

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 2544

Port of Kobe Date of First Survey 20 Mar. Date of Last Survey 25 Apr 1919 No. of Visits 7
 No. in L.S.S. Amur Maru on the Iron or Steel Osaka Port belonging to Osaka
 No. Book Osaka Built at Osaka By whom The Osaka Iron Works Ltd When built 1919
 Owners The Osaka Shosen Kaisha Owners' Address Osaka
 No. 881 Electric Light Installation fitted by The Osaka Iron Works Ltd. When fitted 1919

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Enclosed Self lubricating high speed non condensing single vertical engine D.C. compound wound dynamo.
 Capacity of Dynamo 20 KW 200 Amperes at 100 Volls, whether continuous or alternating current Continuous current
 Where is Dynamo fixed At Engine Room.
 Position of Main Switch Board at the dynamo having switches to groups For main circuit branches & main switch and 8 branches wire and wireless input of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each one for engine room, one for fore cargo, one for middle deck, one for side & fore main, one for navigation light, one for after cargo, one for fore office, one for Bracket & ceiling fan
 Cut outs are fitted on main switch board to the cables of main circuit fitted and on each auxiliary switch board to the cables of auxiliary circuits fitted and at each position where a cable is branched or reduced in size Branched and reduced and to each lamp circuit fitted
 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 fitted
 Are the cut outs of non-oxidizable metal yes and constructed to fuse at an excess of 30 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 277 arranged in the following groups:—

Engine Room 67 lights each of <u>16 C.P.</u>	candle power requiring a total current of <u>35.51</u>	Amperes
Shelter deck aft Cabin 22 lights each of <u>16 C.P.</u>	candle power requiring a total current of <u>20.14</u>	Amperes
Shelter deck fore cabin 13 lights each of <u>16 C.P.</u>	candle power requiring a total current of <u>18.55</u>	Amperes
Lower Bridge Cabin 10 lights each of <u>16 C.P.</u>	candle power requiring a total current of <u>10.60</u>	Amperes
Fore Bridge 11 lights each of <u>16 C.P.</u>	candle power requiring a total current of <u>5.83</u>	Amperes
Middle deck 43 lights each of <u>16 C.P.</u>	candle power requiring a total current of <u>22.79</u>	Amperes
Mast head light with 2 lamps each of <u>32 C.P.</u>	candle power requiring a total current of <u>2.12</u>	Amperes
Side light with 2 lamps each of <u>32 C.P.</u>	candle power requiring a total current of <u>2.12</u>	Amperes

Cargo lights of 14-4 clustered 14 candle power, whether incandescent or are lights incandescent
 Are lights, what protection is provided against fire, sparks, &c. Two arc lamps protected by glass globe, key requiring a total 25.5+8 Amperes
 Where are the switches controlling the masthead and side lights placed at bridge

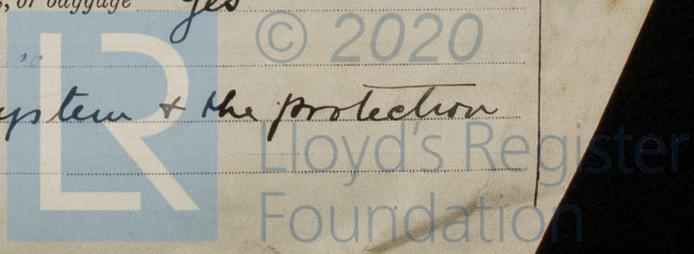
DESCRIPTION OF CABLES.

Main cable carrying <u>100</u> Amperes, comprised of <u>Lead</u> wires, each <u>18/80</u> L.S.G. diameter, <u>1.025312</u> square inches total sectional area
Branch cables carrying <u>35.51</u> Amperes, comprised of <u>Armoured</u> wires, each <u>15/11</u> L.S.G. diameter, <u>0.238762</u> square inches total sectional area
Branch cables carrying <u>18.55</u> Amperes, comprised of <u>Lead</u> wires, each <u>15/11</u> L.S.G. diameter, <u>0.138230</u> square inches total sectional area
Branch cables carrying <u>5.83</u> Amperes, comprised of <u>Lead</u> wires, each <u>18/11</u> L.S.G. diameter, <u>0.238762</u> square inches total sectional area
Branch cables carrying <u>22.79</u> Amperes, comprised of <u>Lead</u> wires, each <u>15/11</u> L.S.G. diameter, <u>0.238762</u> square inches total sectional area
Branch cables carrying <u>2.12</u> Amperes, comprised of <u>Armoured</u> wires, each <u>18/11</u> L.S.G. diameter, <u>0.238762</u> square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Insulation in cables, how made, insulated, and protected Engine and boiler space & Canvas
Patrol canvased wire & sheath galvanized wire pipes, Officers
and crew's quarters leads covered wire through window covers.
 What are the joints of cables, how made, insulated, and protected Porcelain and cast iron are used.
 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 By double wire system + the protection as described above

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DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible 1.0

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture by galvanized wire pipe

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

What special protection has been provided for the cables near boiler casings ditto

What special protection has been provided for the cables in engine room By the use of armoured wire galvanized wire pipe

How are cables carried through beams Lead sheet to channel through bulkheads, &c. by lead int with india rubber packing complete

How are cables carried through decks Through a galvanized wire pipe with flanges fixed to deck

Are any cables run through coal bunkers yes or cargo spaces yes or spaces which may be used for carrying cargo, stores, or baggage no

If so, how are they protected By the use of armoured wire pipe through galvanized wire pipe

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage nothing

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 by plug

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

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 an amperemeter, fixed

The copper used is guaranteed to have a conductivity of 99 per cent. that of pure copper.

Insulation of cables is guaranteed to have a resistance of not less than 500 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.

G. ... Electrical Engineers Date



THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

COMPASSES.

Distance between dynamo or electric motors and standard compass above 96'

Distance between dynamo or electric motors and steering compass " 100'

The nearest cables to the compasses are as follows:—

A cable carrying	<u>9.21</u>	Amperes	<u>above 9'</u>	feet from standard compass	<u>above 8'</u>	feet from steering compass
A cable carrying	<u>0.53</u>	Amperes	<u>7'</u>	feet from standard compass	<u>" 6'</u>	feet from steering compass
A cable carrying	<u>1.16</u>	Amperes	<u>" 20'</u>	feet from standard compass	<u>" 19'</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.

Gasaburo Yemura Builder's Signature. Date

GENERAL REMARKS.

The installation has been fitted in accordance with the requirements of the Rules and is satisfactory.

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

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

REPORT FORM No. 13.

Committee's Minute FRI. AUG. 29, 1919

FRI. MAY. 7 1920

TUE. APR. 27 1920

FRI. MAY. 14 1920

