

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 15122

Port of Glasgow. Date of First Survey _____ Date of Last Survey 16 April No. of Visits _____
 No. in Reg. Book _____ on the Iron or Steel S.S. "Kawachi maru" Port belonging to Tokio
 Built at Yokohama By whom Messrs Napier & Shanks When built 1897
 Owners Nippon Yusen Kaisha Ltd Owners Address Tokio
 Yard No. 81 Electric Light Installation fitted by W. G. Martin & Co When fitted 1897

DESCRIPTION OF DYNAMO, ENGINE, ETC.

2 Compound Bellis Engines, Vertical Type, Cylinders 5" x 11" x 6" stroke
300 Revolutions, Coupled direct to 2 Compound wound dynamos.
 Capacity of Dynamo each 240 Amperes at 65 Volts, whether continuous or alternating current continuous
 Where is Dynamo fixed In Engine Room, starting Platform, thrust recess.
 Position of Main Switch Board Mid Platform Engine Room having switches to groups A, B, C, D, E, F, G, H of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each Engine Room top, Port Side (1) Switch.
Engine Room top, Starboard (1) Switch. Saloon Entrance (1) Switch
Forecastle Lamp Room (1) Switch, Second Cabin Passage (1) Switch.
 If cut outs are fitted on main switch board to the cables of main circuit yes and on each auxiliary switch boards 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 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 271 arranged in the following groups:—

A	{ 44 } lights each of 16	candle power requiring a total current of 44	Amperes
B	{ 42 } lights each of 16	candle power requiring a total current of 42	Amperes
C	{ 39 } lights each of 16	candle power requiring a total current of 39	Amperes
D	{ 23 } lights each of 16	candle power requiring a total current of 23	Amperes
E	{ 40 } lights each of 16	candle power requiring a total current of 40	Amperes
F	A Mast head light with D.F. lamps each of 32	candle power requiring a total current of 2	Amperes
G	= 8 lamps of 50	candle power requiring a total current of 4	Amperes
H	= A Projector for the Suez Canal	candle power, whether incandescent or arc lights	Incandescent.

If arc lights, what protection is provided against fire, sparks, &c. An arc Lamp fitted with hexagonal lantern, for navigation of Suez Canal, also Search Light Projector.
 Where are the switches controlling the masthead and side lights placed in the Lamp Room.

DESCRIPTION OF CABLES.

Two Main cables carrying 389 Amperes, comprised of 37 wires, each 12 L.S.G. diameter, .314 square inches total sectional area
 Branch cables carrying 59 Amperes, comprised of 19 wires, each 16 L.S.G. diameter, .0612 square inches total sectional area
 Branch cables carrying 24 Amperes, comprised of 19 wires, each 18 L.S.G. diameter, .0344 square inches total sectional area
 Leads to lamps carrying 1 Amperes, comprised of 1 wires, each 16 L.S.G. diameter, .00372 square inches total sectional area
 Cargo light cables carrying 12 Amperes, comprised of 147 wires, each 38 L.S.G. diameter, .00849 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

wires insulated with pure India Rubber, then vulcanised India rubber, Indian rubber coated tape, the whole vulcanised together then Braided cotton & preservative compound.

Joints in cables, how made, insulated, and protected

No joints

Are all the joints of cables thoroughly soldered, resin only having been used as a flux _____ 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 _____

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 Through Cargo Spaces in Galvanised Iron pipes to Forecastle, & for Tween Deck Lights. Armour Sheathed wire.

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Foundation

DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible

yes.

15122 grs.

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture

wires protected in Galvanised iron pipes.

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

none near under heat.

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

Iron pipes

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

Armour sheathed wires.

How are cables carried through beams

Holes bushed with teak wood

through bulkheads, &c. teak wood glands for watertight Bulkheads.

How are cables carried through decks

In tubes bushed with hard fibre.

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

Armoured sheathed wire to lamps on iron pipes

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

Cast iron Covers

Where are the main switches and cut outs for these lights fitted

Port alleyway main. Deck Engine Room

If in the spaces, how are they specially protected

Cast Iron Covers.

Are any switches or cut outs fitted in bunkers

No

Cargo light cables, whether portable or permanently fixed

Portable

How fixed by portable fork connector.

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

2

amperemeters fixed on switchboard

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

2000

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.

W. C. Martin & Co

Electrical Engineers

Date 10th April 1897

COMPASSES.

Distance between dynamo or electric motors and standard compass

130 feet.

Distance between dynamo or electric motors and steering compass

120 feet.

The nearest cables to the compasses are as follows:—

A cable carrying	about 60	Amperes	about 40	feet from standard compass	about 30	feet from steering compass
A cable carrying	50	Amperes	~ 50	feet from standard compass	~ 40	feet from steering compass
A cable carrying	50	Amperes	~ 60	feet from standard compass	~ 50	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

nil

degrees on

each

course in the case of the

standard compass and

nil

degrees on

each

course in the case of the steering compass.

Apier, Shavers & Co

Builder's Signature

Date 12th April 1897.

GENERAL REMARKS.

The fittings and workmanship appear good and in my opinion this report merits the favourable consideration of the Committee.

Wm. Austin.

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

Committee's Minute

This installation appears to be fitted in accordance with the Rules.

12th April

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

REPORT FORM No. 13

