

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 4656

Port of Kobe Date of First Survey Oct 6 Date of Last Survey Nov 22<sup>nd</sup> No. of Visits 10  
 No. in Reg. Book on the ~~Iron~~ or Steel Single Screw "AKIBASAN MARU" Port belonging to Kobe  
 Built at Tama (Uno) By whom Mitsui Bussan Kaisha Ltd When built 1924  
 Owners Mitsui Bussan Kaisha Ltd Owners' Address \_\_\_\_\_  
 Yard No. 64 Electric Light Installation fitted by Mitsui Bussan Kaisha Ltd When fitted 1924

**DESCRIPTION OF DYNAMO, ENGINE, ETC.**

Two 8 K.W. generators, compound wound, direct connected to single vertical engines 2x5" 6 1/2" dia cyl. x 5" stroke. W.P. 100 lb/sq. Revs 500. fitted with automatic cut out.

Capacity of Dynamo 80 Amperes at 100 Volts, whether continuous or alternating current Continuous

Where is Dynamo fixed In lower engine room Star side Whether single or double wire system is used Double

Position of Main Switch Board near dynamo having switches to groups A, B, C, D, E, F, G of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each one in Engine room, 4 on bridge deck, passage way, 2 on lower bridge & one on the upper deck, having one main switch on each board.

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-oxidizable metal Yes and constructed to fuse at an excess of 100 per cent over the normal current

Are all fuses 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 fuses constructed of incombustible materials and fitted on incombustible bases Yes, Porcelain & marble.

Total number of lights provided for 170 arranged in the following groups:—

A	16 (Fan motors) lights each of	60 watt	candle power requiring a total current of	9.6	Amperes
B	5 (Navig. lights) lights each of	32	candle power requiring a total current of	2.0	Amperes
C	70 (Eng. & Blk. Rm) lights each of	16, 32, 50, & 100	candle power requiring a total current of	19.0	Amperes
D	100 (Accommodation) lights each of	16	candle power requiring a total current of	20.0	Amperes
E	11 (aft Cargo) " " " "	300 & 500	" " " " " "	37.0	"
F	11 (Fore " " " " " "	300 & 500	candle power requiring a total current of	37.0	Amperes
G	5 H.P. MOTOR (Wheels) — " " " " " "		" " " " " "	38.0	"
	2 Mast head light with 2 lamps each of	32	candle power requiring a total current of	0.4	Amperes
	2 Side light with 2 lamps each of	32	candle power requiring a total current of	0.4	Amperes
	1 Stern " " " " " "	32	" " " " " "	0.4	"
	22 Cargo lights of	7.400	candle power, whether incandescent or arc lights	Incandescent	

If arc lights, what protection is provided against fire, sparks, &c. none fitted

Where are the switches controlling the masthead and side lights placed In chart room (with indicator & alarm signal)

**DESCRIPTION OF CABLES.**

Main cable carrying	80 Amperes, comprised of	150 wires, each	20 S.W.G. diameter,	0.152 square inches total sectional area
Branch cables carrying	9.6 Amperes, comprised of	19 wires, each	18 S.W.G. diameter,	0.034 square inches total sectional area
Branch cables carrying	38 Amperes, comprised of	19 wires, each	14 S.W.G. diameter,	0.095 square inches total sectional area
" " " "	2.0 Amperes, comprised of	7 wires, each	20 S.W.G. diameter,	0.007 square inches total sectional area
" " " "	19.20 " " " "	19 " " "	16 " " "	0.06 " " " "
Leads to lamps carrying	0.2 Amperes, comprised of	single wires, each	18 S.W.G. diameter,	0.0018 square inches total sectional area
Cargo light cables carrying	5 Amperes, comprised of	108 wires, each	38 S.W.G. diameter,	0.003 square inches total sectional area

**DESCRIPTION OF INSULATION, PROTECTION, ETC.**

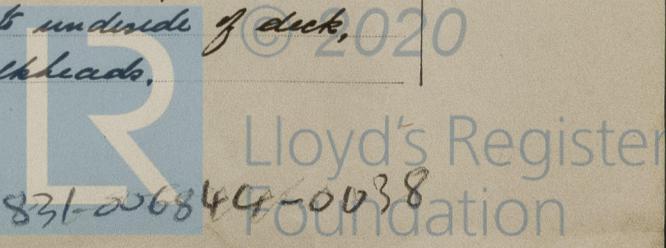
Double insulated with vulcanized rubber & tape, Armour protected cable & part lead covered in way of accommodation

Joints in cables, how made, insulated, and protected Porcelain junction boxes, & in iron junction boxes where special protection from injury is necessary, & in wood boxes with marble base, part soldered & insulated with rubber & tape.

Are all the 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 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 Armoured cable clipped to underside of deck, thro' holes in beams, through stuffing boxes in W.T. bulkheads.



**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 Lead covered armoured cable used

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

What special protection has been provided for the cables near boiler casings Armoured cable clipped to coal bunker casing

What special protection has been provided for the cables in engine room do do do Bulkheads.

How are cables carried through beams Holes in beams lead lined through bulkheads, &c. Stuffing boxes made N.T.

How are cables carried through decks Water tight iron pipe.

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 & steel wire armoured cable, clipped to underside of deck & thro' beams

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 fuses for these lights fitted ✓

If in the spaces, how are they specially protected ✓

Are any switches or fuses fitted in bunkers ✓

Cargo light cables, whether portable or permanently fixed Portable How fixed Plugged in, in N.T. Iron boxes.

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 ✓

Is the installation supplied with a voltmeter Yes (one), and with an amperemeter Yes (two), fixed on main S.B.

**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

Are any switches, fuses, 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 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.

J. Taylor

Electrical Engineers

Date 4<sup>th</sup> Dec. 1924

**COMPASSES.**

Distance between dynamo or electric motors and standard compass 86'-0"

Distance between dynamo or electric motors and steering compass Dynamo 168'-0" Motor 152'-0"

The nearest cables to the compasses are as follows:—

A cable carrying	<u>0.2</u>	Amperes	<u>one</u>	feet from standard compass	<u>✓</u>	feet from steering compass
A cable carrying	<u>0.2</u>	Amperes	<u>✓</u>	feet from standard compass	<u>Six</u>	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 \_\_\_\_\_ degrees on \_\_\_\_\_ course in the case of the standard compass and \_\_\_\_\_ degrees on \_\_\_\_\_ course in the case of the steering compass.

Builder's Signature. Date 4-12-24

**GENERAL REMARKS.**

The fitting of the cables & installation is as stated in this report. The installation was tested under full & 25% overload & found to work satisfactorily & is eligible in my opinion to have notation "Electric Light & Wireless fitted in Register Book"

Survey fee £ 145<sup>00</sup>

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

H.D. Buchanan  
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 16 JAN 1925



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THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.