

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 61221

Port of *Newcastle-on-Tyne* Date of First Survey *21st Sept* Date of Last Survey *18th Oct* No. of Visits *6*
 No. in on the Iron or Steel *55* Reg. Book *80 - ser. main* Port belonging to *Osaka*
 Built at *Low - Walker* By whom *Sir Armstrong Whitworth & Co.* When built *1911*
 Owners *Osaka Shosen Kaisha* Owners' Address *Osaka*
 Yard No. *839* Electric Light Installation fitted by *Clarke Chapman & Co.* When fitted *1911*

DESCRIPTION OF DYNAMO, ENGINE, ETC.

One single cylinder double acting open type vertical engine direct coupled to a continuous current compound wound dynamo.

Capacity of Dynamo *55* 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 *near Dynamo.* having switches to groups *A B C.* of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each *Back light & group of lights.*
provided with switches as required.

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 *Slate & porcelain. Yes.*

Total number of lights provided for *85.* arranged in the following groups:—

A	<i>39.</i>	lights each of	<i>16</i>	candle power requiring a total current of	<i>23.4</i>	Amperes
B	<i>23.</i>	lights each of	<i>16</i>	candle power requiring a total current of	<i>13.8</i>	Amperes
C	<i>23.</i>	lights each of	<i>16</i>	candle power requiring a total current of	<i>13.8.</i>	Amperes
D	—	lights each of	—	candle power requiring a total current of	—	Amperes
E	—	lights each of	—	candle power requiring a total current of	—	Amperes
<i>2</i>	<i>Mast head light with</i>	<i>1</i>	<i>lamp each of</i>	<i>32</i>	candle power requiring a total current of	<i>1.2</i> Amperes
<i>2</i>	<i>Side light with</i>	<i>1</i>	<i>lamp each of</i>	<i>32</i>	candle power requiring a total current of	<i>1.2</i> Amperes
<i>4</i>	<i>Cargo lights of each</i>	<i>5 - 16</i>			candle power, whether incandescent or arc lights	<i>incandescent.</i>

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

Where are the switches controlling the masthead and side lights placed *in Wheel House.*

DESCRIPTION OF CABLES.

Main cable carrying *55* Amperes, comprised of *19* wires, each *16* L.S.G. diameter, *.0600* square inches total sectional area
 Branch cables carrying *22* Amperes, comprised of *7* wires, each *16* L.S.G. diameter, *.02214* square inches total sectional area
 Branch cables carrying *7* Amperes, comprised of *7* wires, each *20* L.S.G. diameter, *.00700* square inches total sectional area
 Leads to lamps carrying *.6* Amperes, comprised of *1* wires, each *18* L.S.G. diameter, *.00181* square inches total sectional area
 Cargo light cables carrying *3* Amperes, comprised of *168* wires, each *38* L.S.G. diameter, *.00502* square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Insulated india rubber taped & braided & lead covered overall. where exposed steel armoured over the lead covering.

Joints in cables, how made, insulated, and protected *no joints except mechanical ones.*

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. No.*

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 *Lead covered & armoured clipped to underside of Deck.*

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

of steel armoured

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

Lead of armoured

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

in lead bushes

through bulkheads, &c. in glands

How are cables carried through decks

in galvanized iron deck tubes

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 & steel 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 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 W.T.C.I. Connection Box.

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel

Double wire system.

How are the returns from the lamps connected to the hull

—

Are all the joints with the hull in accessible positions

—

The installation is

now

supplied with a voltmeter and

an amperemeter, fixed

Switchboard

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 600 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 Clarke, Chapman & Co. Ltd.

W. Walker Chairman

Electrical Engineers

Date November 9th 1911

COMPASSES.

Distance between dynamo or electric motors and standard compass

96' ft

Distance between dynamo or electric motors and steering compass

90' "

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
.6	12	6	
.6	6	12	
—	—	—	—

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.

courses in the case of the

standard compass and

nil

degrees on

-all.

courses in the case of the steering compass.

For W. G. ARMSTRONG, WHITWORTH & CO. LTD.

R. S. White

Builder's Signature.

Date

11th Nov 1911

GENERAL REMARKS.

This Electric Light installation has been satisfactorily fitted on board, and the vessel is eligible in my opinion to have the record Electric Light in the Register Book

It is submitted that

this vessel is eligible for

THE RECORD Elec light.

J. W. D. R. 17/11/11

R. W. Croucher.

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

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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