

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 2402.

Port of Yokohama Date of First Survey Sept 11th Date of Last Survey Sept 27th No. of Visits 3
 No. in Reg. Book 141 on the Iron Steel Single. S.S." Taizan Maru" Port belonging to Nagasaki Uraga
 Built at Tokyo By whom Ishikawajima S. B. & E Co Ld When built 9 - 18.
 Owners Hashimoto Kisen Kaisha Owners' Address Nagasaki
 Yard No. 313 Electric Light Installation fitted by Ishikawajima Shipbuilding & E Co Ld When fitted 9 - 18.

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Single cylinder 5" x 5" stroke 450 R.P.M. Inverted type; Direct coupled to a 4 pole Direct Current Generator.

Capacity of Dynamo 6.K.W. 60 Amperes at 100 Volts, whether continuous or alternating current Continuous

Where is Dynamo fixed Lower Plat-form Engine room Whether single or double wire system is used Double

Position of Main Switch Board at Dynamo having switches to groups 5 in number of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each Forecastle One of 10; Engine room Three of 10; Saloon Pantry Two of 10; Chart room One of 10; Mess room One of 10.

If fuses 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 fuses fitted to both flow and return wires or cables of all circuits including lamp circuits Yes

Are the fuses of non-oxidisable metal Tin-Lead Alloy and constructed to fuse at an excess of 60 % per cent over the normal current

Are all fuses fitted in easily accessible positions Yes Are the fuses of standard dimensions Mains only 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 fuses constructed of incombustible materials and fitted on incombustible bases Yes

Total number of lights provided for 95 arranged in the following groups :-

A	15	lights each of	32-16 & 10 C.P.	candle power requiring a total current of	11.3	Amperes
B	14	lights each of	16 & 10 C.P.	candle power requiring a total current of	6.2	Amperes
C	25	lights each of	32-16 & 10 C.P.	candle power requiring a total current of	18.2	Amperes
D	16	lights each of	32-16 & 10 C.P.	candle power requiring a total current of	11.4	Amperes
E	22	lights each of	16 & 10 C.P.	candle power requiring a total current of	10.2	Amperes
				Total	57.3	Amps.
2	Mast head light with	1	lamps each of	32	candle power requiring a total current of	2
2	Side light with	1	lamps each of	32	candle power requiring a total current of	2
5	Cargo lights of	4 x 32 CP	128 each	candle power, whether incandescent or arc lights	incandescent	

If arc lights, what protection is provided against fire, sparks, &c. No arc lamps fitted

Where are the switches controlling the masthead and side lights placed In Chart room

DESCRIPTION OF CABLES.

Main cable carrying	57.3	Amperes, comprised of	30	wires, each	20	S.W.G. diameter,	.030	square inches total sectional area
A. Branch	11.3	" " "	1	" " "	14	" " " "	.0050	
B Branch cables carrying	6.2	Amperes, comprised of	1	wires, each	16	S.W.G. diameter,	.0032	square inches total sectional area
C Branch	18.2	" " "	7	" " "	20	" " " "	.0070	
D Branch cables carrying	11.4	Amperes, comprised of	1	wires, each	14	S.W.G. diameter,	.0050	square inches total sectional area
E Branch	10.2	" " "	1	" " "	14	" " " "	.0050	
Leads to lamps carrying	5	Amperes, comprised of	One	wires, each	16	S.W.G. diameter,	.0032	square inches total sectional area
Cargo light cables carrying	4	Amperes, comprised of	One	wires, each	16	S.W.G. diameter,	.0032	square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

According to Rules

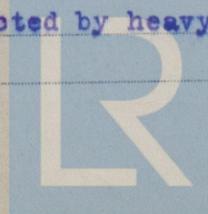
Vulcanised rubber, lead covered; Armoured and un-armoured.

Joints in cables, how made, insulated, and protected Cast Iron junction boxes with porcelain bases used.

Are all the connectors joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances 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 No joints

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 Under Upper deck beams, protected by heavy wood casings.



DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible Accessible

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture Lead covered

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

What special protection has been provided for the cables near boiler casings Kept clear of Boiler Casings

What special protection has been provided for the cables in engine room Lead covered armoured

How are cables carried through beams Lead Linings fitted through bulkheads, &c. Watertight glands fitted

How are cables carried through decks Iron deck tubes fibre lined 16" above deck.

Are any cables run through coal bunkers No 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 armoured, strongly secured to deck beams.

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage 2 only in Bridge Space.

If so, how are the lamp fittings and cable terminals specially protected Portables used, connectors in W.T. cast iron boxes.

Where are the main switches and fuses for these lights fitted Engine room Top platform

If in the spaces, how are they specially protected Not in the spaces

Are any switches or fuses fitted in bunkers No

Cargo light cables, whether portable or permanently fixed Portables How fixed Screw Connectors in C.I. boxes.

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

How are the returns from the lamps connected to the hull xxx

Are all the joints with the hull in accessible positions xxx

Is the installation supplied with a voltmeter Yes, and with an amperemeter Yes, fixed at Dynamo

VESSELS BUILT FOR CARRYING PETROLEUM.

In vessels built for carrying petroleum, are all switches and fuses fitted in positions not liable to the accumulation of petroleum vapour or gas xx

Are any switches, fuses, or joints of cables fitted in the pump room or companion xxx

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

The copper used is guaranteed to have a conductivity of not less than that of the Engineering Standards Committee's standard, and the wires are protected by tinning from the sulphur compounds present in the insulating material.

Insulation of cables is guaranteed to have a resistance of not less than 600 megohms per statute mile at 60° Fahrenheit after 24 hours' immersion in water, the test being made after one minute's electrification at not less than 500 volts and while the cable is still immersed.

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.

R. Izumi Electrical Engineers Date

COMPASSES.

Distance between dynamo or electric motors and standard compass 82 feet

Distance between dynamo or electric motors and steering compass 125 feet

The nearest cables to the compasses are as follows:—

A cable carrying	<u>7</u>	Amperes	<u>20</u>	feet from standard compass	<u>25</u>	feet from steering compass
A cable carrying	<u>One</u>	Amperes	<u>10</u>	feet from standard compass	<u>8</u>	feet from steering compass
A cable carrying	<u>1</u>	Amperes	<u>0</u>	feet from standard compass	<u>0</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.

R. Izumi Builder's Signature. Date

GENERAL REMARKS. The installation of this vessel has been fitted in accordance with the Society's Rules, the materials and workmanship are good, and the engine has been satisfactorily tried under steam.

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

JWD 20/11/18

James Cairns

Surveyor to Lloyd's Register of Shipping.

Committee's Minute



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