

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 5213

Port of *Belfast* Date of First Survey *6th Nov* Date of Last Survey *11th Dec* No. of Visits *9*
 No. in Reg. Book *on the Iron Steamer* *S.S. Indian* Port belonging to *Liverpool*
 Built at *Belfast* By whom *Workman Clark & Co. Ld* When built *1900*
 Owners *F. Leyland & Co. Ltd* Owners' Address *Liverpool*
 Yard No. *140* Electric Light Installation fitted by *W.A. Allen & Co.* When fitted *1900*

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Bi-polar, under-type dynamo driven coupled in one bedplate to single cylinder high speed vertical, d. acting engine.
 Capacity of Dynamo *130* Amperes at *62* Volls, whether continuous or alternating current *Continuous*
 Where is Dynamo fixed *in a room in aft end of Main E.R. casing*
 Position of Main Switch Board *near dynamo* having switches to groups *A, B, C, D* of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each *11*

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 *50* 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 *153* arranged in the following groups:—

A	<i>33</i>	lights each of	<i>16</i>	candle power requiring a total current of	<i>33</i>	Amperes
B	<i>44</i>	lights each of	<i>16</i>	candle power requiring a total current of	<i>44</i>	Amperes
C	<i>45</i>	lights each of	<i>16</i>	candle power requiring a total current of	<i>45</i>	Amperes
D	<i>31</i>	lights each of	<i>16</i>	candle power requiring a total current of	<i>31</i>	Amperes
E		lights each of		candle power requiring a total current of		Amperes
<i>1</i>		Mast head light with <i>1</i> lamps each of	<i>32</i>	candle power requiring a total current of	<i>2</i>	Amperes
<i>2</i>		Side light with <i>2</i> lamps each of	<i>32</i>	candle power requiring a total current of	<i>4</i>	Amperes
<i>4</i>		Cargo lights of	<i>96</i>	candle power, whether incandescent or are lights	<i>incandescent</i>	

If are lights, what protection is provided against fire, sparks, &c. *✓*

Where are the switches controlling the masthead and side lights placed *Wheelhouse (on Bridge)*

DESCRIPTION OF CABLES.

Main cable carrying *130* Amperes, comprised of *37* wires, each *14* L.S.G. diameter, *.189* square inches total sectional area
 Branch cables carrying *45* Amperes, comprised of *19* wires, each *16* L.S.G. diameter, *.082* square inches total sectional area
 Branch cables carrying *31* Amperes, comprised of *19* wires, each *18* L.S.G. diameter, *.035* square inches total sectional area
 Leads to lamps carrying *1* Amperes, comprised of *1* wires, each *18* L.S.G. diameter, *.0018* square inches total sectional area
 Cargo light cables carrying *6* Amperes, comprised of *145* wires, each *38* L.S.G. diameter, *.0041* square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Pure rubber, Vulk. Rubber & braiding in deck protection by a sheathing of lead & galv. zinc wire.
 Joints in cables, how made, insulated, and protected *All joints made & insulated with pure Para Rubber tape, Vulk. tape & Gylconic tape.*
Blk. Sheen Paraffin.

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 *Wood casing on deck & clippers with metal clips to bulkhead in Machinery Space.*

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. *None*

What special protection has been provided for the cables near galley or oil lamps or other sources of heat. *None*

What special protection has been provided for the cables near boiler casings. *None*

What special protection has been provided for the cables in engine room. *None*

How are cables carried through beams. *Under bunks with plates*

How are cables carried through decks. *Under bunks with plates*

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 *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 *Earth connection to hull*

How are the returns from the lamps connected to the hull *In Engine Room return cable & through*

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 *yes*

Are any switches, cut outs, or joints of cables fitted in the pump room or companion *yes*

How are the lamps specially protected in places liable to the accumulation of vapour or gas *yes*

The installation is supplied with a voltmeter and

with an amperemeter, fixed

The copper used is guaranteed to have a conductivity of *100*

per cent. that of pure copper. *Matheson's Standard*

Insulation of cables is guaranteed to have a resistance of not less than *2500*

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.

Electrical Engineers

Date *14.12.00*

COMPASSES.

Distance between dynamo or electric motors and standard compass *104 yds.*

Distance between dynamo or electric motors and steering compass *112 yds.*

The nearest cables to the compasses are as follows:—

A cable carrying *45* Amperes *18* feet from standard compass *16* feet from steering compass

A cable carrying *24* Amperes *20* feet from standard compass *16* feet from steering compass

A cable carrying *✓* Amperes *✓* 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

all

course in the case of the

standard compass and *nil*

degrees on

all

course in the case of the steering compass.

WORKMAN, CLARK & CO., LIMITED.

Builder's Signature.

Date *17th Dec 1900*

GENERAL REMARKS.

This installation is of good description throughout and is in accordance with our Rules.

R. J. Reynolds

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

Committee's Minute

It is submitted that this installation appears to meet the Rule requirements.

Lloyd's Register Foundation