

REPORT ON ELECTRIC LIGHTING INSTALLATION. No 10057

Port of Middlesbrough Date of First Survey and Date of Last Survey while building No. of Visits 1
 No. in Reg. Book on the Iron or Steel S. S. Kenilworth Port belonging to Newcastle
 Built at Stockton By whom Messrs Richardson & Co Newcastle When built 1918
 Owners Walqlish Steam Shipping Co Owners' Address Newcastle
 Yard No. 662 Electric Light Installation fitted by Messrs Falconar Bros & Co Newcastle When fitted 1918.

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Open type Engine (Pobjoy 60) 6" x 7" direct coupled to compound wound dynamo; Output 16 K.W. @ 100 V 180 lbs steam.

Capacity of Dynamo 160 Amperes at 100 Volts, whether continuous or alternating current Continuous

Where is Dynamo fixed Engine Room Whether single or double wire system is used double

Position of Main Switch Board Engine Room 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 Aft Accom. 8; Saloon Accom. Officers 12; Cargo 5; Engine Room 6; Wireless; Arc Lamp;

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

Total number of lights provided for 152 arranged in the following groups:—

A	39	lights each of	16	candle power requiring a total current of	20	Amperes
B	55 51	lights each of	"	candle power requiring a total current of	26	Amperes
C	36	lights each of	"	candle power requiring a total current of	19	Amperes
D	22	lights each of	"	candle power requiring a total current of	11	Amperes
E	1	Arc Lamp	lights each of	2000	candle power requiring a total current of	15
F	1	Projector apparatus	lamps each of	32	candle power requiring a total current of	60
	2	Side light with	1 lamp each of	32	candle power requiring a total current of	2
	1	Star	lamps each of	32	"	"
	6	Cargo lights of	96	candle power, whether incandescent or arc lights	Incandescent	"

If arc lights, what protection is provided against fire, sparks, &c. Enclosed in strong guarded lantern (1,600 amp projector Suez Canal type fitted)

Where are the switches controlling the masthead and side lights placed Chart Room (4 Bridge Master Switch)

DESCRIPTION OF CABLES.

Main cable carrying 150 Amperes, comprised of 37 wires, each 14 S.W.G. diameter, .182 square inches total sectional area
 Branch cables carrying 60 Amperes, comprised of 19 wires, each 16 S.W.G. diameter, .060 square inches total sectional area
 Branch cables carrying 15 Amperes, comprised of 7 wires, each 18 S.W.G. diameter, .0125 square inches total sectional area
 Leads to lamps carrying 2 Amperes, comprised of 1 wires, each 18 S.W.G. diameter, .0018 square inches total sectional area
 Cargo light cables carrying 3 Amperes, comprised of 114 wires, each 38 S.W.G. diameter, .0032 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Pure & vulcanized India Rubber taped lead coverings and armings etc.

Joints in cables, how made, insulated, and protected Home made

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances — 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 —

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 on underside of decks through beams and on bulkheads all in sight.

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 coverings or cables in pipe if directly exposed.*

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

What special protection has been provided for the cables near boiler casings *do do*

What special protection has been provided for the cables in engine room *do do*

How are cables carried through beams *through bushed holes* through bulkheads, &c. *through WT glands*

How are cables carried through decks *through deck tubes*

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

If so, how are they protected *Steel wire armouring & braidings*

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 sockets*

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel *✓*

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 Main S.P.*

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.

Galeon Crossley Electrical Engineers Date *Yards 19th 1918*

COMPASSES.

Distance between dynamo or electric motors and standard compass *100 ft*

Distance between dynamo or electric motors and steering compass *92 "*

The nearest cables to the compasses are as follows:—

A cable carrying	<i>15</i>	Amperes	<i>60</i>	feet from standard compass	<i>50</i>	feet from steering compass
A cable carrying	<i>7</i>	Amperes	<i>30</i>	feet from standard compass	<i>20</i>	feet from steering compass
A cable carrying	<i>1/2</i>	Amperes	<i>48</i>	feet from standard compass	<i>48</i>	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 RICHARDSON, DUCK & CO. LTD.

E. Robson Builder's Signature. Date *23rd March 1918.*

GENERAL REMARKS.

This installation has been fitted in accordance with the Rules: is of good materials and workmanship and on completion was examined under full working conditions and found satisfactory

It is submitted that this vessel is eligible for

THE RECORD. Elec. light. *JWD 28/3/18.* *Wm Morrison* Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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