

Y. S. S. Orlega

July 9th 1906.

Supplementary list of circuits.

A. Saloon.	70 lights	42 Amperes.
B. 2nd class do.	29	14.5
C. Forecastle.	25	15
D. Steerage.	70	42
E. 1st class S.R. outer.	36	22
F. " " inner.	23	13.8
G. 2nd class S.R. outer.	16	9.5
H. do inner	18	10.8
I. General	37	25
J. " aft.	21	12.5
K. Stores	24	15
L. Decklights	30	19
M. Daylight	66	39
N. " "	105	63
O. " "	45	27
P. Engine Room.	63	37
Q. Storehold	32	19
R. Cargo.	60	36
S. Aft Ford.		25
T. " Midships		25
U. " aft		25
V. Motor Ford.		60
W. " aft.		60



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W684-0019

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 6149

Port of Belfast Date of First Survey April 26th Date of Last Survey 28th June No. of Visits 14
 No. in Reg. Book on the Iron Steel T.S.S. Ortega Port belonging to Liverpool
 Built at Belfast By whom Harland & Wolff Ltd When built 1906
 Owners Pacific Steam Navigation Co Ltd Owners' Address Liverpool
 Yard No. 316 Electric Light Installation fitted by W. H. Allen Son & Co Ltd Belfast When fitted 1906

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Three compound engines having cylinders 10" + 17" dia x 10" stroke coupled directly to compound wound + pole dynamo.

Capacity of Dynamo 400 Amperes at 100 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed in recess at aft end of Engine room, at middle platform level.

Position of Main Switch Board on aft bulkhead of recess having switches to groups as per separate list of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each

See other sheet attached

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 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

Total number of lights provided for 776 arranged in the following groups:— As per supplementary sheet.

A	lights each of		candle power requiring a total current of	Amperes
B	lights each of		candle power requiring a total current of	Amperes
C	lights each of		candle power requiring a total current of	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 lamp each of	32	candle power requiring a total current of	2.4 Amperes
2	Side light with 1 lamp each of	32	candle power requiring a total current of	2.4 Amperes

10 Cargo lights each of 6 16 c.p. candle power, whether incandescent or arc lights incandescent

If arc lights, what protection is provided against fire, sparks, &c. also 3 arc lamps, totally enclosed in lanterns.

Where are the switches controlling the masthead and side lights placed in wheel house on bridge

DESCRIPTION OF CABLES.

Main cable carrying 400 Amperes, comprised of 61 wires, each 12 L.S.G. diameter, .532 square inches total sectional area
 Branch cables carrying 40 Amperes, comprised of 19 wires, each 17 L.S.G. diameter, .0477 square inches total sectional area
 Branch cables carrying 22 Amperes, comprised of 7 wires, each 16 L.S.G. diameter, .0289 square inches total sectional area
 Leads to lamps carrying 22 + 4.2 Amperes, comprised of 7 + 1 wires, each 22 + 16 L.S.G. diameter, .0042 + .0033 square inches total sectional area
 Cargo light cables carrying 36 Amperes, comprised of 145 wires, each 38 L.S.G. diameter, .0042 square inches total sectional area

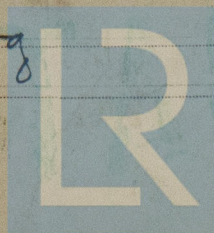
DESCRIPTION OF INSULATION, PROTECTION, ETC.

The conductor is tinned, covered with one layer of pure rubber, then two layers of vulcanising rubber, the whole vulcanised together, finally taped & braided. In machinery spaces the wires after vulcanising are lead covered, served & spirally armoured with g.i. wires
 Joints in cables, how made, insulated, and protected thoroughly soldered, re-insulated with two layers of pure rubber, afterwards with two layers of prepared taped & varnished

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 No

How are the cables led through the ship, and how protected in strong wood casing



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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 on open decks they are lead covered, and on masts in g. i. pipe

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

What special protection has been provided for the cables near boiler casings lead covered, sewed and armoured

What special protection has been provided for the cables in engine room 1 rail g. i. wires

How are cables carried through beams in fibre females through bulkheads, &c. with glands

How are cables carried through decks in g. i. pipes bushed with fibre

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

If so, how are they protected by strong wood casing

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 —

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel Screwed to fore of magnet

How are the returns from the lamps connected to the hull Soldered to 3/8 brass screws

Are all the joints with the hull in accessible positions Yes

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 installation is — supplied with a voltmeter and 2 ampere meters fixed on switchboard

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 2500 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 W. H. ALLEN, SON & CO. LTD

J. B. Parnison

Electrical Engineers

Date July 9th 1906

COMPASSES.

Distance between dynamo or electric motors and standard compass Dynamo 162 ft. aft motor 95 ft. fore motor 70 ft. (about)

Distance between dynamo or electric motors and steering compass 156 ft. 89 65 (about)

The nearest cables to the compasses are as follows:—

A cable carrying 15 Amperes 9 feet from standard compass — feet from steering compass

A cable carrying — Amperes all double feet from standard compass — feet from steering compass

A cable carrying — Amperes wired 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 every course in the case of the standard compass and Nil degrees on every course in the case of the steering compass.



For Harland & Wolff Ltd

Builder's Signature.

Date 18th July 1906

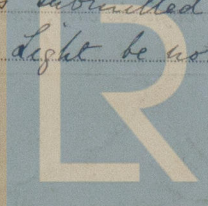
GENERAL REMARKS.

This installation has been fitted in accordance with the Rules, and is of good description throughout

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

Committee's Minute

It is submitted that the Record
Rec. Light be noted in the Reg Book.



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2.8.06

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.