

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 2206

Port of Kobe Date of First Survey 29 Decem Date of Last Survey 8 Feb'y '18 No. of Visits 8
 No. in Reg. Book on the Iron or Steel S. S. Tofuku Maru Port belonging to Kobe
 Built at Kobe By whom The Kawasaki Dryd Co Ltd When built 1918
 Owners The Kawasaki Dryd Co Ltd Owners' Address
 Yard No. 407 Electric Light Installation fitted by The Kawasaki Dryd Co Ltd When fitted 1918

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two sets of compound dynamo coupled directly to the single cylinder automatic cutoff vertical enclosed engine with forced lubrication.
8" dia. 6" stroke 450 r/m.

Capacity of Dynamo 170 Amperes at 100 Volts, whether continuous or alternating current Continuous

Where is Dynamo fixed in the engine room Whether single or double wire system is used Double

Position of Main Switch Board in the engine room having switches to groups A, B, C, D & E of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each 1 in the engine room, 1 in the boiler room, 4 on the shelter deck, 1 on the lower bridge and 1 on the after main
Having one main switch on each board

If fuses 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 fuses fitted to both flow and return wires or cables of all circuits including lamp circuits yes

Are the fuses of non-oxidizable metal yes and constructed to fuse at an excess of 100 per cent over the normal current

Are all fuses 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 fuses constructed of incombustible materials and fitted on incombustible bases yes, porcelain & marble are used

Total number of lights provided for 164 lamps arranged in the following groups :-

A 73 lights each of 16, 32 & 5 candle power requiring a total current of 27.0 Amperes

B 1 arc & 12 lights each of 1200 & 32 candle power requiring a total current of 18.5 Amperes

C 1 arc & 8 lights each of 1200 & 32 candle power requiring a total current of 14.0 Amperes

D 27 lights each of 16 & 32 candle power requiring a total current of 15.5 Amperes

E 3 lamp motors & 42 lights each of 16 candle power requiring a total current of 24.5 Amperes

2 Mast head light with 2 lamps each of 32 candle power requiring a total current of 2.24 Amperes

2 Side light with 2 lamps each of 32 candle power requiring a total current of 2.24 Amperes

2 arc & 5 incandescent Cargo lights of 1200 & 128 candle power, whether incandescent or arc lights incandescent and arc light

If arc lights, what protection is provided against fire, sparks, &c. Adequate fuses are inserted and arc is protected with inner and outer globes.

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

DESCRIPTION OF CABLES.

Main cable carrying 170 Amperes, comprised of 37 wires, each 14 S.W.G. diameter, .1820 square inches total sectional area

Branch cables carrying 27 Amperes, comprised of 7 wires, each 19 S.W.G. diameter, .0086 square inches total sectional area

Branch cables carrying 18.5 Amperes, comprised of 7 wires, each 19 S.W.G. diameter, .0086 square inches total sectional area

Leads to lamps carrying .5 Amperes, comprised of 1 wires, each 18 S.W.G. diameter, .0018 square inches total sectional area

Cargo light cables carrying 4.5 Amperes, comprised of 283 wires, each 38 S.W.G. diameter, .0080 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

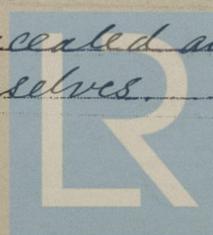
Conductors are doubly insulated with india rubber and vulcanized rubber and tape. Cables are protected against mechanical injury and chemical action by steel armoring & lead covering according to the requirements.

Joints in cables, how made, insulated, and protected Mechanical joints are made throughout and protected with water-tight cast iron boxes.

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances 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

How are the cables led through the ship, and how protected Cables are led unconcealed and without any additional protection on cables themselves.



DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible They are all in accessible places
 What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture Without any additional protection beside those on cables themselves
 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 In some parts where necessary the cables are led through iron pipe
 How are cables carried through beams Pierced through a wood lined through bulkheads, &c. Pierced through and provided with water-tight gands
 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 without any additional protection on cables themselves
 Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage none
 If so, how are the lamp fittings and cable terminals specially protected _____
 Where are the main switches and fuses for these lights fitted _____
 If in the spaces, how are they specially protected _____
 Are any switches or fuses fitted in bunkers _____
 Cargo light cables, whether portable or permanently fixed portable How fixed in the water-tight cast iron 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 _____
 Is the installation supplied with a voltmeter yes, and with an amperemeter yes, 2 ammeters, fixed on the marble switch board

VESSELS BUILT FOR CARRYING PETROLEUM.

In vessels built for carrying petroleum, are all switches and fuses fitted in positions not liable to the accumulation of petroleum vapour or gas _____
 Are any switches, fuses, 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 not less than that of the Engineering Standards Committee's standard, and the wires are protected by tinning from the sulphur compounds present in the insulating material.

Insulation of cables is guaranteed to have a resistance of not less than 600 megohms per statute mile at 60° Fahrenheit after 24 hours' immersion in water, the test being made after one minute's electrification at not less than 500 volts and while the cable is still immersed.

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.

J. Tade Electrical Engineers Date 6th 3. 18.

COMPASSES.

| | | |
|---|-----------------------------------|----------------|
| Distance between dynamo or electric motors and standard compass | <u>Dynamo to standard compass</u> | <u>115 ft.</u> |
| | <u>Motor</u> | <u>110 ft.</u> |
| Distance between dynamo or electric motors and steering compass | <u>Dynamo, steering</u> | <u>105 ft.</u> |
| | <u>Motor</u> | <u>100 ft.</u> |

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

Kawasaki Dockyard Co., Ltd.

Per M. Nakajima Builder's Signature. Date _____
 Secretary.

GENERAL REMARKS.

The installation has been fitted in accordance with the Rules & worked satisfactorily on trial

It is submitted that this vessel is eligible for THE RECORD. Elec. light. JWD 2/5/18.

Arthur Jones
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

No. 116—Transfer.

