

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 2344

Port of Nagasari Date of First Survey 15 Feb 1902 Date of Last Survey 2 Apr 1902 No. of Visits 14
 No. in Reg. Book on the Steel Ser. Stm. "Oura Maru" Port belonging to Nagasari
 Built at Nagasari By whom The Mitsui Bishi & Co Ltd When built 1902
 Owners The Mitsui Bishi Goshi Kaisha Owners' Address Tokio
 Yard No. 126 Electric Light Installation fitted by The Mitsui Bishi Oyada E. H. K. When fitted 1902

DESCRIPTION OF DYNAMO, ENGINE, ETC.

A Combined set of a Compound wound direct current dynamo and a vertical single engine, made by Mavor & Coulson Ltd and Robey & Co.

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

Where is Dynamo fixed on the coal bunker pit in Engine Room at starboard side

Position of Main Switch Board Aft Bulkhead of Engine Room having switches to groups 20-50 of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each Entrance to fore-castle, Fore bulkhead of Saloon outside, Chart Room, Saloon pantry, Entrance to Chief Eng'r's Room, Engine Room aft Bulkhead, Amidship aft bulkhead inside.

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 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, including lamp circuit

Are the cut outs of non-oxidizable metal yes and constructed to fuse at an excess of not more than 50 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

Total number of lights provided for 117 arranged in the following groups:—

A. Fore circuit	{18 lights each of 16cp. } 50cp. }	candle power requiring a total current of	27.58	Amperes
B. Amidship	{47 lights each of 16cp. } 32cp. }	candle power requiring a total current of	29.68	Amperes
C. Aft circuit	{10 lights each of 16cp. } 50cp. }	candle power requiring a total current of	23.10	Amperes
D. Engine Room	19 lights each of 16	candle power requiring a total current of	10.64	Amperes
E	lights each of	candle power requiring a total current of		Amperes
One Mast head light with <u>one special double</u> lamps each of filament 32		candle power requiring a total current of	1.12	Amperes
one Starboard Side light with <u>one Port</u> 7 lamps each of filament 32		candle power requiring a total current of	1.12 x 2 = 2.24	Amperes
4 Cargo lights of 200		candle power, whether incandescent or arc lights	incandescent	

If arc lights, what protection is provided against fire, sparks, &c. _____

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

DESCRIPTION OF CABLES.

Main cable carrying	91 Amperes, comprised of 37 wires, each 16 L.S.G. diameter,	0.1219 square inches total sectional area
Branch cables carrying	23.10 Amperes, comprised of 19 wires, each 18 L.S.G. diameter,	0.0349 square inches total sectional area
Branch cables carrying	29.68 Amperes, comprised of 19 wires, each 18 L.S.G. diameter,	0.0349 square inches total sectional area
Branch cables carrying	10.64 Amperes, comprised of 7 wires, each 18 L.S.G. diameter,	0.0128 square inches total sectional area
Leads to lamps carrying	0.56 Amperes, comprised of 1 wires, each 18 L.S.G. diameter,	0.0018 square inches total sectional area
Cargo light cables carrying	60 Amperes, comprised of 110 wires, each 30 L.S.G. diameter,	0.0132 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 & Lin covered with a protective compound. The cables which are liable to be exposed to moisture or mechanical injury are protected with iron casings, and the which are liable to heat are armoured with galvanized iron wires and 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 & sub-main boards.

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 None, excepting one for pilot lamp.

How are the cables led through the ship, and how protected by double wired multiple switch board system, and they are protected with wood casings, iron pipes, or armoured with galvanized iron wires.

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 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 through galvanized iron pipes or armoured with galv iron wires

How are cables carried through beams through teak ferrules driven in through bulkheads, &c. through teak ferrules or water-tight mast stuffing glands

How are cables carried through decks through deck tubes made of galvanized iron pipes lined with wood internally

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 through galvanized iron pipes or galvanized iron wire

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage yes

If so, how are the lamp fittings and cable terminals specially protected lamps fitted with strong brass guards & extension boxes with C. Iron covers

Where are the main switches and cut outs for these lights fitted on passages on upper deck

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 forks & connectors fitted in cast iron N.T. 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 _____

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 _____ an amperemeter, fixed _____

The copper used is guaranteed to have a conductivity of 100 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.

A. Yamada Electrical Engineers Date 12/8/02

COMPASSES.

Distance between dynamo or electric motors and standard compass _____

Distance between dynamo or electric motors and steering compass _____

The nearest cables to the compasses are as follows:— Double wire

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 0 degrees on _____ course in the case of the standard compass and 0 degrees on _____ course in the case of the steering compass.

R. Midzutan asst. Y. Manager Builder's Signature. Date 12th August 1902

GENERAL REMARKS.

It is submitted that this installation appears to be satisfactory.

A. L. Jones

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

25.9.02

Committee's Minute _____

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

REPORT FORM NO. 13.

