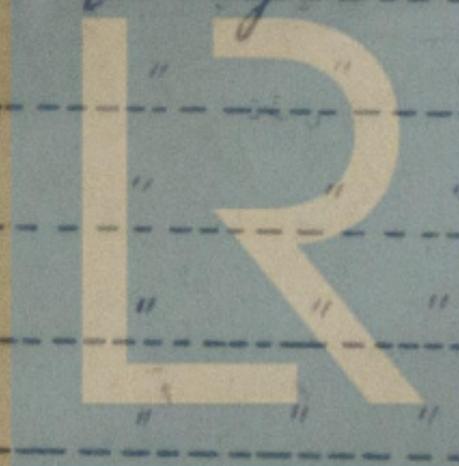


F	Cargo.	20	lights	each	of	16	c.p.	+ 2	lights	each	of	1000	c.p.	requiring	a	total	current	of	22	amps.	
G	Machinery Port.	{ 12	"	"	"	27	"	+ 1	"	"	"	600	"	"	"	"	"	"	"	10.8	"
H	" Star.	{ 13	"	"	"	27	"	+ 1	"	"	"	600	"	"	"	"	"	"	"	9.3	"
I	Lathé.																			12.0	"
J	Drilling machine.																			20.0	"
K	Pump Rooms and Tunnel.	12	"	"	"	27	"	+ 4	"	"	"	600	"	"	"	"	"	"	"	15.6	"



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W11360130 1/2

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 9101

Port of Immergarry Date of First Survey Nov 16<sup>th</sup> 1923 Date of Last Survey Apr 17<sup>th</sup> 1924 No. of Visits 8  
 No. in Reg. Book 609 on the Iron or Steel Built at Belfast Port belonging to London  
 Owners British Mexican Petroleum Coy By whom Harland & Wolff Ltd When built 1924  
 Owners' Address managers A Weir & Coy When fitted 1924  
 Electric Light Installation fitted by Harland & Wolff Ltd

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two single cylinder 8" diameter x 3" stroke forced lubrication Engines each direct coupled to the 12 1/2 K.W. Dynamo running at a speed of 600 R.P.M.  
 Capacity of Dynamo 125 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 A.B.C.D.E.F.G.H.I.J.K of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each Three in Engine Room each with 6 switches and two in wheelhouse, one with 5 switches and the other with 9 switches.

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 100 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 236 arranged in the following groups:—

A Navigation	{ 8 lights each of 6 C.P. } 5 lights each of 8 candle power requiring a total current of 16 Amperes
B Wireless	{ 5 lights each of 32 C.P. } 4 " " " 16 candle power requiring a total current of 15 Amperes
C Lighting Amidships	lights each of 10 1/2" Cabin Yards 60 lights each of 27 C.P. + 7 lights each of 16 candle power requiring a total current of 27.2 Amperes
D " Fore	11 lights each of 27 " + 2 " " " 16 candle power requiring a total current of 4.5 Amperes
E " Aft	{ 2 lights each of 27 " + 2 " " " 16 candle power requiring a total current of 12.9 Amperes
2 Mast head light with 1 lamp each of 32 candle power requiring a total current of 2.4 Amperes	
2 Side lights with 1 lamp each of 32 candle power requiring a total current of 2.4 Amperes	
6 - 3 light Cargo lights each of 48 " " " 1000 candle power, whether incandescent or arc lights } Incandescent	
2 - 1/2 Watt Cargo lights " " " 16 " " " }	
2 - 1 light " " " " " " " }	

If arc lights, what protection is provided against fire, sparks, &c. \_\_\_\_\_  
 Where are the switches controlling the masthead and side lights placed In Wheelhouse

## DESCRIPTION OF CABLES.

Main cable carrying	125 Amperes, comprised of	37 wires, each .072 S.W.G. diameter,	.15 square inches total sectional area
Branch cables carrying	22 Amperes, comprised of	7 wires, each .064 S.W.G. diameter,	.0225 square inches total sectional area
Branch cables carrying	4.5 Amperes, comprised of	7 wires, each .036 S.W.G. diameter,	.007 square inches total sectional area
Leads to lamps carrying	2.4 Amperes, comprised of	3 wires, each .036 S.W.G. diameter,	.003 square inches total sectional area
Cargo light cables carrying	5 Amperes, comprised of	110 wires, each .0076 S.W.G. diameter,	.005 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Cables throughout are of 2500 megohm class + C.M.A quality insulated with pure and vulcanized rubber, lead covered, steel armoured and braided overall; except in accommodation amidships where they are lead covered only.  
 Joints in cables, how made, insulated, and protected No joints in main cables. Those made in branch wiring are in properly constructed junction boxes of porcelain, protected by cast iron covers.

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances 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 Cables clipped direct to bulkhead or iron plating and protected throughout by lead covering, steel armouring, and braided overall, except in midship accommodation which is lead covered only.



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 Cables throughout protected by lead covering, steel armouring and braided overall. Those on top of Expansion trunk further protected by iron troughing.

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Lead served armoured & braided.

What special protection has been provided for the cables near boiler casings Lead served armoured & braided.

What special protection has been provided for the cables in engine room Lead served armoured & braided.

How are cables carried through beams Beams bushed with lead. through bulkheads, &c. in glands if w.t. otherwise lead bushed.

How are cables carried through decks in iron deck pipes.

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

If so, how are they protected —

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

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 Permanently. How fixed L.S. A.B cables clipped direct to bulkhead or steel plating.

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 Switchboard.

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 Yes.

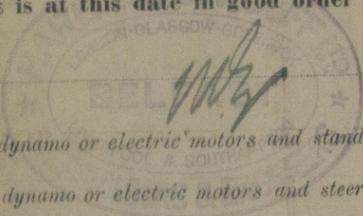
Are any switches, fuses, or joints of cables fitted in the pump room or companion no.

How are the lamps specially protected in places liable to the accumulation of vapour or gas Lamps in gas-tight fittings.

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 2500 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.



Electrical Engineers

Date 28/4/24

COMPASSES.

Distance between dynamo or electric motors and standard compass 118 feet from dynamo + 18 feet from wireless Rotary.

Distance between dynamo or electric motors and steering compass 118 " " " + 14 " " " " "

The nearest cables to the compasses are as follows:—

A cable carrying	16	Amperes	6	feet from standard compass	5	feet from steering compass
A cable carrying	15	Amperes	20	feet from standard compass	14	feet from steering compass
A cable carrying	27	Amperes	42	feet from standard compass	45	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 HARLAND & WOLFF LTD.

Builder's Signature.

Date 28th April 1924.

GENERAL REMARKS.

This installation is well fitted & in accord with the Rules, & was found satisfactory on steam trial working on full load.

See Chapter in Machinery Report

W. J. Butler  
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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