Rpt. 13.

Received at London Office MON. 22 APR. 1918

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 15456.

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 or~~ Steel S.S. "City of Florence" Port belonging to Liverpool

Built at West Hartlepool By whom Wm. Gray & Co.Ld When built 1918

Owners The Ellerman Lines, Ld., Owners' Address

Yard No. 879 Electric Light Installation fitted by Clarke, Chapman & Co.Ld When fitted 1918

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 200 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.F. & H. 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 162 arranged in the following groups :—

A	16 26	lights each of	16 16	candle power requiring a total current of	8.9 14.5	Amperes
B	31	lights each of	16	candle power requiring a total current of	17.3	Amperes
C	27	lights each of	16	candle power requiring a total current of	15.1	Amperes
D	20	lights each of	16	candle power requiring a total current of	11.2	Amperes
E	42 Wireless	lights each of	16	candle power requiring a total current of	23.6 25	Amperes
1	Mast head light with 1	lamps each of	32	candle power requiring a total current of	1.1	Amperes
2	Side light with 1	lamps each of	32	candle power requiring a total current of	2.2	Amperes
7	Cargo lights of	6 -	16	candle power, whether incandescent or arc lights	incandescent	

If arc lights, what protection is provided against fire, sparks, &c. 2 Enclosed type Arc Lamps with clear glass hexagonal lanterns.

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

DESCRIPTION OF CABLES.

Main cable carrying 200	Amperes, comprised of 37	wires, each 13	S.W.G. diameter, .250	square inches total sectional area
Branch cables carrying 23.6	Amperes, comprised of 7	wires, each 18	S.W.G. diameter, .0125	square inches total sectional area
Branch cables carrying 17.3	Amperes, comprised of 7	wires, each 20	S.W.G. diameter, .0070	square inches total sectional area
Leads to lamps carrying .56	Amperes, comprised of 1	wires, each 18	S.W.G. diameter, .0018	square inches total sectional area
Cargo light cables carrying 3.3	Amperes, comprised of 168	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 armoured 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 & armoured cables run through tween decks & clipped to underside of deck with strong iron clips.

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 cables.

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Lead & Armoured 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 W. T. 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 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 W.T.C.I. 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* 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 —

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° Farhenheit 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 16th 1918

COMPASSES. H Walker .....*Chairman*

Distance between dynamo or electric motors and standard compass 136 ft

Distance between dynamo or electric motors and steering compass 130 "

The nearest cables to the compasses are as follows :—

A cable carrying	·56	*Amperes*	12	*feet from standard compass*	6	*feet from steering compass*
A cable carrying	·56	*Amperes*	6	*feet from standard compass*	12	*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.

F. C. Pyman *Builder's Signature.* *Date* 18th April 1918

.....*Director.*

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.

HWD 23/4/18.

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

50,7,17.—Transfer.

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.