

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 2953

Port of Kobe Date of First Survey 15<sup>th</sup> July Date of Last Survey Aug. 3<sup>rd</sup> 1920 No. of Visits 6  
 No. in on the Steel Single Scr. St. "TONE MARU" Port belonging to Yokosaki  
 Reg. Book Built at Tama Dockyard, Uno By whom Mitsui Bussan Kaisha When built 1920  
 Owners Tokyo Kaiun Kabushiki Kaisha Owners' Address Tokyo  
 Yard No. 54 Electric Light Installation fitted by Tama Dockyard, Uno When fitted 1920

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

Automatic cut off, Single Cylinder, Vertical non-condensing engine, cylinder dia. 7" x stroke 5". 550 R.P.M. 19 H.P. + steam press 120 lbs.

Capacity of Dynamo 12 K.W. 120 Amperes at 100 Volts, whether continuous or alternating current Continuous

Where is Dynamo fixed stbd side of Engine Room.

Position of Main Switch Board stbd side of Eng. Room 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 Seven switches on main panel and one in Engine room, one in boiler room, three on Awaiting deck, one on flying bridge, + one in Clerk's room.

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 25 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 marble + porcelain

Total number of lights provided for 125 arranged in the following groups:—

A	24	lights each of	16 C.P. + 2-500 <sup>WATT</sup>	candle power requiring a total current of	14.8	Amperes
B	19	lights each of	16	candle power requiring a total current of	3.8	Amperes
C	3	Fan motors	lights each of	candle power requiring a total current of	4.2	Amperes
D	1	Wireless telegraph	lights each of one 3 K.W. W. Tel.	candle power requiring a total current of	30.0	Amperes
E	12	"	" " 16	" " "	2.4	
F	32	lights each of	32 C.P. + 16	candle power requiring a total current of	11.6	Amperes
G	2	Mast head light with	2 lamps each of 32	candle power requiring a total current of	6.4	Amperes
	2	Side light with	2 lamps each of 32	candle power requiring a total current of	2.0	Amperes
	4	Cargo lights of	6 x 16	candle power, whether incandescent or are lights	incandescent	

If are lights, what protection is provided against fire, sparks, &c. no arc light, but in place of it 2 x 500 Watt Nitrogen lamps.

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

## DESCRIPTION OF CABLES.

Main cable carrying 120 Amperes, comprised of 2 x 19 wires, each No. 18 5-W.G. diameter, .0684 square inches total sectional area  
 Branch cables carrying 30 Amperes, comprised of 19 wires, each " 16 5-W.G. diameter, .0582 square inches total sectional area  
 Branch cables carrying 14.8 Amperes, comprised of 7 wires, each " 18 5-W.G. diameter, .0126 square inches total sectional area  
 Leads to lamps carrying 1 Amperes, comprised of 1 wires, each " 18 5-W.G. diameter, .0078 square inches total sectional area  
 Cargo light cables carrying 12 Amperes, comprised of 108 wires, each " 40 5-W.G. diameter, .00194 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Cables are insulated by double layers of india rubber and covered by lead and armoured by steel wires, and other wires are lead covered rubber insulated and waterproof flexible lamp cords.

Joints in cables, how made, insulated, and protected Firstly bare conductors are jointed and soldered. Secondly these are covered by rubber tape and cotton tape. Thus these are taken in porcelain lined water proof double cover iron box.

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 Cables are led unconcealed without any additional protection except that on the cables themselves.



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 Protected by their own covering.

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

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

What special protection has been provided for the cables in engine room where necessary led through iron pipe

How are cables carried through beams Pierced & clipped through bulkheads, &c. Water tight glands

How are cables carried through decks Pierced & led through W.T. iron pipe

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

If so, how are they protected By their own armoured covering

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

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 ✓

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 yes

Are any switches, cut outs, or joints of cables fitted in the pump room or companion No

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 on the main switch board.

The copper used is guaranteed to have a conductivity of 99.8 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.

M. Sacki Electrical Engineers Date July 22<sup>nd</sup> 1920

COMPASSES.

Distance between dynamo or electric motors and standard compass 78 ft.

Distance between dynamo or electric motors and steering compass 75 ft.

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
A cable carrying	Amperes	feet from standard compass	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

The maximum deviation due to electric currents, etc., was found to be degrees on course in the case of the standard compass

FOR MITSUI BUSSAN KAISHA, LTD. degrees on course in the case of the steering compass.

T. Oshio Builder's Signature. Date July 23<sup>rd</sup> 1920.

For Manager. SHIP BUILDING DEPARTMENT

GENERAL REMARKS.

This installation has been fitted in accordance with the requirements of the Rules, and worked satisfactorily on trial.

It is submitted that this vessel is eligible for THE RECORD. Blue light Bell rings

J. G. F. ref Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute

TUE. 7 DEC. 1920

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

10/10/23