each	18	S.W.G. diameter, .0018	square inches total sectional area
Cargo light cables carrying	15	Amperes, comprised of	178	wires, each	38	S.W.G. diameter, .0050	square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

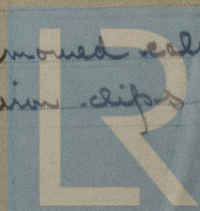
*Vulcanized india rubber taped & braided & lead covered where exposed steel armored cable*

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 & steel armored cables run through lines decks & clipped to beam with strong galvanized iron clips*



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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 armored cables*

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

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 WT 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 armored cables*

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 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 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 *.*

Are any switches, fuses, 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 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 *600* 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

*Feb 27<sup>th</sup> 1920*

COMPASSES.

Distance between dynamo or electric motors and standard compass *91 ft*

Distance between dynamo or electric motors and steering compass *90 "*

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
1.6	12	6	12
1.6	6	12	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. (1918) Limited**

Builder's Signature. Date

GENERAL REMARKS *For* **Managing Director.**

*This electric lighting installation has been fitted under survey. The materials and workmanship are good. On completion it was examined under full working conditions and found satisfactory*

*R. D. Shilston.*

Surveyor to Lloyd's Register of Shipping.

Committee's Minute



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