

REPORT ON ELECTRIC LIGHTING INSTALLATION. No.

Port of Kobe Date of First Survey 1st May 1908 Date of Last Survey 30 Jan'y 09 No. of Visits 30
 No. in Reg. Book 1175 on the Iron or Steel T. S. S. "Mishima Maru" Port belonging to Tokyo
 Built at Kobe By whom The Kawasaki Dock Yard Co. When built 1908
 Owners The Nippon Yusen Kaisha Owners' Address Tokyo
 Yard No. 291 Electric Light Installation fitted by The Kawasaki Dock Yard Co. When fitted 1908

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two sets of D.C. 36 K.W. Allen dynamo coupled directly to W.H. Allen compound engines 9" & 15" diam of cylinders 9" stroke 300 revolutions per minute.
 Capacity of Dynamo 36 K.W. 360 Amperes at 100 Volts, whether continuous or alternating current Continuous
 Where is Dynamo fixed Engine room ^{thrust recess} upper grating Whether single or double wire system is used Double wire system
 Position of Main Switch Board Engine room upper grating having switches to groups A.B.C.D.E.F.G.H.I.J. of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each One on Boat deck, 4 on Promenade deck, 11 on Bridge deck, 9 on Upper deck, 7 on Fore masts and 8 on Aft masts, One main switch on each board.
 If 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 Fitted and to each lamp circuit Fitted
 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 Double cut-outs fitted.
 Are the cut outs of non-oxidizable metal Yes and constructed to fuse at an excess of 100 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, porcelain or slate is used.
 Total number of lights provided for 643 arranged in the following groups:—

A 18 fan motors & 203 lights each of 12 & 15" blade dia. 8.16 & 32 candle power requiring a total current of	88.15	Amperes
B 14 " " 4 34 " " " 12" " " 4.16.50 " " " " "	26.05	"
C 15 " " 4 39 lights each of 12" " " 4.16.50 candle power requiring a total current of	29.60	Amperes
D 16 fan motors 21 " " " " " 8.16 & 32 " " " " "	11.35	"
E " " 14 lights each of " " " 16 & 50 candle power requiring a total current of	8.10	Amperes
F 12 fan motors only " " " 12" blade diam. " " " " "	13.00	"
G 16 fan motors 110 lights each of " " " 16 candle power requiring a total current of	53.00	Amperes
H " " 40 " " " " " 16 " " " " "	64.00	"
I " " 54 lights each of 8.16.32.50.1200 & 1600 candle power requiring a total current of	103.65	Amperes
J 14 fan motors & 130 " " " 12" 26" blade dia. 8.16 & 32 " " " " "	79.90	"
2 Mast head lights with 1 lamps each of 32 candle power requiring a total current of	2.56	Amperes
2 Side lights with 1 lamps each of 32 candle power requiring a total current of	2.56	Amperes

1 arc & 10 incandescent Cargo lights of 1200 c.p. and 4 200 candle power, whether incandescent or arc lights Both
 If arc lights, what protection is provided against fire, sparks, &c. Adequate fuses are inserted in the circuit and the arc is protected with inner and outer glass globes.
 Where are the switches controlling the masthead and side lights placed In the chart room

DESCRIPTION OF CABLES.

Main cable carrying 103.65 Amperes comprised of 37 wires, each 15 L.S.G. diameter	0.1544 square inches total sectional area
Main cable carrying 88.15 Amperes, comprised of 19 wires, each 14 L.S.G. diameter,	0.0976 square inches total sectional area
" " 26.05 " " 18 " " 18 " " " "	0.0351 " " " "
Branch cables carrying 29.6 Amperes, comprised of 19 wires, each 18 L.S.G. diameter,	0.0351 square inches total sectional area
Main " 11.35 " " 7 " " 18 " " " "	0.0129 " " " "
Branch cables carrying 8.10 Amperes, comprised of 7 wires, each 18 L.S.G. diameter,	0.0129 square inches total sectional area
Main " 13.00 " " 19 " " 18 " " " "	0.0351 " " " "
Leads to lamps carrying 2.52 Amperes, comprised of 1 wires, each 18 L.S.G. diameter,	0.0088 square inches total sectional area
Main cable " 53.00 " " 19 " " 16 " " " "	0.0624 " " " "
Cargo light cables carrying 64.0 Amperes, comprised of 2 x 19 wires, each 18 L.S.G. diameter,	0.0702 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Conductors are insulated with the layers of pure india rubber, vulcanized india rubber and india rubber coated tape. The insulation is protected with braided covering of water proof fibre, steel wire armour or lead against mechanical injury or chemical action.
 Joints in cables, how made, insulated, and protected Mechanical joints are used throughout and protected with water tight cast iron boxes.
 Are all the joints of cables thoroughly soldered, resin only having been used as a flux Not soldered ^{screwed joints are used} 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 None
 Are there any joints in or branches from the cable leading from dynamo to main switch board None
 How are the cables led through the ship, and how protected Cables are led unconcealed and armoured with steel wires.

DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible *Yes, they are in accessible places.*

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture *Armouring or lead covering.*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *Armouring or lead covering.*

What special protection has been provided for the cables near boiler casings *Armouring.*

What special protection has been provided for the cables in engine room *Armouring and iron piping.*

How are cables carried through beams *Pierced through and wood lined through bulkheads, &c. Pierced and provided with water light glands.*

How are cables carried through decks *Pierced and led through iron pipes.*

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 *By Armouring.*

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage *10 lamps fitted in those places.*

If so, how are the lamp fittings and cable terminals specially protected *Lamps are protected with metal guards and water tight covers, terminals are taken inside the covers.*

Where are the main switches and cut outs for these lights fitted *Outside those spaces.*

If in the spaces, how are they specially protected _____

Are any switches or cut outs fitted in bunkers *None*

Cargo light cables, whether portable or permanently fixed *Portable* How fixed *With water tight sockets & pins*

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 _____

The installation is _____ supplied with a voltmeter and *2* ~~an~~ *amperemeters* fixed *on a main switch-board.*

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 *98* 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.

Electrical Engineers Date _____

COMPASSES.

Distance between dynamo or electric motors and standard compass *26 feet*

Distance between dynamo or electric motors and steering compass *124 feet between dynamo & steering compass. 19 feet between the nearest motor and steering compass.*

The nearest cables to the compasses are as follows:—

<i>Lamp leads</i>					
A cable carrying	<i>4.0</i>	Amperes	<i>4</i>	feet from standard compass	<i>4 1/2</i> feet from steering compass
<i>Lamp leads</i>					
A cable carrying	<i>0.5</i>	Amperes	<i>10 inches</i>	from standard compass	<i>4</i> 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 *None* degrees on _____ course in the case of the standard compass and _____ degrees on _____ course in the case of the steering compass.

Kojin Nakamura

Builder's Signature. Date _____

GENERAL REMARKS.

Arthur L. Jones

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

Committee's Minute

It is submitted that the Record Rec. Light be noted in the Reg. Book.

Lloyd's Register Foundation

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.