

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 12582.

Port of Aberdeen Date of First Survey 6.8.20 Date of Last Survey 29.9.20 No. of Visits 19  
 No. in Reg. Book 80140 on the ~~Iron or Steel~~ S.S. "LISBON" Port belonging to Liverpool  
 Built at Aberdeen By whom Wall Russell Boyd & Co. When built 1920  
 Owners Sir John P. Colleman, Bart. Owners' Address 8. Moorgate Street - London  
 Yard No. 677 Electric Light Installation fitted by James Thomson, Aberdeen When fitted England

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

Single cylinder, double acting, open type, vertical engine, direct coupled, to a multipolar, compound wound, dynamo.

Capacity of Dynamo 40 Amperes at 100 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed Starting platform in engine room Whether single or double wire system is used double

Position of Main Switch Board Near dynamo in engine room having switches to groups (A, B) C, D, E, F, & G of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each a pair of cables are run from main switch board, to fuse boards controlling each of above groups; (A+B) accom? dinette; C fore-castle; D. cargo lights; E. engine room; F. navigation; G. wireless. Cargo lights are controlled from switches on fuse board; all others have local 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 50 per cent over the normal current

Are all fuses fitted in easily accessible positions yes Are the fuses of standard dimensions no 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 82 lamps & wireless arranged in the following groups:—

A	36	lights each of	32	candle power requiring a total current of	14.4	Amperes
B		lights each of		candle power requiring a total current of		Amperes
C	15	lights each of	32	candle power requiring a total current of	6.0	Amperes
D	4	lights each of	600	candle power requiring a total current of	12.0	Amperes
E	21	lights each of	32	candle power requiring a total current of	8.4	Amperes
F	2	Mast head light with 3 lamps each of 32		candle power requiring a total current of	2.6	Amperes
		1 each for 3 compasses, telegraph & more, 16			1.0	-
		Side light with 2 lamps each of 32		candle power requiring a total current of	2.6	Amperes
		1 STERN - 1 - 1 - 1 - 32			1.2	-
		4. Cargo lights of 600 Group D.		candle power, whether incandescent or arc lights	incandescent	
G		wireless installation				

If arc lights, what protection is provided against fire, sparks, &c. \_\_\_\_\_

Where are the switches controlling the masthead and side lights placed In chart room

## DESCRIPTION OF CABLES.

Main cable carrying	54	Amperes, comprised of	19	wires, each	16	S.W.G. diameter,	.06	square inches total sectional area
A+B Branch	14.4	-	4	-	20	S.W.G. diameter,	.08	square inches total sectional area
C Branch cables carrying	6.0	Amperes, comprised of	3	wires, each	20	S.W.G. diameter,	.029	square inches total sectional area
D - - - - -	12.0	-	4	-	20	S.W.G. diameter,	.08	square inches total sectional area
E Branch cables carrying	8.4	Amperes, comprised of	4	wires, each	20	S.W.G. diameter,	.03	square inches total sectional area
F - - - - -	6.2	-	3	-	20	S.W.G. diameter,	.029	square inches total sectional area
G Leads to lamps carrying	10.0	Amperes, comprised of	3	wires, each	20	S.W.G. diameter,	.029	square inches total sectional area
	3.0	-	1	-	18	"	.0018	square inches total sectional area
Cargo light cables carrying	3.0	Amperes, comprised of	40	wires, each	36	S.W.G. diameter,	.0018	square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

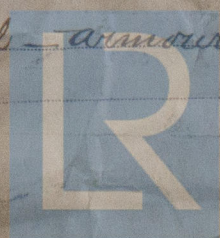
All wires insulated with pure, and vulcanized india rubber, taped lead covered and armoured with galvanized steel wires, except in cabins, where wires are lead covered only.

Joints in cables, how made, insulated, and protected no joints in cables

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances \_\_\_\_\_ 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 \_\_\_\_\_

How are the cables led through the ship, and how protected holes in beams at deck level - armoured





**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 & armoured

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat as above.

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 holes bushed with lead through bulkheads, &c. stopping boxes, & glands.

How are cables carried through decks deck tubes filled in with pitch

Are any cables run through coal bunkers yes or cargo spaces yes or spaces which may be used for carrying cargo, stores, or baggage yes

If so, how are they protected lead covered and 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 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 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 —

Is the installation supplied with a voltmeter yes, and with an amperemeter yes, fixed on main switch board.

**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 —

Are any switches, fuses, 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 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 — 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.

James Thomson. Electrical Engineers

Date 20<sup>th</sup> October 1920.

**COMPASSES.**

Distance between dynamo or electric motors and standard compass 60 feet.

Distance between dynamo or electric motors and steering compass 60 feet.

The nearest cables to the compasses are as follows:—

A cable carrying	0.2 (F.Nav)	Amperes	6	feet from standard compass	6	feet from steering compass
A cable carrying	2/ 1.2	Amperes	6	feet from standard compass	6	feet from steering compass
A cable carrying	2/ 1.2	Amperes	compass	feet from standard compass	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 any course in the case of the standard compass and nil degrees on any course in the case of the steering compass.

FOR HALL, RUSSELL & CO., LTD.

James Thomson DIRECTOR.

Builder's Signature.

Date 20<sup>th</sup> October 1920.

**GENERAL REMARKS.** The various parts of the installation were examined during the fitting on board and the materials, and workmanship are good.  
On completion the light was tried under full power, and everything found satisfactory.

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

Roll 22/10/20

Ridley Moell

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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