

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 60765

Port of NEWCASTLE ON TYNE Date of First Survey 9 June Date of Last Survey 29 July No. of Visits 6
 No. in Reg. Book 1273 on the Iron or Steel P. P. Mogileff Port belonging to
 Built at Walker By whom Armstrong Whitworth & Co. When built 1911
 Owners Russian Volunteer & Sea Association Owners' Address
 Yard No. 799 Electric Light Installation fitted by Clarke Chapman & Co. When fitted 1911

DESCRIPTION OF DYNAMO, ENGINE, ETC.

One vertical open type single cylinder double acting engine direct coupled to a continuous current compound wound dynamo.

Capacity of Dynamo 165 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 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 Yes

Are all switches and cut-outs constructed of incombustible materials and fitted on incombustible bases Yes slate & porcelain

Total number of lights provided for 231 - 16 CP arranged in the following groups:—

A	72	lights each of	16	candle power requiring a total current of	43.2	Amperes
B	53	lights each of	16	candle power requiring a total current of	31.8	Amperes
C	27	lights each of	16	candle power requiring a total current of	16.2	Amperes
D	47	lights each of	16	candle power requiring a total current of	28.2	Amperes
E	32	lights each of	16	candle power requiring a total current of	19.2	Amperes
2	Mast head light with	1	lamps each of	32	candle power requiring a total current of	1.2
2	Side light with	1	lamps each of	32	candle power requiring a total current of	1.2
5	Cargo lights of each	5-16	candle power, whether incandescent or arc lights	incandescent		

If arc lights, what protection is provided against fire, sparks, &c. also 2-3000 CP open type are lamps with hexagonal clear glass lanterns.

Where are the switches controlling the masthead and side lights placed in Wheel House

DESCRIPTION OF CABLES.

Main cable carrying	165	Amperes, comprised of	37	wires, each	14	L.S.G. diameter, 18240	square inches total sectional area
Branch cables carrying	45	Amperes, comprised of	19	wires, each	17	L.S.G. diameter, 04593	square inches total sectional area
Branch cables carrying	22	Amperes, comprised of	7	wires, each	16	L.S.G. diameter, 022140	square inches total sectional area
Leads to lamps carrying	18.6	Amperes, comprised of	1	wires, each	18	L.S.G. diameter, 00181	square inches total sectional area
Cargo light cables carrying	3	Amperes, comprised of	176	wires, each	38	L.S.G. diameter, 00502	square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

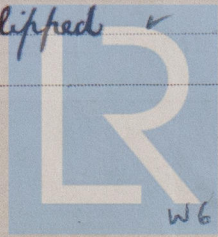
Vulcanized india rubber taped & braided & lead covered overall where exposed steel armoured over the lead covering.

Joints in cables, how made, insulated, and protected no joints except mechanical ones

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 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 clipped to underside of deck



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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 armoured* ✓
 What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *Lead & Armoured* ✓
 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 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
 If so, how are they protected *Lead covered & steel armoured* ✓
 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 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 *to W.T.C.T. Connection Box* ✓
 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 —
 The installation is *now* ✓ supplied with a voltmeter and *also* ✓ an amperemeter, fixed *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 *100* ✓ per cent. that of pure copper.
 Insulation of cables is guaranteed to have a resistance of not less than *600* ✓ 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.

For **CLARKE, CHAPMAN & Co. LTD.**

Electrical Engineers

Date *July 24th 1911.*

COMPASSES.

Distance between dynamo or electric motors and standard compass *100 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
<i>.6</i>	<i>12</i>	<i>6</i>	
<i>.6</i>	<i>6</i>	<i>12</i>	
<i>—</i>	<i>—</i>	<i>—</i>	

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* ✓ courses in the case of the standard compass and *nil* ✓ degrees on *all* ✓ courses in the case of the steering compass.

For

SIR W. G. ARMSTRONG, WHITWORTH & CO. LIMITED.

Builder's Signature.

Date *11th August 1911.*

GENERAL REMARKS.

This installation has been fitted in accordance with the requirements and has been seen running under full power satisfactorily.
It is submitted that this vessel is eligible for THE RECORD Elec. light.
J.W.D. 15/8/11
Charles Cooper
 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.