

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 202

Port of Nagasaki Date of First Survey 1st Mar Date of Last Survey 21st May 1901 No. of Visits 20
 No. in Reg. Book new on the Iron or Steel S. S. "Kaga Maru" Port belonging to Tokyo
 Built at Nagasaki By whom Mitsui Bishi Dockyard & Eng. Works When built 1901
 Owners Nippon Yusen Kaisha Owners' Address Tokyo
 Yard No. 123 Electric Light Installation fitted by Mitsui Bishi Dockyard & Eng. Works When fitted 1901

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two duplicate sets of a Compound wound direct current dynamo, mounted on the same bed-plate as, and coupled direct to a vertical Compound Engine

Capacity of Dynamo Each 400 Amperes at 65 Volts, whether continuous or alternating current Continuous

Where is Dynamo fixed Both in the thrust block recess

Position of Main Switch Board Engine Room aft bulkhead having switches to groups two to 63 of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each Eng. Rm. fore bulkhead, Eng. Rm. aft bulkhead, thrust recess, 1st class pantry, Saloon aft corners, 1st class state Rm. #11 & #16, Wheel house, Pantry on poop deck, Starb^d passage on poop, Lamp Rm. in fore-castle, & passage to fireman's quarter. Also two on the entrance to ladies bath. Only one switch on each board

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, with the exception of extension boxes and to each lamp circuit no

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, run branches to every 3 lamps

Are the cut outs of non-oxidizable metal yes and constructed to fuse at an excess of not more than 75% and mostly per cent over the normal current

Are all cut outs fitted in easily accessible positions yes, all in auxiliary boards 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, on slate base

Are all switches and cut-outs constructed of incombustible materials and fitted on incombustible bases yes

Total number of lights provided for 302 arranged in the following groups:—

A "FORECASTLE"	24 lights each of 16 cp. One of 50 cp. & 6 of 32	candle power requiring a total current of	33.26	Amperes
Q "SEARCH LIGHT"	One Suez Canal Search Light & One Arc Lamp		75.00	
B "FORE TWEEN DECK"	12 lights each of 50	candle power requiring a total current of	27.60	Amperes
C "AFT CARGO & TWEEN DECK"	4 " " " 50 cp. & 2 of 16 cp. & 18 of 32 cp.		41.88	
B "AMIDSHIP PORT"	44 lights each of 16 cp. & 2 of 50	candle power requiring a total current of	42.44	Amperes
C "AMIDSHIP STARBOARD"	57 " " " 16 cp. & 2 of 50 cp. & 4 of 32 cp.		60.50	
D "AFT DECK"	32 lights each of 16 cp. & 2 of 50 cp. & 6 of 32	candle power requiring a total current of	42.44	Amperes
E "FORE CARGO"	30 " " " 32 cp.		51.60	
E "ENGINE ROOM"	54 lights each of 10	candle power requiring a total current of	46.44	Amperes
FORE AFT Mast head light	Each One Special Double lamp each of 32	candle power requiring a total current of	3.44	Amperes
BOTH Side light	with " lamps each of 32	candle power requiring a total current of	3.44	Amperes
10 Cargo lights	of 6 x 32 cp. = 192	candle power, whether incandescent or arc lights	Incandescent	

If arc lights, what protection is provided against fire, sparks, &c. with Hexagonal lantern

Where are the switches controlling the masthead and side lights placed

DESCRIPTION OF CABLES.

Main cable carrying	346.16 Amperes, comprised of	37 wires, each	12 L.S.G. diameter,	0.3217 square inches total sectional area
Branch cable carrying	33.26 to 75 " " "	19 " " "	16 " " "	0.0624 " " "
Branch cables carrying	27.6 Amperes, comprised of	19 wires, each	18 L.S.G. diameter,	0.0349 square inches total sectional area
" " "	8.6 to 20.64 " " "	19 " " "	20 " " "	0.0198 " " "
Branch cables carrying	7.94 to 11.8 Amperes, comprised of	7 wires, each	18 L.S.G. diameter,	0.0128 square inches total sectional area
" " "	4.6 " " "	7 " " "	22 " " "	0.0044 " " "
Leads to lamps carrying	2.86 Amperes, comprised of	17 wires, each	16 L.S.G. diameter,	0.0032 square inches total sectional area
" " "	2.58 " " "			
Cargo light cables carrying	103.2 Amperes, comprised of	100 wires, each	31 L.S.G. diameter,	0.0105 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

The whole cables & wires used throughout the installation are covered with pure & vulcanized India Rubber, India Rubber coated tape, the whole vulcanized together, braided cotton, and then covered with preservative compound. The cable which are liable to be exposed to moisture or mechanical injury are protected with iron casings and which are liable to heat are armoured with galvanized iron wires & fastened to bulkhead or deck with clips and screws.

Joints in cables, how made, insulated, and protected All joints are made in brass terminal pieces fitted in extension boxes, distributing boards and auxiliary boards. Very few joints of 16 wires are made in wood casing, being thoroughly soldered, & covered with 2. R. tape & 2. R. coated tape.

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 all accessible, none being made in bunkers, but few extension boxes are fixed on tween deck just under main deck, being guarded with Castiron covers.

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 multiple board double wired system. They are protected with wood casing, iron pipe, galvanized iron wire or lead armoured.

DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible *yes, excepting those in iron pipes carried through bunkers.*

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture *Galvanized iron pipes.*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *Armoured with galvanized iron wires*

What special protection has been provided for the cables near boiler casings *Armoured with galvanized iron wires*

What special protection has been provided for the cables in engine room *Carried in galv^d iron pipes or armoured with galv^d iron wires*

How are cables carried through beams *Through teak ferrels driven in, but armoured wires without ferrels through bulkheads, &c. through watertight stuffing boxes*

How are cables carried through decks *through lead or iron pipes lined with wood*

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 *with galvanized iron pipes*

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage *{ none in bunkers, but some in cargo space and baggage room*

If so, how are the lamp fittings and cable terminals specially protected *with strong cast brass guards.*

Where are the main switches and cut outs for these lights fitted *in both ends of port alleyway fore & aft and in pantry of poop.*

If in the spaces, how are they specially protected *—*

Are any switches or cut outs fitted in bunkers *no*

Cargo light cables, whether portable or permanently fixed *portable* How fixed *with fibre fork s & connectors.*

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 *Board* an amperemeter, fixed *on main switch.*

The copper used is guaranteed to have a conductivity of *not less than 98* per cent. that of pure copper.

Insulation of cables is guaranteed to have a resistance of not less than *1,000* 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. J. Gamada
Electrical Engineers

Date *15th June, 1901*

COMPASSES.

Distance between dynamo or electric motors and standard compass *122 ft*

Distance between dynamo or electric motors and steering compass *114 ft*

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<i>0.86</i>	<i>10</i>	<i>8</i>	

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 *—* course in the case of the standard compass and *Nil* degrees on *—* course in the case of the steering compass.

A. Midgutani. Asstt G. Manager Builder's Signature. Date *15th June 1901*

GENERAL REMARKS.

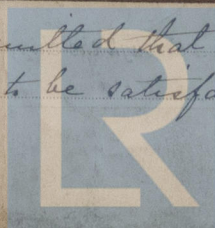
Committee's Minute

A. L. Jones

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

It is submitted that this installation appears to be satisfactory.

no oil salt



Lloyd's Register
Foundation

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

REPORT FORM No. 13.