

REPORT ON ELECTRIC LIGHTING INSTALLATION.

No. 7669

Port of *Belfast* Date of First Survey *April 8, 1916* Date of Last Survey *May 22nd* No. of Visits *13*
 No. in on the Iron or Steel *H.M.S. Petunia* Port belonging to *—*
 7. Book Built at *Belfast* By whom *Wickman Clark & Co. Ltd.* When built *1916*
 Owners *The Admiralty* Owners' Address *—*
 Ord No. *367* Electric Light Installation fitted by *Sunderland Forge Co. Ltd.* When fitted *1916*

DESCRIPTION OF DYNAMO, ENGINE, ETC.

2. Direct-coupled generating sets consisting of compound enclosed high speed steam engines coupled to compound-wound, multipolar dynamos.
 Capacity of Dynamos each *250* Amperes at *105* Volts, whether continuous or alternating current *continuous*
 Where is Dynamo fixed *In Engine room* Whether single or double wire system is used *double wiring*
 Position of Main Switch Board *Do* *Do* having switches to groups *7* of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each *① Chartroom ② Wireless Telegraph Office*
③ Crew Space For ④ Engine room ⑤ Engine room ⑥ Engine room ⑦ Officers passage aft
 All standard Admiralty pattern watertight Fuse boxes
 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 *100* 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 *Standard Admiralty Type fuses 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 *207 @ 16 1/2* arranged in the following groups:—

A	19	lights each of	16	candle power requiring a total current of	11.4	Amperes
B	130	lights each of	16	candle power requiring a total current of	91.8	Amperes
C	4	lights each of	16	candle power requiring a total current of	12.4	Amperes
D	54	lights each of	16	candle power requiring a total current of	66.4	Amperes
E	2	lights each of	—	candle power requiring a total current of	160.0	Amperes
F	2	lights each of	16	candle power requiring a total current of	1.2	Amperes
G	2	lights each of	32	candle power requiring a total current of	1.8	Amperes
H	8	lights of	50	candle power, whether incandescent or arc lights	Incandescent	

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

Where are the switches controlling the masthead and side lights placed *In Chartroom on Bridge.*

DESCRIPTION OF CABLES.

Main cable carrying	250	Amperes, comprised of	37	wires, each	13	L.S.G. diameter,	0.25	square inches total sectional area
Branch cables carrying	91.8	Amperes, comprised of	19	wires, each	14	L.S.G. diameter,	0.0937	square inches total sectional area
Branch cables carrying	66.4	Amperes, comprised of	19	wires, each	14	L.S.G. diameter,	0.0937	square inches total sectional area
Leads to lamps carrying	2.4	Amperes, comprised of	1	wires, each	17	L.S.G. diameter,	0.00246	square inches total sectional area
Cargo light cables carrying	15	Amperes, comprised of	19	wires, each	22	L.S.G. diameter,	0.01148	square inches total sectional area

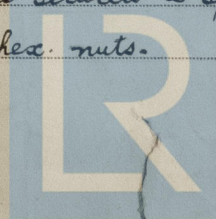
DESCRIPTION OF INSULATION, PROTECTION, ETC.

Tinned copper conductor, insulated with pure and vulcanising India-Rubber, taped, vulcanised together and lead-covered overall.
 All to British Admiralty specification & tests and passed by Overseer at maker's works.
 Joints in cables, how made, insulated, and protected *No Joints*

Are all the joints of cables thoroughly soldered, resin only having been used as a flux *—* 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 *Lead-covered Admiralty Pattern cables secured to special dished steel cable plates by copper or brass clips and R. H. Brass screws & hex. nuts.*



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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 covered

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

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 Lead Bushings fitted through bulkheads, &c. Watertight Brass Glands.

How are cables carried through decks Through Watertight Deck Tubes

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

If so, how are they protected Lead covered

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage Yes.

If so, how are the lamp fittings and cable terminals specially protected Strong Brass Guard & Glass Globe.

Where are the main switches and cut outs for these lights fitted In Engine Room.

If in the spaces, how are they specially protected —

Are any switches or cut outs fitted in bunkers no.

Cargo light cables, whether portable or permanently fixed Portable. How fixed Attached to Admiralty Pattern Watertight Brass Terminal Boxes.

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 two voltmeters and also two an amperemeters fixed in Engine Room.

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 all Standard Admiralty Pattern Cable tested and passed by per cent. that of pure copper.

Insulation of cables is guaranteed to have a resistance of not less than Admiralty Overseer at makers works 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.

P. PRO THE SUNDERLAND FORGE & ENGINEERING CO. LTD.

H. Wright

Electrical Engineers

Date

COMPASSES.

Distance between dynamo or electric motors and standard compass 106 feet

Distance between dynamo or electric motors and steering compass 100 feet.

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<u>0.6</u>	<u>3</u>	<u>3</u>	<u>3</u>
<u>10.2</u>	<u>18</u>	<u>10</u>	<u>10</u>
<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>

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.

P. Pro

Builder's Signature.

Date

25th May 1916

GENERAL REMARKS.

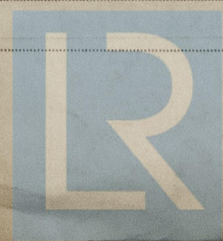
This installation has been fitted in accordance with the Admiralty Specifications, and is of good description throughout. It is generally over the Rule requirements except the short length of main cable from dynamo to main switchboard. The approved plans were sent with the report on H.M.S. Raleigh.

Surveyor to Lloyd's Register of British and Foreign Shipping

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

REPORT FORM No. 13.—3m.34.



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