

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 70065

Port of *Newcastle on Tyne* Day of First Survey *14th June 1917* Date of Last Survey *19th July 1917* No. of Visits *12*
 No. in *1789* on the *Iron* Steel *Croxteth Hall* Port belonging to *Liverpool*
 Reg. Book *1789* Built at *Jarrow* By whom *Messrs Palmer Ltd* When built *1917*
 Owners *Ellerman Lines* Owners' Address
 Yard No. *847* Electric Light Installation fitted by *Palmer Ltd* When fitted *1917*

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Engine & Dynamo by Clarke Chapman & Co. Ltd.
 Capacity of Dynamo *200* Volts *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 *in Engine Room* having switches to groups *7* of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each *None*

If cut outs 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 cut outs fitted to both flow and return wires or cables of all circuits including lamp circuits *Yes*

Are the cut outs of non-oxidizable metal *Yes* and constructed to fuse at an excess of *50* per cent over the normal current

Are all cut outs 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

Are all switches and cut-outs constructed of incombustible materials and fitted on incombustible bases *Yes*

Total number of lights provided for *116* arranged in the following groups:—

A	7	lights each of	32	candle power requiring a total current of	7.5	Amperes
B	102	lights each of	16	candle power requiring a total current of	57	Amperes
C	7	lights each of	8	candle power requiring a total current of	2	Amperes
D		lights each of		candle power requiring a total current of		Amperes
E		lights each of		candle power requiring a total current of		Amperes
2	Mast head light with	1	lamps each of	32	candle power requiring a total current of	1.12
2	Side light with	1	lamps each of	32	candle power requiring a total current of	1.12
6	Cargo lights of	6-16		candle power, whether incandescent or arc lights	Incandescent	

If arc lights, what protection is provided against fire, sparks, &c. *No arcs fitted*

Where are the switches controlling the masthead and side lights placed *At Steering Wheel on Bridge*

DESCRIPTION OF CABLES.

Main cable carrying	200	Amperes, comprised of	37	wires, each	13	L.S.G. diameter, .25	square inches total sectional area
Branch cables carrying	28.2	Amperes, comprised of	7	wires, each	15	L.S.G. diameter, .028	square inches total sectional area
Branch cables carrying	9	Amperes, comprised of	19	wires, each	20	L.S.G. diameter, .019	square inches total sectional area
Leads to lamps carrying	2.5	Amperes, comprised of	1	wires, each	17	L.S.G. diameter, .0025	square inches total sectional area
Cargo light cables carrying	3.5	Amperes, comprised of	7	wires, each	18	L.S.G. diameter, .0125	square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Cables where exposed to damage - Armoured & Lead Covered
" in Cabins etc. - Lead Covered

Joints in cables, how made, insulated, and protected

None

Are all the joints of cables thoroughly soldered, resin only having been used as a flux *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 *Yes*

How are the cables led through the ship, and how protected *Clipped to under side of deck, Armoured.*



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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 Covering*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *None*

What special protection has been provided for the cables near boiler casings *None*

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

How are cables carried through beams *drifted holes* through bulkheads, &c. *if Watertight-glands*

How are cables carried through decks *in 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

If so, how are they protected *Armoured cables*

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coats, or baggage *No*

If so, how are the lamp fittings and cable terminals specially protected *—*

Where are the main switches and cut outs for these lights fitted *—*

If in the spaces, how are they specially protected *—*

Are any switches or cut outs fitted in bunkers *—*

Cargo light cables, whether portable or permanently fixed *Portable* How fixed *—*

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 *—*

The installation is *Yes* supplied with a voltmeter and *Yes* an amperemeter, fixed *on switchboard*

VESSELS BUILT FOR CARRYING PETROLEUM.

In vessels built for carrying petroleum, are all switches and cut-outs fitted in positions not liable to the accumulation of petroleum vapour or gas

Are any switches, cut outs, 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 *99%* per cent. that of pure copper.

Insulation of cables is guaranteed to have a resistance of not less than *2.500* megohms per statute mile after 24 hours' immersion in seawater.

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.

Palmers Shipbuilding & Iron Co., Ltd.

Electrical Engineers

Date *7-8-17*

COMPASSES.

Distance between dynamo or electric motors and standard compass *152 ft*

Distance between dynamo or electric motors and steering compass *142 ft*

The nearest cables to the compasses are as follows:—

Cable	Amperes	feet from standard compass	feet from steering compass
A cable carrying <i>2.5</i>	<i>12</i>	<i>2</i>	<i>2</i>
A cable carrying <i>—</i>	<i>—</i>	<i>—</i>	<i>—</i>
A cable carrying <i>—</i>	<i>—</i>	<i>—</i>	<i>—</i>

Have the compasses been adjusted with and without the electric installation at work at full power

The maximum deviation due to electric currents, etc., was found to be *—* degrees on standard compass and *—* degrees on

degrees on course in the case of the

course in the case of the steering compass.

Builder's Signature. Date

GENERAL REMARKS

The electric lighting installation of this vessel has been fitted in accordance with the rules and satisfactorily tested with all lights burning.

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

Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute



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THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.