

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 5981

Port of Belfast Date of First Survey Sept: 5th Date of Last Survey Oct 10th No. of Visits 9
 No. in Reg. Book on the Steel S.S. "Orator" Port belonging to Liverpool
 Built at Belfast By whom Workman Clark & Co. Ltd. When built 1905
 Owners Shannon Steamship Co. Ltd. Owners' Address Liverpool
 Yard No. 224 Electric Light Installation fitted by W. H. Allen & Son & Co. Ltd. When fitted 1905.

DESCRIPTION OF DYNAMO, ENGINE, ETC.

1 single cylinder engine 7" diam x 6" stroke coupled direct to one multipolar dynamo compound wound.

Capacity of Dynamo 100 Amperes at 60 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed In engine room on starting platform, starboard side

Position of Main Switch Board by Dynamo having switches to groups A, B, & C of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each none.

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 — 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 where double wired

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 eighty seven arranged in the following groups:—

A	<u>29</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>29</u>	Amperes
B	<u>Arc and cargo</u>	lights each of		candle power requiring a total current of	<u>25</u>	Amperes
C	<u>35</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>35</u>	Amperes
D	<u>—</u>	lights each of		candle power requiring a total current of		Amperes
E	<u>—</u>	lights each of		candle power requiring a total current of		Amperes
1	<u>Mast head light with</u>	<u>1</u> lamp each of	<u>32</u>	candle power requiring a total current of	<u>2</u>	Amperes
2	<u>Side lights with</u>	<u>1</u> lamp each of	<u>32</u>	candle power requiring a total current of	<u>4</u>	Amperes
4	<u>Cargo lights of</u>	<u>5 x 16 =</u>	<u>80</u>	candle power, whether incandescent or arc lights		<u>incandescent</u>

If arc lights, what protection is provided against fire, sparks, &c. Two 25 amperes Arc lamps totally enclosed in heavy brass framed lanterns plate glass panes and wire netting

Where are the switches controlling the masthead and side lights placed In wheel house

DESCRIPTION OF CABLES.

Main cable carrying 100 Amperes, comprised of 37 wires, each 15 L.S.G. diameter, .149 square inches total sectional area

Branch cables carrying 25 Amperes, comprised of 7 wires, each 15 L.S.G. diameter, .028 square inches total sectional area

Branch cables carrying 16 Amperes, comprised of 7 wires, each 16 L.S.G. diameter, .022 square inches total sectional area

Leads to lamps carrying 3 Amperes, comprised of 1 wires, each 16 L.S.G. diameter, .0032 square inches total sectional area

Cargo light cables carrying 6 Amperes, comprised of 145 wires, each 38 L.S.G. diameter, .004 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

The conductor is insulated with two layers pure para rubber, then one layer vulcanizing rubber, the whole vulcanized together and finally taped and braided wires in machinery spaces after vulcanizing are lead covered, served and spirally armd. with S. I. wires

Joints in cables, how made, insulated, and protected Thoroughly soldered, insulated with two layers pure rubber and two layers prepared tape and finally 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 blipped along bulwarks and protected by lead sheathing and armouring

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 Leads sheathed served and armoured wire employed.

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 served and armoured with S.I. wire

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 glands

How are cables carried through decks Through pipes projecting well above the deck.

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 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 yoke of magnet

How are the returns from the lamps connected to the hull soldered to 3/8" brass earth 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 with an amperemeter, 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.

F. W. Parrinson

Electrical Engineers

Date 24/10/05

COMPASSES.

Distance between dynamo or electric motors and standard compass 81 feet

Distance between dynamo or electric motors and steering compass 90 feet

The nearest cables to the compasses are as follows:—

A cable carrying <u>4</u> Amperes	<u>12</u> feet from standard compass	<u>12</u> feet from steering compass
A cable carrying <u>all other wiring in vicinity of</u> Amperes	<u>—</u> feet from standard compass	<u>—</u> feet from steering compass
A cable carrying <u>compasses double wired.</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 — degrees on — course in the case of the standard compass and — degrees on — course in the case of the steering compass.

PRO WORKMAN, CLARK & CO., LIMITED

— Builder's Signature.

Date 31st Oct 1905

GENERAL REMARKS.

This installation appears to be of good description, and has been fitted in accordance with the Rules.

R. F. Bennett

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

Committee's Minute —

It is submitted that this installation appears to be satisfactory



Lloyd's Register Foundation

2.11.05

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

REPORT FORM NO. 11.