

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 8340

Port of Belfast Date of First Survey 1919 June 2 Date of Last Survey 1919 June 26 No. of Visits 7  
 No. in Reg. Book on the Iron or Steel SS. "Ballygally Head" Port belonging to Belfast  
 Built at Belfast By whom Workman, Clark & Co. Ltd. When built 1919  
 Owners The Ulster Steamship Co. Ltd., (G. Heyn & Sons) Owners' Address Belfast  
 Yard No. 442 Electric Light Installation fitted by The Sunderland Forge & Eng. Co. Ltd. When fitted 1919

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

1 Compound Wound Multipolar Dynamo direct coupled to Vertical Open Type Single Cylinder Steam Engine on combination bedplate.

Capacity of Dynamo 100 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 six of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each One in Wheelhouse - 8 switches.  
" " Engine Room - 10 "

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 178 arranged in the following groups :-

Group	Description	Number of Lights	Current (Amperes)
A	lights each of 16	59	35.4
B	lights each of 16	46	27.6
C	lights each of 16	36	21.6
D	lights each of 16	37	22.2
E	2 arc lights each of 1	2	20.0
F	Wireless Installation		
	Mast head light with 1 lamps each of 2	2	30.0
	Side light with 1 lamps each of 2	2	2.4
	2 arc lamps & 36 Cargo lights of 16	38	2.4

If arc lights, what protection is provided against fire, sparks, &c. Heavy Glass Guards in Metal Lanterns.

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

## DESCRIPTION OF CABLES.

Current (Amperes)	Number of Wires	Wires per Cable	L.S.G. diameter	Total sectional area (square inches)
Main cable carrying 100	19	14	.09372	square inches total sectional area
Branch cables carrying 30	19	20	.01899	square inches total sectional area
Branch cables carrying 10	7	20	.007005	square inches total sectional area
Leads to lamps carrying 2.4	7	25	.0021	square inches total sectional area
Cargo light cables carrying 10	114	38	.00319	square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Tinned Copper Conductors insulated with pure and vulcanising indiarubber, taped and the whole vulcanised together and finished as follows:- In accommodation - Lead Covered and braided Machinery Spaces:- Lead covered, Armoured and braided.

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 Drawn into screwed galvanised wrought iron pipe made watertight.



**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, Armoured and Braided.

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Lead Covd, Armoured & Braided

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 Through Holes bushed with fibre through bulkheads, &c. Through brass W.F. Glands

How are cables carried through decks " Deck Tubes made watertight.

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

If so, how are they protected by screwed galvanised wrought iron pipe made watertight.

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 No

Cargo light cables, whether portable or permanently fixed Portable How fixed To heavy brass terminals fitted in cast iron box on deck.

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 a voltmeter and yes an amperemeter, 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 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.

The Sunderland Forge & Engineering Co. Ltd., Electrical Engineers Date June 1919

**COMPASSES.**

Director W. G. H.

Distance between dynamo or electric motors and standard compass 96

Distance between dynamo or electric motors and steering compass 90

The nearest cables to the compasses are as follows:—

A cable carrying <u>9</u> Amperes	<u>6</u> feet from standard compass	<u>6</u> feet from steering compass
A cable carrying <u>0.2</u> Amperes	<u>3</u> feet from standard compass	<u>3</u> feet from steering compass
A cable carrying <u>-</u> Amperes	<u>-</u> feet from standard compass	<u>-</u> 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.

W. H. H. H. Builder's Signature Date

**GENERAL REMARKS.**

The installation is of good description, and has been fitted in accordance with the Rules. Owing to a misunderstanding this Report was not forwarded earlier. It is submitted that this vessel is eligible for THE RECORD. ELEC: LIGHT. 4/6/20

W. H. H. H. 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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